

EQ

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ON HOW TO PRODUCE
THE SOUND THAT SOLD
5 MILLION RECORDS

plus

- AES RE-EXAMINED:
THE GOOD, BETTER,
AND BEST OF SHOW
- AVOIDING THE TOP 10
GUITAR RECORDING
MISTAKES

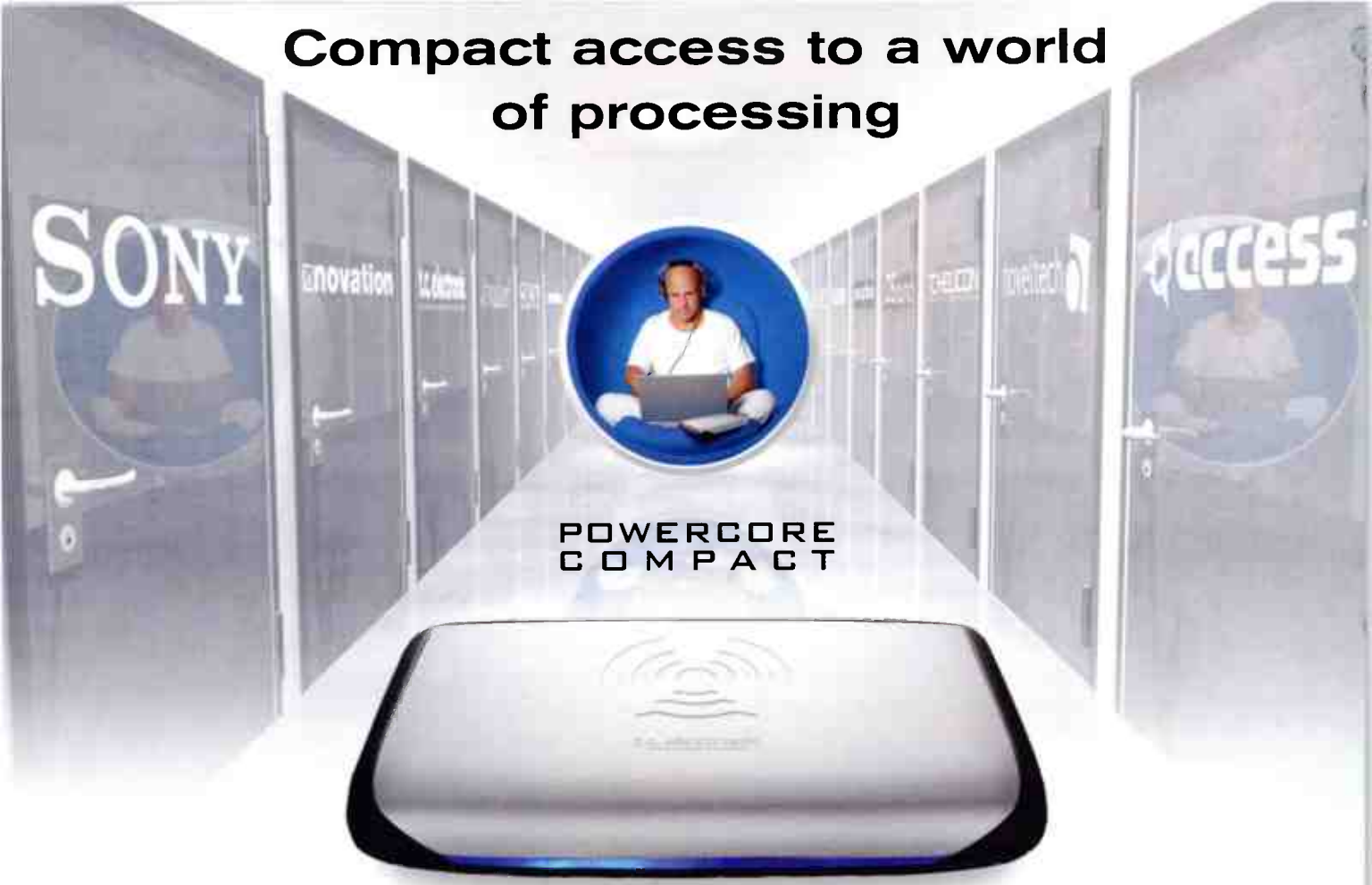
+
9 **HOT**
PRODUCT
REVIEWS

JANUARY 2005



CMP
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COMPACT**

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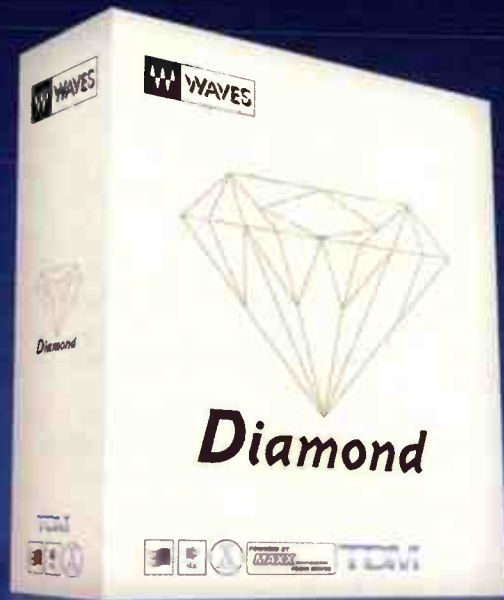
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Talk Box



FORWARD MOTION

Good news, the *EQ* team is expanding (and not just our waistlines). The latest addition to our cast of crazies is the ever-so-delightful Eugene Robinson, who joins us as Editor in Chief. Actually, you've already met Eugene; he was the author of our piece on Page Hamilton and Helmet in the November 2004 issue.

Eugene is a *real* journalist — not one of us music-industry seat-of-our-pants-ers relying on a word processor and a prayer. He comes to *EQ* with credits that include Editor in Chief of the award-winning *Code*, editorial work with Apple, Intel, Adobe, and Nikon, freelance writing for *GQ*, *Vice*, *The Wire*, *Raygun*, *Huh*, *Grappling*, and TV work on *ESPN*. Which means that we're all going to have to make our grammar and spelling gooder and also make our word usements more good two.

But Mr. Robinson is more than just some journalism-schooled pencil-pushing wordsmith. He's also a musician (well, a vocalist — there's a copy of Auto-Tune around here somewhere, Eugene) and former co-operator of the Bay Area's House Of Faith Studios with the estimable Bart Thurber. A short selection of his credits and "worked withs" also include Steve Albini, John Golden, Gus Van Sant, Henry Rollins, Marianne Faithfull, and a 25-year litany of others.

Eugene will be based in our San Mateo, CA, offices, where he'll be charged with attending meetings, bringing the editorial, sales, and production staffs together into blissful harmony (not that we're not harmonious already), attending meetings, setting the direction of the *EQ* ship, attending meetings, and generally making this magazine work like a well-oiled machine. He may also have to attend a few meetings.

But more important, he's going to be contributing hard-hitting artist, studio, and technology coverage in his inimitably entertaining and in-depth writing style. He's also got some pretty forward-looking ideas on just what a recording techniques/technology magazine should contain and how it should be presented. Not to worry; the *EQ* you're infatuated with isn't going anywhere. Under Eugene's watchful eye, it's just going to get fresher, more dynamic, even more relevant, and above all, more *fun*.

We're all very excited to have Eugene join us here at *EQ* magazine. Please offer him a hearty welcome! —*Mitch Gallagher*



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The BAND STAND

What dream product do you wish had been introduced at the recent AES show?



Eugene Robinson, Editor-in-Chief
Since I'm more obsessed with surround sound than anything else these days, I'd have to say a low-cost system for doing surround mixes. And if that system happened to be Pro Tools LE, I wouldn't have minded.



Mitch Gallagher, Editor
I'm still hoping for a direct brain-to-computer interface. Failing that, some sort of truly universal control surface that would let you work without need to look at a computer monitor would be a close second.

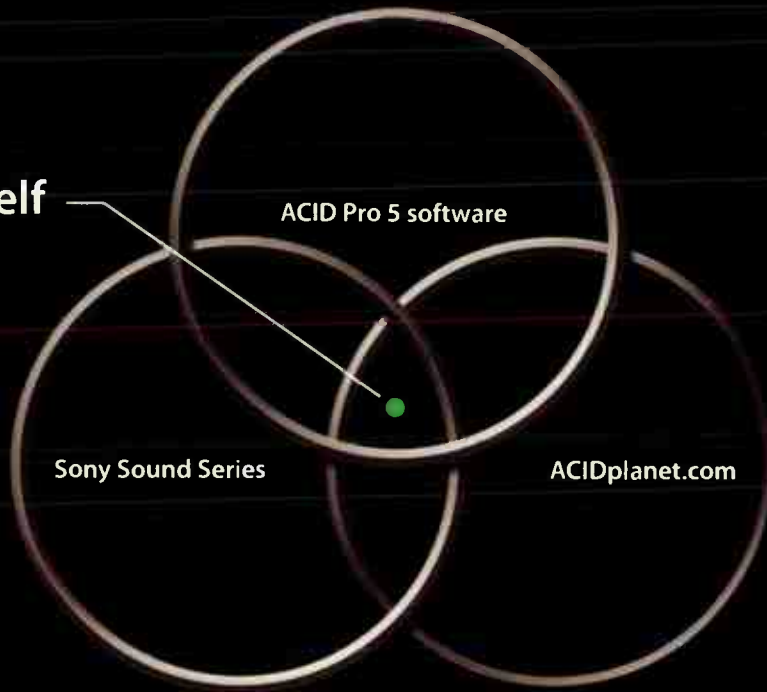


Craig Anderton, Editor-at-Large
A universal copy protection scheme that's totally transparent to legitimate users — and can survive the demise of the company making the product. Otherwise, music software's full potential will never be realized.



