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Getting The Audio
Edge on Thieves,
Trouble & Time

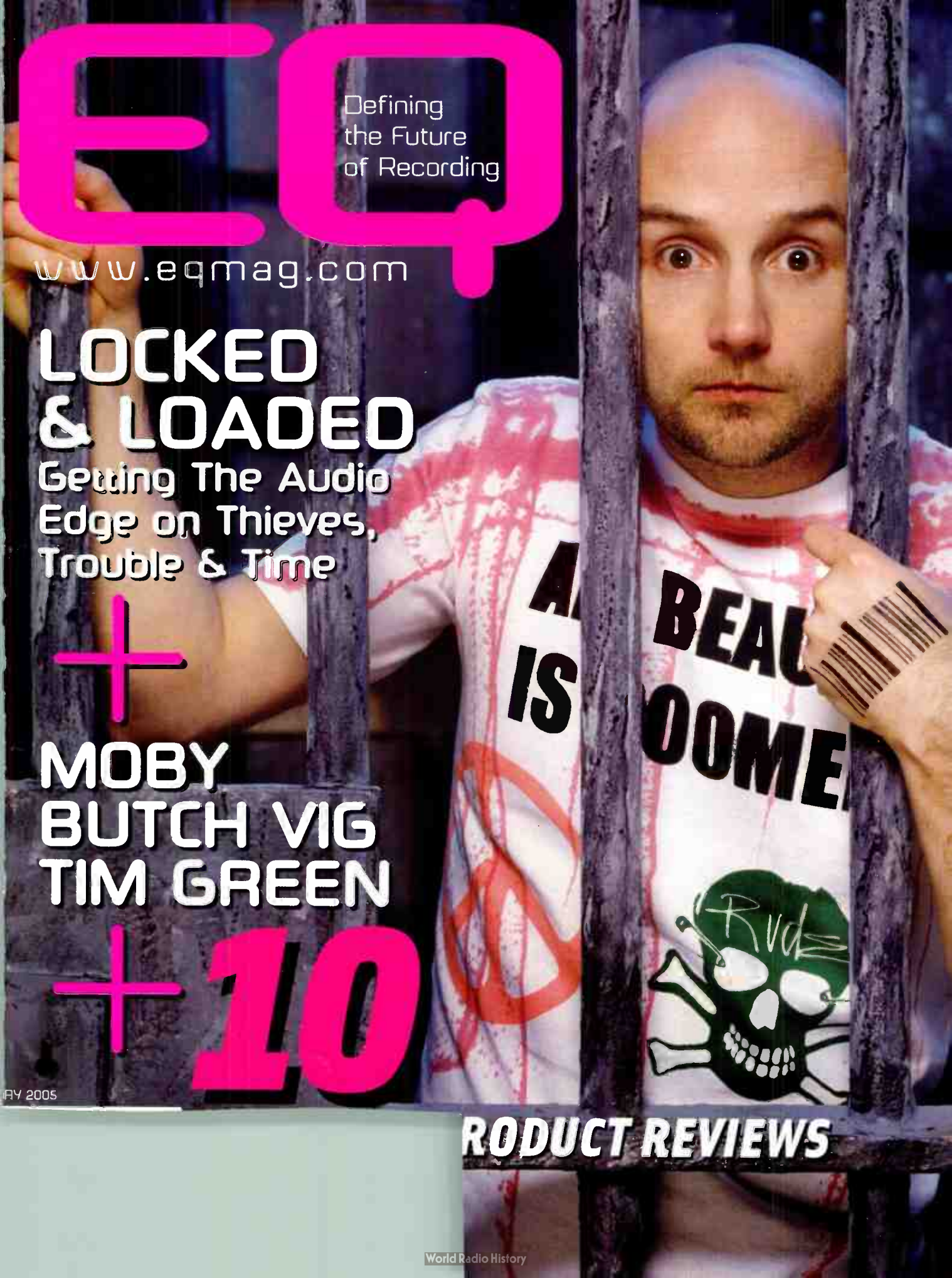


MOBY
BUTCH VIG
TIM GREEN

+ 10

PRODUCT REVIEWS

FY 2005



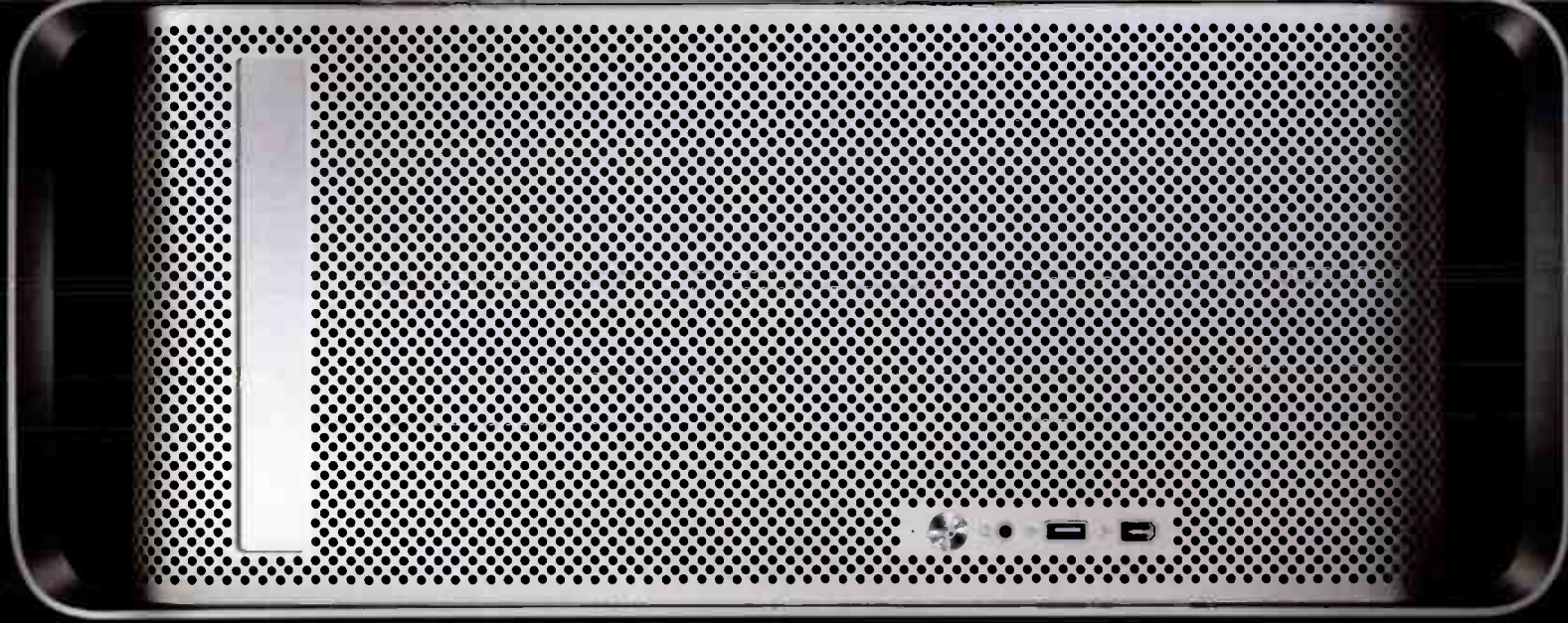
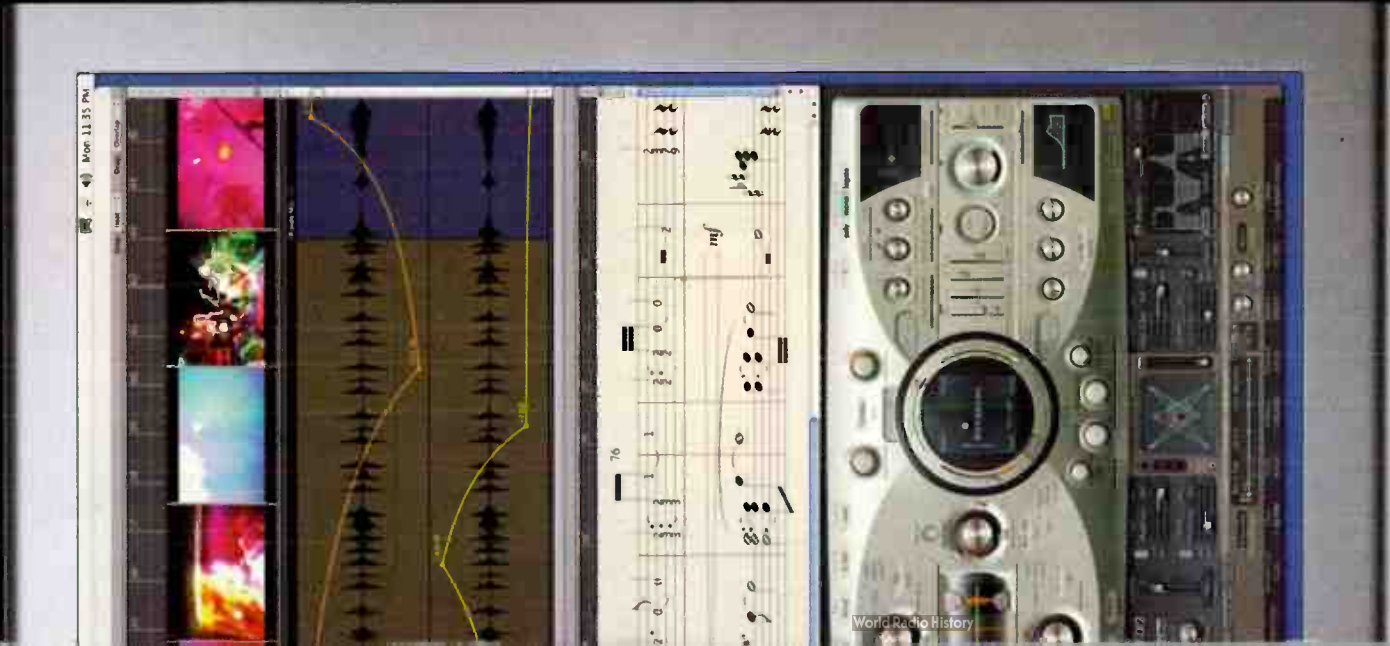


Logic Pro 7

Half studio. Half instrument.

More of a suite than an application, Logic Pro 7 is more imaginative and Sculpture lets you synthesize any

Images are of the band Kid Galahad making the film *Hello You*. For more



Loops let you produce instant sound beds, Ultrabeat delivers endless drum-machine permutations, Guitar Amp Pro models any tone instruments and expandable DSP processing power, thanks to Distributed Audio Processing, will make the \$999* price tag music to your ears.



05/05



FEATURES

24 **STOP THAT SONG**

Round and round and round she goes, where she stops, no one knows. Getting a grip on the shadowy story of digital insecurity.

30 **THE EQ SHIPPING SHOOTOUT**

The session is done and it's time to get it where it'll do the most good. But how?!?! HOW?!? *EQ* goes head to head with UPS, FedEx, DHL and Digidesign for a no-hold's barred funfest.

44 **WELCOME TO HOTEL MOBY**

With new record in hip pocket, the man presently known as MOBY meditates on relevancy, production, and his recently reached (in all likelihood while laughing all the way to the bank) sense of his own mortality.

52 **THE MEN ON THE IRON MOUNTAIN**

Deep, deep, deep in the heart of a mighty fortress, The Big Brains are storing audio art against mold, negligence, and, um, the apocalypse? Yes, Luke, the apocalypse.

58 **FEAR AND LOATHING IN ARCHIVE CITY**

EQ's MITCH GALLAGHER makes merry with tips, tricks, and techniques on making sure you don't lose your music faster than you can make it.

CONTENTS

ART OF RECORDING

40 Don't Fear The Phase

DEPARTMENTS

4 Talk Box/Bandstand

6 Punch-In

12 Tool Box

20 Success Story: Paul Linford

104 Room With A VU: Louder Studios, San Francisco, CA

EQ REVIEWS

64 Cycling '74 Mode

70 Marshall MXL V6

72 Rode NT2-A

74 e-Lab Foundation 2.0

75 Wizoo Latigo Virtual Percussionist Plug-In

78 PreSonus FirePod

80 BIAS SoundSoap Pro

82 MSR StudioPanel

SOUNDS

86 East West: *Adrenaline*

87 Big Fish Audio: *Dance Refill*

COLUMNS

88 **TECH BENCH:** Kill the Noise

POWER APP ALLEY

90 Adobe Audition

92 Cakewalk Sonar

Welcome to Hotel Moby Photography: Bradford Noble/noblephoto.com, Styling: Stephanie Tricoia, Make Up/Grooming: Ralph Siciliano

6

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DJ AND PRODUCER



PRO AUDIO

Talk Box



SPRING HAS SPRUNG LIKE A NOISY DRUM

This is all about the transformative powers of TELLY SAVALAS. Wait, wait, wait. Hear us out.

The balding, lollipopped pop icon of the '70s (we'll forget for a moment the apostate '80s rebirth of said show) with his trademarked *Who Loves Ya Baby?* (we don't know Telly. You?), and his penchant for crime fighting and Seventh Avenue fashion was, much more importantly, connected to a distinctly muscular and American undercurrent of paranoia. Think *Taxi Driver*. Think Son of Sam. It's all zeitgeist-wise, post-Vietnam let down and now some 30 years hence we're again post-war (yeah yeah, OK, a different discussion for a different place), and paranoia remains the watchword of the day.

Which brings us to this issue and its twin meditations on SAFETY and SECURITY (and HOW TO GET THEM or at the very least NOT LOSE THEM), and where we are today. Labels don't trust listeners, bands don't trust labels, players and producers might trust their gear and then get burned, gear makers (especially of the software variety) might trust nobody and *still* get burned, and through it all this continuing low grade panic at reducing our mass (from analog to digital) and the possible attendant loss of permanence that might accompany that.

We'll we're here to help.

Whether we're talking about getting it there ("The EQ Shipping Shootout"), keeping it here ("Fear and Loathing in Archive City"), or stymieing its being stolen ("Stop That Song"), this issue of EQ gives a nod to the need to Keep It Together (K.I.T.). Add to that TEN reviews of gear you can count on, MOBY coming to grips with whether or not he should trust anyone over 40 (he's 39), BUTCH VIG on guitars, and LOUDER STUDIO's TIM GREEN, and you have an issue to remember.

So, *Who Loves Ya Baby?*

We do. Natch. Or didn't you know?

Cheers,

The BAND STAND

Securing your sounds: necessary or needless paranoia?



Craig Anderton,
Editor at Large

Necessary. Don't get rid of anything, catalog it really well, and store your media so the elements don't degrade it. You never know when you're going to need something you've already done - and it's no fun reinventing the wheel.



Bob Moses,
Director of Engineering,
Wavefront Semiconductor

Needless Paranoia. Digital information is easily copied. Once a buyer gets the information, it can be copied an infinite number of times and quickly distributed to every person on the

planet. The seller is no longer needed as the distributor of the product. So sellers either need to figure out how to truly secure their products so they can maintain their role as exclusive distributor of the product, or a whole new commerce model needs to emerge. Most companies seem intent on trying to make the former happen, but it is likely that the latter will be the long-term solution.



Steph Jorgl
Contributor

The easiest solution to avoiding thievery via the Internet is to not use your studio computer for the Internet. Unfortunately, most companies make you register software online. So, use password protection everywhere and don't use the same password twice.



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Punch-In

Tips & News You Can Use
BY EQ STAFF



EQ RADIO, RADIO

Since I recently moved, all my CDs have been packed. So I've been trying to listen to mainstream radio and to music video stations...and the less said about those musical wastelands the better.

But my trusty iPod has been rotating:

1. A playlist of pieces I'm working on for a classical guitar CD. It's interesting and instructive to compare interpretations and pro-

RECORDING *ILLEGAL TENDER* **Louis XIV's Jason Hill on Louis XIV's Jason Hill**

I recorded "Finding Out True Love is Blind" in a little office that I had that was basically my studio. I had a room where I would go and record. I'm not a fan of control rooms; I lost interest in them a long time ago out of necessity. Because when you sit there and you *have* to record... **We have a bigger place now though—an old church—and it's sometimes a bit of a nuisance. It's too big of a room and I'm trying to deaden it. I learned that I prefer dead rooms.** I like little rooms with a little character. But in this particular place, I had my shit all over the place and I'm quite a bit of a mess when I'm working. I have all these amps and a number of guitars... It's just one room. People always ask me how I recorded the drums in such a tiny room. Well, to me, I want to hear what the snare sounds like in the room so I know if I'm getting the right sound. There's something nice about being right next to the tape machine, too. You don't have to have an engineer around. I actually kind of miss the small room now that we've moved into the bigger space. I'm trying to figure out how to get back to it.

But "Finding Out" was done onto a 16-track, 2" tape machine, and then moved to ProTools where I did all kinds of other stuff. A lot of times I'll just stay on the 16-track. **I used to be an incredible tape snob so I have all sorts of tape machines lying around. Until I got ProTools with this 96kHz stuff, and I realized you could do slapback delays and all sorts of other things. But I don't use plug-ins.** You'll never find AutoTune on any of my recordings. I despise it. I think it's what ruins everybody's recordings. They destroy them with plug-ins. All of a sudden you're digitizing everything in a really bad way. I approach ProTools just like it's a tape machine, except you can do some interesting things with it. Everything you hear on the radio sounds exactly the same because everybody is using the same shit, the same tricks, and the same this and

the same that. It drives me crazy. So many people go for these tones with these guitar amps that have a thousand knobs, and they just sound bad! They think that if they go through a million pedals it's suddenly going to sound good. Give me some P-90 pickups any day. It's not hard to get good tone. It's just that most people, for some reason, don't have any sense of it!

But it all comes down to taste. That's the thing (with all recording:) Certainly a huge amount of it comes down to knowledge, and I'm not going to downplay anything I've learned over the years... But it all comes down to taste.



duction on versions recorded by different artists over a span of about 60 years.

2. A playlist of Pantera's greatest — consider it a tribute to the late Dimebag Darrell. Besides, sometimes you simply gotta thrash.

3. Damien Rice, *O* — It's a mixed bag; some songs I like, the rest don't do much for me. But it's a great example of songs working despite not-so-stellar production, and that can be just as instructive as learning from an audiophile production.

—Mitch Gallagher

Listen Hear

Since there's no accounting for taste then there's probably no accounting for why we haven't been able to get this stuff out of our heads this past month.

HIGH ON FIRE: BLESSED BLACK WINGS

(Produced by Steve Albini & High On Fire)



Haven't been able to stop smiling since we got this one. Haven't been able to and don't really want to as the visual imagery that attends the actuality of an Albini-helmed session with the estimable crush kill guiterrorist Matt Pike and the whole Apollo-Dionysus thing is just too much to NOT

make you smile. And that's before even *playing* the damned thing. Which we did. A lot. Mighty and hobnailed with that Electrica Audio production crunch that's primer 101 on Recording Music to Fist Fight By.

CIRQUE DU SOLEIL MUSIQUE: SOLARIUM/DELIRIUM

(Remixed by Thievery Corporation, Roger Sanchez et al)

Solarium: Beautiful, tasteful, smooth, easy listening (the *good* kind), fine-enough world/ambient/exotica music. Polyglotted vocals dropping into electronic-sexy through Middle-Eastern funky and Brazilian samba. A perfect and sultry meeting of Thomas Dolby and Fela Kuti.

Delirium: 24-hour party people.

Both: A very cool and constant reminder that it ain't always about processing the processed into one nicely definitive, vegetative package.



DJ/RUPTURE: SPECIAL GUNPOWDER

Despite having *The Wire* magazine designate his *Minesweeper Suite* one of the best records of 2003, the Barcelona-based DJ/Rupture, avoiding the usual post-genius doldrums (Courtesy phone for Thom Yorke), has zagged right into something that'll sorely try any sort of evaluative process based on last year's joint. He's zagged into a jagged symposium that seems to explore deeply philosophical questions regarding exactly WHAT you can force your plug-ins to do. [Full disclosure: EIC Eugene Robinson sings, if you could call it that, on one track.]



DÉJÀ VU ALL OVER AGAIN?



Mix Magazine March 2005



The world's most modest keyboard star shows what he's really made of

The Many Faces

of Moby

Keyboard Magazine August 2002

Coincidence, Conspiracy, or Convergence?

YOU BE THE JUDGE!!!

RIGHT TWICE A DAY...



...like a broken clock: last issue we went snarky on MALCOLM BURN and DURO when they dared to say in regards to the whole QUANTEGY muddle...

Supah Engineer DURO [The Beastie Boys, Jay-Z, DMX, Ja Rule, Will Smith] is a serious tape diehard. In serious denial: "It's tape till the end!!!!!!!!!!!"

Tape fiend producer, MALCOLM BURN [Daniel Lanols, Iggy Pop, Emmylou Harris] also seems to be in denial about the end of tape: "It's not gone, it's just hiding."

...we accused them of being in denial. And congratulated ourselves for having done so. Until we heard from QUANTEGY's president and COO Richard Lindenmuth. "We have hired some ex-employees as contractors to start up production. We are beginning with audio products—406, 456 and then next week 499 and GP9—since that is where the highest demand is showing," said Lindenmuth adding, "Andrew Kautz and the SPARS Board have been very helpful in working with us to provide opportunities for SPARS members to call in and order tape."

And Tapeheads rejoiced.

LOVE LETTERS FROM FIGHT FANS

ANDY WALLACE vs. JACK JOSEPH PUIG



I have been a subscriber to EQ Mag since its inception. It's one of the best audio publications out there.

Now I love Jack Joseph Puig [March 2005 EQ] as much as anyone but if you really want to see your mag-

azine BLOW OFF THE SHELVES, as well as get a new generation of readers on the hook, get ANDY WALLACE on the cover with an interview about mixing LINKIN PARK, SYSTEM OF A DOWN, NIRVANA, SHERYL CROW, JEFF BUCKLEY, RAGE AGAINST THE MACHINE, SUM 41, STAIN'D, etc...just to name a few.

Just ask anyone in the music biz and they will agree. Andy is and has been ON TOP OF HIS GAME for years. He is the one engineer mixer producer everyone tries to emulate.

His records are the ones people like Jack Joseph Puig, Terry Date, Brendon O'Brian, and Tom Lord Alge A/B their mixes against, to try and get that sound every alternative rock radio in the country plays consistently hour after hour, day after day.

Sincerely,
Mr. Steve Sisco

JACK JOSEPH PUIG vs. ALAN RICKMAN



Regarding EQ Magazine, March 2005 edition:

Thank you for such an interesting and informative article on Jack Joseph Puig. In addition to his purported mastery behind a mix desk, I thought him

brilliant in *Die Hard 1* and *Harry Potter and the Sorcerer's Stone*. What a versatile guy!

— David Lloyd

SURFBOARD

**As we peruse and cruise the inner recesses, nooks, and cran-
nies of the web, we're constantly flagging sites, news items, and
useful tidbits that have almost *nothing* to do with pom, a-hem,
and that we feel will be of interest to you.**

■ www.tencrazy.com/gadgets/

In Brooklyn of the 1970s you'd find these little grocery stores that by all appearances sold nothing but a single roll of paper towels. And THOSE never seemed to sell. And the web is full of stuff like that and this place is one of them: Ten cool things, all plug-in-esque of nature. Dig it.

■ www.looplbrary.com/

If it's free, well for some of us, that's the beginning and end of that story: but free is very different from CHEAP. And so it is here that we find loops galore. And while it might be true that you get what you pay for, if what you want to get is low rent to begin with then this site is perfect. With a capital P.

■ www.scratchphonic.com/

This one came in over the transom. From some cat named Rithie, who was at most recent glance, website-side, wearing some sort of Harry Belafontesque conga turntable thing whilst simultaneously sporting a sailor suit.



Yeah. EXACTLY.

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OVERRATED?

Podcasting

by Brian Maggi

The geeks have lit their torches and are heading out to storm the walls of big media with yet another idle threat of disintermediation. This time, it's "Podcasting," and it too will fail to render the 'man' and his 'system' obsolete.

Podcasting is internet-age jargon, like blogging, from which it was spawned. But unlike other neologisms coined every 15 minutes, this one sounds like it ought to make sense. The term comes from the ridiculously successful iPod, and the suffix "cast" which is appended to anything remotely resembling radio or TV.

Don't get me wrong. Podcasting will be big. But not because it killed the radio, or the radio star, or even his middleman.

In a nutshell, Podcasting is like TiVo but for audio. When you first heard about TiVo, you probably thought it was just a glorified VCR. But now, if you have one, you're talking it up like someone who just discovered sex or improved their golf swing.

Podcasting piqued my interests after I got bored with my iPod. The novelty of having 14 straight days of music at my fingertips wore off sooner than I expected. It was like having a Walkman with only one tape. Even I got sick of the 5169 most seminal tunes of all time.

Podcasting, however enabled discovery of new stuff, the missing link to my iPod bliss. Record something, it could be anything: music, talking, noise. Post the audio file on your Web site, and bingo, you're a Podcaster. Now someone downloads that audio file and listens to it on their iPod, or Nomad, or even their computer.

Pretty cool huh?

What's that you say? BFD, you say, that's all been possible for quite some time. Gee, really? I didn't know that.

Give me a break. I may be a shill, but I'm not an idiot. There *is* a difference.

What really makes it a phenomenon is the ability to subscribe to Podcasts and have the audio seamlessly downloaded to your iPod. Go to www.iPodder.org for a crash course and a directory of Podcasts, which are mostly about, well...Podcasting, followed by pointless monologues and shock-jock wannabes.

For those who lack imagination, or have actually listened to one, allow me to explain why Podcasting will matter: The medium is screaming for serious creative talent.

Today it's quaint to listen to Dawn & Drew, America's ugliest sweethearts. But tomorrow's Podcasts will need people who can do more than just titillate with their sexual musings.