John Krogh, Technical Editor
A DAW feature that would analyze the virtual mixer signal path for digital clipping, so you could track down problems and maximize headroom. As things are now, analog is more forgiving to work with.

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World Radio History

Punch-In

Tips & News You Can Use
BY EQ STAFF

Book Beat ***Make Mine Music***

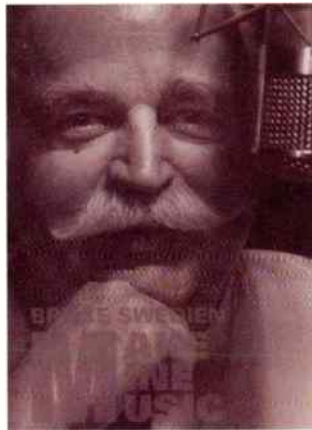
By Bruce Swedien
MIA Press

No, not the 1946 Disney movie — the recently released book by engineer extraordinaire Bruce Swedien. The man from Minneapolis has written his autobiography (so far); detailing his exploits recording the likes of Count Basie, Duke Ellington, Oscar Peterson, Sarah Vaughan, Quincy Jones, J-Lo, Herbie Hancock and, of course, Michael Jackson. (And let's not forget David Hasslehoff. . . .) There's special emphasis on his long-standing working relationship with Quincy Jones, his mentoring years with the legendary Bill Putnam, and cool stuff on how *Thriller* came together.

But *Make Mine Music* is more than just Bruce reminiscing for 288 pages about days gone by — the man is still on the cutting edge of the art and craft. The book features sections on microphones and microphone technique, stereo recording, how Michael Jackson's vocals are tracked (using Swedien's custom drum riser), mixing, surround sound, his trademark "Acusonic Recording Process" . . . there's even interviews by Bruce with Robert Moog and Roger Linn.

Top 10 Quotes from *Make Mine Music*:

1. "Don't ever underestimate the Norwegians!"
2. "Save your ears — we only get two!"
3. "I will always sacrifice a technical value for a production value." (emphasis original)
4. "In the music that I am normally involved in, I have always felt that compression and limiting diminish the drama of sound-source transients in recorded music."
5. "I think it's when the technical covers the primitive that we lose the passion of music."
6. "[Microphones] are the voodoo, the magic wand, the secret weapon of the music-recording engineer's or producer's trade and craft."
7. "I like to think of my stereo sound-field as a 'sonic sculpture.'"
8. "It takes Quincy [Jones] 45 minutes to make a chicken sandwich."
9. "I always record with three distinct sets of monitor speakers to evaluate the music."
10. "I don't think anyone can intelligently discuss the technical substance of music recording without considering the musical side of the topic, as well."



ROOM INTEGRATIVE CONCEPT DEMO DVD

Tom Ammermann — musician, composer, producer, and co-founder of the Luna Studio in Hamburg — has teamed up with music producer Michael Abbing to unveil the first DVD using the Room Integrative Concept for 5.1 surround. R.I.C. uses production techniques employed in movie soundtracks and live performances to integrate listeners directly into the musical event; the object is to let them experience music as if they were amid the ensemble, in the same room with the musicians, or on stage rather than in the audience. R.I.C. provides a recording of every single instrument directly, as well as in 5.1 surround simultaneously, to capture the room ambience and to get a natural sonic image of it in the mix.

The DVD, titled *The Room Integrative Concept for Surround Music Production in the Studio*, presents comparative tracks of piano, drums, vocals and strings recorded at two room positions using five surround microphone systems each. Listeners can also compare and contrast identical audio mixes in AC3, DTS and PCM formats. Finally, the DVD offers three surround music productions recorded and mixed using R.I.C., various mixes (5.1, 5.1 without atmo, stereo, 5.1 camera atmo), extensive interviews, and a 35-minute making-of documentary that examines the entire production process. For information on ordering, visit Ammermann's website at www.mo-vision.de.

JamSync Converts Royal Academy to Surround

JamSync has completed mixing the 5.1 soundtrack and authoring the DVD of the multiple award-winning documentary *The Royal Academy*, from Tony Cane-Honeysett's Vox Box Productions (www.marycanehoneysett.com). Said JamSync's Chief Engineer, K.K. Proffitt, "We were able to take Cane-Honeysett's original score and re-mix it into 5.1 for the film's soundtrack and 5.0 for the DVDs menu loops . . . It has much greater clarity compared to the stereo version."

A task like this involves more than just feeding tracks to a surround panner. Proffitt notes, "Denoising location dialogue is always a challenge, but the Cedar Cambridge makes things incredibly easy. Often filmmakers will cover holes in dialogue with music for a stereo mix, but that breaks down completely in a 5.1 mix, so you have to treat the center channel very carefully and sculpt room tone and environmental noise. It involves the usual EQ, de-essing, and compression, with the added problem of phase relationships for dialogue that has to resonate in great halls (and sometimes must surround the listener). I have, on occasion, re-cut a music track to more gracefully move with picture. Sometimes the director agrees, sometimes not, but it's always worth a shot if you think you can make picture flow more easily so that it doesn't break up the story line."

"The dialog gave us a real workout," she continued. "We had dozens of locations as varied as the streets of London, small shop interiors, public transportation, the Royal Academy, and rooms in Mary's home. They had to work together with Tony's voice over. You couldn't imagine the diversity of background noises we had to minimize." www.jamsync.com



Cool Tool: RePorter

When USB was invented, it was seen as a way to hook up peripherals where you'd pretty much set things up, then forget about the connection. However, in today's world of dongles, digital cameras, audio and MIDI interfaces, control surfaces, and USB thumb drives, you might find yourself giving your computer's USB ports a lot of exercise. These are connectors like any others, and excessive wear and tear will cause them to fail — and replacing a USB connector on your motherboard is not a task to be taken lightly.

One solution: Buy a bunch of short extender USB cables. Plug them into your USB port(s) and USB device(s). When you want to plug in a USB device, plug one cable into another. That way, if a USB connector should break, it will be on an easily replaceable cable — not your motherboard or USB peripheral device.

But if you're dealing with more than USB, or you don't want a bunch of little cables dangling all over the place, then check out the Marathon Computer RePorter (\$59).

What do you get for your hard-earned bucks? A 5-foot cable that plugs into the ports on the back of your computer and brings them out snake-fashion to a handy tabletop box. You get two USB connections, FireWire 400 and 800, and 1/8" audio in and out. The enclosure is shaped to fit comfortably in your hand while you plug/unplug your computer peripherals.

Order it online at www.marathoncomputer.com.

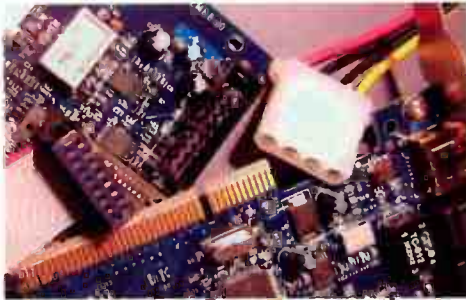


tip SCARY WINDOWS STARTUP STUFF

The other day, I had one of those scary moments where my Windows computer wouldn't boot. Panicked, I started to disconnect USB devices, check connectors, and was just about to take the cover off . . . when I noticed that a manual was lying on top of the computer's keyboard. Its weight was sufficient to press down on several keys that, when the computer scanned the keyboard on bootup, registered an error. I removed the book, restarted, and — much to my embarrassment, but also to my relief — the computer booted.

Failure to boot can also occur if you've set your computer to boot first from CD-ROM and have a CD in the drive that looks enough like the system to interest the computer, but not enough to boot. This can also happen if you've set the computer to boot first from floppy, and there's a bogus floppy disk in the drive. Remove either the CD or floppy, then reboot.

tip



THE MATING RITUAL OF CONNECTORS

I recently had to ride out two hurricanes, and went without power for over two weeks. Although my computers suffered no direct damage, when I booted them back up, neither worked properly: My office computer had weird mouse freezes and crashes, while my music computer refused to recognize its Creamware sound card.

I tried the usual dumb things — substituting a different mouse, plugging it in and out a few times, and so on. Nothing helped. Then I realize that these machines had been in a high-temperature, high-humidity environment for quite a while. So I unplugged the office computer, grounded myself, and carefully removed and reinserted anything even remotely like a connector — including the CPU and RAM.

About 20 minutes later, on boot-up everything worked like a charm. Even some annoying mystery problems I'd had before the hurricane went away too — my office machine has been crash-free since reseating the connectors.

When I talked to Ali at Creamware tech support about my sound card problem with the music computer, he suggested removing the card and cleaning the contacts. Bingo again — it worked, and has ever since.

Moral of the story: Hurricane or not, it probably doesn't hurt to reseat your connectors at least once a year.

High-End Audio Meets . . . Football?!?

If you're in the audio biz, you know about Monster Cable. And now, they've put their mark not only on boutique cables, but also on "the-stadium-formerly-known-as" Candlestick Park — home of the San Francisco 49ers. Monster Cable has been a Bay Area company for 25 years, and was founded in a garage in the Richmond district; Noel Lee, known as "The Head Monster," was born and educated in San Francisco.

Last June, San Francisco's Board of Supervisors approved a proposal by the Mayor to allow the 49ers to pursue a naming rights agreement with five pre-approved companies, which included Oracle, Virgin, Macromedia, and Wells Fargo Bank. After weeks of consideration, the 49ers reached a deal with Monster.

The stadium will be renamed Monster Park effective immediately.

Musicplayer.com Forum Watch

Don't you just love it when people divulge their secrets? Here are some cable labeling tricks from MusicPlayer.com.

Original question posted by Wiggum: Like most home studios, I have cables running everywhere. I keep them well segregated and fairly neat, but I don't have any identifiers on the cables. I'd like to color-code them, but I've never found a reliable way to do so. I've tried colored tape and pinstripe tape, but the adhesive seldom lasts. Velcro might work, but the colored packs don't offer that many colors. I also thought about short sections of heat shrink tubing, but I don't think I could get it past my Neutrik connectors, and I don't want to damage my cables during the heating process. I also thought about a paint pen.

Zeronyne: This place has nine different colors: www.textol.com/products/ties.htm. The Unitag: www.fastenation.com

Rlm: I use letters of the alphabet instead of colors, which gives you 26 cables you can label. If that's not enough, I guess you can start using the Greek alphabet, too.

I have access to a labelmaker, a Brother P-touch. I type the letter enough times so when I wrap it around a cable, you can see the letter at any angle. So far, those labels have remained stuck on, but if you want to make doubly sure, you can wrap Scotch tape around the label.

where02190: We use the following: 3/4" PVC tape, color-coding. Brother P-Touch label on top of tape, usually black (or white if black tape) on clear background. Heatshrink over this, extending 1/4" past the edges. For some large connectors you'll need to remove one end.

Rob Campbell: Go to an electrical supply store and pick up cloth cable markers. They have long-lasting adhesive. They have numbers and letters. They are about 1-1/2" long by 1/4" wide and have the letters/numbers printed all the way around so you can see them from any angle.

Djwayne: I use cheap color-coded tape, 3/8" wide. Red for recording input, blue for output, various colors for sound cards and channels, then 1, 2, or 3 pieces of 1/4" duct tape to number the cable. For a while I used white tape and a magic marker, but the tape would get crumpled up or the lettering smeared and hard to read. Color-coding works best for me.

Billster: I use medical cloth tape, and write exactly what the connection is, like "gate 1 out" or "Board in 16" on each end of the cable.

Bpark: I build my own, and heat shrink over the labels, so they stay. Radio Shack had a yellow wire tie-like device, with a paddle on the end with a writing surface. Nice part about them was that you could use soft pencil, and if you changed your mind, you could erase it with a soft eraser and change it. Also, you could just cut them off and put a new one on should you want to do so.



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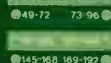
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Gimme One Good Reason

"You gotta promise not to tell anyone. I mean if I tell you guys you gotta promise NOT to TELL ANYONE. Promise?" It was our personal Deep Throat. Yeah, yeah, we won't tell anyone because we know it's a secret and secrets you wanna keep you always tell journalists. So forthwith, we're not telling you that Propellerhead Software is announcing version 3.0 of their award-winning music software system Reason for "expected" release early 2005. And just like we didn't tell you that we also won't tell you that the whizbang Oh-Ah Factor has everything to do with it's new Combinator module that lets you link Reason instruments, effects, pattern sequencers and so on and save them as Combi patches. You should also not be told how cool this is. And yeah, you didn't hear it here first.

Now if we promise to send it back when we finish with it, can we get a copy to play with? Please?

Looking to Score Some Good Weed

The idea is very simply: genius. And explaining it to you, full-on Hollywood pitch meeting style, won't even come close to touching how good of an idea it is. It's called Weed, and we want it.

The premise? File sharing doesn't suck.

More than that it doesn't have to rip the artists off, doesn't have to penalize music fans and doesn't have to leave everyone involved po', broke and lonely. Why? What? How?

Simply by sort of recognizing the networking potential in process when Gal B shares a song with Dude A. This is not inherently a bad thing to do. And if Dude A digs the song, he should be able to listen to it a few times while digging it. But at some point he may dig it so much that he has to have it on his little iPod dealie and so he DOWNLOADS it from Weed. Pays some small fee that goes straight to the artist AND the person who made the referral.

Now everybody's rich. With song, with cash. Genius.

And now, as part of eBay's digital music pilot program that runs through the end of January, you too can wander through the Weed store.

Dig it.

PS: If the people at Weed thought the lame weed jokes were ever going to stop they were soooooo wrong.

<http://stores.ebay.com/Weedshare>
<http://www.weedshare.com>



Surfboard

As we peruse the inner recesses, nooks, and crannies of the web, we're constantly flagging sites, news items, and useful tidbits that we feel will be of interest to you. Such as:

www.jamwith.us

Remember the Res Rocket Surfer project? From this 1,000-member strong jam association sprang the Rocket Network and their mission to bring interactive jamming out of the basement and onto the internet. Born in the halcyon days of hi-tech, stock options, and venture capital, the company was eventually purchased by Digidesign, and vanished from view.

But lurking in the underground was a rabid cadre of inveterate jammers who refused to let the idea of world-wide jam domination fade away. Some of those stoic web musicians have created dawSYNC. DawSync is a free tool that allows project synchronization and audio compression / decompression between DAWs on both Windows and OS X platforms.

The software client allows for FTP transfer of multitrack session information created by software such as Cubase, Logic, Sonar, and so on. The idea of the site is free jamming, and the site doesn't save data on its webspace — basically what you're getting is a communication system with a graphic user interface.

Here's how it works: Someone starts a multitrack session and uploads it using dawSYNC. Someone else can then download it, add parts, and re-upload it, after which others can download, add parts, and so on, until the song or jam session is finished. The dawSYNC software "locks" the session so that only one person can download and work on it at a time — everyone has to take their turn in this jam session.

The clients have currently been tested with Cubase VST, SX 1, SX 2, and SX 3, Logic 5.x/6.x, and Sonar 1 and 2. The software currently runs on Windows 9x, ME, NT, 2000 XP, Mac OS X and most flavors of Linux.



www.raw-tracks.com



Want to work on your mixes, but lack good multi-track files to get you started? Raw-tracks.com may be just what you need. The company provides the raw source tracks for a complete song for download or on CD — each track is a separate audio file in either WAV or MP3 format. You can also download a "demo" mix of the song, as well as a track sheet.

The songs contains up to 22 tracks; up to 10 drum tracks, as well as guitars, vocals, keyboards, percussion, and bass. Load the audio files into your DAW of choice, and create your own mix. If you want to discuss your work, log into the Raw-tracks discussion forums. There's also space to post your mix for others to hear and critique. (Be nice! Or...not.)

Prices aren't too bad: \$12 (plus shipping and handling) for the tracks on CD, \$10 for WAV download, and \$8 for MP3 download. There are also free "demo downloads" that contain 30 seconds worth of each song, and a free, multitrack drum download.

LET GO AND FLOW

SONAR Producer Edition has earned a reputation for delivering powerful production tools in a streamlined interface. Now in version 4, the new recording, editing, comping, and navigation tools give today's professionals like you the freedom to flow. They're so fast, you just have to see it to appreciate it. And the ride doesn't stop there; version 4 adds innovative surround and AV capabilities, along with precise engineering tools—seamlessly combined together to make SONAR 4 Producer Edition the definitive audio production environment on the Windows Platform.

VERSION 4.0.1
update now available



cakewalk
SONAR 4

Download the demo and watch the video at WWW.SONAR4.COM



R.E.M.: Vocals

“It’s

important for me to create a situation where the recording process is transparent . . . where the person can walk in the room, pick up their instrument, hit record, and do something spontaneously, never feeling like they’re even being recorded,” states Jamie Candiloro, R.E.M.’s engineer of choice for the last four years. “Part of my system is being set up to go at any moment and still being able to match what we did a week ago.” It’s this mindset that

has made Candiloro first choice for top rockers: Ryan Adams, Luscious Jackson, and Courtney Love, to name a few. “Courtney said to me once, ‘I know when I go into the studio with you that we’ll come out with something usable, it’s a war zone basically and we’ll survive it together.’ I was so flattered because that was kind of the way I felt.”

In between finishing up 5.1 mixes for R.E.M. with Elliot Scheiner and cutting news tracks with Gemma Hayes and Randy Weeks the in-demand engineer took a break to give *EQ* a behind the scenes look into recording vocals with Michael Stipe.

SIGNAL PATH

“Michael [Stipe] wanted to do all his vocals in the control room; we liked

room with two outboard racks at tabletop height with a walkway between the two. In the middle is where we set up his mic stand,” explains Candiloro. “On one side was outboard gear on top of the rack and the other side was Michael’s station with his headphones ready to go. He liked the Fostex T-50s and we used the same pair for the whole record. Most of the time it would only be Pat [McCarthy] and myself in the control room with headphones on while Michael was doing his vocals. He would work the mic — grab it sometimes. He’s very consistent. He’s been doing it for a long time and knows his voice so well. It’s an instrument he’s kept in great shape; he knows exactly how to work a mic.”

PROCESSING

“During the recording I really didn’t use much processing at all,” Candiloro states. “On fitting his vocal in the mix, most of what I wanted to hear was his voice naturally. Every so often I used a Waves C4 multi-band compressor if I needed to pull certain frequencies out. With less heavy compression I could get the vocal to breathe a little bit more. We were on the SSL 9000J but I didn’t use their compressor, I was using an [Universal Audio] LA-2A. With Pro Tools you can do some quick automation and it’s always going to sound more natural than compressing the life out of something just to get it to cut through. Michael likes plate reverb on his voice, so we used that too.”