If history is any indicator, those who possess creative skills should adapt n cely. Twenty years ago, people thought they could just buy a Mac and fire their designer. Instead, it created more opportunities, and today the design business is bigger and more diverse than ever. Desktop publishing annihilated a lot of jobs in its wake, but not the creative ones.

Dreaming of unemployed industry gatekeepers dumpster-diving for dinner is not what Podcasting is about. Sure, it might eliminate the need for some. But it could also create a whole new breed of super-middlemen creative types. It's more about who'll be the first Sam Phillips or Phil Spector of Podcasting and recording (sorry, the Wolfman jack role has been filled by former MTV VeeJay Adam Curry, the host of the Daily Source Code Podcast).

Podcasting is real and here, not some vaporware. And yet, some are still going to miss the boat. They won't recognize its boundless promotional potential, or appreciate the tangible connections it will create with new and existing audio fans.

So you have a choice: Dismiss it now, fear it later, or take this golden opportunity to define and shape it for the better.

Brian Maggi is a Chicago-based audio interface designer, writer and former creative director at EMusic.



AND SO IT BEGINS: THE CONTINUING UBIQUITY OF THE UBIQUITOUS

NEWSFLASH: CANNES, France – At the recently held 3GSM World Congress 2005, Microsoft and Nokia said that they're going to partner to create a future that'll let you listen to music any time, any place, and anywhere. Based on the newly launched mobile music solution offered by Nokia and Loudeye Corp. to wireless operators on both Nokia handsets and Windows XP-based PCs, the collaboration includes support on music-oriented Nokia handsets for Windows Media Audio, Windows Media Digital Rights Management (DRM) 10 and Media Transfer Protocol (MTP), as well as support for Open Mobile Alliance (OMA) digital rights management and the MPEG Advanced Audio Coding (AAC) family of codecs in Windows Media Player via a plug-in.

What's it all mean?

Well, in micro it means that everyone will be able to listen to everything everywhere via easy device connections and content flow between Nokia handsets and Windows XP-based PCs. In macro? Very possibly that we will be enslaved by a humanoid race of aliens who will demand total fealty to their god: The Britney Spears of Destiny.

Only time will tell on this one.

TIMETELLING (EQ Magazine) –

"**BlingTones**, a division of Lagardere Active, announces the world's first wireless record label. BlingTones, representing the next level in the completely insane ringtone phenomenon, brings exclusive, original content straight to that phone that you're always losing. While other ringtone companies provide snippets of previously existing commercial songs, BlingTones has signed hip-hop producers/artists **Q-Tip**, **Rockwilder** (Missy Elliot, Jay-Z, DMX), **Hi-Tek** (Talib Kweli, Snoop Dogg), and more to create original 30-second "songs" available only through BlingTones. Holy Mother of Mary.



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Tool Box

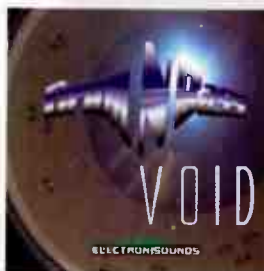
BY KEVIN OWENS



Elemental Audio Systems Finalis Limiter plug-in

Finalis (\$159) is a cross-platform (RTAS, VST, AU) brick wall limiter that has three distinct limiting algorithms, a user-configurable ceiling, and built-in gain control. Highlights include input and output peak meters with integrated RMS and peak hold readings, along with the company's new I/O Crest Factor meter, which gives a quantifiable indication of how a signal's dynamics are being affected by the limiter settings. Sweet.

Elemental Audio Systems,
www.elementalaudio.com.



Electronisounds *DnB Void* Sample CD

DnB Void (\$19.99) features more than 650MB of original sounds and loops in 16-bit/44.1kHz WAV format that are meant to "explore the darker side of dark drum and bass." The dark CD includes an extensive, and dark, collection of basses, drums, effects, chords, pads, synths, and vocoded drums. Dark.

Electronisounds, www.electronisounds.com.

Sage Electronics SE-BB1 "Bova Ball" Electret condenser microphone

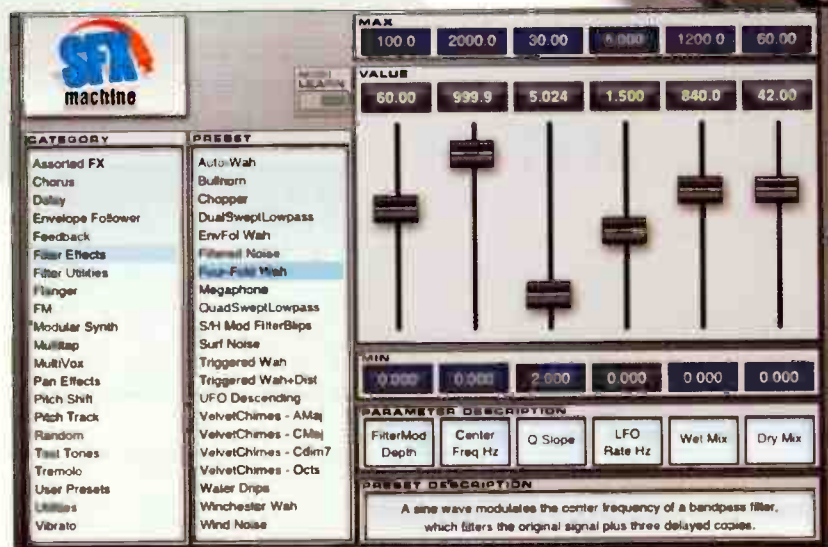
Although it conjures uncomfortable memories of the brain-sucking security device from the 1979 film *Phantasm*, the **SE-BB1 (\$579)** is actually a mic that sports a spherically mounted, high-intensity, small diaphragm electret condenser capsule. The mics — also called "Bova Balls" after designer/record producer/Sage founder Phillip Victor Bova — are created on a one-off basis and feature all discrete class-A transformer-less electronics, active balanced outputs, brass hardware, and a precision Manfrotto ball-and-socket mechanism for versatile positioning.

Sage Electronics, www.sageelectronics.com.

Alienware MJ-12m 7700 Mobile workstation

Stretching the definition of the word "laptop" is the highly configurable **MJ-12m 7700 (\$2,400 and up)**. Basic features include Pentium 4 desktop processors, Intel 915 PCI-Express technology, DDR2 memory support, dual hard drives with RAID support, dual optical drive slots, a 7-in-1 media card reader, a 17" widescreen LCD, four built-in speakers (with subwoofer), Bluetooth support, a user-removable GFX module, and more.

Alienware, www.alienware.com.



SFX Machine SFX Machine RT 1.04 Effects plug-in

SFX Machine RT (\$99.99) is a multi-effects plug-in (VST for Windows and OS 8/9/X, AU for OS X) that comes with hundreds of presets ranging from conventional effects (such as choruses and flangers) to more out-there options like "Munchkin Chorus" and "Freeze Boing Discrete." Cool features include automated parameter control via a MIDI learn interface, and a Randomize button that lets users explore the preset possibilities. Version 1.04 claims improved Audio Unit functionality and enhanced stability.

SFX Machine, www.sfxmachine.com.



Grace m902 Headphone amplifier

Designed to accommodate both analog and digital sources, the m902 stereo reference headphone amp (**\$1,695**) features high-current, trans-impedance output amplifiers that are optimized for driving like a mule team even the lowest impedance headphones. Other features include rear-panel USB, S/PDIF, TOSLINK, AES3, XLR, and RCA connectors; a pair of front-panel, parallel-wired 1/4" outputs; and a front-panel rotary switch that lets you choose between balanced, unbalanced, AES, S/PDIF, TOSLINK, and USB sources.

Grace Design, www.gracedesign.com.



CAD GXL Studio Packs Microphone bundles

CAD rolled out four new mic packs for personal and project recordists. The **GXL2200 Studio Pack (\$239)** contains one GXL2200 large diaphragm condenser mic, one GXL1200 cardioid condenser mic, and one EPF 15A pop filter, while the **GXL 2200 Stereo Studio Pack (\$299)** comes with an additional GXL1200. The **GXL3000 Studio Pack (\$339)** includes a GXL3000 large diaphragm multi-pattern condenser mic, one GXL1200, and one EPF 15A pop filter; the **GXL3000 Stereo Studio Pack (\$399)** adds another GXL1200. CAD Microphones, www.cadmics.com.

Manytone ManyStation Sample-based workstation

Manystation (\$99) is a VSTi sample-based workstation that ships with 1.5 GB of multi-sampled acoustic and electric guitars, basses, cellos, vintage hardware synths, drums and percussion, pads, and effects. All soundsets — some of which are made up of between 20 and 60 multisamples — were hand edited with attention to fidelity, usability, and noise levels. PC only.
Manytone, www.manytone.com.

MXL Desktop Recording Kit

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MXL, www.mxl.com.



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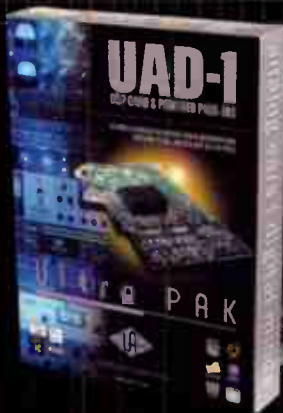
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Bela D Media Project 6 Sampled guitar library

For **Project 6 (\$149.99)**, Bela D Media sampled "four variations of every note for every articulation" of a Paul Reed Smith Custom 22 guitar plugged into a Mesa/Boogie Dual Rectifier amp. The patches feature multiple release triggers for added realism, and include single-note picking, single-note hammer-ons, power-chords, palm-mutes, and more. Project 6 was programmed in Kontakt 1.5.3 and can be played from any MIDI controller.

Bela D Media, www.beladmedia.com.



Ilio S.A.G.E. Xpanders Sound libraries

Ilio released four of its Groove Control collections as **S.A.G.E. Xpanders (\$99 each)** for Spectrasonics' Stylus RMX virtual instrument. Each title — *Stark Raving Beats*, *Ethnic Techno*, *Skippy's Noizbox*, and *Skippy's Big Bad Beats* — comes with a complete sound library, a "Bonus Ilio" section, and a host of new multi-patches designed to broaden the potential of Stylus RMX.

Ilio, www.ilio.com.



Digital Music Doctor Acid Pro 5 Know It All! Instructional CD-ROM

Acid Pro 5 Know It All! (\$29.95) is an interactive course that contains nearly two hours of videos and sample projects covering audio and MIDI loop-based composing, recording, editing, and mixing using Sony Acid Pro 5. The course is organized into five sections, including one that gives an introductory tour of the Acid workspace and talks turkey about new Acid Pro 5 features.

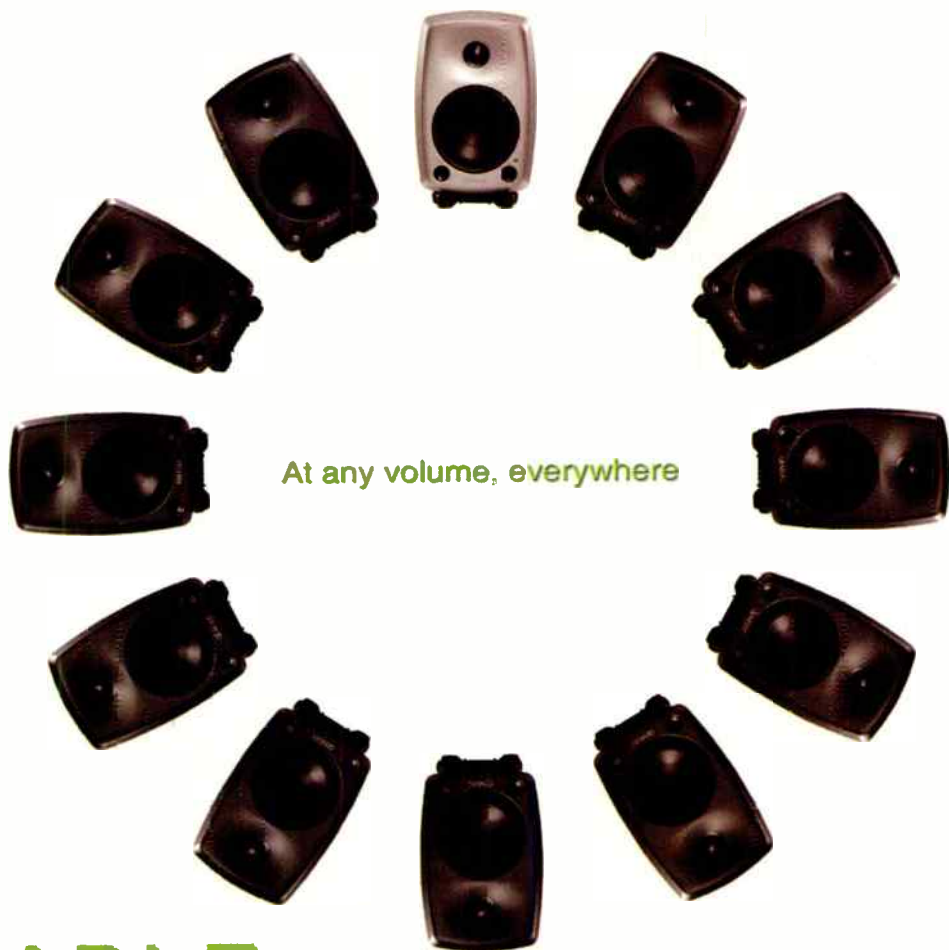
Digital Music Doctor, www.digitalmusicdoctor.com.

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Coyote R&D, www.coyoterd.com.





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Garbage: Guitars!

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his is a really huge guitar record for us," says Butch Vig, producer, drummer and songwriter for Garbage. Vig put his name on the map when he produced Nirvana's ground-breaking *Nevermind* and Smashing Pumpkins' *Siamese Dream*.

The new Garbage record — released in April 2005 — is called *Bleed Like Me*.

This release varies from the band's past as an electronica-heavy act, but better represents what they've always sounded like live.

DATE: March 2003-December 2004
STUDIO: Smart Studios
LOCATION: Madison, WI
ARTIST: Garbage
PROJECT: Recording guitars
ALBUM: *Bleed Like Me*
PRODUCER: Butch Vig and Garbage
ENGINEER: Billy Bush

SIGNAL PATH

"This time around, we made a conscious decision to get in the room and turn the amps on so we could get some feedback, so that it resonates," says Vig. "When the sound comes into the pickups, it just rings differently than if you're sitting in a chair in the studio. We would run some of our guitar tracks into the Line 6 XT Pro Pod, and some into Matchless, Mesa Boogie, Marshall or Fender amps. We also used a German amp called the Diezel—they are great for the crunchy stuff."

"We used the Littlelabs PCP Distro to split the guitar signals to the different heads and Pod," explains engineer Billy Bush. "All of the amps were routed to the same old Marshall 4x12 slant that we have at the studio."

"But if there was a secret weapon on the guitars, it was the Palmer Speaker Simulator that we used," says Vig. "It's designed so you can record in your house without an amp, but it sounds better than even a DI. It's got some tonal controls and it sounds very much like the amp is right in your face." They also used some Chandler

TG-2 and Channel pre amps, and the Groove Tubes ViPRE, Focusrite 430, and Manley SLAM as preamps for guitar tracking.

MIC POSITION

The guitar tracks for *Bleed Like Me* were recorded using an assortment of mics — positioned carefully to satisfy Vig's ears. "We tried to use good microphones: a Neumann FET47, the RODE NT2, and a Shure FM57," he says. "We also used the Royer 121 ribbon mics and Coles ribbon microphones. We moved them back from the amp maybe six inches or so, and would line them up so we could get them all in phase." They also used a Brauner KHE-VM1 as a room-ambience mic.

"I like to turn it up, put some headphones on, but then *not* have anyone play the guitar or any other signal coming through," he says. "Then I'll just listen to the different tones of the background hiss and move it around, so I can kind of balance the low with the high, bright, clear sound. And once we get those set up on a session, we'll make sure they're in phase so we can mix or match—or pick one—and that can take a while."

They usually end up with four mics, plus the Pod and the Palmer. "Then we split between those and figure out what is best for the recording," he adds.

PROCESSING

"Now, as we work on a song, it kind of starts getting mixed as the song gets farther along," says Vig. This process is enabled by the twin Pro Tools HD rigs that Vig has set up at Smart Studios and at his home studio.

"I'll start putting in automation, EQing and balancing and panning things," explains Vig. "I like the Massenberg EQ because it's got a great high and low pass filter. When you're recording a lot of big guitar tracks, sometimes you want to put in a high pass at 60 Hz or 80 Hz.

That way, you still get the fundamental body, but it doesn't have all the sub stuff making the song sound muddy."

TRACK NOTES

Some songs on *Bleed Like Me* have 60 or 70 tracks — but not all playing at the same time. "It might just be an extra texture on the chorus," he says. "But most of them boil down to a riff or a chord progression that Duke and Steve would play. Then we would layer the electronic things underneath the guitars. But the electronic elements are still way secondary to the core of the record."

"We wanted to turn the amps on," says Vig, "and crank it up, versus just plugging in and doing the same four bars over and over a hundred times." **EQ**



Butch Vig in the absolutely palatial Casa EQ



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CONTACT: www.paullindford.com/

LOCATION: Hollywood...Swinging

KEY CREW: Composer TREVOR RABIN and a big doberman named Coda.

by Steph Jorgi

I really like the Sculpture effect in Logic Pro because it's really weird sounding

Want to slip into a movie seat and feel yourself picked up, thrown around, your heart racing, sick with thrill, sweating, breathing, with your pulse and pupils dilating in time with the sonic groove of the driving, swelling music inside the film? *Without narcotics?* Well, lucky for you, Paul Lindford (*Gone In Sixty Seconds*, *Bad Boys II*) kicks down the serious rocktronica that, love it or hate it, has made its way into over 24 feature films. And now he's moving into scoring for video games.

Who? What?

Lindford, with his film-scoring partner, former rock and roller Trevor Rabin, has stumbled into solo scoring 40 minutes of his Rob-Zombie-meets-Chemical-Brothers style sonic mayhem for a super-secret, and as of yet, unnamed release.

First game jitters? Freshman shakes? Nope. Lindford seems pretty fearless about it. "Forty minutes?" he says. "That's just a small movie."

THE LINDFORD MIX HAVEN

Lindford runs his mixing operation on three Power Mac G5s, hooked up to three Pro Tools HD3 Accel cards and six 192s. He uses two of the HD3-Accel-infused Power Macs for his DAW—one as mixer for Pro Tools and the other to run Logic Pro. He uses the third one to run Ableton Live.

In addition to the Mac arsenal, Lindford hosts GigaStudio on even more PCs. "I've got four great PCs that were built by the now defunct Sound Chaser," says Lindford. "I've got those loaded up with Giga Orchestra 3."

And Lindford listens to his mixes through a set of Miller & Kreisel (M&K) Pro 2510-PK monitors with a M&K sub. He relies on Logic Pro to program all of his MIDI arrangements and virtual instrument tracks, guitars, and bass, then records those arrangements and his GigaStudio tracks out to Pro Tools.

No worries there, though. Lindford's home studio — which nestles against the Hollywood Hills — is stacked with out-

board synths and samplers galore, including a Waldorf Micro Wave XT, Clavia Nord Rack 3, TC6000, TC3000, Line 6 Pod ProXT, Bass Pod ProXT, and Echo Pro, and a few old ART processors.

He also just got a brand new M-Audio Pro-88 controller, an 88-weighted-key keyboard with lots of knobs, that he bought to trigger all the software instruments he's got loaded up inside of Logic Pro, Pro Tools, and GigaStudio. "I like it because it's very tactile, with lots of options for tweakability," says Lindford.

LINDFORD PLUGS IN

"I love the ImpOSCar," says Lindford. "I've gotten a lot of mileage out of that one for sure." He also likes the G Force Oddity. "It's a true emulation," he says. "No added delays built in or anything. I'm looking forward to their Minimonsta too. Oh yeah, I also really like the MTrpn and the Oxford EQ plug-ins as well."

Moreover, Lindford uses some Audio Units in the making of his score material. "I really like the Sculpture effect in Logic Pro because it's really weird sounding," he says. "That, and the Native Instruments Pro 53, Spectrasonics Stylus RMX, and, of course Ableton Live 4. That new Operator instrument sounds really good."

BACK TO THE FUTURE

After being a guitar and keyboard tech for Yes, Jimmy Buffett, Hall & Oates, and Fleetwood Mac, Lindford picked up a gig working on the score for 1989's *Glimmer Man* with Trevor Rabin.

"It was actually supposed to be my buddy's gig, but he passed it on to me," explains Lindford. "24 feature films later, he's kinda sorry about that one." And, at this rate, we can expect to hear at least that many more sonically charged film scores produced by Lindford over the next 10 years. But be forewarned: Lindford's going to try and rip your ears off in the most pleasurable way possible. EQ



photo by Steph Jorgi

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Stop Th



by Dan Daley

Somewhere, in a recording studio — a Manhattan high-rise, a garage, a basement, a warehouse, a laptop in L.A. — a piece of music is about to go wandering. Where it ends up, how many copies of it are made, and who profits, could have an impact on your career.

Unauthorized distribution of music whose source has been directly traceable to recording studios is nothing new; people have been taking home rough mixes for decades — legitimately and otherwise — and much of it has found its way on to bootlegs or the radio. But in a digital era, the implications are exponentially larger and the stakes are bigger — every digital copy is a potential master, and at a time when music sales have seen a nearly 20-percent drop in the last three years, every little bit hurts.

Studios are central to music production, and thus are one of the industry's most vulnerable points. For instance, according to a published report, pirated versions of U2's *How to Dismantle an Atomic Bomb* appeared on Internet file-swapping sites two weeks before its scheduled early December release date after media containing tracks from the album were stolen from a recording studio in Nice, France, several months earlier. Alternate mixes of Madonna's *Music* LP made their way onto the Internet several years ago, drawing public ire from the artist.

On the record, music labels decry any unauthorized distribution of copyrighted material. However, speaking off the record, two former senior executives, who have cumulatively spent over 40 years

Digital Security In

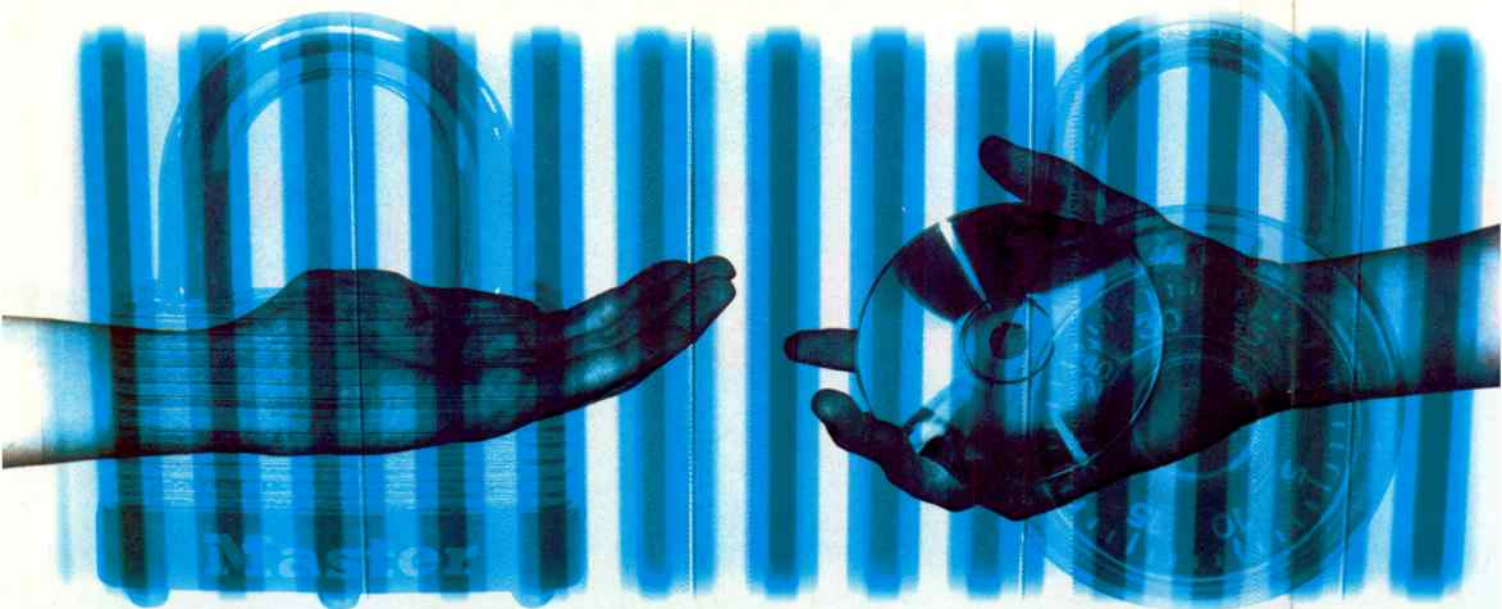
at Song!

A hand is shown holding a vinyl record. The background consists of vertical blue stripes of varying widths. The text 'at Song!' is written in a large, bold, orange font across the top of the image.

at labels including Sony Music, PolyGram, Mercury, and EMI, suggest other attitudes at work. "There are so many people who come in and out of studios that it's nearly impossible to pin blame on any one person or even any one studio," says one, now head of his own independent label. "But I would also believe that there are any number of label executives over the years who have had hidden interests in recording studios. There have been good reasons for that — you're generally assured that you'll get the studio you want when you need it at a good rate. But there's also a perceived conflict of interest there, and that partly manifests itself in the idea that those same label executives might not want to press investigations of leaks of material at studios too intensely."