TRACK NOTES

“Usually after Michael does a few takes, he’ll walk out of the control room saying, ‘Now do your thing, sprinkle your fairy dust on it.’ I usually know that means he wants me to add a little compression on the insert, pumping it up, beefing it up a little bit, doing a tiny bit of EQ, and seating it in the mix with either a little delay or a little reverb,” Candiloro concludes. “On this record he sang so amazingly,

he might do five takes of a song and to the average listener you probably wouldn’t be able to tell. You’d say each one was completely brilliant. He’s great at knowing exactly what he wants to do and he’ll basically put that in front of the mic. It’s really my job to stay out of the way and translate what he’s putting in front of the mic. He’s one of the last guys that doesn’t need processing; he doesn’t need to be hidden in the mix. You end up putting the spotlight on his unique vocal character and making it a huge part of the songs.” **EQ**

DATE: End of 2002–July 2004 (time off over six months with sessions conducted for approximately 3–4 week periods)

STUDIO: The Warehouse, Compass-Point, Hit Factory/Criteria

LOCATION: Vancouver, Bahamas, Miami

ARTIST: R.E.M.

PROJECT: lead vocals with Michael Stipe

ALBUM: Around The Sun

PRODUCER: Pat McCarthy

ENGINEER: Jamie Candiloro



Michael Stipe (left) and Jamie Candiloro (right) making music, not so automatically, for the people.

the immediacy of being able to work next to each other,” confides Candiloro. “So I put up a straight mic stand and an Audio-Technica AE5400 with no pop filter and ran that into the John Hardy M-1 mic pre. Although we did the basic tracks on 2-inch 24-track analog, by the time we were recording vocals we dumped everything into Pro Tools.”

MIC POSITION

“When we did Michael’s vocals we were at Hit Factory/Criteria in Studio E. It’s a mid-size control



Photos by Jamie Candiloro

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Success Story

COMPANY: Columbus Sound Studio

CONTACT: www.b3monaco.com

LOCATION: Galena, OH

KEY CREW: Tony Monaco

by Mitch Gallagher

Tony Monaco makes no bones about it: The Hammond organ rules. "My two passions have always been playing Hammond organ and recording studios." His first two albums (*Burnin' Grooves* and *Master Chops* on Summit Records) were recorded mainly in commercial studios. Then he re-discovered an old friend: Cakewalk (later Cakewalk Sonar), and for his third album, *Intimately Live* at the 501, Monaco took a more DIY approach. "With *Intimately Live* I used an Akai recorder and transferred all the tracks to Sonar for mixing and mastering."

For his fourth release, a commercial studio was again required for tracking. "On *A New Generation* I used a studio to get all the tracks down because this was a special recording featuring both my trio and the Joey DeFrancesco Trio. With two organ DIs, two Leslie speakers, two drum sets, and two guitars going simultaneously, I needed to concentrate on my playing. We did the whole CD in 3-1/2 hours with only one retake. I took

I know the way the organ is supposed to sound. I like to be in control of what's out there in terms of sound and quality.

the Pro Tools tracks from the studio, imported them into Sonar, and mixed and mastered the CD myself."

For his fifth album, *Fiery Blues*, Monaco built a private studio optimized for capturing the best Hammond B3 sounds possible. "Columbus Sound is attached to a wing of my ranch located on four acres of woods. Isolated from the city buzz, the studio is relaxing and the mood can be creative. I set up the studio so you don't have to wear headphones. When I record organ, I isolate one Leslie speaker and use a second for room monitoring.

"*Fiery Blues* is my first fully produced, recorded, mixed, and mastered project to come from Columbus Sound. I feel that I'm now free to record and explore my ideas without having to pay tons to get the right sound or take."



Monaco's infatuation with all things Hammond doesn't stop at recording albums. He's also created a *Playing Jazz Hammond* instructional series (available through B3monaco.com). "I've recently finished my new *Playing Jazz Hammond — Part 4* DVD instructional video. In addition to lessons, there are seven songs that show my hands playing the organ (teaching drawbar settings, techniques, and so on) with my band playing along. It was recorded at Columbus Sound."

Monaco intends to keep building his business in the future. "My goals include producing a 'private series' of recordings available only through B3Monaco.com, along with continuing my instructional series. In addition, I'd like to help other organists by recording and producing them and possibly getting them a record deal. I'm talking with Summit Records about starting a sub-label where I would be executive producer. This sub-label would focus on building a catalog of organ recordings: Jazz, funk, rock, blues, whatever, as long as its got the Hammond organ roaring in it somewhere!"

Technical advances have also caught his interest. "With Sonar's new ability to mix in surround, I'm thinking about recording a jazz organ big band CD in surround. Can you imagine the sound of four mics on the Leslie? Or better yet, two Leslies spinning all around the room?"

Wherever his Hammond-fueled vision leads, Monaco feels that taking his recordings into his own hands was the right move. "I know the way the organ is supposed to sound. I like to be in control of what's out there in terms of sound and quality." **EQ**

Are You a Success Story?

Listen up EQ readers: Have you found a unique way to turn your home or project studio into a profitable business? If so, we want to feature you as a Success Story. Send an email letting us know why you should appear to mgallagher@musicplayer.com.

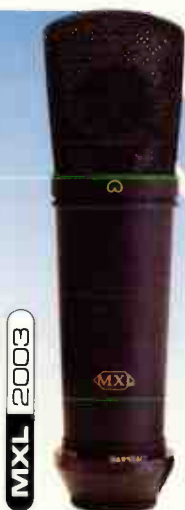


Studio photo courtesy of Solid State Logic Inc.



RECORDING PACK

MXL 2003 + MXL 603



MXL 2003

Features

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- Durable brass enclosure
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Applications

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- Voice Over, Announcing, Dubbing
- Close miking Guitar Amplifiers
- Overhead miking



MXL 603

Features

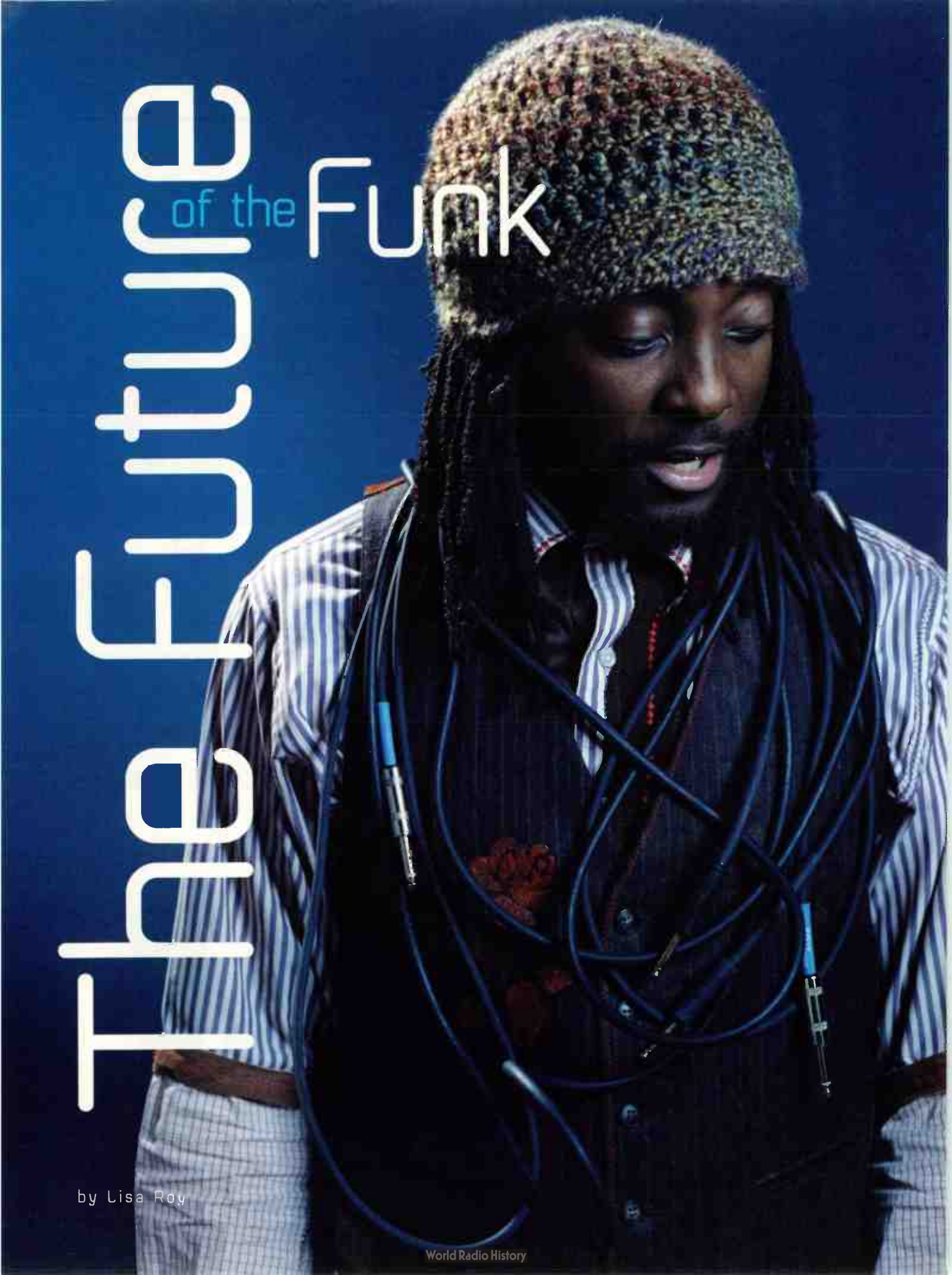
- 20mm gold-sputtered, 6 micron gold diaphragm
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The Future of the Funk

by Lisa Roy

The Black Eyed Peas' WILL I. AM, all Grammy-nominated, 5 million-sold-alterna-hiphop cool, twists his technology into the craziest amalgam of monster part production heard this side of Dr. Funkenstein's Castle. Oh yeah? **Yeah!**

Standing in line at 6am in a non-descript coffee shop just off

Hollywood and Vine, a 30-something businessman in a crisp white shirt with an iPod in his pocket turns to me, "Need to get that coffee huh?" he asks, looking way too happy before sunrise.