Another former executive, who now heads his own management and consulting business, suggests further that it was not unheard of for a label to stage such leaks on purpose, to generate buzz for a new release. "When I was at a major label, radio stations used to get cease-and-desist letters all the time," he recalls. "And if they had gotten hold of a recording prior to its official release, they would play the shit out of it until that letter arrived. It would often work out to everyone's interests — the station got a coup and the label and artist got more attention than a release might otherwise have gotten." However, he adds, he left his executive position in the mid-1990s, before the Internet created a snowball potential that not even the sharpest promotion person could safely manage. "It used to

A Treacherous Age



be cosy — leak it, enjoy the buzz, then send out a cease-and-desist letter. You can't do that with the Internet. Once it's up there, it's everywhere and out of your hands."

Who's Next?

In September 2003, the Recording Industry Association of America (RIAA), which had already litigated against Internet download centers such as MP3.com, and file sharing systems like Morpheus, as well as having been awarded tens of millions of dollars in judgments against CD replicators, began litigation against hundreds of individuals in the U.S. A pattern has been established. Are recording studios — and by implication, engineers and producers — next? The RIAA would not comment on the matter. Studios, engineers, producers, and those with personal recording operations have been aware of the possibility to varying degrees, but there is a lot of bad information, too. Dave Amlen, owner of Sound on Sound, a three-studio facility in Manhattan, thought intellectual property theft coverage was included in his business insurance policy. A call to his insurance agent indicated otherwise.

Implementation of security has been mainly at the individual level to this point. Michael Brauer, a producer and engineer whose credits include Paul McCartney, Bob Dylan, and Simon & Garfunkel, is the sole client at one of the studios at Quad Recording in New York City. He has implemented a stringent security regimen of his own. "Every copy of anything stays with me personally, in my bag," he says. "After I make a copy, the [Alesis] Masterlink is erased. Any media that stays here after I'm gone is placed in the studio safe. I know and trust my two assistants, and no one — *no one* — can be in this studio unless one of them is also there. Not even to clean the place. If anyone from the studio does come in without supervision, the deal is that they're fired. Then and there. I'm a nice guy, but my career is at stake here."

However, security concerns have to be balanced against what people come into studios for in the first place. Stan Soocher, an attorney and an associate professor of Music & Entertainment Industry Studies at the University of Colorado's Denver campus, says studios walk a tightrope when it comes to potential liability, noting, "Things tend to get messy in studios because people are creating,

"Every copy of anything stays with me personally, in my bag," he says. "After I make a copy, the [Alesis] Masterlink is erased."

You can't run a creative atmosphere like a military environment."

The first organized response to the issue of unauthorized leakage of digital music from studios came from the Association of Professional Recording Studios (APRS), based in the U.K., which formulated a "Studio Security" checklist with which studios, and engineers and producers with home studios, could conduct self-audits to assess how secure, or not, their facility and its environs are when it comes to ways mixes could find their way into the wrong hands.

The Guidelines (downloadable as a .pdf file at www.aprs.co.uk) were first conceived in January 2003, in conjunction with British Phonographic Institute meetings, according to APRS managing director Peter Filleul. Their U.S. counterpart, the Society of

Professional Recording Studios (SPARS), was expected to adapt the guidelines for use by its U.S. membership sometime this year.

The guidelines are voluntary and self-audited on the part of studios, and are simple and inexpensive to implement. "There was a concern always foremost in our thinking that we didn't want to impose burdensome costs on already struggling recording studios," Filleul says.

The checklist is pretty comprehensive. Under rubrics including "Physical Security," "Data Security," "Transportation" and "Personnel," it makes a series of statements — *i.e.*, "Materials — working multitracks, hard drives, CD-ROMs, etc. — should not be left in control rooms overnight [and] should be secured in a lockable safe place" — to which respondents rate themselves on a scale from 0 to 3.

A more intensive response is being formulated now by the International Recording Media Association (IRMA), which has had an audited, ISO-approved security regimen in place for CD replication plants since 2000. The organization was approached in April 2004 by a consortium of software publishers, including Sony Music, Warner Music, Microsoft, and Electronic Arts, inquiring whether IRMA's anti-piracy compliance program for replicators could be adapted for production and post-production facilities, including recording, mixing, and mastering studios. "They wanted to know if an international, recognizable standard could be achieved for those types of facilities," explains Tim Gorman, director of that program for IRMA. In

cakewalk

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Version 4 transforms SONAR into a robust mixing environment, suitable for both surround and stereo, with exclusive features not found in any other applications. In addition, SONAR 4 delivers 32-bit floating point digital mixing and bussing technology with full delay compensation throughout the signal path. Combined with its enhanced video support, you'll find SONAR 4 offers a superior solution for scoring and post production.

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response, IRMA developed Operation Content Safe, which intends to apply a higher level of scrutiny to the production locations where music, film, video games, and software are created.

However, it's one thing to vet a huge manufacturing plant, another to look for leaks in a multi-room recording facility whose lounges invite artistic collaboration in the form of trading discs, and still another to figure how to keep Joe's garage from leaking a track that Joe just put a guitar part on and has FTP-ed back to the producer. Gorman admits it might be a daunting task. "We're still trying to figure that out," he concedes, adding that it's still unclear at what point a track becomes a piece of intellectual property. "Is a drum track a song?" he asks rhetorically. "It would seem that the value lies in the finished product, but that's still to be determined." (Attorney Soocher points out that anyone who contributes to a song could assert copyright participation on a non-exclusive basis.)

What is known is that Operation Content Safe will have an audit fee attached to it, a sliding scale based on the size of a facility. If the label industry decides to endorse such a program, it could mean the difference between working and not working for personal studio owners when it comes to label-backed projects. "It could become a deciding factor in whether or not a record label allows an artist or producer to work in a particular studio or with a particular person," Gorman acknowledges. "But that will have to be balanced by the recognized need that artists and producers still need to go where they feel comfortable. This is not going to be a simple process."

What You Can Do

The APRS guidelines outline the major areas to consider, and are applicable to both commercial and personal studio environments.

- Physical Security-Control access to all areas where media are

THE FIRST BOOTLEG (AND IT CAME FROM A STUDIO, NO LESS!)

In 1936, in what some observers consider the first bootleg music litigation in history, popular band leader Fred Waring found that disk transcriptions of his radio show were being played on small stations across America via a sort of primitive "file sharing" of acetate masters. Waring's lawyers sued a recording studio in Pennsylvania that had allegedly made the transcriptions. They won, and the ruling survived numerous appeals and led to a toughening of copyright law in the U.S., which would include the Sound Recording (SR) copyright.

stored and used. Designate a particular and secure location for all media, and keep a log of them. Treat a CD-R or a hard drive like you would a vintage microphone. "Don't leave a rough mix lying out on the coffee table," says Michael Brauer.

- Data Security - Transfer of any data via the Internet should always be done using secure connections or network service providers. Wi-Fi connections should be set up to use controlled-access lists and encryption. If you rent a hard drive or other recordable media, make sure it's completely erased before being returned.

- Moving Stuff Around - Any messenger service should be bonded and insured. Establish a log that shows what comes into and out of your facility space and when and where it came from and who it went to. Have anyone who picks up media from you sign for it.

- People - Even home studios use assistant engineers. This is the most difficult asset to quantify. As one engineer puts it, "Interns have no loyalties, only ambitions." Stan Soocher points out that employees

can sign indemnification agreements with studios, but that few would likely have the financial wherewithal to actually indemnify a client for damages. "The legal focus would go back on the studio itself," he says. Limit access to any media to new employees and help. As time goes by, trustworthiness will make itself apparent, or not.

No one interviewed for this story had ever heard of a recording studio being sued for the unauthorized distribution of a copyrighted music track or file. But many seemed to think that it was only a matter of time, given the level of litigation surrounding the music industry today. There are no foolproof solutions. But awareness is the first step in protecting your music, your career, and yourself. EQ



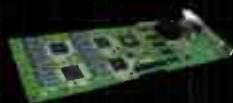
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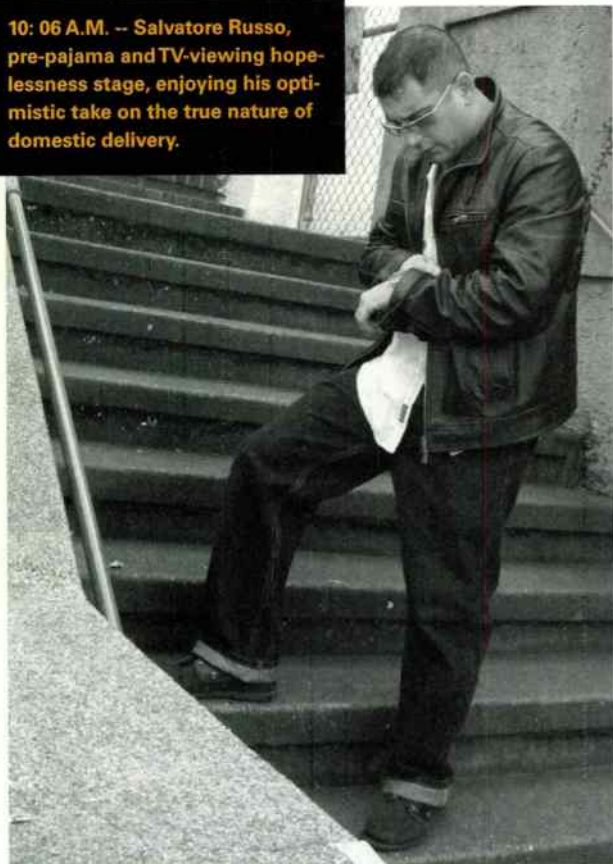
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World Radio History

THE *EQ* SHIPPING SHOOTOUT

By Salvatore Russo

What happens when you've got to get your sessions somewhere, somehow, soon? *EQ*'s Salvatore Russo jumps feet first into the wilds of delivery—digital and overnight—and, in a crazy cannonball run, tries to find out: who sucks the least?

10: 06 A.M. — Salvatore Russo, pre-pajama and TV-viewing hopelessness stage, enjoying his optimistic take on the true nature of domestic delivery.



And...they're off!

Over land, over wire, *over where?* When it absolutely positively has to get there at some point in the conceivable, and financially lucrative, future: *EQ*'s Shipping Shootout...ladies and gentlemen (all two of you), wherein we compare shipping methods and then sit around the office glaring at one another.

And so with the able assistance of the very, very, very patient producers/studio engineers extraordinaire Monte Vallier in San Francisco at Function 8 studios and Rock Garden Music's Dean

Bohana in New York City, this year's Shipping Shootout damned near seemed easy...except, of course, for the actual work involved, which was as time consuming as it was punishing.

The concept: Compare the best way to ship a Pro Tools session, whether it be conventional Express Mail shipping service or one of them there new-fangled computer doodads electronically hooked up to that there email thingy...or something to that effect. Probably Digidesign's DigiDelivery.

The reality: Arriving at Monte Vallier's Function 8 (www.function8.com) in-home studio, which is incidentally located in a neighborhood-bar-turned-live-work space in San Francisco's Mission district, 4 p.m. or the eve of a holiday weekend; I couldn't have picked a more difficult challenge for the overland portion of this competition. I mean I knew that whomever it was that won this portion of the competition had their work cut out for them *and* would have to overcome insurmountable odds, especially if by insurmountable odds you mean a three-day weekend. But I digress. Upon arriving at the studio, I was given four CDs containing identical sessions of DJ ViceGrip b/w DJ WD-40's (not their real names) new record *MUSIC FOR SUCKERS* (not its real name, either). Those same Pro Tools sessions that would soon be racing their way cross-country to the studio of Brooklynite Dean Bohana. But "soon" is more of a state of mind...isn't it?

"Well, I've been using FedEx to ship my files and sessions for years," says Vallier. "Though I've recently started using FTP sites to upload and download files. When the files are a manageable size (less than a couple hundred megabytes) I like using the electronic shipping—especially for mixes to be approved, or for clients to hear ideas—but when I get into large sessions that are complex I'll use FedEx."

And Bohana? "For absolute safety I would prefer ground shipping, and, to play it really safe, I'd use two different couriers, UPS and FedEx delivering exact duplicates."

The surreal life: The first realization that this was going very, very badly was the fact that the demo we were given access to of a Digidesign DigiDelivery set up was nothing short of a supercharged FTP with a desktop interface. Not what we wanted to be using. After this realization I decided that for one to test the DigiDelivery equipment, one would have to *test the DigiDelivery equipment*.

Second realization that the gods, as well as technology, my parents, friends, and everyone in my life was conspiring against me, was the fact that FedEx, DHL, and UPS all, strangely enough, were unable to pick up the package on Saturday morning. They rescheduled for Monday, which worked out fine as I was home and eager to

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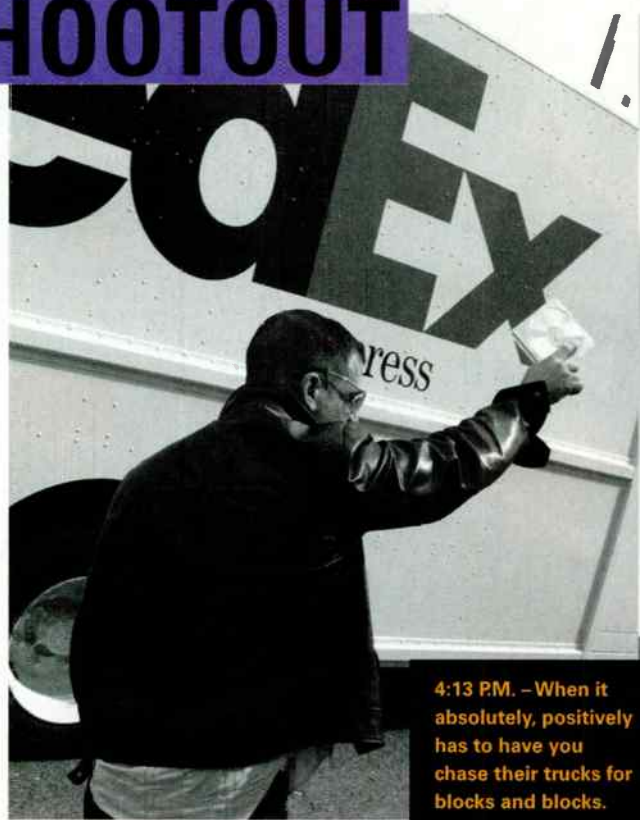
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World Radio History

THE EQ SHIPPING SHOOTOUT



4:13 PM. – When it absolutely, positively has to have you chase their trucks for blocks and blocks.

The Emerald City!



Photo by Nick Cimiluca ntkphoto

get the proverbial "ball in play." So, no delivery on Friday, Digi or otherwise. No ground delivery on Saturday, this brings us to Monday.

Monday, Monday, can't stand that day: UPS, DHL, and FedEx all manage to screw up my pick-up so that the "super productive" holiday I imagined was not all that productive at all and pretty much consisted of me, a community college grad, sitting around in my pajamas ranting on and on about "This is not what my parents spent \$6,000.00 for!"

Fast-forward to Tuesday and me still smarting from having each and every one of my attempts to complete this piece frustrated in every imaginable way. I went to my local MailBoxes Whatever joint and mailed out via UPS, DHL, and FedEx three CDs to Dean Bohana in Brooklyn. The time was 1 p.m., my pockets were \$67 lighter, and I was late for my appointment at Digidesign.

Life was good.

My deadline loomed over me like an impending doom and I could almost see the light at the end of the tunnel, as I got my ducks in a row, and the pieces fell into place, as well as a bunch of other clichés that I just can't put my finger on. *Oooo! That was one more.* But arriving at approximately 3:30 p.m., the first thing I noticed was the impressive array of awards that were sitting in their lobby, which incidentally included an Oscar, which I assume they won for something or other.

Shortly thereafter I met Gordon Lyon and was introduced to the business end of the Serv GT, which incidentally looks a lot like the Atari 2600, remember that? *Man, I would just sit in my room playing Asteroids...*

Where was I going with this, Atari? No, that's not it....Oh yes, Digi-delivery Serv GT, the Serv GT is the first product design based on the 2003 acquisition of Rocket Network, what does this all mean? Haven't a clue, but what I do know is that the DigiDelivery fired off a 109 megabyte Pro Tools session across country in less than then five minutes, three minutes and ten seconds to be exact,

from the workstation at Digidesign to a workstation at Studio One in New York City.

Noticing the shock and awe on my face, my Digidesign liaison Gordon Lyon explained to me how efficient the DigiDelivery system was in comparison to Express Mail as it relates to digital documents. Lyon even mentioned that many of the major studios in Hollywood had taken to using DigiDelivery in lieu of Express Mail when shipping movies to far flung continents for foreign language dubbing. "Movie studios are not shipping reels anymore," says Lyon. "They send it out DigiDelivery for dubbing and then get back the audio dub by DigiDelivery. It's a lot more efficient that way."

Efficient indeed. And pricey (a wincingly bracing \$9995 for the GT version and \$3295 for the LT). Even though this race was almost literally finished before it even started, just judging by the elapsed time. I mean before 4 p.m. on a Tuesday the other sessions were at San Francisco Airport, best-case scenario, no more than 10 miles from where I was standing, waiting to be loaded unto cross-country flights to New York. The scenario closest to reality, though, would however be that the packages were still on the trucks having just been picked up from the Mailboxes Whatever joint: cheaper but not so efficient.

The reality as it relates to all things real as they relate to UPS, FedEx, and DHL. Relationally speaking:

The poor excuses abounded for our three shipping giants. All of the shippers, with the exception of FedEx, who joined the race on Tuesday, failed to make their holiday pickups. Logging on to their Websites I sent the following emails to their Customer Service Departments:

--- Original Message ---

From: Salvatore Russo (g_utapfast@yahoo.com)

Date: Monday, February 21, 2005 06:30 PM



REASON

It has arrived.

Reason 3.0 is here. With one-step loading of complex, customizable instruments and effect setups, a new expanded soundbank, instant integration with hardware control surfaces, a new intuitive file browser and a set of class A mastering devices, this upgrade is extra loud, extra large and extra live-friendly.



More Reason 3.0 Info at:
www.propellerheads.se

New in Reason 3.0:

■ The Combinator

The Combinator lets you create and save combinations of multiple Reason devices, allowing you to load up huge chains of instruments and effects in one single click.

Create instruments splits and layers. Build intricate instrument and effect combinations. Create complex routings with CV control over any parameter. Then save it all as an instantly loadable, playable Combinator patch. Only with the Combinator. Only in Reason 3.0.

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MClass – a suite of expensive sounding, professional mastering tools – adds punch, sheen, width and volume to your mixes. The MClass package includes:

- ▶ **MClass Equalizer** – a parametric mastering EQ for surgically precise frequency adjustments
- ▶ **MClass Stereo Imager** – for fully controlling the stereo width of your mix
- ▶ **MClass Compressor** – gives your tracks bite and definition
- ▶ **MClass Maximizer** – a high-quality loudness maximizer designed to make your Reason tracks sound as loud as you intended them to.

■ **Remote** – Thanks to the Remote technology, Reason now integrates even more seamlessly with external MIDI controllers, with full support for motorized faders and control surface displays – right out of the box, no configuration needed. ■ **The Reason 3.0 Sound Bank** – the new sound bank adds a huge selection of multi-sampled instruments as well as fresh synth patches, loops, samples, and combinator patches to Reason's already massive library. ■ **The Reason 3.0 Browser** – surf through Reason's massive soundbank in new intuitive ways; easily locate, audition and organize sounds and patches from all over the library. ■ **Line Mixer 6:2** – 6-channel stereo line mixer for easy sub-mixing. Use with the Combinator or insert anywhere in Reason. ■ **Record automation on multiple tracks.** ■ **Warp speed sample loading.**

Ready to upgrade?

If you already own a previous version of Reason, go to www.propellerheads.se/get3 for more info on how to get this massive upgrade at a ridiculously low price.

THE EQ SHIPPING SHOOTOUT



4: 50 P.M. – But what Sal doesn't know is that we've switched his usual customer entrance with...the one with no door at all.

To: customerservice@DHL.Com (customerservice@DHL.Com)
Subject: Missed pickup

QUESTIONS/COMMENTS

You are not making a good first impression. Not even a mediocre first impression. This is absolutely a BAD first impression. Your driver drops off an envelope that says "For 101" on it, does not ring the bell, no attempt short of leaving the envelope. Make any sense to you? No, me neither.

Here is the response from the good folks at DHL. (Please replace "serve" and "assist" with "frustrate" and "annoy.")

--- Original Message ---

From: customerservice@DHL.Com (customerservice@DHL.Com)
Date: Tuesday, February 22, 2005 10:28 AM
To: Salvatore Russo (g_utapfast@yahoo.com)
Subject: Missed pickup

Dear Salvatore,
Thank you for contacting DHL. Please accept our apology for any inconvenience this has caused you. So that I can further assist you, please advise the tracking number. We appreciate the opportunity to serve you.
Jennifer
DHL Customer Service

Hammerstein Ballroom, New York City • October 29th, 2004

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Ryan Nichols
Front of House

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Learn more about the power of the LSR6300 Studio Monitors and RMC at www.jblpro.com/LSR



H A Harman International Company

THE EQ SHIPPING SHOOTOUT



4:55 P.M. – Hahahahahaha. It should be noted that, in fact, this truck had not moved for 40 minutes. When questioned the driver said through the one-inch crack in the window: "I'm on my break." Perfect.

That's funny. Their computer-generated apology did nothing to make me feel any better about spending a full day waiting for a delivery person who slips an envelope and empty packing sheet under the door without ringing the bell, immediately prior to fleeing. I guess it was his last run and the thought of me having to fill out the packing sheet was all too much for him. It was a holiday and all.

--- Original Message ---

From: "mozilla@ups.com" <g_utapfast@yahoo.com>

Sent: Feb 21, 2005 7:36:11 PM MST

To: customer.service@ups.com

Comments: Your driver leaves a slip but doesn't ring the bell. Doesn't make sense does it? No, I didn't think so either. This is a very bad first impression, very bad. What do we do next? Maybe I take another full day off to wait for him again? Catching the sarcasm? I hope so.

--- Original Message ---

From: customer.service@ups.com

To: g_utapfast@yahoo.com

Date: Tuesday 22 Feb 2005 07:14:52

Subject: NT20050221_0000019488 Shipping

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Email Reference Number: NT20050221_0000019488

Dear Salvatore Russo:

Thank you for your inquiry. We apologize for the inconvenience caused in this matter. Please provide the tracking number for your shipment so that we may address this matter with your local UPS Delivery Center.

Thank you for using UPS Internet Services.
Linda

It seems as if both DHL and UPS use the same computer to feign their grossly insincere apologies.

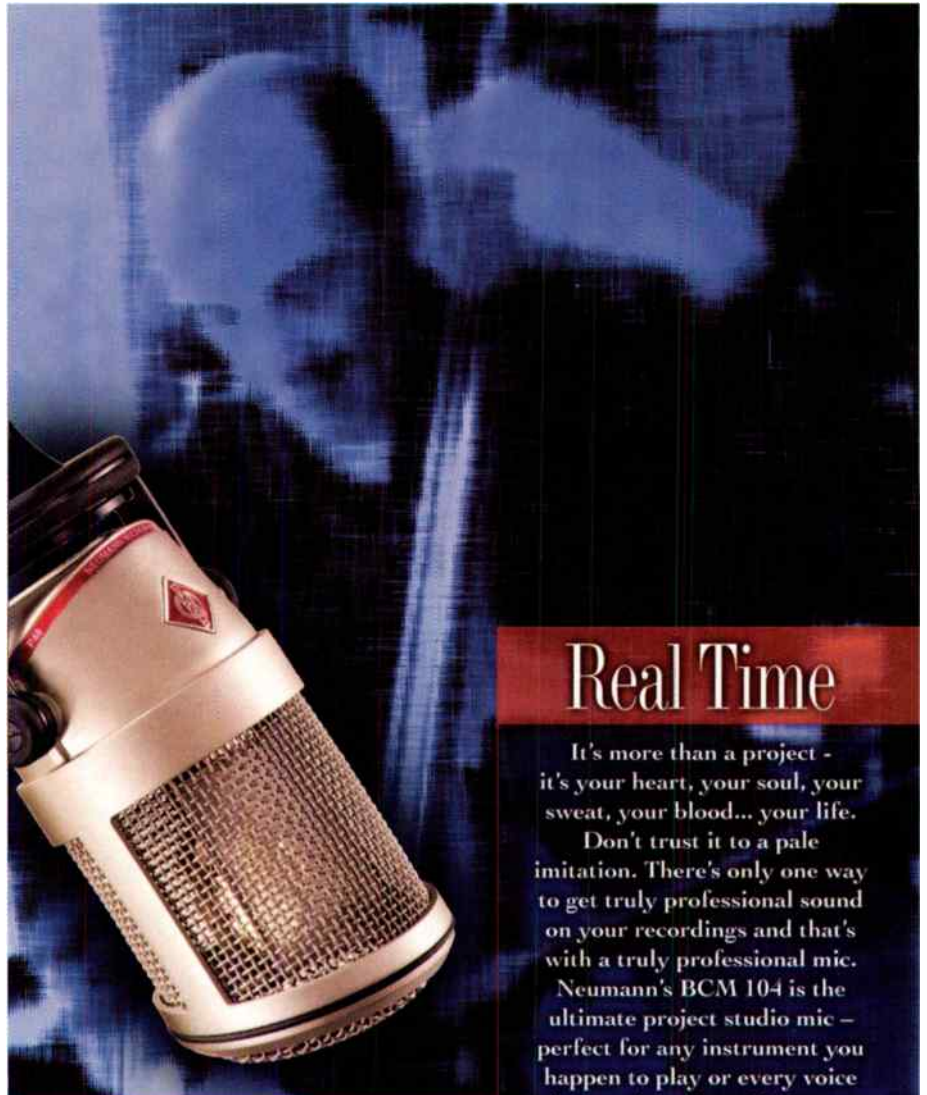
UNSUBSTANTIATED NEWSFLASH:

Universal employees are now no longer even allowed to ship tapes via common carriers like FedEx, UPS, or DHL. And all tapes must be couriered from a local metro warehouse. Also, international shipments of source tapes are supposedly banned. According to my sources, Universal was concerned about liability as it seems the courts have ruled that a source tape is only worth the physical material it's affixed to. So, you can't claim it's priceless if UPS loses it! This information made it up the chain of command and very possibly changed the perception that they were covered in the event of a loss.

The Fog of War: OK, let's cut to the chase: DigiDelivery, price aside, wins! Upon giving Gordon Lyon at Digidesign the good news I asked him about one of my chief concerns as they relate to snipping sessions electronically: safety. Is DigiDelivery safer than FTP and if so, why?

"Digi-Delivery is more secure than FTP in two ways: Encryption and Access Control," says Lyon. "Administrators can add SSL certificates to FTP servers so that they use HTTPS (instead of HTTP) for data transfers. HTTPS provides a secure connection between the client and the server so that the data cannot be 'sniffed' in transmission. Even without an SSL certificate, all deliveries are actually protected with 128-bit encryption before the delivery leaves the sender's computer, and they are not decrypted until they have been completely downloaded to the recipient's computer. So not only is the delivery safe in transmission, it cannot be hacked on the server. Even if the DigiDelivery server itself were stolen, the deliveries could not be accessed."

"But with an FTP site, you need to give recipients a password to access the site, then set up which folders you want to let them into," continues Lyon. "But that recipient can give that password to anyone else, and they can continue to access any files in those folders until the administrator manually closes their account. DigiDelivery recipients just click on a link in their email, so there is no need to give them a password and they can't see any of the other files or folders on your server."



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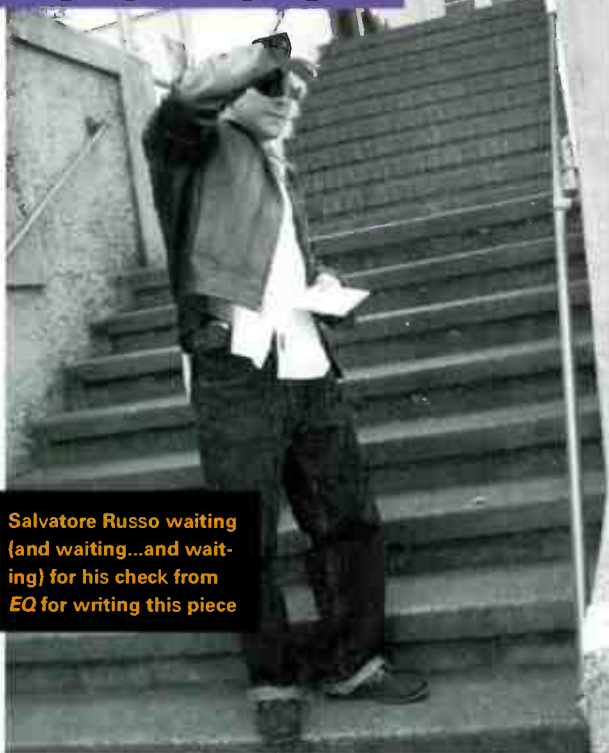


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THE EQ SHIPPING SHOOTOUT



Salvatore Russo waiting (and waiting...and waiting) for his check from EQ for writing this piece

But for the budgetarily challenged it may be a toss up even after the days and business lost are factored in. Coming in a close second and arriving the next day, UPS dropped off Monte's Pro Tools session at 9:54 a.m. Arriving just over a half hour later at 10:29 a.m. FedEx makes a third place appearance, and shamefully at 4 p.m. ...DHL brings up the rear with a pitiful fourth place finish. Fourth place.

Here is the first line of the first email I got from DHL upon starting an account with them: "Salvatore Russo, thank you for choosing DHL. As the 'new kid in town', we recognize that we have to earn your business – and your trust. And that's exactly what we intend to do." Well let me take the time to respond to that in this forum: being the "new kid in town" and all, you're still doing a horrible job. And as far as "earning my business," heretofore you have only succeeded in earning my ire. You lost. Or rather you got beaten. By EVERYONE. Excepting the US Post Office whose inclusion here was contemplated and then subsequently rejected for reasons in large part having to do with sanity.

Did I mention DigiDelivery won? Oh good... **EQ**

Salvatore Russo is a freelance writer and recording enthusiast with lots and lots of free-sitting-around-the-studio-in-pajamas time.

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More than 30 years ago, when Lexicon invented digital reverb, most recording studios were multi-million dollar rooms occupied only by famous rock stars and big record labels. And while Lexicon still lives in that rarified air of stardom with the world's most sought-after reverbs, now you can find us a lot closer to home.

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Don't Fear The Phase

Phix it...Phast!

by Craig Anderton

Phases of the moon. Going through a phase. And of course, the reason why we're all here: phase in the studio. Can you really hear the difference if a signal is out of phase? Or can you do so only if it's referenced to other signals? Besides, how do you check if your studio's phase relationships are correct?

Thought you'd never ask . . . but you did, so let's GO.

PHASE VS. POLARITY

When most people refer to an "out-of-phase" condition, they really mean a reversal in *polarity* (i.e., positive-going waveforms go negative and vice-versa), which is independent of frequency. True phase shift can be frequency-dependent, where the amount of shift varies at different frequencies. But we'll use the term "out of phase" because it has a common, understood meaning: Flipping a signal's polarity.

OUCH! PHASE PROBLEMS

Phase problems are, unfortunately, not uncommon. Balanced cables can be miswired, and some older gear had XLR connectors wired with pin 3 hot instead of pin 2 (the existing standard). Furthermore, some "vintage" effects weren't careful about phase (e.g., having the delayed signal in a digital delay out-of-phase compared to the straight signal), and I've even

The rationale is that if it doesn't mix this out of phase signal with a dry signal, no one will hear the difference anyway, and adding another stage to correct the phase would add noise.

tested some recently designed processors that flip polarity. The rationale is that if it doesn't mix this out of phase signal with a dry signal, no one will hear the difference anyway, and adding another stage to correct the phase would add noise. But *does* it matter?

WHAT ABOUT ABSOLUTE PHASE?

Try this experiment: Put a signal through a single mixer channel (hardware or virtual),

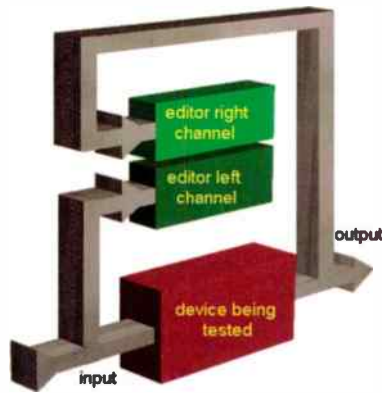


Fig. 1: Test setup for checking phase.

then flip the channel's phase switch. Hear a difference?

Maybe, maybe not. For example, with a kick drum, the first rush of air pushes out at you. If this signal goes through a properly phased system, the speaker will push air out to re-create the kick sound. But if the system flips phase, then the speaker will suck *in* to move the required amount of air. The result will still sound like a kick drum,

but some people claim the one with the proper phase "feels" better, and that the positive effects of proper phase are cumulative with multiple tracks.

My take? I think people can hear a difference with some sounds; on the other hand, trying to detect a phase flip on a vocal seems impossible.

Some engineers make sure that absolute phase is preserved throughout the entire signal chain. You can test for this with phase meters, but a less expensive option is to fire up a two-track digital audio editor and probe around.

TESTING, TESTING

Figure 1 shows a "test setup" for checking phase. Split the input signal, and send it to the input of the device being tested and a digital audio editor's left channel via its audio interface. This is your reference. Then, feed the output signal of the device (or chain of devices) being tested to the digital audio editor's right channel. This setup will also show up if there's a time delay between the two signals.

Use a test sound source with an asymmetrical waveform (e.g., kick drum), then record a bit of sound into the editor. Vintage guitar effects are notorious for phase problems, and are well worth testing (Figure 2). Also check all hardware mixer outs — master out, submaster out, monitor out, sends out, direct out, and so on. Sometimes you'll uncover something like an out-of-phase headphone or aux out.

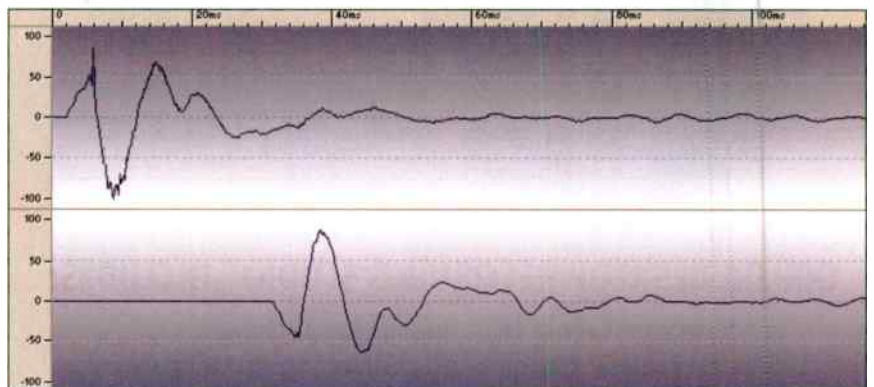


Fig. 2: The upper waveform is a kick drum sound. The lower waveform shows it after going through an old analog delay. Not only is the polarity reversed, but high-frequency response is down a bit (note the "rounder" edges).

Also, test the entire input-to-speaker chain to make sure nothing's amiss, and if you use XLR cables, check those to make sure they're wired correctly.

THE FIX IS IN

Once you've identified any problems, fix them. Some fixes are easy: If a piece of gear's balanced output is out of phase, just reverse the "hot" and "neutral" leads going to the out. With cables, mark them and repair them when you get a chance. For old effects boxes, send the output into a mixer channel, and flip the channel-phase to compensate. As to how that process works . . . keep reading.

HOW HOSTS GO THROUGH A PHASE

While polarity issues are pretty cut-and-dried — either the polarity is correct, or it's not — phase, as it can change at different frequencies, is a whole other matter.

The classic example of a phase difference occurs when using multiple mics on a source. For example, let's assume



Fig. 3: Cubase's phase switch options.

you're miking an acoustic guitar with two mics: One pointed toward the sound hole to emphasize the bass, and one capturing more of the overall sound. When you combine these in mono, some frequencies will reinforce each other, while others will, cancel. That's because the mics are a fixed distance from the

instrument, so different audio wave-lengths will hit the mics at different points along their curves.

Does mono really matter any more? Yes. We're not just talking sounds coming over your TV; the only way you're going to get true stereo is with headphones. Sound waves coming from two speakers will tend to mingle on the way to your ears in an acoustic space, thus "monoizing" the sound at least a little bit.

Getting back to our acoustic guitar example, as you set up your mics, periodically check the resulting sound in mono. You will likely find that certain mic positions will provide a more realistic sound than others when combined in mono. However, also try flipping a mixer's phase switch (also called reverse, invert, or identified with a Ø symbol) before you change positions because that may give better results — and it's a lot less hassle than moving mics.

Usually, one switch position will sound clearly better than the other. However,

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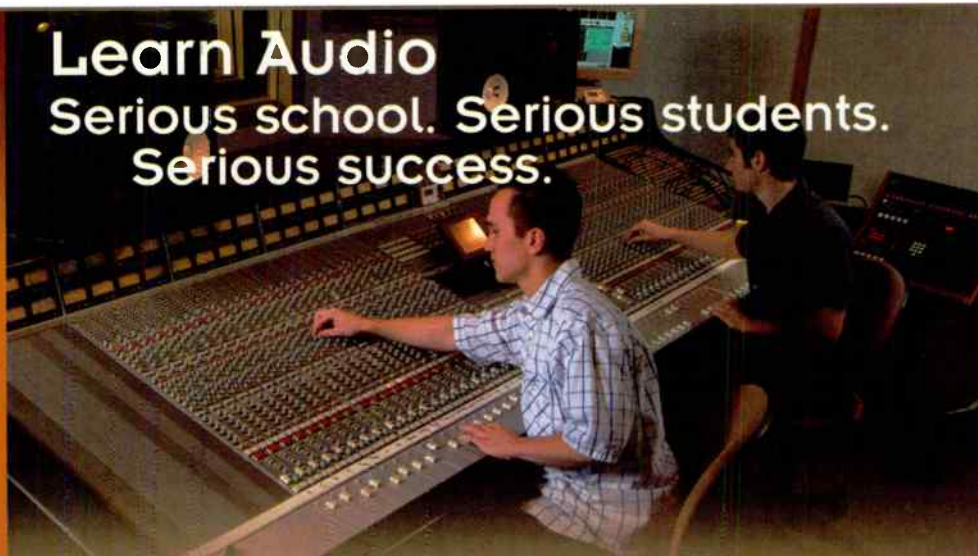
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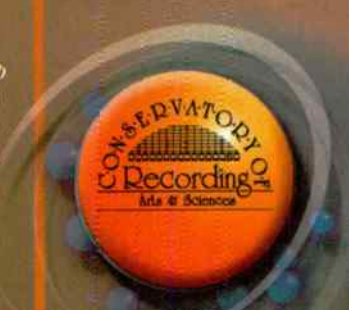
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sometimes neither will be quite satisfactory. At that point, it's time to experiment again with mic positioning.

FLIPPING OUT

When it's time to flip phase with a hardware mixer, look for a switch in each channel strip to change phase, usually located near the preamp section. Software hosts handle phase switching in various ways. For example, with Pro Tools, you insert a channel gain plug-in that includes a phase switch.

Steinberg Cubase SX's mixer (Figure 3), which models a conventional hardware mixer, includes phase switches in both the mixer view and individual channel strips; Cakewalk Sonar also follows the hardware paradigm, including phase switches in the mixer view, inspector, and track view. Sony's video-oriented Vegas nonetheless recognizes the phase switch's importance by including one within each audio track.

Using a phase switch is a non-destructive process, so you can revert to the opposite setting at any time. But if you



Fig. 4: Logic is one example of a program that allows destructive polarity inversion.

want to lock in a phase change, most hosts also allow for destructive, DSP-based changes. For example, in Apple Logic's Sample Editor (Figure 4), an Invert process located under the Functions menu can invert the polarity of what's being edited.

Finally, note that sometimes the point of flipping phase *is* cancellation. In one mix I encountered, the stereo drum and percussion tracks were premixed. However, the kick and snare were annoyingly loud compared to the delicate, and

rather well recorded, percussion. Fortunately, the kick and snare were panned dead center, and the percussion was spread to the left and right of the stereo image. I patched the stereo track into two more mixer channels, flipped their phase, and brought up the channel levels just enough to provide a bit of center cancellation. Bingo — the kick and snare went down a few dB, which made the percussion seem more prominent.

PHASING OUT

And that pretty much does it for our discussion of phase. Some day, when you have a few minutes, take the time to boot up your digital audio editor of choice, and check out your system's phase integrity — you never know exactly what kinds of ghosts are lurking in your machines. Then, once you know everything is properly phased, explore your mixer or software host for its phase-switching options. You may find they have more uses than you originally thought. □

It's Not Rocket Science

(well, maybe a little)

An advertisement for the Joemeek twinQ audio interface. The image shows a detailed view of the device's front panel with various knobs and buttons. Key sections include: 'MEEQUALIZER' with frequency sliders for LF, MID, and HF; 'OPTICAL COMPRESSOR' with controls for COMPRESS, SLOPE, ATTACK, and RELEASE; 'OUTPUT' with a GAIN knob and a PEAK FSD meter; and 'PREAMP' with a GAIN knob and HPF. A large orange VU meter is prominently displayed in the center. The Joemeek logo is visible on the meter. A circular badge on the left says 'Buy Meek... Get Mics! details at: www.joemeek.com'. The overall design is professional and technical.

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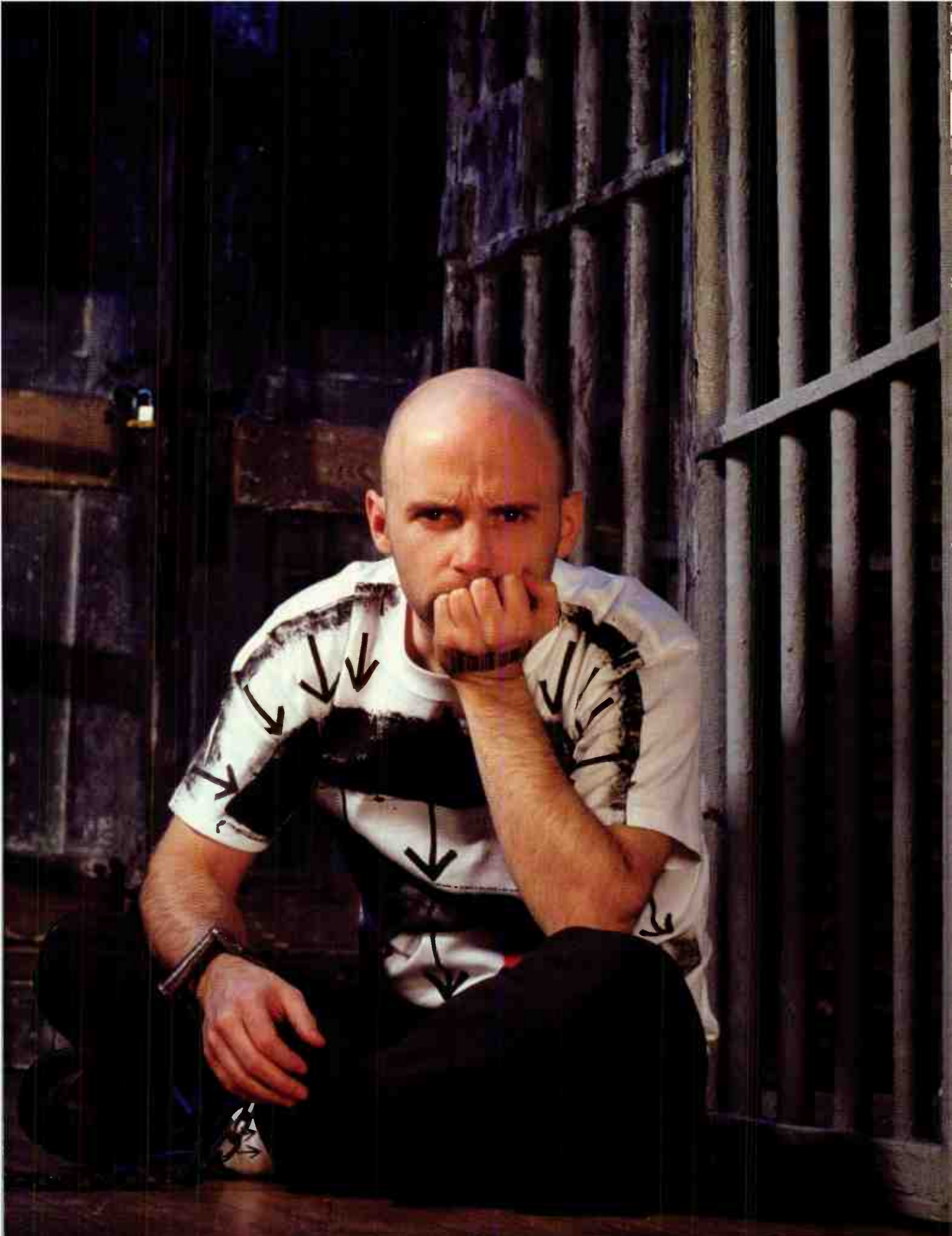
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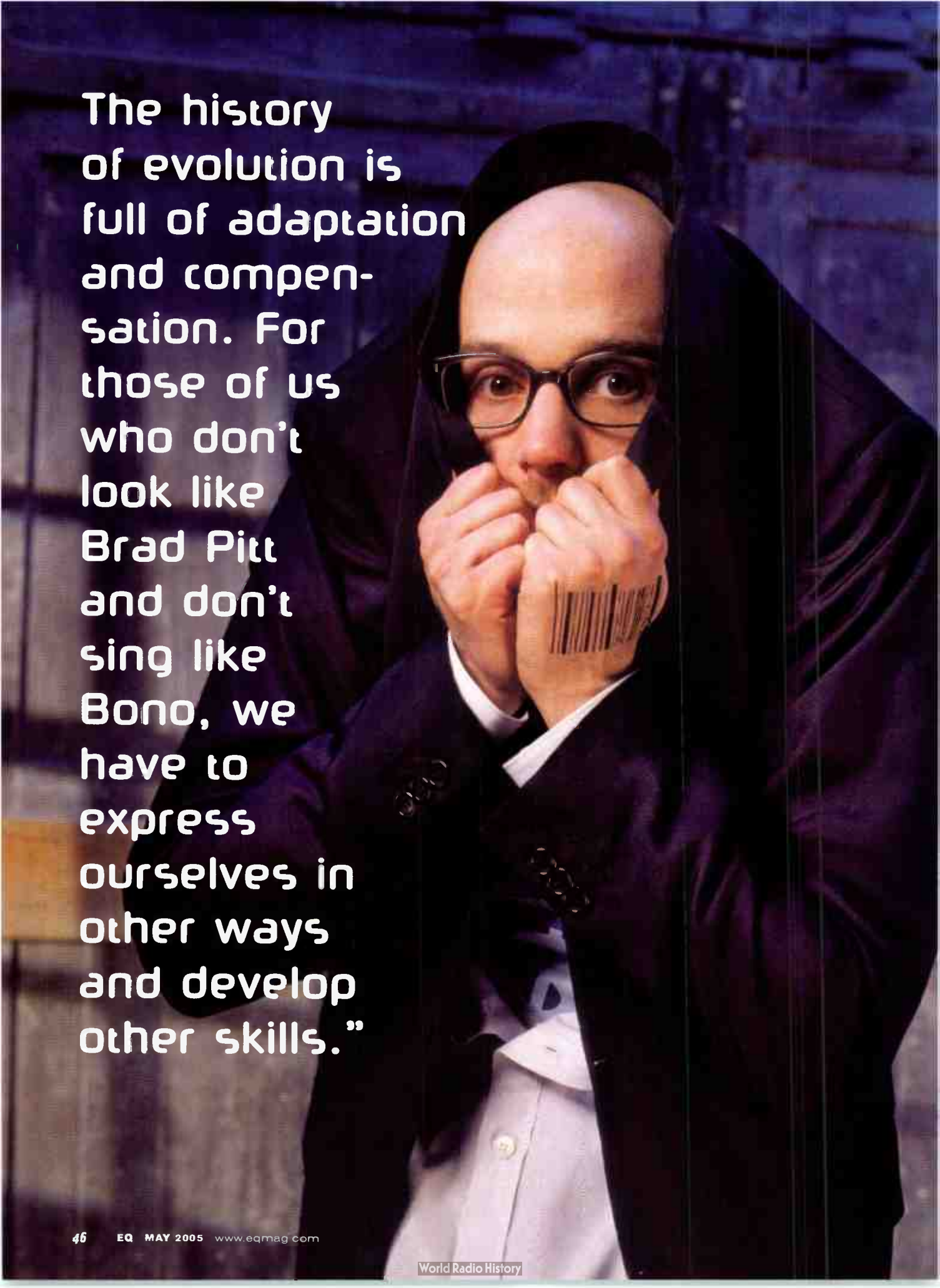
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The history of evolution is full of adaptation and compensation. For those of us who don't look like Brad Pitt and don't sing like Bono, we have to express ourselves in other ways and develop other skills."

“THE last time I went to the MTV Music Awards, I was surrounded by boy bands, pop musicians, and hip-hop guys all in their late teens and early 20s,” recalls Moby. “I remember feeling desperately out of place, thinking how different the circumstances of my life are compared to theirs. I didn’t want to be a snob and judge them, but I did find myself thinking, ‘What am I doing here?’”

That’s a question the 39-year-old Richard Melville Hall, a.k.a. Moby, asks in every one of our encounters. From trendy hotspot or backstage at his own arena shows to drinking at a club. And it’s one that bears being asked right now not only of him, but of anyone making music in an industry that prizes new music-makers over those making *new* music. So, over the course of his 15-year music career, the five foot eight and a half-inch, stooping with a receding hairline (his description, not mine) musician has made dance records, punk rock records, ambient records, wildly eclectic rock records, and scored soundtracks. He has been hailed and derided, considered Artist of the Year, and had his ass kicked, by the erstwhile Mr. Mathers, all in the same go around.

“I feel like an anomaly,” he admits. “The truth is, I don’t fit in anywhere. I’m not saying that as a badge of honor, I’m saying that as an objective assessment of my status. I feel a degree of kinship

with a lot of musicians, but I don’t see that I fit in with any of them. Most people carve out a niche, tend to occupy that niche, and it serves them quite well. I don’t know that I have a particular niche. On one hand, there’s something emancipating about that. On the other hand, it does make things confusing.”

CHECKING IN

Since the release of his breakthrough single “Go” in 1991, it’s been interesting watching Moby *be* Moby. With the 10 million-selling, overly licensed (and criticized for it) *Play* (1999) and its formidable follow-up, the equally jingle-happy (also criticized) *18* (2002), his latest work, *Hotel*, and its accompanying second disc, *Hotel-Ambient* (which is following its predecessors on the licensing path), has a lot riding on it. In the year and a half it took to record *Hotel*, Moby wrote 250 songs. More concerned with communicating things that are important to him, if in fact people are even still listening to his records at this point, *Hotel* has a personal, emotional, and honest agenda.