"Nah, a chocolate-chip muffin actually," I manage from behind dark shades.

"You heading to work?"

Too many questions this early, "I'm heading out to Vegas."

"Ah. For work or pleasure?" the man asks with a little smirk.

"I'm interviewing Will.i.am," I offer thinking his next question will be, "who?"

"I love the Black Eyed Peas! I have their music on my iPod. Hey can I come with you?"

With a 4-pack of Red Bull, a chocolate-chip muffin and a box of Shermans, I, too, plug in my iPod loaded with BEP music as I head North on the I-15 to meet with the man behind and, in front of, the Black Eyed Peas.

Because it's Will's vision both technically and creatively that put BEP on the map. This summer BEP was in the living room of every home with a living room during ESPN's promotional campaign for the NBA playoffs (and finals) with their single *Let's Get It Started*. He also, anticipating a new kind of future between gaming and music making, lent his talents to *The Urbz: Sims In The City* game, which includes an iTunes download card for BEP unreleased tracks.

Ron Fair, president of A&M and co-executive producer of BEP's newest, Elephunk, is quick to point out how his co-exec producer sets new standards in keeping his music, eyes front. "Will is a guy who started out as a breakdancer and a writer of rhymes for Eazy-E. He came from the streets but along the way he developed an incredible tool box of skills starting with an MPC and making beats and moving from there to sequencing music to mastering Pro Tools and continuing to develop himself as an artist at the same time," says Fair.

"He takes all these different areas puts them all together and operates as kind of a one-man band. He makes records instinctively and on top of it BEP functions with a live band, where other guys use canned beats. He starts with a beat that he makes with gear but then translates it into a live framework, which is really unusual. That's why people like Kanye West and Pharrell Williams

look up to him. Because what he's doing with live music-mixing it with the beats is really the forward movement of hip-hop and pop and how they blend. So when you have a guy who's as potent behind the scenes as he is in front... it's a great combination."

After wrapping up a photo shoot that proved as entertaining to watch as BEP's show, Will.i.am joins me poolside at The Palms. We settle into a private cabana with the afternoon Vegas sun splashing in and, with recorder on, Will opens up on engineering, producing, the new Black Eyed Peas' CD *Monkey Business* (release date: 2/05) and just how bright the future looks ahead.

EQ: Chris Lord-Alge said that when he worked with you he really respected you because as a producer and an engineer, "Will saw the finish line and I helped him get there. He heard in his head the way he wanted it, and all his comments were just, which I respect." How do you feel the role of the producer has changed?

Will.i.am: I think the role of the producer's the same as it ever was. There are just different tools to execute your thoughts and ideas. The tools have made it a little bit easier to articulate your thoughts, made it a little bit more user-friendly to those that are aspiring producers to bring forth the things they have in their heads. I remember recording and editing on two-inch tape. But now it's totally different; we can do so many things, it's limitless now.

How easily did you make the transition from analog into the digital world?

Dave Pensado said [imitates Pensado], "Hey, Will, you can do really good with this Pro Tools stuff, you should give it a shot. Go meet with Rhett Lawrence, he will teach you all the things you need to know about Pro Tools." So I went to meet Rhett. He showed me a couple of tricks. I would call them to troubleshoot. They were really, really helpful.

You've got a studio in your house in LA. Dish on the goodies?

Pro Tools: I've got the Digi 002, the Control 24, the M-box. Then, I have some vintage analog gear like a Clavi, Moog, Hammond organ, drum set.

And no going back from Pro Tools?

I don't program on a sequencer anymore. I do it all on Pro Tools. For me, it's the now and the future. I don't know what

The Future of the Funk

tomorrow's going to bring; all I know is that right now, the way I produce music, I wouldn't want to change it, because I see it on Pro Tools. I see the way it forms. I see the grid, I sequence on that, it gets played there and edited there and mixed there. I used to use the Akai MPC; I do everything on Pro Tools now. It wasn't designed to be a sequencer, but I sequence on that and program on that. So I get my drums right, or the combination of my stock sounds that I created and a live kit, and I manipulate it to make my program.

When you go into your studio what comes first?

The beat. I have a live kit, but instead of playing the whole kit or sampling a hi-hat, I just play hi-hat for three minutes. Then I'll go play the snare for three minutes; then I'll program the kick. That's what makes hip-hop, hip-hop—the focus the drum machine gives each drum without the bleed. So why don't I interpret what a drum machine does live, take out everything else and just play the hi-hat?

Then, I will treat the drums the same way I would treat vocals. The way you would do a vocal and ad-lib a vocal, I have a drummer come in and ad-lib my drum program and put the fills and the crashes in.

Same way with horns. I try not to let the horns play at the same time—saxes go first, trumpets second. So I treat everything like a vocal.

A bass line comes second, or the guitar. It all depends on what the driving force of the beat is. Sometimes I'll just get a hi-hat and a guitar riff and then I'll build around that. Or sometimes just the beat and then the guitar riff, or sometimes when it's just me in the studio, it's the beat and the bass line, and then I play the keys or Hammond or Clavinet over it.

I work best with guitarists. I'm fascinated by the guitar. I don't want to learn how to play it because I like the art form of collaboration, somebody else's interpretation of what's in my head and the journey of trying to get there, communicating and dictating to the guitarist what it is that I'm thinking, or interpreting what's coming from the guitarist.

What tips would you have for someone in the deep end of Pro Tools possibilities?

Well, I would like those people to keep this in mind: this equipment is becoming more and more affordable, so you're going to get a lot of young guys that are going to do all these crazy tricks. The one thing that technology can't mimic is that natural raw magic. Capturing that is worth more than any crazy trick and plug-in that you could put on a vocal. You can do all the editing tricks in the world, but natural magic is natural magic, and capturing that is priceless.

You went from analog tape machines, to your laptop. Now, you're recording on your bus, you're recording on the road...

Yeah, we recorded on a plane, at the Louvre in France. We recorded on the Bullet Train, the fastest train in the world, in Japan.

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STUDIO

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Moog Source

MPC

Clavinet

Fender Rhodes 73

DW Drum Kit

THE SOFT GEAR

Pro Tools HD

Pro Control 24

M-Box

Plug-ins: echo farm, amp farm, sans amp, vocal align, the Waves Bundle (Renaissance Compressor gets a lot use), auto tune (for the Roger from Zapp effect), atmosphere, Trilogy

VOCAL MICS

Rode Classic II

Neumann M-147

THE BACKPACK GEAR

G4 titanium (for music) & iBook (for email)

M-Box

Reason

M-Audio Speakers

M-Audio Oxygen

Sony headphones

Pro Tools has made it to where we're like a newlywed couple with music and you're just screwing anywhere: "hey, let's go do it in the bushes? Let's do it on the bus?" So it's the same enthusiasm with music. "Why don't we go sneak over there and record in the Notre Dame?" So I got the Pro Tools in my backpack, with a little mic, I got my headphones, and I record. But I think the biggest thing that's going to happen in the future is mobile technology.

Wireless? Bluetooth?

It's distribution of music. I could make something on my laptop and straight from my laptop it could get to somebody's phone. You don't even have to go to a freakin' master plant anymore. Straight from the artist, artist to consumer—no middleman. Any minute now a phone company is going to see that vision and take advantage of it. It's going to be out of the UK, Germany, Japan. It'll probably be, like, Australia, since nine out of ten people have phones in Australia. It isn't going to be a record company.

It's interesting to think that distribution of music will probably change how it's produced.

Well, I can't wait until they make speakers that tap into your nerves, to where you could actually feel bass frequencies instead of hearing them. I can't wait until instead of knobs and faders you have three-dimensional objects that you manipulate to get the sound that you wish. If I wanted a big bass sound I'll just

move the sphere rounder. [Moves his hands in the air.] If I want it louder I'll move it closer to me, or position it lower until it resonates out. Or if I want a distorted guitar, I'll manipulate the sphere to more of a spike. I wish you could EQ shapes that would represent sound and frequency.

And outside of this new record, in a philosophical sense, what are you looking forward to?

Keeping it. First, the inspiration was to get it. "Oh gosh, I can't wait to do this, I can't wait to do that." And now we've done a whole lot of things, some things that we dreamed of and some things we never dreamed of, and now that we've achieved these things, there are other things I want to achieve. But now the motivation and the driving force is keeping it. Momentum and longevity and at the same time being enlightened by other people's process of how they keep it or get it.

Especially now that there are no rules anymore. There are no rules on who sings good, there are no rules on who is the hot producer. All that crap is forced and just bullshit.

But what I do is no different than what somebody reading the magazine could do. I'm no better than nobody else. I'm not the best singer, I'm not the best keyboard player, and I'm definitely not the best producer. But it's all interpretation. I believe my interpretation and that strong belief that somebody else will believe it as well, and appreciate my interpretation of music. That's all it is, perspective and interpretation. **EQ**

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Twenty-five years ago, Sweetwater was founded by a recording studio owner who needed the same things you need today: quality gear at great prices, expert advice before the sale, and first-class tech support and service after the sale. He assembled a staff of audio professionals who could provide top-notch service to recording professionals like you. Over the years, continued growth, dozens of industry awards and (above all) customer loyalty have shown that "The Sweetwater Difference" has made a difference in the way engineers and producers buy gear.

A quarter century later, other audio retailers have figured out that presenting themselves as "professionals" is a good idea. And if imitation is the sincerest form of flattery, well, we're flattered. But Sweetwater Sales Engineers, tech support staff and service experts remain the yardstick by which all other dealers are measured. So no matter what you need for your studio — from cables to consoles or anything in between — count on Sweetwater to be your first and best source of information, great prices and total support.



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THE (BETTER, FASTER) AES

Maybe it was because the show was in San Francisco, a wide open city with a reputation for living *la vida loca*. Or maybe it was the powers-that-be at AES, who tilted the convention into more edgy territory than the standard "My slew rate can beat your slew rate" bill of fare.

Or maybe it was the eclipse that set the stage for cosmic coolness the day before the show opened.

Or maybe it was just time to *party*.

Whatever the reason, AES 2004 at Moscone Center (theme: "The Art of Audio") had the most traffic since 1998 — FYI, the last time the show was held in San Francisco. Note to AES: I see a trend here.

By now, the laundry lists of gear have circulated on the web, been discussed on the MusicPlayer.com forums, and trumpeted by manufacturers hoping to part you from some disposable income. So are we going to give you more of the same? No way. *EQ* takes you beyond the hype, and covers the trends that will influence the world of audio for the near future.

TREND #1: JUST MAKE IT SIMPLER FOR ME, OKAY?

Talk about instant gratification: Last month, *EQ* ran an article called "Keeping the Art in State of the Art." Seems we're not the only ones who just want to make music and not get drowned in the bitstream. Manufacturers are hitting hard on making your audio life easier, faster, and more trouble-free. The feature wars are subsiding, as companies try to seduce their customers through convenience and speed. For example . . .

PLUG & PLAY PLUS POWER

Dedicated music computers are trying to fulfill the promise that computers will make your life simpler, not more complex. For example, **Open Labs OMX64 Extreme** is an AMD Opteron-based Windows-based box that's ready and waiting for you to install programs and plug-ins — there's **Lynx** I/O, memory, and everything else, ready to rock and designed specifically for music. If the \$12,995 price tag would cause your budget to crash, go for the budget-conscious **OMX64 LE**, which weighs in at \$2,200. www.openlabs.com

Talk about specialization: **SequoiaDigital** integrates computer systems specifically for running Magix's Sequoia high-end

recording/mastering program and accessory software, like the Algorithmix noise reduction programs. Again, Lynx cards handle the audio interfacing. www.sequoiadigital.com

Like **Carillon** (which announced the very cool **Garritan Personal Orchestra DAW**), **Digital Audio Wave**, **Alienware**, and other companies that make computers designed for audio, the pitch to the end user is "Pay for this, plug it in, and it will work. And we'll support you if it doesn't."

www.carillondirect.com, www.digitalaudiowave.com, www.alienware.com

Speaking of which, another interesting idea that surfaced at AES came from **Obedia**, a company headed by Steinberg veteran Steve Garth. The company's premise: 24/7 technical support nationwide, via phone or on-site troubleshooting. They do maintenance contracts, consultations, and guarantee 100% satisfaction. The company currently has a network of about 40 specialists, and their rates, while not exactly cheap, are highly cost-effective if your computer goes down while you're in the throes of finishing a major product. www.obedia.com

CUT THE CABLE!

Or maybe a better phrase is "fire your wire." **Frontier Design's Tranzport** stole the show (see "AES Buzz Box"), but there was more. The **Lynx Aurora 16** is a 1U, 16 channel A/D+D/A converter with an expansion slot for FireWire, ADAT, or whatever; you can control it from the front panel or via AES16, and it speaks Mac or PC. Not impressed yet? You will be when you control it via infrared from a Pocket PC — zap the box while you play couch potato in the sweet spot. www.lynxstudio.com

WORKFLOW: THE NEW HOLY GRAIL

The world of software is less about feature wars and more about convenience. You can't get much more convenient than **Apple's Logic 7**, which bundles every plug-in and instrument that any reasonable person might want. Concerned about incompatible plug-ins, varying methods of copy protection, or companies that fade away and take your hard disk authorizations with them? Logic 7 puts *all* the pieces together.

www.apple.com

Or look at **Acid Pro 5** from **Sony**, which revitalizes the original loop music franchise with features designed to make your life easier — like folder tracks, better ReWire support, and databasing your samples to make choosing and using sounds that much easier. (Incidentally, we begged, we pleaded, we had compromising pictures . . . so we got a copy of the production version at the show. Check out our exclusive review on page 60.)

www.sony.com/mediasoftware

STRONGER, REDUX

BY CRAIG ANDERTON

And consider **Cakewalk's Sonar 4**. With all the attention being focused on their surround implementation, a lot of the user interface enhancements slipped under the radar. One of the most interesting: Key command sets that match those of various hosts. If you were a Logic Windows fan and switched to Sonar rather than switch platforms, you can call up a set of keyboard shortcuts that match Logic's. Same for Cubase, Pro Tools, Samplitude, and others. **Steinberg's Cubase SX3** is another program that, among the tech tweaks, has also added a bunch of UI enhancements — see our review in the next issue. www.cakewalk.com, www.steinberg.net

COOPERATION, NOT COMPETITION

Rather than sticking with proprietary formats and fighting format wars, companies are working together to integrate their products as part of a system. **Steinberg** trumpeted **Nuendo's** Advanced Authoring Format (AAF) integration in version 3, which lets it play nice with Adobe Premiere, Apple Logic Pro, SADiE DAW, Merging Pyramix, Avid Media Composer, and Pro Tools. And the **Studio Connections** initiative with **Yamaha** is bearing fruit, too; check out that Yamaha SPX2000 panel sitting within

Nuendo, acting just like it's a plug-in. Which in a way, it is.

www.steinberg.net, www.yamaha.com

TREND #2: AUDIO À GO-GO

Let's face it, the current star of the music technology firmament isn't surround, DVD-A, SACD, NetMD, 24/96, or any of that AES kinda stuff: It's the almighty, inimitable iPod. Clearly, people like their audio small, portable, convenient, and with a high instant gratification factor. Which maybe explains why recording — not just playback — is learning to "get small." Really small. Like "laptop on an airplane" small.

EDIROL GETS SMALL

The biggest surprise in mobile-land was **Edirol's R4** recorder (see "AES Buzz Box"). Frankly, I think the response even surprised Edirol. But Edirol was also playing the double whammy card with their **R1** (\$550). It's only a bit larger than a pack of cigarettes, and



Studio Manager



Edirol R4

records MP3 (for maximum recording time) or 24-bit WAV (for best fidelity) onto a CompactFlash cartridge. There's a built-in mic, metronome, tuner, and effects (mic simulator, noise suppressor, hum cut, EQ, reverb, center channel cancel, and so on). That "thud" you just heard was broadcast journalists dropping their Minidiscs and the last of the portable DATs. www.edirol.com



MOTU Traveler

SPEAK TO ME OF FIREWIRE

And hey, what about **MOTU's Traveler**? It does the FireWire interface thang at up to 192kHz, with 20 channels and four mic ins. It's just like MOTU's big guys except, well, smaller (14.75" x 9"). And it also follows the "Make It Easier" trend, with front panel digital input trims offering 1dB resolution — you don't have to adjust gain from software alone. Power it from FireWire (9 watts), battery, or DC adapter. And yes, you can take it with you. www.motu.com

Want something even smaller? The **PreSonus FireBox** (\$449) provides 6 ins (two mic, two line, S/PDIF) and 10 outs at 24/96, then pumps it all through FireWire to and from your favorite host (although if you don't have a host, it also comes bundled with Cubase LE). Go for bus power or battery. www.presonus.com



PreSonus FireBox

TREND #3: DSD GETS AFFORDABLE

Not impressed by high-res audio? Expect to have your mind changed. In the opinion of many with golden ears, and quite a few with lesser auditory endowments, **Sony's Direct Stream Digital** is the closest yet to analog tape running at 30 ips — sans hiss and distortion. So far those with SACD players have heard DSD, but few others have because the cost and availability of authoring tools has been limited. Yet at this AES, DSD made its move. And we're going to see it move more over the course of the year.

TASCAM'S COUP

It used to be you needed Bill Gates-like wealth to get involved with DSD, but no more: The **TASCAM DV-RA1000** (\$1,499) records high-res audio — up to 192kHz, as well as the DSD format — to blank DVDs. See "AES Buzz Box" for more. www.tascam.com

More DSD: Philips is offering a **DSD plug-in for Pro Tools Mac**. It's available separately or as part of the **SACD Creator Pack**,

which is intended for creating SACD cutting masters and disc images. Look for more DSD in **Merging Technologies' Pyramix**, too. About time, eh? www.superaudiocd.philips.com, www.merging.com

NEWS FOR NERDS

And we mean that in a good way, of course.

You have a Pocket Protector, but it's an Yves Saint Laurent pocket protector with a Mont Blanc pen that would never leak on your Armani shirt. Yes, you're an epicure nerd — you get your jollies from hip chips and computer-aided design. So what lessons can we draw from AES?