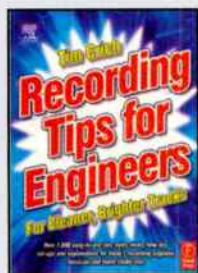
“That’s a function of getting older,” Moby clarifies. “As I was growing up, I found myself wanting to be something I wasn’t. When I was really young I wanted to be good at sports and come from a wealthy family. It really depressed me that I was crappy at sports and very poor. In the last 20 years I



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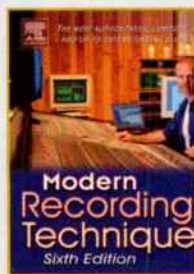
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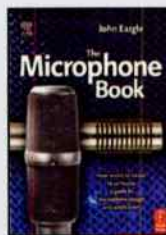
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wanted to be a really handsome man who could sing really well, like Brandon [Boyd] from Incubus. At some point you realize you are who you are and there's no point wasting your brief time on this planet beating yourself up for not being someone else. The history of evolution is full of adaptation and compensation. For those of us who don't look like Brad Pitt and don't sing like Bono, we have to express ourselves in other ways and develop other skills."

Part of this acceptance comes in the form of Moby being the primary voice on *Hotel*, vocalizing almost all of its 14 songs. He is joined by the creative director for Moveon.org (for whom he has been the poster child), Laura Dawn, on more than half of *Hotel*. Dawn and Moby have a longstanding friendship, mainly based around being chess buddies.

"He's my friend and I love him as such, but every once in a while I'm totally taken by his talent," says Dawn, who has been singing solo since she was 15, and spent a stint in the all-girl punk group, Fluffer. "Getting to work with him on such an intimate level was really an honor. My voice has never sounded as good as under Moby's direction."

Although not the most accomplished of vocalists himself, Moby's shortcomings in that department are what give the songs their vulnerability and emotional content. He has also played every instrument except the drums on *Hotel*, which is

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virtually sample-free, a first for the producer. This was not an intentional act on his part, nor is he concerned with pushing the sonic envelope in any way. His main criterion is making music that is effective. If it's between making something new and experimental or traditional and emotional, he'll pick the latter.

THE SORROWS OF YOUNG WEATHER

"There's this win/win situation. If the record is successful, that's great. But that also means I have to stay on the road a lot longer. If the record is unsuccessful, it means I get to go home sooner," says Moby in full-on lion-in-the-winter mode. "Once the tour for this record ends, I'm hoping to sit back, take stock, and restructure things so that my life isn't focused on making records, promoting them, and touring. As much as I love that, in some ways, it's really one-dimensional. I'm thrilled that I'm able to do this, but it's very much been at the expense of many other things in my life: not being married, not having a family, and not having any other abilities or skills. At this point, it's sad."

Moby's workaholicism has been a source of pride for him until recently. "In 2003, I did this three-month tour of Europe that was the big arena tour everyone always dreams about," he says. "You're playing for 15,000 people a night, the shows are sold

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out, you're having crazy after-show parties, and you're being degenerate. I don't think I've ever been less happy. To some extent we are all like *The Simpsons* Mr. Burns, 'I've got all these things I want, why am I still unhappy? Okay, I'll go out and buy some happiness.' Unfortunately, or fortunately, that doesn't work and you keep trying. That's what I was doing on tour. I was like, 'Okay, fame, success, and degeneracy aren't making me happy, so I need to be better at pursuing fame, success, and

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degeneracy. Promiscuity isn't making me happy, so I need to be more promiscuous. Being drunk isn't making me happy, so I need to drink more.'

He continues, "What tends to make me unhappy is going into something with expectations. I'd always worked under this assumption that if I had successful records and played big concerts, that I would just inherently be happy. Our culture is so marked by the belief that what you don't have will make you happy when you acquire it. What's

been strange in my life is a'l the things I thought I may have ever wanted, for the most part, I ended up getting. These things are good, I'm happy to have had them, but in and of themselves, none of them will make me happy. It's easy for people like me to focus on the things that are easily within my control: work, career, ambition, drive. It's hard for me to think I can't approach the intangibles that way."

MAKING HOTELS OUT OF MOTELS

The production for *Hotel* owes a lot, curiously enough, to Michael Jackson's "Beat It." Fourteen years ago Moby was commissioned to do a remix of that particular Quincy Jones-produced track. After getting the parts, he was impressed with the way it was recorded with two of everything, each playing the exact same part. "For example, there would be one bass part that was just the low end and one bass part that had the attack on it," Moby explains. "The ethos being let each sound do what it does naturally. Let the low end be low end and not worry about the attack. Let the sharp sound with attack just have attack."

And so it is that the acoustic guitar sounds on *Hotel* come from Taylor guitars used with a Neumann U67 microphone on the body, and an AKG 251 microphone closer to the neck, both roughly 14 to 18 inches from the guitars. These were blended together through a Neve 1081 Mic Pre Amp/EQ Channel Amplifier and then through the Urei 1176 compressor. A Les Paul Goldtop with P-90 pick-ups, a Fender Stratocaster, and a Robelli were used for the electric guitar parts. To create the heavy sound, they were run through a Marshall JCM 800 half-stack with a 50-watt head, otherwise, a Matchless DC-30 was used. These were closely miked with a Shure SM 57, a Sennheiser 421, and an AKG D112, blended together, also put through the Neve 1081 and Urei 1176.

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According to Moby's engineer, Brian Sperber, the drums were approached differently as they were going to augment, or coexist with, the programmed drums. "Our focus was to derive as much live excitement as we could from the drum sonics by using a lot of heavily compressed close room mics. Also, distorted mics were interwoven throughout the kit to essentially glue the sound together into one unit, allowing the programmed drums to later define the more separated elements of the kick, snare, hat, etc."

Another producer to be given his props as an influence is Phil Spector, as Moby used a similar method with the proliferation of sounds. On "Raining Again," for instance, there are 30 background vocals. These are mixed very quietly so they can be felt but not noticed. "If I muted them you would notice the lack of them," Moby points out. "But having them, you don't listen and go, 'Oh, there's 30 background vocals.'"

For Moby's own voice, Sperber chose Telefunken USA microphones. In Sperber's opinion, their version of the U47 is best at capturing the detail and presence of his voice. He then went into an old Neve 33118 mic preamp and finally through the Urei 1176. This is, in fact, a reissue of the original Blackface 1176, which adds the same color to the sound as the earlier versions.

And so *Hotel* becomes simpler as the record goes on. But on songs such as "Beautiful," "Spider," and "Lift Me

Up," you have between 60 and 90 tracks each. "The way it's mixed, a lot of stuff is in there to provide sonic space," says Moby. "They're there to fill things out, to give certain sounds a little more attack. Before, everything was recorded a lot more simply and mixed at home. [On *Hotel*] half of it was recorded at home, the other half was recorded in outside studios. With that many tracks I couldn't mix it at home, so we mixed on an SSL [9000J series console] at Electric Lady."

Even with the inclusion of so much live materia on *Hotel*, Moby still sees music production as moving into the laptop/home studio realm as budgets shrink and the music business contracts. He says, "The sound quality you can get with plug-ins is spectacular. You can make music on a laptop that sounds better than something you would have made in a million-dollar studio 20 years ago. The best way to make great sounding records is to take the best of both worlds. Use Pro Tools for what Pro Tools is good at, and use old analog gear for what that's good for."

Mixing almost exclusively using analog outboard gear for EQ, compression, and effects, Sperber agrees, "Everything [on *Hotel*] was recorded directly into Pro Tools, which is a great recorder/editor as long as you do not combine sounds within it. That seems to make the overall sound smaller and thinner, the classic digital complaint."

"When I started RIT, almost 2 years ago, I didn't have any knowledge of computer editing/recording, signal processing, consoles and outboard gear or even the recording process. It was a shame for me, because being a musician myself, I realize now how important it all is!

Now, thanks to my education at RIT, not only have I worked with Steve Vai, Eddie Kramer, Paul Gilbert, Jeff Peters, Yardbirds etc., I also know what I need to attain my own personal musical goals. Thank you guys at RIT."

- Enrico Sesselego
RIT Graduate

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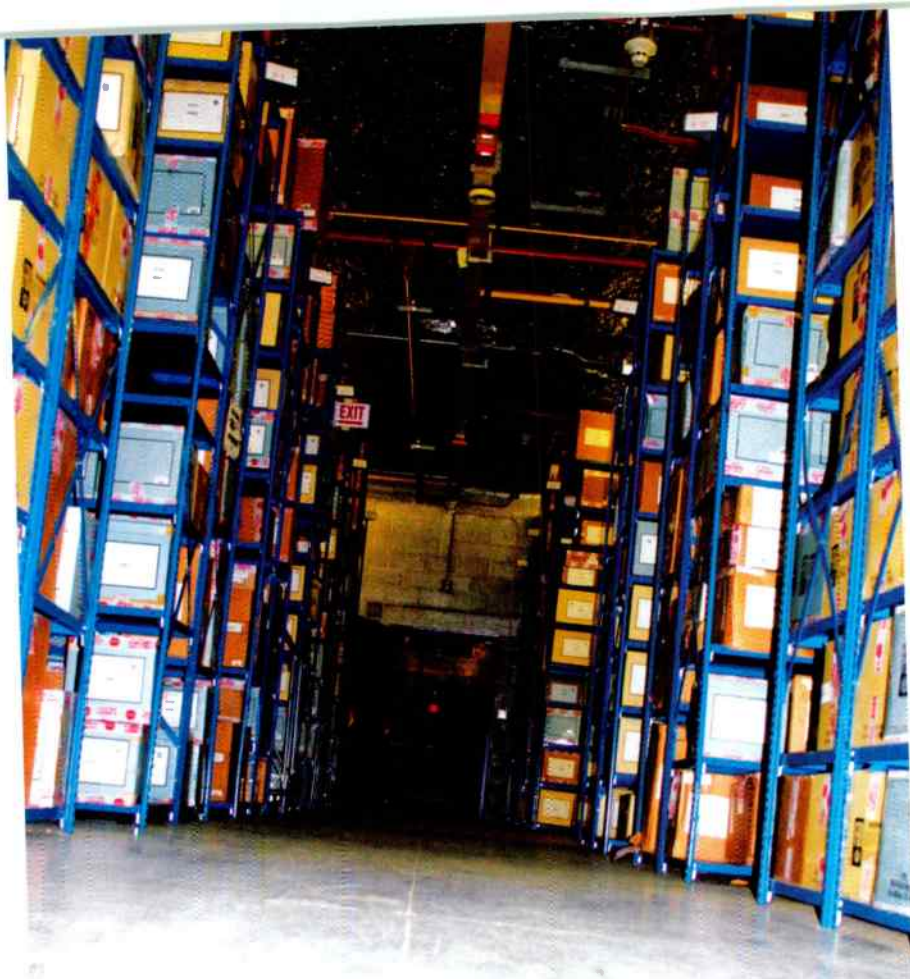


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Assets are stored in humidity- and temperature-controlled chambers. These boxes contain video archives from CBS Television.

THE MEN ON THE IRON MOUNTAIN

Ken Caillat, Edwin Outwater, and Claus Trelby stock, store, and secure just about anything heard by anybody just about anywhere in the world in their mighty mountain redoubt. The ultimate back-up option? Maybe.

by Garrett Haines

With Johnny Carson's passing this past year, you might have noticed something missing from the tributes bombarding the airwaves: footage of Carson's first shows from NBC studios in New York. Before the value of archival tapes was recognized, NBC destroyed most of these *Tonight Show* tapes, opting to recycle reels rather than confront the awesome task of storing thousands of hours of television. It was, they thought, just a TV show.

The problem of archival storage isn't TV's alone though; if you're having trouble managing all of the recordings you've done over the years what the hell's happening at Sony BMG, Universal, and CBS? With hundreds of thousands of recordings in their catalogues, the job of housing, organizing, preserving, and

gaining easy access to stored material is nothing short of monumental. Historically, the big studios had to choose between expensive local storage and more affordable but hard-to-reach archives.

Enter: Ken Caillat, Edwin Outwater, Claus Trelby, and the creation of Xepa Digital.

About an hour north of Pittsburgh, Pennsylvania, the three founders, with more than 80 years' worth of total technical and studio know-how, are giving the people what they want: immediate access and stable long-term storage.

Outwater, who worked for Polygram and Warner Brothers, specializes in the archiving. Caillat cut his teeth recording landmark albums, including Fleetwood Mac's *Rumors* and *Tusk*.

And, in addition to session engineering, Trelby had been doing archival and 5.1 mixes for Warner, EMI, Rhino, Interscope and Sanctuary Records. Not only are they well acquainted with the ins and outs of the biz, they're also sensitive to the awesome task of not just preserving recordings, but our audio-cultural history.

THE EARLY SOLUTION: NEAR LINE STORAGE

Originally record (and film) companies stored source materials in local warehouses or backlot buildings. When a copy was required, the master tape was couriered back to the studio for transfer. This is called Near Line Storage.

There are several concerns with this approach. First, it's expensive to maintain. Backlot buildings sit on prime real estate that could be sold, developed, or used for additional production space. Many metropolitan warehouses are pricy, and few are climate controlled, putting humidity and temperature sensitive materials like film and tape at risk for permanent damage. Second, the policy of moving tapes via courier or common carrier (e.g., major shipping vendors) is neither secure nor reliable (remember, we're talking about the ONLY copy of irreplaceable masters). Finally, as years passed, the sheer quantity of source tapes began to outpace the storage and catalogue capacity.

GOING DEEP, DEEP, DEEP

As the sheer volume of tapes and other media increased, large organizations could no longer afford to keep every media asset in expensive local storage. As with the case of the remaining *Tonight Show* footage, deep archive storage became the answer. Following the lead of the public sector and financial industries, assets were shipped to rural storage houses, which often had significantly lower costs. From a stability standpoint, deep archives are usually located underground in secure facilities with state-of-the-art humidity and temperature control. While the tapes are much safer in deep storage, getting access to a copy is a hassle. Locating the tapes takes time and once they're found, they have to be sent back to a studio via courier or common carrier, once again exposing irreplaceable materials to shipping risks.

Meanwhile, in 2002, Caillat and Trelby were working on a re-mix for a major DVD release and requested that the master tapes be sent to them. Coming back to their studio the pair



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THE MEN ON THE IRON MOUNTAIN



Audio engineer Claus Tremby (standing) and audio engineer Heath Conditte in one of the 2" transfer rooms.

found an uncomfortable reminder about the vulnerability of their work: having found no one onsite, the courier had left the tapes sitting outside on their front porch. Even more distressing, this probably wasn't the first time this had happened to a master tape. After talking to Edwin Outwater, the three decided to start an archival company that could help studios protect their assets during the storage process and beyond.

The first task was to choose a location. The trio considered options in LA, Nashville, and New York, sites that seemed reasonable given the volume of recordings generated in these

cities. But it was Outwater who first suggested a place north of Pittsburgh called Iron Mountain. Located hundreds of feet below the earth's surface, the facility had been providing environmentally stable archival storage since 1951 and offered the highest level of security available at any non-governmental facility. Some major studios were already keeping assets at Iron Mountain, so the location seemed ideal.

Of course, there was still one problem: getting the source materials back to the studios without having to place the original masters at risk. The solution came with the advent of

ARCHIVING FOR THE REST OF US

Protecting recorded assets isn't limited to the recording industry giants. The sessions we work on in our home, project, and pro studios require the same attention and diligence. Here are 10 tips for applying preservation best practices for the hoi polloi:

1. **Do No Harm.** If you're unsure about a type of media, seek advice before you begin. In particular, be mindful before you put an older tape on a machine. You might only have one chance to get it right.
2. **Movin' Out.** Many of us have drawers of 4-track cassettes. The good news is these little creatures are pretty robust. Nonetheless, playback can be difficult on older tapes. According to George Blood, changing the shell can solve a majority of cassette playback issues. First, purchase a quality cassette (try to get one that uses screws to hold the shell together). Carefully open the new cassette, noting the tape path. Remove the tape. Open the shell of the old tape, carefully remove and migrate the tape to the new shell. This method has been known to resolve numerous issues, including tapes that are prone to being eaten.
3. **Variety is the Spice.** Try to have back-ups of each back up, making sure to use different formats. If you use CDs, make sure you have a hard drive copy, too. Never rely on one format exclusively.
4. **Get Physical.** One way to extend the life of a hard drive is to make sure the internal mechanisms are exercised with regularity. Claus Tremby notes, "Booting up a drive every two to three months should be adequate."

high-speed networks. Using a secure private network, they figured they could send data over dedicated, secure, super wide-band networks to remote locations. Presently, they can send one gigabyte of data every 45 to 55 minutes. Since a 24-track 2" reel takes up about 9 gigabytes when converted to 24-bit 96k PCM audio, they can get a high-res copy to a studio faster than a same-day courier. Depending on program length, once they have tape in hand, it can be anywhere in the world in five hours.

ALL IN THIS TOGETHER

The recording and film industries are not the only ones facing preservation issues. There are literally hundreds of thousands of hours of spoken word, oral history, and other important recordings from institutions, religious organizations, and private collections. And few have been archived.

Philadelphia-based Safe Sound Archive (SSA) has been helping such groups for years. Often strapped by limited budgets, most groups can't afford deep storage or comprehensive restoration projects. SSA owner George Blood notes, "A key thing for these institutions is to identify the assets that are most important to them, and work on archiving them first." When presented with the issue of shipping master tapes to Philadelphia for processing, Blood explains, "These groups have to evaluate the importance of each recording, and assume risk accordingly."

For example, SSA archived some treasured recordings from the archives of the

Church of Latter Day Saints. Because of the irreplaceable nature of these recordings, the church opted to have an elder drive the tapes to Pennsylvania. Although it took 10 trips, the project was completed without incident. Of course, other options remain. FedEx offers Custom Critical Service, which is a door-to-door courier. Likewise, various dedicated antique and art moving companies can be retained to move treasured items.

MAXIMUM ARCHIVING

Of course, it does you no good to have a state-of-the-art solution to the transmission problem if you can't get your hands on a recording to begin with. When an asset is received, it's processed at Xepa in a number of ways. When a tape is received, it's logged and the original ID, if any, is noted. Likewise, the item is assigned a new internal ID, which makes retrieval quick and easy. The media data department creates high-res scans of all sides of the box, documentation, engineer's notes, track sheets, and absolutely anything else included with the materials. Not only do these scans preserve important information, but they allow Xepa to make publication-ready reproductions without having to handle the original documents. The image files are archived in the metadata to a secure wrap-around database that also stores preliminary physical information and final technical information such as the number of tracks on a recording.

Currently they're using a high-speed hardware secure line. This method is fine as long

5. **Keep Me in Line.** Recording industry organizations have invested a good deal of time developing helpful standards. The Audio Engineering Society (AES) keeps a repository online at: www.aes.org/publications/standards/. The Grammy folks (a.k.a. NARAS) have a Producers and Engineers' section on their website. Two key papers cover ProTools project exchange and the delivery formats for master recordings. www.grammy.com/pe_wing/guidelines/index.aspx
6. **Write it Down.** It doesn't take too much time to write down some information about a session on a track sheet or project folder. Remember, notes saved inside a software package might not be readable in the future. It never hurts to have an extra hard copy.
7. **Climate Control.** While you don't need a remote mountain vault, you can keep media healthy by keeping it in a cool, dry place. When in doubt, make sure to avoid keeping tapes and media in: your car, attic, basement, outside shed, cigar lounge, or other area where extremes are common.
8. **Consider Off-site.** Keep a set of back ups in an off-site location such as bank safe deposit box, a relative's house, or band mate's home. Of course, the concerns about climate control still apply.
9. **Conveyor Belt.** If you keep data on hard drives, label them according to age. Then, purchase a new one to replace the oldest. Use the retired drive for something less critical or sell it on eBay. Continue this process every three to six months and you will be constantly regenerating your hard drive farm. (This is a simplified version of what the Data Systems Groups in large organizations do. So, learn from their experiences).
10. **Don't Fool Yourself.** There is a saying in the IT field: There are two types of people: those who have had a hard drive fail, and those who will. Don't think you're immune. With falling media prices, there should be no excuse to avoid backing up. After all, if it's important enough to record, it should be important enough to protect.

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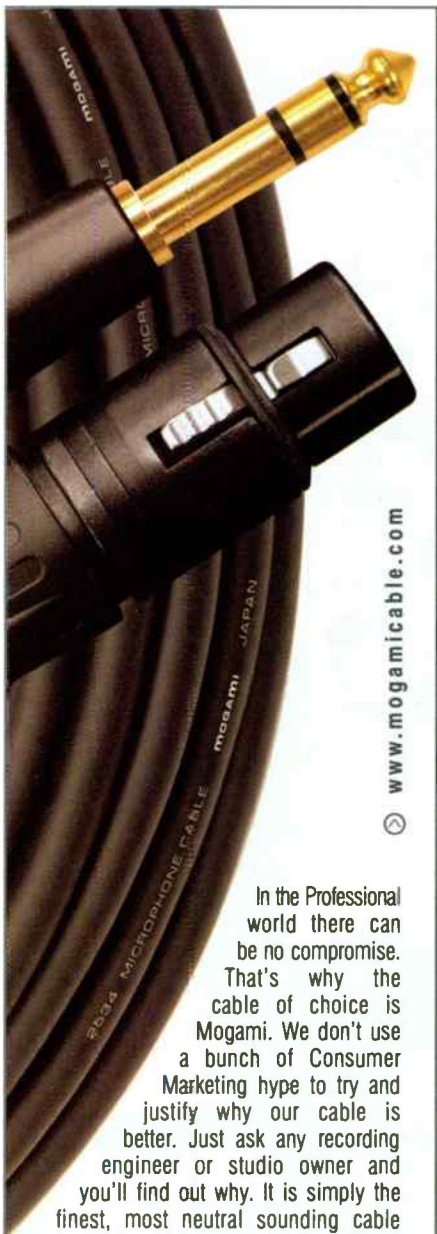
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THE MEN ON THE IRON MOUNTAIN



A spare for the spare. Technician Heath Condiotte transfers material from one of Xepa's three Studer A827 machines.

as the recipient has access to a secure line and an appropriate decoding server. However, Xepa is in the process of implementing a highly encrypted software solution, which would allow download from anywhere in the world and would quintuple the rate of transfer. That means you'd be able to move a whopping four gigabytes of encrypted data per hour. In addition to expanding bandwidth, live streaming of video and audio simultaneously in uncompressed, DV50 and WMV files will soon be possible. With the knowledge that their tape assets are within realtime reach, broadcasting stations may be able to realistically consider all-digital, tape-less transmissions, which would be more stable, archive-wise, and could greatly reduce the burden on storage facilities in the future.

As the entertainment industry grows and branches out into new mediums, the need to manage media assets grows daily. With respect to Iron Mountain, Sony BMG currently has many of its assets onsite, and is looking to add additional items. Universal already stores between 30 and 40 percent of its archives there but is looking to expand. Likewise, CBS keeps a significant log onsite.

"Face it, these guys would be major players in any city if they chose to open up shop as

a recording studio," says Senior Director of North American Vault Services at Universal Randy Aronson. "But instead, they opted to devote their expertise to rescuing media assets for future generations. They truly are my eyes, ears, and hands in Iron Mountain, and I'm thankful for that." And Xepa audio engineer Heath Condiotte adds, when asked about their so-called "mission" of saving our sounds, "every day I touch history. Not many people can say that about their jobs."

While the impact is already evident in their efforts to preserve our recent history, the true value of groups like Xepa Digital and Safe Sound Archive won't be felt until future generations get the chance to experience a wealth of material that might otherwise have been lost to unstable media, environmentally unsound storage facilities, and the sort of human logic that sees a historic moment in recording, television, or film as just another tape. **EQ**

Garrett Haines, Chief Mastering Engineer and co-owner of Treelady Studios in Pittsburgh, Pennsylvania, would like to thank Jim Filges (for the tour of the CBS Broadcasting vault), Kathy Miller Haines of the Center for American Music for archival statistics, and all of the little people who made his meteoric rise to the top possible.

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FEAR and LOATHING in ARCHIVE CITY

by Mitch Gallagher

WHO'LL REMEMBER YOU WHEN YOU'RE GONE?

You die. I mean heaven forbid, but say you die. And you leave behind? Bills, a few t-shirts and daresay a legacy of somewhat significant musical art? Yup, a rich treasure trove of great musical art. Well, yeah, either this or a worthless pile of drop-out riddled tapes, corrupted CDs, and crashed hard drives.

You see, ultimately, there are two primary questions when considering how to backup and archive:

- 1) media and
- 2) compatibility.

With regard to the first, the issue of backup has become easier to deal with as hard drive prices — particularly external FireWire hard drive prices — have dropped. Many engineers simply copy data to a second drive for a quick and easy backup. And it's common to put the backup drive on the shelf for long-term archival as well, although it remains to be seen how long those drives will last.

So while data tape backups, AIT, DLT, and others of that ilk, remain common,

CD-R and DVD-R are definitely the leaders in the backup and archive media races. Writeable optical discs are cheap, plentiful, durable, and reasonably fast. Again, the long-term viability of the media remains to be seen, but some engineers are partially hedging their bets by making duplicates to discs manufactured by different companies in hopes that one company's disc might last longer than the other.

For safest archiving though, the best bet is to make multiple copies of anything you don't want to have to re-create on multiple media, and store the backups in different locations as protection against fire, flood or other disaster.

FUTURE SHOCK

A bigger issue though is future compatibility. What happens if the program you need to open a file no longer exists in the future? What if a file format is no longer supported? What if your operating system can't run older soft synths, preventing you from playing back virtual MIDI tracks?

What will you do with all those ADAT tapes if you don't keep an ADAT around to play them?

One solution is to "archive" the old machines and programs — and computers that can run them — along with the data. But there are problems here too: Space becomes an issue, and you must maintain the old machines and programs in working order if you want to access your work.

Check out my Art of Recording article in the August 2004 issue for one solution to limited gear/software longevity: rendering all files — with effects, processing, automation, and virtual MIDI tracks — to full-length audio tracks stored in a "standard" file format such as AIFF or Broadcast WAV. While there are no guarantees, odds are there will be *something* in the future that can access those file formats.

THE REAL WORLD

So how are engineers and producers approaching backup and archiving in the

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FEAR AND LOATHING IN ARCHIVE CITY

real world? I checked with seven busy pros to find out how each handles preserving their work for the future.

CRAIG ANDERTON – EQ Editor At Large, engineer/producer/musician/sound designer

I have a 3-tier back-up strategy. For small projects, I back up to CD-R. I create two copies using media from different companies. For large projects, I take a similar approach: two copies to DVD-R, using media from different manufacturers. The final tier is long-term archival storage/general computer backup in case things die. For this I copy to a large, removable hard drive.

DUANE DECKER – game composer, DDMusic

There are a couple of ways that I back up files. Each time a music cue is completed, I transfer the finished WAV file from the Mac G5 audio drive to Mac G4 and PC hard drives (via in-house network) so they can be uploaded to various FTP sites. The files remain on those drives so there are now three copies of the finished file on three separate computers.

Once a week, I copy my current Digital Performer project folder to a FireWire drive and the G5 root drive for quick backups. Once a month I burn an archive DVD (or CD) of all current files. Archive discs are then logged into Disk List, boxed up, and put in a big plastic storage container that sits in the studio for protection from extreme temperature, light, and moisture.

Once a small project is complete, it gets burned to disc and also stays on the hard drive until I know the client won't come back and ask for changes or additional cues or edits.

On big projects, there are usually multiple drives that contain DP and Pro Tools files, audio files, project documents, and so on. All files get burned to DVD, and, if possible, copied onto a FireWire drive for archival.

While it may sound like I have it all together, I have been caught by corrupted archive discs and software/hardware changes in the studio. If you are in the business long enough, this is inevitable. MOTU's MachFive sampler — and hoarding old gear — has helped in some situations. But the tedious job of rendering audio stems of MIDI/virtual tracks is a better way to go as the audio format is more likely to outlive your software/hardware.

TAL HERZBERG – engineer/producer

I always have two hard drives mounted

while I work — a master and a clone. I record/edit/mix using the master, and a few times a day I update the clone using data backup software (QDEA Synchronize! Pro). It mirrors the clone with the exact data that's on the master, only copying files created since the last backup.

As an additional safety net I have a data tape drive connected to my computer (Sony AIT), and following the same procedure I do with the clone drive; I mirror the master drive onto a digital data tape using Dantz Retrospect backup software.

At the end of the project I submit everything to the client for them to store/archive.

PHIL O'KEEFE – EQ contributor, engineer, Sound Sanctuary Recording

I record to internal IDE drives. Every day, at the completion of the session, I back up the day's work to external FireWire drives so I have two copies of the work in progress. Because I'm running Pro Tools on Windows, I always click on "enforce Mac/PC-compatibility" when creating new sessions. The FireWire drives are formatted FAT32, so transferring to a Mac-based Pro Tools system is simple, should the need arise.

I use Broadcast WAV files, which means anyone who can handle time-stamped BWFs on any DAW platform should be able to import the raw files. I also save a copy of my plug-in settings to the backup disks.

At the completion of the project, I do backups — including the board layout and setting data from my Yamaha digital mixers — to DVD-Rs before wiping it from my internal drive. When the client walks away, they have two copies on two media types — DVD-R and FireWire drive. I think dual-format backups offer the best compatibility and insurance that the data can be retrieved at a later date.

MIKE COATES – engineer, Raptor Studios/Barking Dog Records

All my stereo mixes are archived to Apogee gold CDs with one or two cheaper backups. I still do some mixing to DAT so I have a closet full of hundreds of DAT masters from the last decade, and gold master CDs from the last three or four years.

As for tracking, I basically use a 20 or 30GB IDE hard drive for one or two projects on our Mackie HDR 24/96. So I now have a closet full of hundreds of Hi-8 tapes (I keep every track) from the MDM days, and have started a new closet for the IDE drives. Having an onboard internal drive

and an external drive provides me an additional working backup.

As I see it, the archiving dilemma is simply one of having to keep equipment on-line to play the older media. To that end, I still have two working DA-88s, two DA-78s, three DAT decks, and a quality cassette deck. Clearly, I will have to maintain the HDR 24/96 as well when that unit is obsolete — or make the incredible effort to transfer those tracks to a new medium. I feel much more secure about the CD and hard drive masters surviving over time than I do about the DAT and Hi-8 masters.

LYNN FUSTON
— EQ CONTRIBUTOR, ENGINEER

I used data DATs for backups for years, then AIT data tapes for several years, but the proliferation of DVD drives has made that format my backup option of choice now. AIT is easier to use because of its single-volume storage capacity, which means I don't have to segment the data. But the affordability of DVD media makes it cheaper to make duplicate backups. And the client can have their archive in a standard format they can open most anywhere. It's still slower and requires 4.4GB partitions, but that's a tradeoff I'm willing to make.

GARY MRAZ — STUDIO VOODOO

In my opinion, digital doesn't really exist unless you have three copies in three separate places. My recording medium is FireWire drives. That's Copy 1, Place 1. When I'm done with projects, I transfer the data to another FireWire drive. When it's full, I place it in a safety deposit box at my local bank: Copy 2, Place 2. Finally, I back up the projects on DVD. These are stored in a fireproof safe that was built into the floor of my house: Copy 3, Place 3.

It may sound as if the value of these digital bricks and shiny discs warranted the protection of Fort Knox, but I've learned the hard way. There are digital voodoo demons lurking at each mouse-click, waiting diabolically to delete. There's a reason we're called Studio Voodoo!

I have to tell you about the time I assisted in archiving Barbara Streisand's library on Synclavier 12" optical disks, which claimed a 300-year shelf life. When we were finished, she needed a safe place to put them. Eureka — an abandoned nuclear missile silo! But wait, after Armageddon and the alien arrival, how will anyone listen to them? Solution: Put a Synclavier playback system in the silo, too! "People Who Need People" playing on every stop on the hitchhiker's guide to the galactic jukebox. . . . EQ

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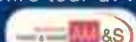
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Cycling '74 Mode

23 plug-ins, one low price

by Mitch Gallagher

Type: Mac-based, audio processing plug-in bundle

Price: \$199

Contact: Cycling '74, www.cycling74.com

Platform: Macintosh

Formats: RTAS, VST, AudioUnits

Minimum system requirements: Mac OS X 10.2 or higher; compatible RTAS, VST, or AudioUnits host application; 256MB RAM; 25MB hard drive space; PowerMac G4/800 or better recommended

Cycling '74 has never been known for creating "me-too" products.

The company has released a range of unusual products such as Max/MSP (an object-oriented programming environment), Pluggo, (a runtime shell that provides audio processing using MSP extensions), and a long list of others. Now the company has released Mode, a collection of 23 plug-ins. Mode is currently Mac OS X-only, although a Windows version is said to be under development. System requirements are reasonably light (G4/800MHz), although some of the larger plug-ins can require a fair amount of CPU juice. RTAS, VST, and AudioUnits formats are supported.

Mode consists of plug-ins built by the CreativeSynth team (www.creativesynth.com) using Pluggo technology. The collection includes a variety of synths and sound

generators, as well as various types of processors.

THE BIG FIVE

There are five "primary" or main Mode plug-ins from which the remaining 18 Mode plug-ins are drawn. The first three of the Big Five are soft instruments/sound generators.

BANG

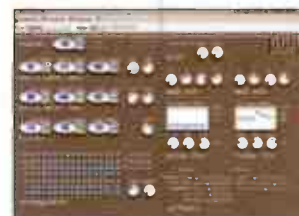
How useful can a monophonic percussion generator be? If it's Bang, pretty useful! This instrument actually has three discrete "engines," which can be used separately or in combination. The first engine provides sample playback, the second, FM synthesis, and the third, "analog" synthesis. There's plenty of control for tweaking each engine to get the exact sound that you want. For example, each synth engine has its own DADSR envelopes for both amplitude and modulation (the sample engine has one DADSR for amplitude). There's also a master distortion, filter, and stereo delay. The three engines can be mixed with control over level, pan, and send to the delay. You could spend days just trying all the

possible combinations of samples (73 are provided, from snare to congas to cymbals) and synthesis — and that's before you start applying the built-in effects.

MONO

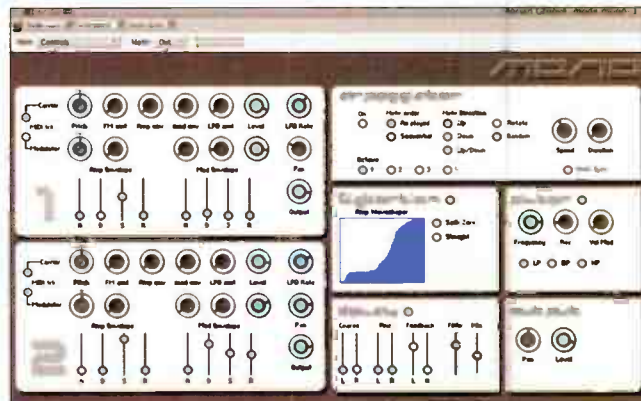
Mono is a dual 2-operator FM synthesizer that includes an arpeggiator, distortion with a unique interface. You can actually draw the waveshaper curve you want using your mouse, a filter, and a stereo delay. It's capable of fat bass sounds, screaming leads, arpeggiated burbling, and, with the distortion/waveshaper, you can tailor the tone to whatever you want — and that's before you add on the filter, delay, or even start twiddling the FM synth controls.

POLY



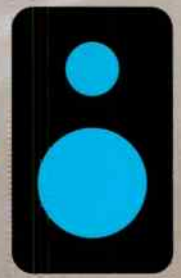
It's probably obvious, but Poly is a polyphonic synthesizer. It uses a digital/"analog" hybrid.

BANG



MONO

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World Radio History

Cycling '74 Mode

There are two oscillators with amplitude and modulation envelopes, a filter, pitch and filter LFOs, and a powerful polyphonic arpeggiator. In addition, Poly has a built-in delay and chorus.

The remaining two of the Big Five are processor plug-ins.

SPIN

Spin is a wide-ranging plug-in. At its most basic level, Spin does time-based effects. But as with everything in Mode, you can do so much more. There's built-in overdrive and bit reduction. Pan position can be modulated. The built-in filter can have its frequency response modulated. Unique to Spin is the "Time Gate," which is a step sequencer that controls the volume of each of 16 steps. This allows you to create very unusual rhythmic/dynamic effects. Everything in Spin can be locked to the host application's tempo, or operate using its built-in clock.

WASH

Wash is a digital delay, the likes of which you've never seen before. It contains six separate delay lines, each with its own delay time, feedback, filter (with frequency, resonance, and filter type controls), level, pan, mute, and solo parameters. A built-in 8x8 patchbay lets you route any combination of either the left or right inputs or any of the six delay lines to any combination of the left or right outputs or any of the delay lines. The delay lines can be "locked" to create a perpetual loop for sound-on-sound effects. Up to 10 seconds of delay time are available for each delay line.

THE REST

The remaining 18 Mode plug-ins are drawn from the Big Five. For example,

there are single-engine versions of Bang that feature just sample playback, just FM synthesis, or just analog synthesis. These smaller plug-ins tend to be more CPU efficient, and are easier to use as they generally have fewer parameters to deal with.

In some cases, there are separate mod plug-ins that can be used to modulate the parameters on another plug-in. For example, the Poly-Chorus plug-in (the chorus section of Poly as a stand-alone plug-in) can be modulated using the Poly-Chorus-LFO, which is basically a stand-alone LFO plug-in. The LFO can be set to modulate just about any parameter. It may seem kludgy to use two plug-ins to accomplish this, but in use, having the user interfaces separate allows you to focus in and set things up quickly. The real downside is that you'll use up two plug-in slots to get a single effect.

OTHER STUFF

All the Mode plug-ins support plug-in automation. You can also access other features by command-clicking in the plug-in window. This opens a hidden menu containing Touch Parameters (sends the current parameter settings to the host for automation purposes), Randomize All (randomizes all parameters), Evolve All (randomizes parameters by up to five percent), Undo Last Change, Copy All From Program (basically for recalling presets), and so on.

WOW

If you're after conventional sounds and effects, Mode can deliver them. But the Mode plug-ins really come to life when you start exploring some of their unique capabilities. While the effects and sound generators are based on familiar concepts

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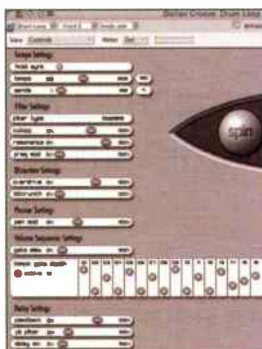
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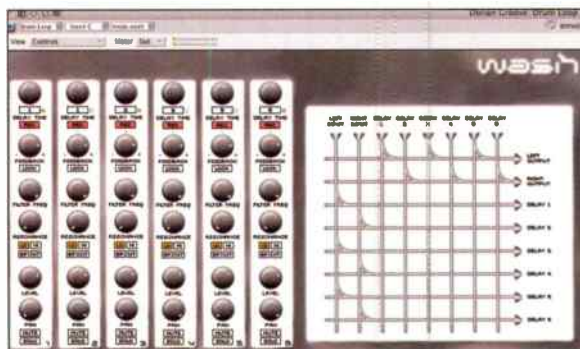


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SPIN



WASH

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Future Music
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and parameters, they're almost always presented in such a way that you can go one step (or many steps) beyond the usual.

I had a great deal of fun with this collection of sound generators, processors, and manglers. If you're a sound designer looking to add some new tools to your arsenal, Mode offers tremendous power. For composers after new sounds, Mode delivers easily, plus its plug-ins are easy

Is it really
that bad to
use your ears
to tweak
your sounds
rather than
your eyes?

and fast to use. The settings of some parameters are difficult to discern—you'll have to make those adjustments using your ear. But you'll adapt quickly, and is it really that bad to use your ears to tweak your sounds rather than your eyes?

If you can't create distinctive, unique sounds using Mode, the problem isn't with the plug-ins—these are powerful tools. Check them out. Cycling '74 offers a free download of the full software that operates in demo mode—there are periodic interruptions in the audio. Once you pay for and authorize the plug-ins, they'll operate without interruption.

Cycling '74 deserves big credit for continuing to push the sonic envelope—and for offering so much plug-in power for such a reasonable price. This is fun stuff!

Strengths:

- Tremendous sound-generating power
- Unique processing capabilities
- Easy to use
- Clear and simple user interfaces
- Great sound quality

Limitations:

- Currently Mac only
- Limited readout of some parameter settings

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~ Steve Page, Barenaked Ladies



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by Mitch Gallagher

Marshall MXL V6

Can solid-state really sound like tubes?

Type: Large-diaphragm solid-state condenser

Price: \$349

Contact: Marshall, www.mxlmics.com

Pickup pattern: cardioid

Included accessories: cherrywood box, stand mount

Optional accessories: shockmount, pop filter, windscreen

Last fall, Marshall Electronics launched what was to be the first model in a new line of microphones — the V12, part of the Silicone Valve series. The result of more than three years of research by Marshall, the Silicone Valve mics are solid-state, yet are intended to give the sonic characteristics of tube circuitry.

Developed and built in Marshall's Southern California headquarters, the Silicone Valve microphones are said to use FET amp circuitry to simulate what happens naturally in a tube. The internal mic circuitry is designed to amplify the "musical" even-order harmonics, while subduing odd-order harmonics, which are responsible for harsh, edgy sound quality. Transformers on the output stage also help enhance the tube-like qualities in the mics.

Now the second mic in the Silicone Valve series has been unveiled: the MXL V6, a solid-state condenser model that's intended to emulate the tone and response of the MXL V69.

The V69, which I reviewed for the February 2003 issue, is the flagship in Marshall's line of tube-based microphones. The V6 and V69 are very similar in many respects; both are large-diaphragm, single-pattern — cardioid — condensers. Neither has

any controls; there are no pads or filters. Both have 24-carat gold-plated grilles. Since the V6 is a solid-state mic, there's no external power supply required, nor does the mic need to warm up as the V69 does.

When I reviewed the V69, I was impressed with its solid, punchy sound and its open top end — and I was even more impressed with the value it offered; at a retail of \$399, the mic came packaged in a flight-type case with its power supply and an included shockmount. The V6 comes in at \$50 cheaper, in a cherrywood box, but doesn't include the shockmount in the price. Since an optional Marshall shockmount lists for about \$50, figure the price is about the same.

For this review, I was sent an early-release MXL V6 with a shockmount. The mic was so "hot off the presses" that there was no cherrywood box for it, nor was there a spec sheet or manual. Given the lack of documentation, I did what any good engineer should do . . . I used my ears.

THE SOUND

The V6 and the V69 are clearly cut from the same cloth. Both have a round, warm midrange, with open, present top end. There's enough proximity effect to work with; the mics handle level well, so you can use them close and take advantage of proximity to fatten up the bottom end. As with the V69, I did find myself wishing for a lowcut filter on the V6 to tame the deep bass "thumpiness" that was revealed when monitoring through a subwoofer-equipped system.

Given that they're so similar, it's no surprise that I enjoyed using the V6 for the same applications at which the V69 excelled. I liked it on male vocals, where it provides a full tone, with bright but smooth high end. The detailed, open top-end also worked well on steel-string acoustic guitars, delivering a thick sound with plenty of sparkle. Marshall is correct to characterize the mic as smooth sounding, with no "solid-state" harshness.

TUBE-Y OR NOT TUBE-Y

The V6 easily lives up to the claims made by Marshall Electronics. It's a big sounding mic, with plenty of open top-end, good dynamic response, low noise, and a warm tone. It lines up next to the V69 very well, delivering similar tone, and excellent value.

I don't know how they do it, but Marshall continues its history of delivering value-packed microphones with the new Silicone Valve series. Like the V69 tube mic, the V6 performs like a microphone that costs way more money.

Perhaps the Silicone Valve series is the beginning of a new industry-wide "analog modeling" trend . . . time will tell! **EQ**

Strengths:

- Bright, present top-end
- Full midrange
- Solid bottom-end
- Good dynamic response
- Great value

Limitations:

- No pad
- No lowcut filter



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by Mitch Gallagher

Rode NT2-A

Rode cranks the NT2 up a notch. Or three.

Type: Large capsule studio microphone

Price: \$699

Contact: Rode, www.rodemic.com

Capsule type: Externally polarized 1" dual-diaphragm condenser

Pickup pattern: Omni, cardioid, or figure-8

Frequency response: 20Hz to 20kHz

Output impedance: 200 ohm

Sensitivity: -36dB, ref 1V/Pa, ±2dB

Equivalent noise: 7dBA SPL

Maximum output: +16dBu at 1% THD into 1k-ohm

Dynamic range: 140dB

Maximum SPL: 147dB (157dB with pad) at 1% THD into 1k-ohm

Signal-to-noise: 87dB

Highpass filter: flat, 40Hz, 80Hz

Pad: 0, -5dB, -10dB

Included accessories: zip pouch, stand mount



One of Rode's recent ads claims that there are 150,000 NT2 mics in use around the world — give or take a few thou and you're still talking lots of microphones. So when the company decided to update this recent-vintage "classic," they weren't looking at an easy task.

WHAT CHANGED?

There are three primary areas where the NT2-A differs from the original NT2. When you open the box, you'll notice the first right away: there's way more control built-into the mic itself. Three 3-position slider switches select the polar pattern (omni, cardioid, or figure-8), highpass filter (flat, 40Hz, or 80Hz), and pad (0, -5, or -10dB). The NT2-A also follows in the footsteps of other recent Rode mics by posting a low self-noise spec: 7dBA.

Finally, the NT2-A is built around the Australian-designed and -manufactured Type HF-1 dual-diaphragm capsule, the same transducer that's used in Rode's wonderful K2 microphone (see my review in the December '03 issue).

The NT2-A is also substantially heavier than the NT2, because of its acoustically modeled solid cast-metal housing and heat-treated steel mesh grille. The NT2-A comes in at just \$50 more than the original.

THE SOUND

The most recent generation of Rode mics, with the advent of the TYPE HF-1 mics have all had a markedly different sound from their predecessors — they're smoother, more even,

and richer. That definitely describes the NT2-A. While there's a gentle high-frequency lift, this tends to open up the sound rather than make the tone harsh or hype-y.

On male vocals, the NT2-A has a fat tone with round mids and full low frequencies. The top is open and detailed, with plenty of presence but without the harshness and hyped treble some other mics exhibit.

I received a pair of NT2-As, so I set to work stereo miking a variety of sources, including nylon- and steel-string

decay. Other types of percussion sounded real, with good attack transients and well maintained dynamics.

THE DEAL

I'm really enjoying the latest large-diaphragm mics from Rode — I was impressed with the K2, and have similar feelings about the NT2-A. The value offered by these mics is simply outstanding. While the list price of the NT2-A is around \$700, you can pick one up at a substantially lower street price. But even at full list price, the NT2-A delivers excellent value. It would be nice if the package included a shockmount rather than a stand mount, but at this price, I'm not complaining too loudly.

Forget what you've heard from Rode mics in the past — not that the older models don't perform very well in their own right, mind you — the new generation of Rodes, including the NT2-A, are simply stellar performers that provide excellent, smooth, dynamic sound with lots of control capability, lots of flexibility, and literally no self-noise.

Whether you're looking for your first "pro" studio mic or searching for the best model to fill out a microphone locker, the NT2-A bears strong consideration as it excels in almost any application. A winner? Oh yes. **EQ**

NT2000

What's the difference between the NT2-A and its slightly more expensive sibling, the NT2000 (\$899)? The NT2000 has completely variable pad, pattern, and filter controls as opposed to the NT2-A's three settings for each parameter. Plus the NT2000 comes with a shockmount and a molded plastic case.

acoustic guitars. The imaging was excellent. The sound was full, open, and detailed, and the dynamics followed the sound in the room nicely. I hate to repeatedly and redundantly repeat myself again and again, but I keep coming back to the word "smooth" — because it's an apt descriptor of the top end of the NT2-A. Another would be "natural."

On crunchy electric guitar, the NT2-A was chunky sounding, without top-end "fizz" but with plenty of low-end thump and thick midrange presence.

Metallic hand percussion rang true, without strident highs, and with smooth (there's that word again)

Strengths:

- Smooth, rich tone
- Good dynamic response
- Quiet
- Useful for many applications
- Outstanding value

Limitations:

- No shockmount included

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by Craig Anderton

e-Lab Foundation 2.0

Build your hip-hop house on a strong . . . foundation

Type: Virtual instrument/sample library plug-in

Price: \$299.95

Contact: e-Lab, www.e-lab.se; dist. by Big Fish Audio, www.bigfishaudio.com

Platforms: Windows XP, Mac OS X

Formats: VST, RTAS (XP, OS X); AU (OS X only); no standalone mode

Number of virtual outs: 8 stereo

Demo available: Yes

Copy protection: Serial number included in package. Registration required for commercial use.

Manual: 23 pages, softcover

Sound library size: 3.7GB

Compatible formats: REX2, SLI (Ignition series libraries)

Foundation is a "construction kit" loop library, cleverly disguised as an eight-track REX file playback instrument plug-in (VST/RTAS for XP, VST/AU/RTAS for OS X). Like *Obsession* (reviewed 9/04), the first member of e-Lab's Ignition series, its sound library hits hard on hip-hop. But it augments drum loops with melodic elements: bass, electric piano, chords, flute, scratches, etc.

You can load "multi-track" presets (these are like sample library construction kits), separate breaks/beats tracks, and even mix 'n' match tracks from different presets. Even better,

Multi-mode resonant filter, drive, reverse (which reverses individual slices, not the whole file, to play back sounds in the correct order), VCA with envelope, and mod matrix. Mod sources are LFO, a separate modulation envelope, velocity, and mod wheel; the twelve destinations include the usual suspects (filter cutoff, etc.) but also envelope attack, decay, and release parameters. Tweakologists, rejoice.

Style-wise, this rude boy is loaded with lo-fi, crackly vinyl effects, noisy stuff, and big-ass beats . . . it's not for purists, unless of course you're a purist about impurity.

Playback is flexible: For each track, loop in sync with the host, trigger loops with MIDI notes, or import a MIDI file (included) into your host to trigger individual loop slices — yes, edit the MIDI data to warp the preset beyond recognition. And, save edited presets/tracks.

Just before this review was completed, e-Lab updated the engine behind their Ignition series to Version 2.0. One of the coolest features is that it adds even more comprehensive MIDI controller functions. You can apply MIDI continuous controller messages to *all* knobs and sliders, as well as the Solo, Mute, and Reverse buttons — great for playing Foundation with more of a "live" feel. My only remaining wish list item is the ability to choose between

"additive" and "radio button" solo buttons. Currently, soloing any track automatically mutes other tracks; you can't enable multiple solo buttons at the same time.

The file selector has also had a makeover. It now treats library files and REX2 files equally, rather than subjecting REX2 files to a separate "import" function. This speeds up file selection, which makes Ignition series instruments even more of an "open" system. Furthermore, clicking on the browser's Library button provides an immediate shortcut back to the Foundation library — helpful if you're wandering around your drives looking for additional loops. Another cool feature: When selecting an individual REX2 file, the browser shows its tempo, number of slices, and channels (stereo/mono).

True to its name, this instrument provides a solid foundation for your hip-hop masterpiece. But what makes *Foundation rock* is the open-ended REX format for great stretching, and extreme editability. (Note: e-Lab says some PC hosts implement song pointer improperly, leading to inconsistent timing; download the demo to check for compatibility with your host. I encountered no problems with Sonar 4 and Cubase SX3.) **EQ**

Strengths:

- Fun, lo-fi, funky loops
- You can edit the hell out of them
- Extensive automation options
- Compatible with REX2 files
- Improved browser
- Gets your juices going

Limitations:

- No additive solo function



FOUNDATION PLAYS BACK ONE REX2 FILE PER TRACK, CAN LOAD MULTI-TRACK PRESETS, AND SYNCs TO YOUR HOST SEQUENCER. TRACK FILES CAN COME FROM THE INCLUDED SOUND LIBRARY OR ANY OTHER REX2-COMPATIBLE SOURCE.

for individual tracks you can load any REX2 file or other Ignition series library files.