FireWire is about to get easier and cheaper to implement. **Wavefront Semiconductor** has created the **Digital Interface Communications Engine (DICE) II** IEEE 1394 Audio Video System (AVS), a single chip connectivity solution for IEEE-1394 applications. With jitter-free synchronization at up to 192kHz sampling rates, it's ideal for a variety of applications, including mLAN (Yamaha considers it a key player in getting mLAN-based products designed and out the door).

www.wavefrontsemi.com

DSP is getting a whole lot faster. **Analog Devices** introduced two new **SHARC** 400MHz processors, the **ADSP-21367** and **ADSP-21368** (\$29.95 and \$34.95 respectively, in quantity). These include 6Mb of on-board RAM and 6Mb of ROM, handle sample rates up to 192kHz, and are rich in ports. But maybe the even bigger news is the development of the Crosscore drag-and-drop editing environment, making it relatively easy to develop new processes on the basis of these chips.

www.analog.com/SHARC

AES BUZZ BOX:

The Top 10 Products People Told Me I Had to See

Frontier Design Group TranzPort

This \$199 2.4GHz wireless remote control was the hit of the show — control your DAW (transport control, track arming, punch in/out, marker setting, loop start/stop, and more) from anywhere in your studio without the "line of sight" limitations of IR remotes. It's compatible with Mac OS X and Windows 2K/XP, and currently has profiles for Pro Tools, Logic, Sonar, Digital Performer, Cubase, and others. As a bidirectional controller, TranzPort also provides feedback on signal levels, timecode position, track names and more, via a backlit LCD display and LED indicators. www.frontierdesign.com

Spectrasonics Stylus RMX


This drum groove and loop-oriented plug-in for Mac and Windows was the piece of software that made jaws drop, heads turn, and credit cards appear. As Phil O'Keefe said, "I was extremely impressed with the ability to control, process and manipulate individual beats within a stereo loop, and I'm not even a real big loops/groove oriented guy!" And the sounds have the Eric Persing imprimatur . . . enough said. At \$299 list, this is picked to click.

www.spectrasonics.net

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Earthworks™
**DRUM
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SYSTEM

Winner of this year's
PAR Excellence award
from Pro Audio Review

A Stellar Drum Sound

The new Earthworks DrumKit™ System provides an astonishingly better drum sound with three mics, than with seven or more quality microphones from other manufacturers. You must hear this for yourself. The difference will blow you away!

More Than a DrumKit™ System

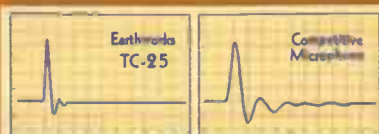
The Earthworks DrumKit™ System features new 25kHz microphones: two for overheads, one for kick drum, a windscreen and a KickPad™. We chose to optimize the kick drum mic via an external XLR package. This allows you to also use the three DrumKit™ System microphones for stunning results on a wide variety of instruments and vocals for recording and/or live performance. The KickPad™ will also improve the sound of other popular mics used for kick drum.

Available in Cardioid & Omni

The "Recording" DrumKit™ System DK25/R has two omnis and one cardioid, while the "Live Performance" DrumKit™ System DK25/L has three cardioids. The omnis are time coherent (allowing all frequencies to reach the diaphragm at the same time) and the cardioids utilize our patented cardioid pick-up pattern technology for smoother off-axis response and more gain before feedback.

Hear It For Yourself

The DrumKit™ System brochure contains a free Demo CD. You will hear the DrumKit™ System (using three mics) on a drum set, compared against seven quality microphones from other manufacturers. You will also hear demonstrations of the KickPad™ and the use of DrumKit™ mics as overheads on multi-miked drums and much more. It's very impressive, so get your free DrumKit™ Demo CD today.



The TC25 has a very fast rise time, and the diaphragm comes to rest in only 75 microseconds (i.e. when it goes back to a straight line). The competitive microphone is world renowned and is 4 times the cost of the TC25. Compare their rise time and diaphragm settling time. This translates into a dramatic audible difference.



To get your free DrumKit™ Demo CD and brochure visit your nearest Earthworks dealer, visit www.earthworksaudio.com or call (603) 654-6427.



The DrumKit™ System comes in a beautiful wood carrying case.

Earthworks™
PRECISION AUDIO

To locate your nearest Earthworks dealer, call (603) 654-6427, email sales@earthworksaudio.com, or visit www.earthworksaudio.com

World Radio History

The SMART Console

Clever idea, expensive implementation . . . but they may be on to something. Basically, this is a digital mixer — but one designed to address the issue of “page-flipping.” An arc across the top of the mixer shows all the available channels, and by simply touching it on the space that represents a specific channel or group of channels, the control surface in front of you reconfigures itself to place those channels front and center.

For example, suppose you have the drums off toward the left of the arc, and vocals near the middle. When you want to work on the drums, just touch the drum part of the arc and now all the drum-related faders sit in front of you. In terms of user interface, this is pretty hip. Whether it’s compelling enough to justify the price tag is something we’ll know more about at the next AES. www.smartav.net

Adam ANF10 Passive Monitors

For many, to hear an Adam speaker is to lust after it. I first heard one at the Frankfurt Musik Messe and even under trade show conditions, I could tell there was some special mojo going on. So I asked about the price. Okay . . . maybe someday.

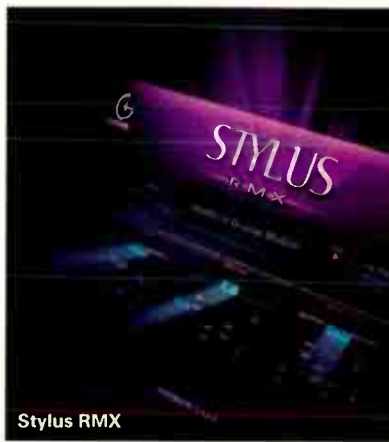
Well, that someday is now. Sure, you have to supply the power amp, but at \$700/pair, this is probably as close as you’re going to get to “budget” Adam speakers. And they still sound great. www.adam-audio.com

Mackie C4

Human control, anyone? Mackie’s C4 (\$1,299) is the ticket to controlling your soft synths and processors along with volume, pan, and other more mixer-like parameters. www.mackie.com

TASCAM DV-RA1000

Yes, it records DSD, and for a list of \$1,499. But you can also use it as a USB 2.0-compatible DVD±R/RW drive with your Mac



Stylus RMX



Edirol R1

or Windows computer, record audio CDs, and add multiband compression or 3-band EQ thanks to some built-in mastering tools. Oh yes, word clock too . . . this is the equivalent of a DAT machine for the 21st century. www.tascam.com



TASCAM DV-RA1000

Edirol R-4

This portable, 4-track recorder does up to 24/96 recording on an internal 40GB hard drive, with USB 2.0 transfer, an on-board limiter, built-in mic, simultaneous 4-channel recording, processors (3-band EQ,

graphic EQ, noise gate, enhancer, compressor/de-esser), and waveform editing on a decent-sized LCD. At \$1,895, the price says “Take that, Nagra.”

www.edirol.com

Euphonix MC Intelligent Application Controller

This workstation control surface is designed to speed up working with any application, as the surface detects the latest active application (the application

that’s “on top”) and resets all controls to match. The MC has a full sized keyboard with dual trackballs for standard operations, along with 56 LCD SmartSwitches, 4 faders, 9 rotary controls, and a monitoring section. It connects to a host workstation computer, which must be running an MC driver, via Ethernet. www.euphonix.com



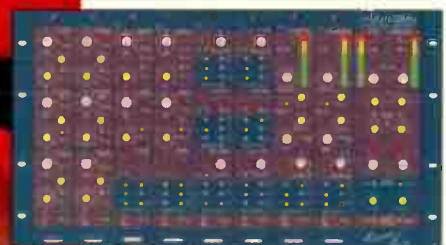
Euphonix MC

Masterpiece Mastering Processor

Conceived by veteran mastering engineer Billy Stull, with all circuitry designed by audio legend Rupert Neve, the Masterpiece is a unique analog mastering processor. The 6U frame holds eight vertically oriented filter modules that offer precision peak

and shelving equalizers, dynamics section, tape texture (with a real tape drive circuit), incremental phase rotation, and various classic audio functions. The downside:

\$19,000. www.legendaryaudio.com



Masterpiece Mastering Processor

SMART AV

Radial ProDI

Sometimes it's the little things that count. So when some people said to me "Hey, you're into direct boxes, you should see this cheap one that sounds good," I had to check it out. Well it is, and it does. It's claimed to be phase accurate throughout the audio spectrum, and features a linear custom made transformer that can handle high levels without saturation — all for under \$100.

www.radialeng.com



Radial ProDI

The Mackie Onyx 400F FireWire Box

(\$899) is a 10-channel, 192kHz-capable FireWire audio interface that features Onyx microphone preamps, along with an on-board DSP mixing matrix for latency-free headphone mixing and routing that's independent of the DAW software. Bonus: It's built in a 1U rackmount steel chassis, with extruded aluminum front panel with machined aluminum knobs.

www.mackie.com

Like old school sound but new school control capabilities? The **Resolution Audio Reso Pre 873**

is an 8-Channel, remote-controlled mic pre using a vintage 1073 analog circuit design, yet is controllable directly from ProTools, a MIDI source such as a control surface or software plug-in, or the front panel. www.proaudiodesign.com

The **Waves L3 Peak Limiter** plug-in delivers maximum loudness, minimum intermodulation, no need for an overall wideband limiter to catch overshoots, and easy adjustment with a simple master threshold parameter. Also, Waves' new plug-ins in the **IR Convolution Reverb** series include the **IR-360** for multi-channel surround, **IR-1 Version 2** (allows users to capture their own samples), and the **IR-L**, a "lite" version with simplified controls. And if you want more impulse response samples, go to

www.acoustics.net, with samples from both the company and individual users. www.waves.com

API's DSM (Discrete Summing Mixer) is basically a mini API console for DAW users who want analog summing. This rack unit provides analog summing, mixing, control room switching/monitoring, patchbay facilities, and studio I/O. Models provide 24, 48, or 72 output channels. www.apiaudio.com

The **Weiss DNA1**, a 2U processor for mastering, offers 24/96 de-noising, de-clicking, ambience recovery, Pow-R dithering, and L/R and M/S processing.

www.weiss.ch

Holophone's H2-PRO Surround Microphone (\$6,000) incorporates eight DPA Model 4060 mics, and records up to 7.1

channels of discrete surround sound. www.holophone.com

Submersible Music's DrumCore drum library for the Mac, and now PC, provides loops, fills, hits, and kits from 10 drummers (Matt Sorum, Sly Dunbar, and so on) and integrates with various DAWs. www.submersible.com

OTHER COOL STUFF THAT WE JUST HAPPENED TO LIKE

No, this isn't a comprehensive list. Hey, it was an AES show, with more stuff than you could fit in three times the number of pages we have available. But here's some of what caught our attention.