Files are organized according to tempo (90, 100, and 110 BPM), but that's just to give you an idea of the intent — the quality of the "refixation" is outstanding. Tracks can stretch over a very wide range; for example, I tested a variety of files from 60 to 180 BPM. They not only were just useable, but sounded fine.

Each track also has a full complement of processors:

Proteus X

Desktop Sound Module

E-MU Systems brings the power and sounds of the world's most popular sound module line to your desktop with Proteus X – a 24-bit/192 kHz desktop sound module that delivers all of the filters, effects and pristine sounds of E-MU's rackmount modules to your PC. Proteus X ships with over 2 GB of sounds, including every last sample from E-MU's Proteus 2000 sound module, and can be expanded with the original soundsets from E-MU's legendary modules like Mo'Phatt, Planet Earth and Virtuoso 2000. Want even more sounds? Proteus X lets you load your favorite sound libraries (Emulator X, EOS, GigaSampler, Akai, and many more) and play them back with Proteus X's powerful streaming engine. And, unlike other software instruments, Proteus X's audio/MIDI interface is optimized to deliver ultra-low latency performance with unmatched fidelity – Proteus X actually plays and sounds like a real hardware instrument.



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by Craig Anderton

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Price: \$299 (Latigo or Darbuka)
Contact: www.wizoo.com

Platforms/formats: Mac OS X 10.3 (AU, VST 2.0, RTAS), Windows XP (VST 2.0). DVD-ROM, 1GB hard drive space required.

Copy protection: Serial number and certification via web, mail, or fax

Demo: 30-day unlimited functionality

Manual: 206 pages, softcover, English and German

Supported sample rates: Up to 96kHz



The new buzz in loop libraries is *control*. Static loops aren't good enough anymore; you need to be able to get "inside" the loop and customize it.

And that's particularly important with percussion, which usually provides the ear-candy variations while the trap drums anchor the beat. Endless percussion repetition gets old fast, which is what Latigo (Latin percussion) and its sister program, Darbuka (Arabic/African percussion) are intended to do. (Full disclosure: Wizoo has published some of my books. However, given the positive response to Latigo/Darbuka, I wasn't concerned that echoing those responses would be seen as favoritism.)

Once you get past the excessive packaging and do the by-now familiar online registration thang, you have a plug-in (no stand-alone mode) that serves as a loop library front end. Latigo uses slice-based tempo manipulation, so stretching doesn't produce audio artifacts.

The architecture is simple. Latigo has 24 styles. Within each style is up to 14 tracks. You can mix and match tracks within styles, so you can use, for example, a Calypso conga pattern in a Bolero style.

Okay, but here's what makes this plug-in cool: On the main Play page, you'll find sliders for Variation, Timing, Complexity, and Swing — all assignable to MIDI controllers — that add

spice and variations to patterns. Remember, too, that these patterns were played by Real Human Beings (from Miami Sound Machine), so when you add "humanizing" variations, you're humanizing something that's already, uh, human. (This page also features basic EQ and overall Dynamics.)

MIXING AND EDITING

A separate Mix page lets you place the instruments graphically in a cool-looking sound stage. Additional controls for each track include Punch (useful!), lo/mid/hi EQ, rear balance for surround, ambience (essentially a send control to the ambience processor), and individual assignments for the 4 stereo outs. This page is a tweeker's delight... for example, make the snare really snap, while submerging maracas in the background.

Editing for individual instruments provides control over characteristics similar to those on the Play page (timing and so on), but also adds decay, lead or lag timing, change tuning, alter dynamic response, and more.

PLAYING

Your sounds are tweaked: Now create arrangements and play them, not unlike how you trigger scenes and start/stop individual loops in Ableton Live's arrangement view. You can do this improvisationally, or trigger patterns via MIDI.

THE BOTTOM LINE

These are just highlights; there are other nice touches, like being able to switch on a high-RAM usage mode for

highest sound quality. Although there's no DXi version for Sonar fans, the VST wrapper works fine (except that you lose the mouse wheel functions for level control and track scrolling).

Some might wonder why Latigo lists for the same as Spectrasonics' Stylus RMX: The latter has more effects, more sounds, and allows importing other file types to create custom libraries. Furthermore, unlike Stylus RMX, Latigo can't save a separate, editable MIDI file to edit playback of pattern slices. However, Latigo takes the "playable instrument" aspect further, thanks to the Live-style edit page. And, the realism is beyond reproach.

While Stylus RMX offers exceptional value, Latigo fulfills its intended function so well — from recording quality all the way through to surround ambience — that you can't begrudge the price. It and Darbuka are class programs that deliver on all levels, and indeed deserve the accolades they've been receiving.

Strengths:

- Sounds like real humans playing
- Excellent sound quality
- Fills and MIDI controllable variations add interest and variety
- Surround support
- Editable sounds
- Significant real time playing options

Limitations:

- Only 24 styles — no rumba, soca, and so on.
- Can't create or import original beats (mix and match only)



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by Craig Anderton

PreSonus FirePod

FireWire I/O for the masses

Type: Computer audio interface**Price:** \$799.95**Contact:** www.presonus.com**Minimum system requirements:**

400Mbps FireWire port, (Mac) OS X 10.3.5, G4 800MHz, (Windows) XP SP1, Pentium/Athlon 900MHz

Analog ins: Two mic+instrument (1M instrument input impedance), six mic+line; all Neutrik combo 1/4" + XLR

Phantom power: +48V, two switches for ins 1-4 and 5-8

Analog outs (rear panel): Eight TRS balanced 1/4" outs, two main control room 1/4" line outs, two cue mix 1/4" line outs, headphone out

Effects loop: Rear panel balanced send/return jacks for channels 1 and 2 (usable as preamp outs/rear panel line ins)

Digital I/O: Coaxial S/PDIF I/O

MIDI I/O: In and out

FireWire I/O: Two parallel IEEE-1394 ports

Preamp gain: 54dB

Front panel controls: Eight stepped preamp trim controls, main level control, headphone amp level, and mixer (varies balance of ins 1-8 with outs 1-2)

Overload indicators: Eight LEDs (one per preamp)

A/D converters: 24-bit, 44.1/48/88.2/96kHz

D/A converters: 24-bit, up to 96kHz

Power supply: External AC transformer, internal switching supply

Bundled software: Steinberg Cubase LE

THE FIREPOD PUTS THE INPUT JACKS, GAIN CONTROLS, AND MONITORING ON THE FRONT PANEL. OUTS, SENDS, AND MIDI ARE ON THE BACK.

Strat vs. Les Paul. Mac vs. PC. Analog vs. digital. Great taste vs. less filling.

And now, add USB vs. FireWire to these classic matchups.

That debate used to fall along religious lines. The Cult of the Macintosh prayed to the FireWire gods, as Macs were early adopters of FireWire. Meanwhile, the Order of the Microsoft tended to believe in USB. But those days are pretty much gone. PCs, if they don't already come with FireWire, can be outfitted with it for under \$25. And modern Macs and PCs both come with USB ports.

So it's not surprising that the PreSonus FirePod is a cross-platform FireWire interface that's equally at home with Mac or Windows, and even ships with cross-platform sequencing software — Cubase LE. (Note that unlike the mLAN-friendly PreSonus FireStation, PreSonus has rolled their own ASIO/WDM/Core Audio FireWire drivers.)

So why the extended intro? Because I'm doing a one-page review, and when everything works like it's supposed to, there's just not much to say. I loaded the supplied drivers from the CD, clicked on the FirePod system tray icon to optimize performance for my CPU, plugged in the FireWire cable to a FireWire card, and every program I loaded recognized the ins and outs. With Sonar 4 using WDM, my system coped fine with 3ms of latency; ASIO didn't fare as well,

though, yielding 6ms with Sonar and Cubase SX3. (Trying to run below 6ms with Cubase gave clicks and pops, but froze Sonar.)

So I plugged in a mic, and it sounded good. *Really* good, actually; nice headroom, good definition, and no significant noise. And, there are front-panel gain controls (although no pad or low-cut switches). I then plugged a guitar into the instrument input . . . clean and clear. How about line outs from synth? Yup, that worked too. Now this is the kind of boredom I like: No system crashes, no "Device not recognized," no time spent having to find and download new drivers.

There are some nice touches. The send/return connections for channels 1 and 2 are balanced, not unbalanced TRS. The gain controls are click-detented. Construction is metal and rugged. And, a mix control can dial in a blend of the main outs and the eight ins for zero-latency monitoring. It's a bummer that you can monitor only the first two of the eight outs, although personally, I tend to run everything in my DAW down to two outs anyway. Clearly, the other outs are for when you're using the FirePod as more than a self-contained system.

SO WHAT'S WRONG?

Well, not a whole lot. But let's try this: No ADAT out. I mean, wouldn't it be kinda cool to have this if you wanted to go into an ADAT-compatible hard disk recorder or a digital mixer instead

of a computer? Okay, it's a FireWire interface, but a little extra functionality wouldn't hurt. Besides, you could also use the same optical out to provide optical S/PDIF. In any event, the FirePod can also serve as a 10 x 2 mixer (8 analog + S/PDIF), even without a computer, so that's a plus. I also wish that the latency under ASIO was as low as with WDM, but hey, that's what driver updates on the Web are for . . . right?

THE VERDICT

What makes the FirePod interesting is that yes, it's a computer interface, but it also has enough mixing options — from serving as an analog mixer to being able to handle your DAW ins, outs, and monitoring — that it's well suited for mobile, or at least portable, recording. And there's no denying that it sounds very good. In that niche between simple USB interfaces with limited I/O and do-all FireWire interfaces that are overkill for many situations, PreSonus has found a sweet spot. **ED**

Strengths:

- Effortless to install and use
- Great-sounding preamps at this price point
- Cross-platform
- MIDI and S/PDIF I/O

Limitations:

- No ADAT digital I/O or optical S/PDIF
- Can't monitor all 8 outs with internal monitoring



Create.

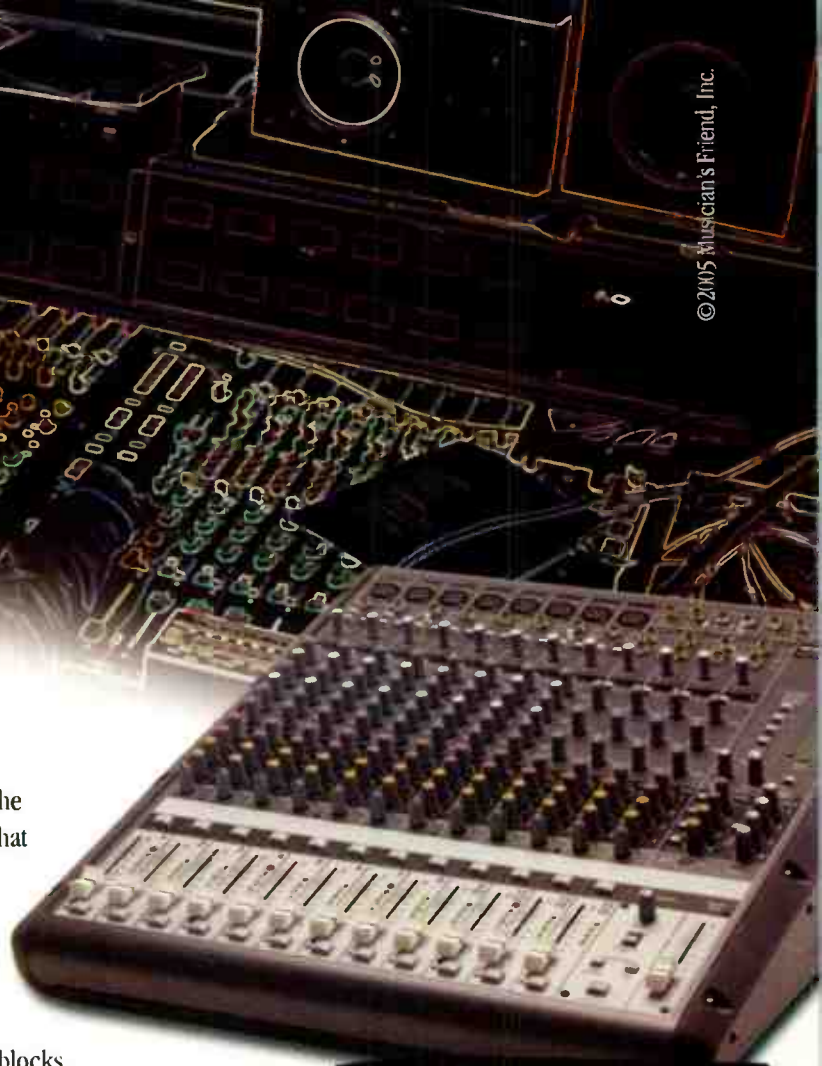
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World Radio History



by Craig Anderton

BIAS SoundSoap Pro

Audio detergent meets plug-in

Type: Noise reduction plug-in

Price: \$599

Contact: www.bias-inc.com

Platforms/formats: Mac OS X 10.2 (AU, RTAS, AudioSuite, VST), G4 CPU; Windows XP (DirectX, RTAS, AudioSuite, VST), PIII CPU

Copy protection: USB dongle plus certification via web, mail, or fax

Manual: 76 pages, softcover

Supported sample rates: Up to 96kHz

EQ

reviewed the original SoundSoap, a quick 'n' dirty — uh, I mean, quick 'n' clean — noise reducer. SoundSoap Pro (SSP) is what you'd expect: A more sophisticated, evolved, and costly version of SoundSoap. Budget-wise, it fits in the midrange of noise reduction tools, but its feature set is more high end.

There are two Big Deals. First, like SoundSoap, SSP works in real time. Second, it's a plug-in that plays nice with a variety of formats and applications.

SSP has four integrated "modules": noise reducers for hum/rumble, clicks/crackles, and broadband noise, followed by an output noise gate. They all benefit from a simple interface, and a useful spectrogram to monitor the signal. There are global controls for compare, "noise only" (to make sure you're not removing important parts of the signal — particularly meaningful because it represents the processing of all four tools), and a

series of tabs, set to an intelligent default position, for selecting the four modules. Broadband is particularly adjustable; SSP provides good default settings, but a little tweaking can turn "good" into "wow."

TESTING, TESTING

SSP is not immune from the Noise Reduction paradox: Noise reduction works best on signals without much noise. For slightly grimy signals, SSP removes the dirt without bleach or causing colors to fade. The broadband noise reducer is particularly effective, and I found some bonus features: The rumble filter doubles as a kick drum remover for DJs, the noise gate let me keep just the kick and snare from a drum loop while removing the closed hi-hat, and the "wrong" broadband settings gave good alien voices. Okay, that's not what SSP is about, but yes, it has hidden talents.

For the acid test, I added unrealistic amounts of clicks and noise to a drum loop, then tested it with SSP, Adobe Audition's noise reduction tools, and Diamond Cut 5 (there's a new version of DC that works as a plug-in, but I wasn't able to set it up in time for this review).

I knew none of these would be able to clean the sound completely; I just wanted to see how they affected the sound when stressed to the max. However, it was impossible to do an A/B comparison because changing one parameter could make one better in one aspect, but worse in another. Each one had a "sweet spot;" however, that sweet spot involved varying tradeoffs, which were different among the different programs.

SSP nailed the broadband, hum, and noise gate, but getting good click reduction was tricky — I wanted more resolution at the low settings (apparently so did BIAS; they're adding this to the next update).

COST VS. COST-EFFECTIVENESS

SoundSoap Pro is more expensive than, say, Audition, but considerably less than Waves Restoration X. Either way, people will value what they get in return: The ability to work with multiple hosts on Mac or Windows as a plug-in (and with the HASP dongle, it will work wherever you want it to), and perhaps more important, real time operation. It's a *huge* time-saver to be able to tweak while a track is playing rather than having to preview, adjust, preview, etc. However, like any plugs that do extensive realtime processing, SoundSoap Pro likes CPU power. It's best used on a track or two at a time, then rendered before moving on.

As an effective, general-purpose signal cleaner, SSP is hard to beat. The combination of four important tools, and the speed with which you can use them, makes SSP a pleasure to use. When deadlines loom, it won't let you down.

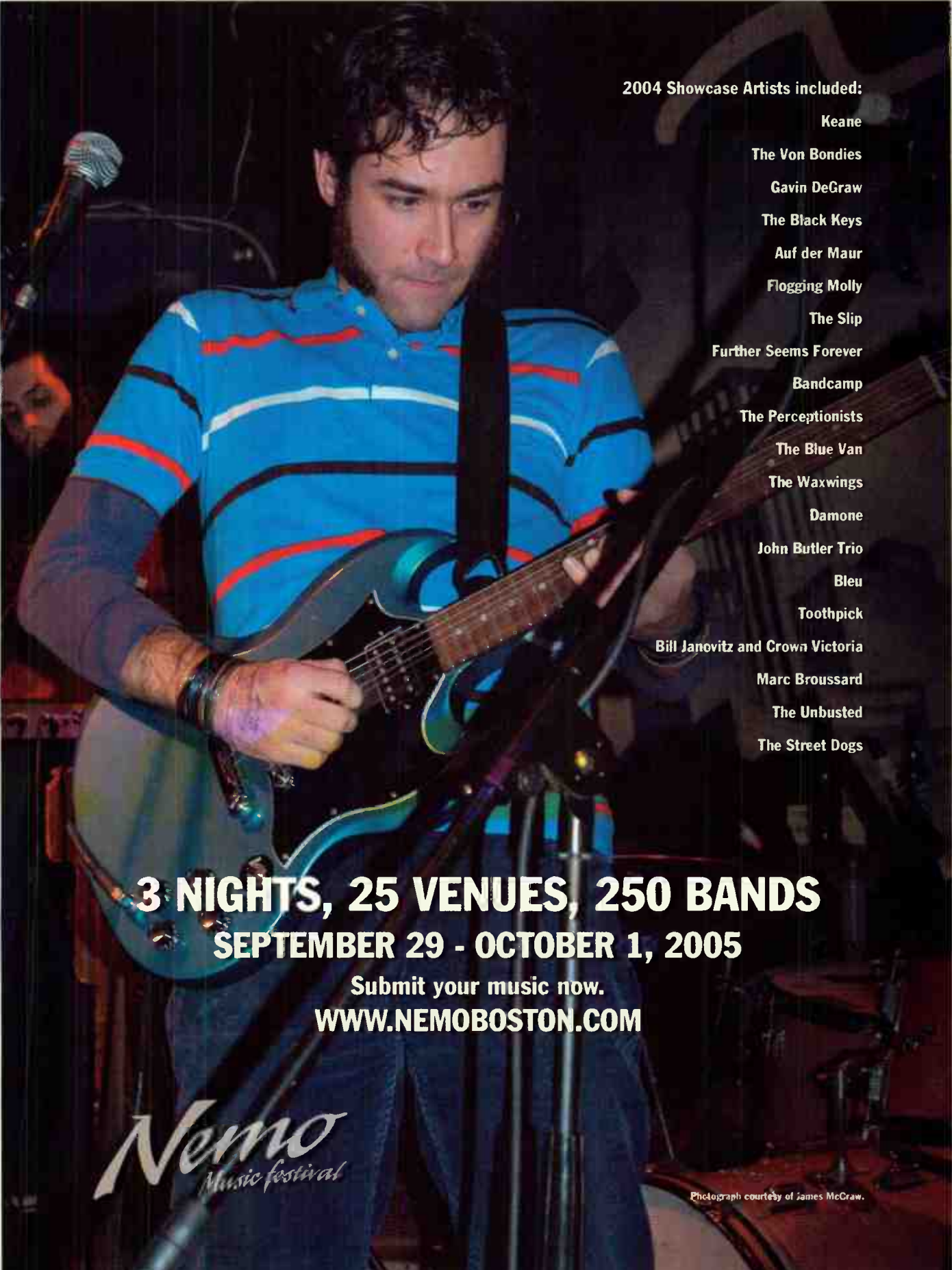
Strengths:

- Realtime operation
- Four useful noise reduction functions
- Supports multiple hosts
- Easy but effective interface
- Very good manual

Limitations:

- Click settings finicky
- Requires significant CPU power





2004 Showcase Artists included:

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Photograph courtesy of James McCraw.

by John Krogh

MSR StudioPanel

Got a project studio? Get it treated.

Type: 2' x 4' acoustic panels

Price: \$2,729 (SP442); \$3,239 (SP552);
\$4,409 (SP664)

Contact: MSR,

www.studio-panel.com

Components: 4-6 sets of absorber/diffuser panels, 2-4 bass absorbers (depending on kit size); pocket level; calibration software (PC only), test tone audio CD, full-size panel template; metal hanger/bars

Getting a mix to translate to the outside world can be tricky for the budding project studio owner. Often, we're forced to deal with less-than-ideal room acoustics, which can make it difficult to judge bass levels, perceive high-frequency details, and detect early reflection problems during tracking. In other words, a recipe for mix disaster.

There are a variety of acoustic treatment options for correcting poor room acoustics, including the ever popular and affordable foam wedges and panels. And sure, this kind of system generally helps the reflective qualities in a room. But foam has its limitations. It doesn't

offer the kind of full-spectrum frequency control that more dense, purpose-built solutions do, for example.

To truly tame a room's acoustic properties and produce a smoother frequency response typically requires an experienced acoustician to come in and install a variety of components: bass traps, diffusers, hanging "clouds", and so on. But unless you're booking sessions for major labels, you may not have the bucks to hire an acoustics specialist. That's where the experts at MSR come into play.

Their StudioPanel treatment kits are designed by a team of acousticians who've been in the business of custom installation for over 15 years. They've

taken this experience and rolled it into a product line of pre-built, modular acoustic systems that fill the gap between foam solutions in the \$1,000-range and hiring specialists for many thousands.

LAY OF THE LAND

If you've priced acoustic treatments, you know that StudioPanel systems aren't cheap, but they do offer several advantages over lesser systems. For starters, the absorber panels are made of a mineral wood/fiberglass composite for improved performance. The kits also incorporate pro-grade diffuser panels to smooth out the soundfield. The bass end of your studio is handled by Helmholtz/dia-phragm resonators, and to finish it off, the panels are professionally covered with flame retardant fabric, which can be ordered in a variety of colors, so you can match or tastefully contrast the panels with your studio's wall color. The various wall-mount panels are designed to address specific acoustic maladies such as reflections, flutter echoes, decay times, and low-frequency resonances.

In addition to these panels, free-standing bass traps and hanging cloud panels can be combined with the StudioPanel kits. The bass traps, called SpringTraps, are spring-loaded diaphragms with dual port resonator chambers that fit in a corner and soak up a room's standing waves. MSR's website is set up to explain and help you choose the appropriate components for your room's size and shape.

Nearly everything needed to install StudioPanel kits is included. You'll find rigid tin



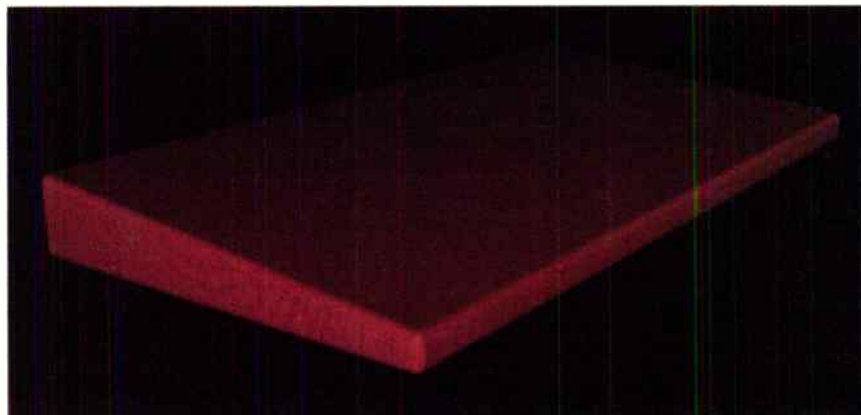
STUDIOPANEL KITS CAN BE ORDERED IN A VARIETY OF COLORS, ALLOWING YOU TO MATCH OR COMPLEMENT THE COLOR OF YOUR STUDIO WALLS.

"v-bars" that hold the panels in place, along with a pocket level and string (intended to help you mark a level horizontal line), a fold-out full-size template illustrating where mounting hardware should go, a small mirror for locating first-reflection points, and detailed instructions on installation and measuring your room's acoustics. Along these lines, measurement software is included (PC only) as well as an audio CD of test tones.

FIRE TRIALS

MSR sent me a mid-sized kit, which comprises five sets of absorber/diffuser and two Bazorber (bass absorber) panels, along with an extra set of Bazorbers and a pair of cloud panels to place above my mix position. The entire system arrived on a palette that consumed the better part of my smallish garage.

After unpacking all of the materials and reading the installation instructions, I realized I'd need at least some self-drilling screws or some other means to fasten the



DEEP BURGUNDY MSR STUDIOPANEL.

v-bars onto the drywall. So, off to Home Depot I went. About 15 dollars later, I had the necessary hardware.

Back home, I attempted to use the level and string to draw a straight horizontal line, but this didn't work very well at all. I decided to use a long straight edge and my own 3'

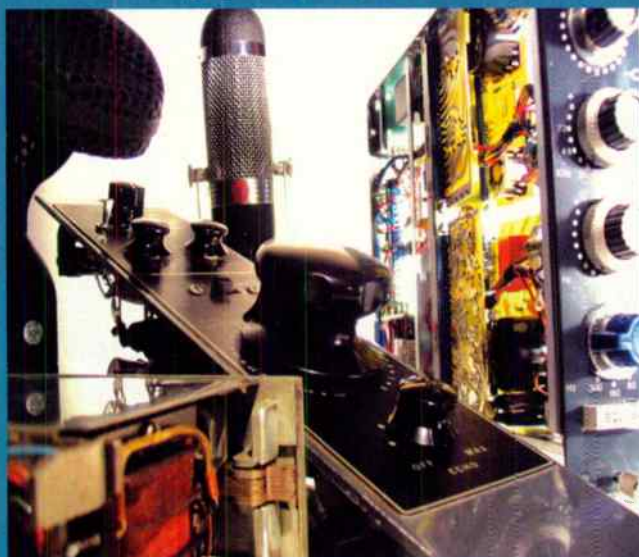
level. Less than 20 minutes later, I had my room marked off.

After drilling three pilot holes in each of the v-bars, I was ready to go. It wasn't easy to get each panel perfectly level and lined up with one another, but after several hours I had installed all of the panels.

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MSR StudioPanel

All that remained was to insert the thin "T" strips, which covered the seams between panels. These certainly added to the "pro look" of the panels.

For the next couple of weeks I recorded and/or mixed several projects, including a couple of commercials and an indie-band demo. The difference StudioPanel made in my room was very evident. Previously, I'd have to move to a certain location to get a better sense of "true" bass. But with the new panels, the bass was more controlled and focused. High-frequency slapback between walls was virtually non-existent, and overall, my room sounded more contained and even. At the risk of sounding like an MSR infomercial, I was able to mix in less time thanks to better imaging and flatter frequency response in my room.

Just for grins, I re-measured my room's acoustics (originally measured when I put a foam system in about nine months ago), and while there was a noticeable improvement over the results

Foam has its limitations. It doesn't offer the kind of full-spectrum frequency control that more dense, purpose-built solutions do, for example.

of my previous system, the studio was still far from "flat." In reality, most rooms aren't perfectly flat anyway, so this didn't bother me. Ultimately, the room is way more controlled, though, and doesn't suffer from any ringing slapback, uneven bass, or smeared imaging. The StudioPanel system definitely elevated the quality of my room's acoustics.

THE DEAL

Color me impressed. StudioPanel is head-and-shoulders above many other "affordable" acoustic treatment options. From an aesthetic angle, the panels look more pro than foam, and being able to choose from a wide range of custom colors is a plus. Sonically, StudioPanel lives up to the claim of being a full spectrum frequency solution. If you're discerning about the look and sound of your room, but don't have the cash for a custom install, StudioPanel is the next best thing. **EQ**

Strengths:

- Effective at controlling a broad range of acoustic problems
- Available in a variety of colors
- Installation manual is detailed and helpful

Limitations:

- V-bars aren't pre-drilled
- Requires some skill to install

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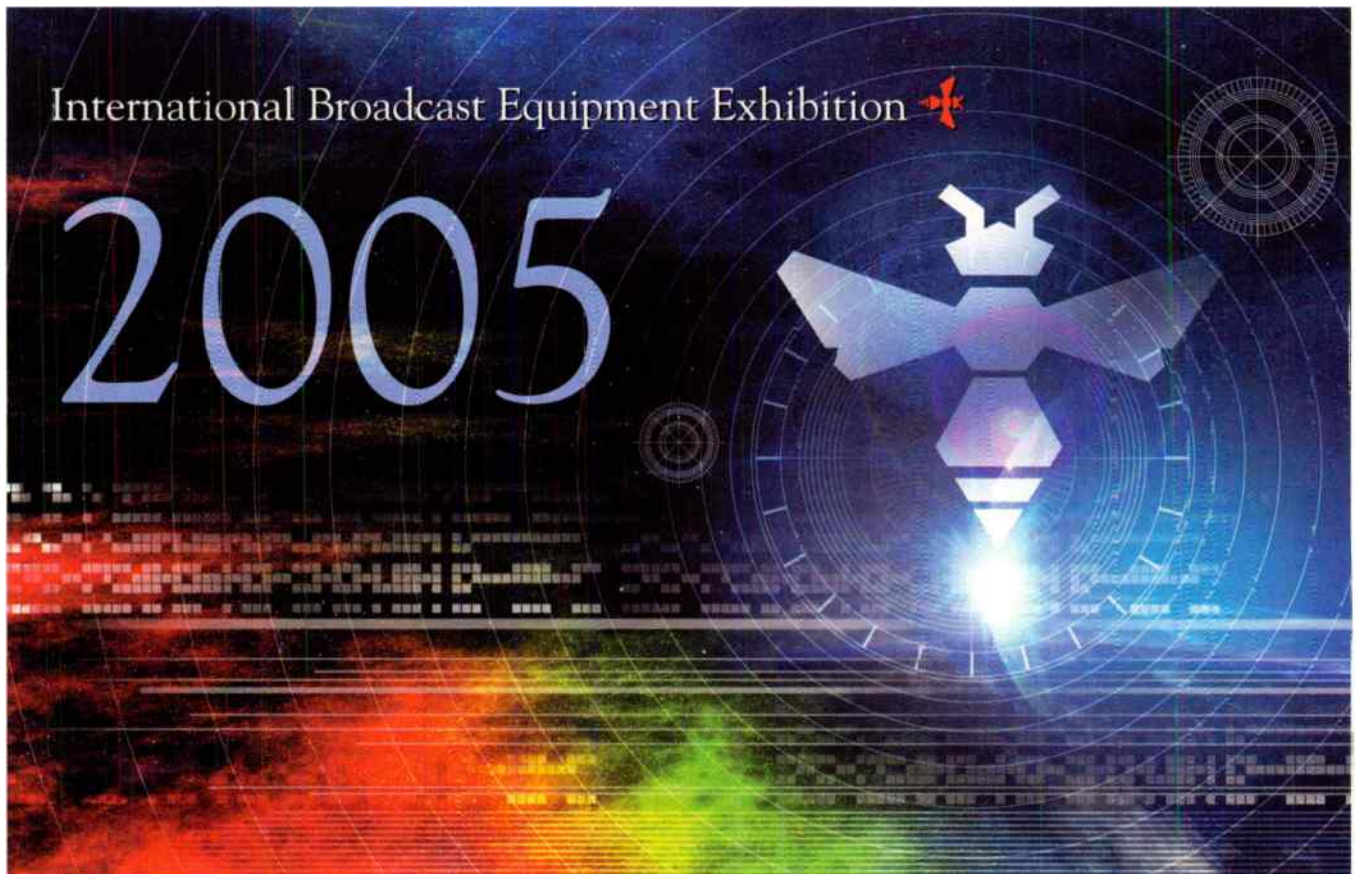


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- Multiplex Broadcasting Systems ● Others

Exhibition Application Deadline

Thursday, April 28, 2005

Sounds



EAST WEST

Adrenaline

Contact: East West,
www.soundsonline.com

Format: DVD-ROM

Price: \$129.95

There are times when you'd rather listen to Nine Inch Nails, or see a Quentin Tarantino movie. Or, load Adrenaline.

Yes, it's a poster boy for nasty, industrial type sounds —

although it's not all dirt 'n' gloom. *Adrenaline* is never exactly light-hearted, but in the 56 instruments that draw on the 1.22GB sound library, there's an attention to detail and sound quality that makes them suited for a variety of genres.

Adrenaline uses the Intakt virtual instrument engine (Windows XP, Mac OS X; VST, DXi, RTAS, AU, stand-alone), so there are editing options galore; I'm particularly fond of the filter and distortion options. If you're not familiar with Intakt, one of its strongest features is that it combines different playback engines. These are standard resampling, "time machine" time/pitch stretching, and a "beat machine" to play back sliced files à la ReCycle.

"All the sounds drip with atmosphere — in many ways, they're downright visual."

Adrenaline makes good use of this in the construction kit layout. A generous collection of loops using the time machine technology generally hangs out toward the bottom of the keyboard. These include lots of beats, but also bass, guitar, who-knows-where-they-came-from sounds, etc. A few of the keys combine loops, while other keys trigger individual elements and sometimes, variations on those elements with extensive processing.

In the upper keyboard range, a sliced rhythmic file typically cavorts across the top octave or two. One of the keys plays the sliced file, while the others trigger individual slices. Although you can play these from the keyboard, a very cool feature is that you can export the slice pattern as a MIDI file. If you then load it into your host and assign it to triggering *Adrenaline's* "slice" keys, you can edit the slice order, remove slices, change velocities, alter timing, and so on for extreme amounts of customization. However, also note that you can do a lot of slice customization within Intakt, like alter volume, pan, tuning, etc. for each slice.

Native construction kit tempos range from 68 to 148

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BPM, although it all time-stretches so each kit actually works over a pretty wide range. At lower tempos, get some guy with a shaved head and *angst* to scream some vocals, and you'll have a hit. Move up a bit, and you could score the first *Matrix* movie. The higher tempo kits aren't exactly dance-oriented; they're more for scoring chase scenes in the *X-Files*, or general suspense scenes in an action movie. All the sounds drip with atmosphere — in many ways, they're downright visual.

Overall, this is great stuff within the sound track/industrial/technoid genre. I give it a major thumbs up . . . and not just because it threatened to kill my dog if I didn't. —CRAIG ANDERTON



BIG FISH AUDIO
Dance Refill

Contact: Big Fish Audio,
www.bigfishaudio.com
Format: CD-ROM with Reason refill
Price: \$49.95

This is one of those "at this price, you absolutely can't go wrong" CD-ROMs — it's a huge resource for Reason fans into dance-oriented material. For starters,

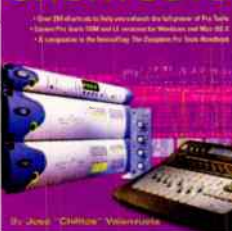
there are 30 complete .RNS files that cover electronic, dance, techno, and house styles. Hit play, and you'll get some cool little demo sequences; the terminally lazy could even pass them off as their own to unsuspecting clients who need 30 seconds of dance music to go behind a commercial.

For more creative types, there are a ton of REX files that stretch well, collections of NN-XT samples (from riffs to vintage instrument patches), ReDrum kits, a bunch of solid SubTractor and Malström patches, drum hits with NN19 sampler maps, and a whole lot of other riffs, one-shots, and even some left-field sounds thrown in to make people like me happy.

Is it *all* A-Level material? Well, no. Some of it's a little dated (you know how fast this world changes), and some of it falls under "stereotyped dance sounds." But dig a little deeper in the 400MB+ of content, and you'll find plenty of gems and hidden treasures. In fact, one of this CD-ROM's charms is the right balance of the expected and unexpected. Bottom line: If you do dance music and want a bunch of off-the-shelf elements that play nice together, *Dance Refill* is \$50 well spent. —CRAIG ANDERTON



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Kill The Noise

D

ATELINE: Now. On your system. Where you and other computer-based DAW users are reporting way too often that they're hearing clicks and pops in their recordings and/or playback. Why?

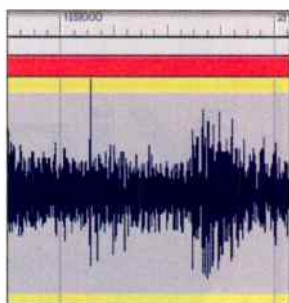
Well, there are several reasons this is happening, and when troubleshooting, it's important to examine each possibility one at a time, keeping in mind that these problems can happen in just about any Mac- or PC-based DAW.

But let's start by using MOTU Digital Performer 4.5 as our example.

First determine the source of the audio recording: Was the audio imported into the project from a CD or another type of audio file? If so, check to see if the noise is heard elsewhere with the same file — try it in your favorite music player, and maybe even a different computer.

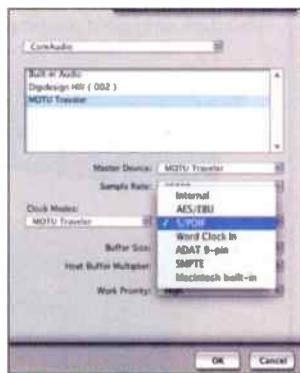
If the audio was recorded directly to the system, check to see if the clicks and pops were recorded to the track. You can frequently zoom in to the waveform to look for spikes.

Example of an unusual spike in the waveform view of an audio track.



One of the most common causes of clicks and pops in recorded audio tracks is improper setup with digital inputs. Whenever sending a digital signal (ADAT optical, S/PDIF, AES/EBU, and so on) into a DAW, be sure to check clock settings. Typically, the recording system will want to reference the incoming digital signal as its clock source.

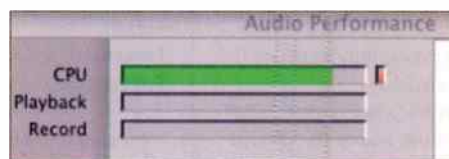
DP4's Configure Hardware Driver window allows you to set the system's clock source to an incoming digital signal.



If the noise is already a part of the track or file, it may be difficult to remove the noise. A few simple "pops"

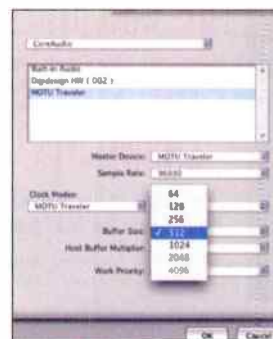
might be removable, but lots of noise can be hard to separate. While there may be little you can do to fix recorded noise, it will help to know how to prevent it from happening again.

If it's not clear that the noise is being recorded to the track(s), check to see if the noise is being added during playback. If your system is working too hard and can't keep up with audio playback, noises, such as clicks and pops, may occur. Like DP4.5, most recording applications have a "performance" window or meter to indicate how hard the computer is working.



DP4.5's Audio Performance meter displaying a somewhat heavy CPU load.

If the system shows that it's under heavy strain, you may need to reduce the number of plug-ins, or bounce tracks (or groups of tracks) to disk (see September '04 Tech Bench, "Managing CPU Power"). You can frequently reduce strain on your system by raising the hardware buffer size.



DP 4.5's hardware buffer size can be increased to reduce strain on the host processor.

Playback noise could also be caused by a problem with the audio interface hardware you're using. Try recording and playing back with different hardware. In our example with Digital Performer, users can select "Built-in Audio" to hear audio through the Mac's speakers and compare it to the audio interface.

These are the most common causes of noise in recording software, so check for them first. Of course, there can be other causes of noise; bad or slow hard drives, mixers, speakers, and other components outside the system can all be culprits. Troubleshoot by eliminating one factor at a time until you can isolate the problem. And remember, patience.

Todd G. Tatnall is the Senior Tech in Sweetwater's Technical Support department.

AdIndex

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Music Player Live!		www.musicplayerlive.com	51
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			61

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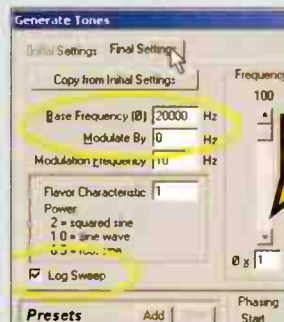
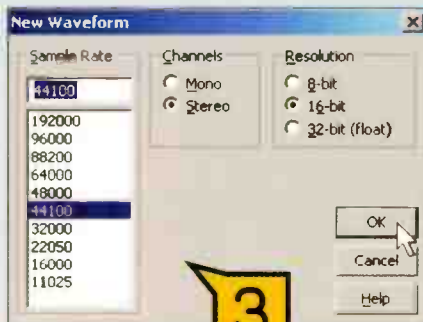


Adobe Audition

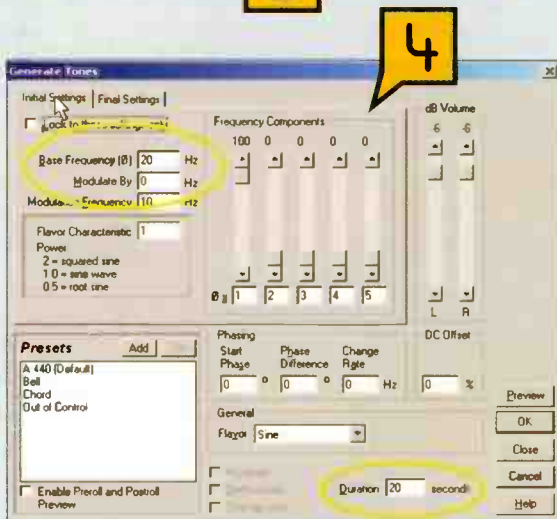
Create test tones to check out your studio

Objective: Use Audition to create test tones that you can use to check the frequency response of various devices in your studio, such as speakers.

Background: Audition can generate tones, noise, and DTMF signals. We'll use that capability to create a sine-wave test tone that sweeps logarithmically from 20Hz to 20kHz over a 20-second period.



- 1 Select Edit Waveform View (not Multi-track view).
- 2 Under the Generate menu, select Tones.
- 3 Specify the desired sample rate, number of channels, and bit resolution, then click on OK.
- 4 Click on the Initial Settings tab. Enter 20 Hz for the base frequency and make sure Modulate By is set to 0Hz. Enter 20 seconds for the duration. The other settings are the defaults, which should be the same as shown here.
- 5 Click on the Final Settings tab. Leave everything as is except enter 20000Hz for the Base Frequency, 0Hz for Modulate By, and put a check mark in the Log Sweep box. Then, click on OK.
- 6 Audition generates the test tone within the edit window. Click on Play to hear the sweep.



tips

- The default values set the signal level to -6dB. You can change this with the dB Volume sliders on the Initial Settings and Final Settings pages. It's even possible to have different levels for the two settings, for example, to sweep from a lower to higher level.
- The Frequency Component sliders allow the creation of waveforms with complex harmonic structures. To hear an example, click on the Chord preset, then click on Preview.

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Cakewalk Sonar

Use external hardware signal processors with Sonar

Objective: Process Sonar audio tracks with external signal processors.

Background: No matter how cool plug-ins are, some analog hardware devices have unique sonic characters or functionality. If you have a multiport audio interface with unused analog I/O, it's possible to bring external analog processors into your mix by using the following technique.

- 1 Go **Insert > Stereo Bus** to create a "virtual aux bus" in Sonar, then name it.
- 2 Assign the bus out to your interface's analog output. Patch the analog output to your processor's input.
- 3 Right-click in the blank space of any track that you want feed into the newly created aux bus, then select **Insert Send** and the destination bus.
- 4 Enable the send, then adjust level, pre/post, and so on.
- 5 Go **Insert > Audio Track** to create an audio track that will receive the interface's analog input.
- 6 Assign the track input to your audio interface's analog input. Patch the signal processor's output to this analog input.
- 7 Turn **Echo** on, otherwise you won't hear the signal coming into the track.

tips

- Make sure your analog I/O drivers are enabled in Sonar (Options > Audio > Drivers tab).
- Shortcut: Create a new bus *and* send at the same time by selecting "New Stereo Bus" when you insert a track send. Renaming the bus renames any sends assigned to it as well.
- Going out of the host and coming back in again will cause some latency. If this creates an audible problem, record the processed track, then shift it ahead in time.

New Marantz Compact Flash Portable Recorder

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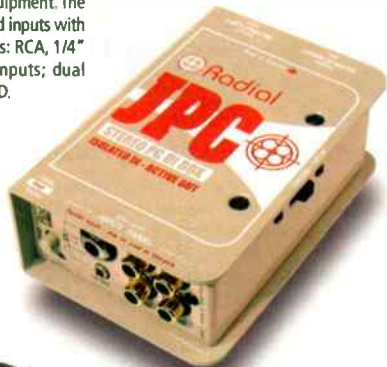
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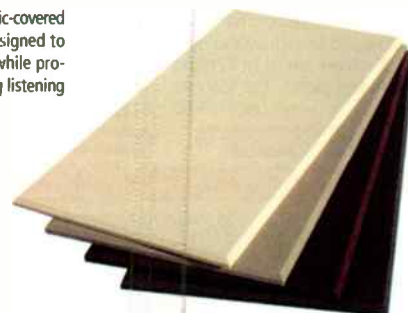
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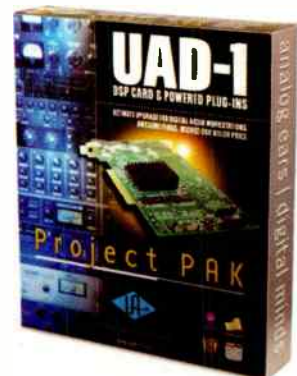
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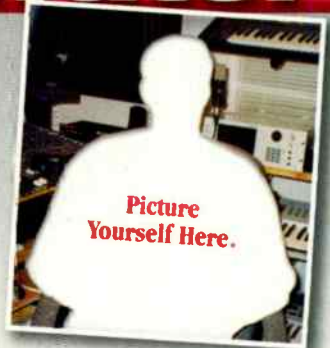
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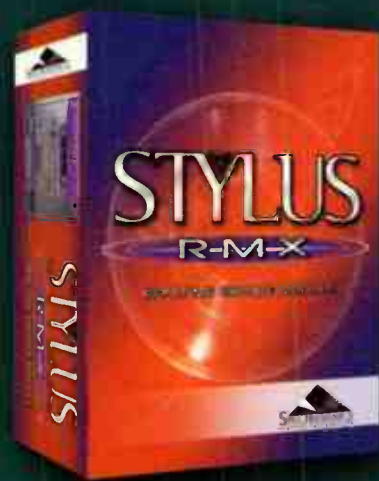
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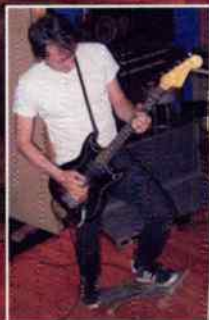
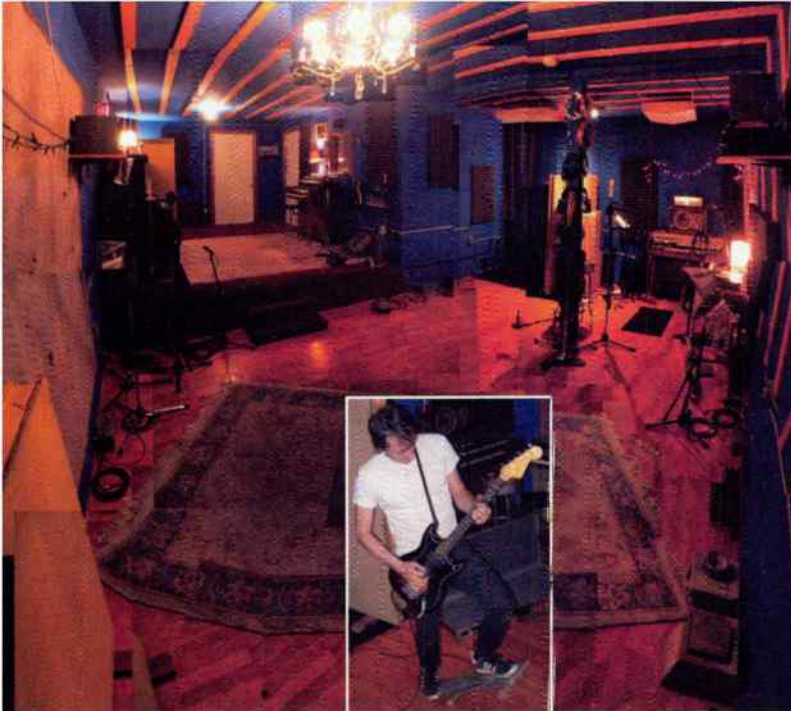
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MICROPHONE PREAMPS: Universal Audio 2-610 dual mic pre/EQ, TL Audio tube preamp/EQ [2], Heiss 5349 mic pre [2], Siemens V276 preamp [2], Urei 1108 mic preamp [6]
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COMPUTERS: 3.2GHz Intel Pentium 4
BAND ACTION: The short list... The Melvins, Sebadoh, The Donnas, Sleater Kinney, Bratmobile, Bikini Kill, Amber Asylum, Yaphet Kotto, David Yow, Hank Williams III

STUDIO NOTES: LOUDER. Completely and totally mindful that this is Abbott & Costello territory, you ask *where you going?* And they say LOUDER. You scream the question again and they answer, again, LOUDER. Yeah. Repeat until the crooked hook drags you off stage. But the *where* in this instance IS Louder. Louder Studios. And on the San Francisco street where it sits, corner lot style, we're going to meet a Mr. Tim Green who, if he had done nothing BUT, would be aces in our book for Nation of Ulysses, the DC agitprop-fingerpoint-filing off rock formalists. Which at this remove has all but been overshadowed by his newest and latest, The Fucking Champs, reigning title-holders for that super-compressed AM radio thing that sounded bitchin' blaring out of your 1976 Trans Am's 8-track.

"But we're not compression freaks," a mid-session Green notes, sounding for all the world like he's had to say this well more than once. "I mean we stole Cerwin-Vega's '70s ad campaign that said 'Loud is beautiful, if it's a Cerwin-Vega' and ended up with 'Loud is beautiful if it's Louder.' But what we really are, are '60's mix freaks. You know, where stuff is just jumping out of the mix at you? That comes closest as anything to describing what we like to hear. But we don't get people in here because they want that 'Champs' sound necessarily. I mean that's not the only thing."

Probably not. Because through 15 years, seven of them in San Francisco, Green has managed to go bleeding edge through some of the most mighty adventurous production possible in a room like his. To wit, The Melvins' troika of *Maggot*, *Boottlicker*, and *Crybaby* (Ipecac), as well as their *Colossus of Destiny*, "a very challenging record," chuckles Green. "It was like one hour of noise out of which they wanted me to edit out the one section in the middle that sounded remotely songlike. When they played it live...people were trying to fight them."

Turning back to Turn Me On Deadman, a band that "sounds nothing like The Melvins. OR The Fucking Champs," Green emphatically, or as emphatically as the laid back Green ever gets, adds, "And here's something else we DON'T do: we won't hijack your record."

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