Looks like **Steinberg's** migration of Cubase and Nuendo to the same code base has finally borne fruit. **Nuendo 3** cuts through the "should I use Cubase or Nuendo?" question by adding a slew of post-only features that firm up Nuendo's niche as a post-production tool.

www.steinberg.net

You never thought of a CD/DVD printer as cute, right? Well, check out **Primera's Signature Z1**, which connects to Windows XP/2000 machines via USB 1.1/2.0 and prints with waterproof thermal transfer ink. Each disc takes less than a minute to print.

www.primera.com

The **Sony Pictures Sound Effects Series** is a five-CD collection of sound effects from the Sony Pictures studio archives. That's right — not sound effects made for movies, but sound effects taken from movies. Would that be considered "reverse engineering?"

Sony also introduced their **Premium Collection** loop libraries — two-CD sets with 24-bit resolution.

www.sony.com/mediasoftware

Digidesign's Pro Tools 6.7 Software for Pro Tools|HD and LE Systems now offers tempo-dependent audio placement, tempo-dependent automation, graphic tempo editing, precise control of meter changes, MIDI step input, enhanced support for instrument plug-ins, MIDI Detective, and Beat Detective LE. The update also brings cross-platform parity for simplified session transfer, with major MIDI functionality enhancements to Windows. www.digidesign.com

DTS has introduced the **Pro Series 6.1 Surround Encoder** for Mac/PC, and the **DTS Pro Series Network Encoder** for large post facilities based on Apple's Xserve RAID storage system. www.dtsonline.com



API DSM

THE PHIL O'KEEFE REPORT: TRANSDUCERS-R-US!!!

At AES, I tried to see every mic I could find, as well as preamps and related mic gear. Feet hurt. Eyes blurry. Must go on. Must...go...ON. Because, well, because there's a lot to see,



Glory Comp

and all in all, it was a very cool show with positive vibes aplenty. (FYI all prices quoted are list prices, and all products should be shipping by the time you read this unless noted otherwise.)

The **BIG** (\$2,095) and **BIG-er** (\$2,895) mics (www.bigmics.com) on display at the **Vintech** booth looked interesting and sounded pretty good — although a trade show is hardly the best place to audition mics. Vintech (www.vintech-audio.com) also showed the 609CA (\$2,995) 2-channel compressor, and the 273 mic pre (\$1,995), a 2-channel, 1U version of the 473.

A couple of other mics impressed me, like the **AEA R92** ribbon mic (\$900) from **Wes Dooley**, which is similar to the **R84** but designed for less proximity effect and use at closer distances (www.wesdooley.com). The other was the **Soundelux E250** (\$3,000), a cardioid-only version of their **ELUX 251**, with a bit more mellow top end and some proximity effect adjustments (www.transaudiogroup.com). **Nady** also had their new **RSM-2** ribbon mic (\$440) on display, and it sounded pretty good. **PMI Audio** showed the long awaited **Stephen Paul** mic, but we still couldn't hear the thing. They're shooting for a \$2,199 list and March 2005 release date, but that's subject to change.

Dave Derr showed the **Empirical Labs Lil FrEQ** (\$1,999), an 8-section, single channel EQ that offers a lot of tonal control (www.empiricalabs.com). And Aspen Pittman at **Groove Tubes** (www.groove-tubes.com) gave me a full demo of the new **Glory Comp** (\$2,999), a really cool new compressor with a high "covet factor."

Off the mic beat, I dug the **Under Cover** brand of custom made gear covers — how can you not like a variety of styles and materials, custom manufacturing for any gear,



AEA R92



Adam S6-A Mk II

amazing. The bottom end on the 84 is exaggerated up close, but on the 92, it's very smooth even when working as close as 2". The R92's top end was astounding, almost sounding like a condenser compared to the R84. Did I mention the list price

and affordable prices (www.undercovernyc.com)?

At \$700 per pair, the new **Adam ANF10** passive near field monitors bring ADAM sound quality to those on a tight budget. At the opposite end of the price scale, the **S6-A Mk IIs** are some of the best mains I've ever heard, but at \$30,800 I won't be buying a pair anytime soon (www.adam-audio.com). The **SMART** console created a buzz at the show. Nice concept, but with no Pro Tools support and at \$50,000 — \$150,000 depending on size and configuration, they face a lot of competition (www.smartav.net).

LYNN FUSTON MAKES THE MONEY PICKS

I was told to keep my picks down to five. Yes, yes, The Man wanted me to keep them down to five, so I did SIX. And would have done a lot more. Would have, could have. I mean if I wanted to. Yeah, it was that kind of show.

AEA R92 Ribbon Mic by Wes Dooley

One of most striking products at the show was the new AEA R92 ribbon mic. This chrome-domed mic looks like it traveled to the show straight from the 1940s set of some fevered futuristic spaceboiler flick. It's more compact than the R84, which has become a studio standard in the past two years since its introduction, and offers the black silk covering like its big brother, the R88. Those two have a lot in common, as the 92 has the same motor assembly and large ribbon size of the R88. When I compared it up close with the R84, the difference was

is under \$900? What a cool mic. (I ordered two on the spot. Ribbon fanatic? Who, me?)

www.wesdooley.com

Tascam DV-RA 1000 Standalone DSD recorder

Tascam was showing a 2U rack mount recorder capable of 24/192 recording and also DSD. With built-in converters, it records to DVD-R and has no internal drive. The DVD-R will record one hour at the 2.8MHz DSD sample rate. When you're done, pop it out and pop in another one for another hour of recording. It records industry standard .DFF files that you can import directly into SADIE or Pyramix. With a PS-2 keyboard input on the front, you can now type all your info in instead of scrolling and selecting one letter at a time. This is the natural successor to the Alesis MasterLink, with much more flexibility and capabilities. But the price? Last year, the entry level for DSD was about \$8,000. So how much for the Tascam? \$1,499 list. Now that's amazing. www.tascam.com

The "New Improved" Manley TNT Mic Pre

Even before its release (Manley showed it at last year's AES), Manley overhauled its new TNT preamp to include variables never before seen in a mic preamp. Featuring controls like variable Iron/Anti-Iron, 60s/70s/Clean switch, and five impedance settings that vary not only the impedance but also voltage gain or current gain modes, this preamp promises to be like nothing else we've seen before. With one channel of Tube ("T," featuring the preamp from the SLAM!) and the other channel solid state ("NT" for no tube, a completely new design based around classic English Class A consoles), this design offers a range of sounds previously not available in a single chassis.



Soundelux E250

Designed with input from a host of world-class engineers at the 3D Audio Preamp Summit in early 2004, this unit covers a long list of engineer's wishes for the ultimate preamp. With a 1Q 2005 release date, this preamp is on the short list of impressive, flexible, no-compromise preamp designs. www.manleylabs.com

Soundelux E250 Tube Mic

I stopped by to see David Bock of Soundelux, and got a chance to hear his new \$3,000 marvel, the Soundelux 250. This cardioid-only tube mic is based on his very successful Elux 251 without the multipattern head, along with simpler manufacturing and power supply. But can it sound like a high dollar mic without the high dollar price tag? Yes, and I was very impressed. For a great tube mic at a very reasonable price, this is the most serious contender I've found. www.transaudiogroup.com

Pendulum Audio's Quartet II All-In-Wonder Box

This is one impressive piece of design. I have seen and listened to it before but never had a chance to peer inside it. What a testimony to Greg Gualtieri's design genius — it's a work of art. The power supply puts out seven different voltages and occupies almost a third of the inside of the unit. The features and sound of this unit make it a "one size fits all" kind of piece, especially if you're looking for color.

Two input transformers (switchable), Pultec style EQ, delta-mu compressor, limiter — there's nothing I can think of that this unit won't handle well. It's 2U of sheer genius. www.pendulumaudio.com



Pendulum Quartet II

SADIE BB-2 Portable Editing System For Pc

Sadie showed its new "Baby Sadie" BB-2, which is the size of a trackball controller and includes a spacebar, shuttle wheel and eight programmable soft keys. With connections for power, USB port, analog and digital I/O, headphone and mic input on the rear, it is one seriously capable package. I kept asking Mike Porter of Sadie "This connects to what?" His answer was "Straight to your laptop." Baffled, I followed up "But it's just the remote, right? Where's the actual hardware?" "That's it." Sure enough, all the DSP is included inside the unit; this controller with a footprint smaller than a jewel case is it. You can get this 24/96 capable unit with the full Sadie software or in two other configurations, the least expensive being a straight edit only version for just \$1,200. The version with the full-blown software, which will also run Cedar's ReTouch, is \$3,800 — a steal when you consider an entry level SADIE was \$8,000 before. And that price includes unlimited tech support and free upgrades for life. What a deal.

www.sadie.com



Sadie PCM2



PREMIUM ANALOG MIXING GOES DIGITAL

Mackie's new Onyx series premium analog mixers don't just raise the bar. They completely change the game. That's because, once equipped with the optional FireWire card, Onyx mixers let you plug in up to 16 mics and record them as individual tracks directly to your Mac or PC with a single FireWire cable... Not to mention being able to mix and EQ a live show in the process.



you can be up and running on your latest smash-hit in no time at all.



Sure, you can opt to spend your cash on dedicated FireWire I/O boxes, outboard studio mic preamps, outboard British-style EQ processing, a mixer and recording software. Or you can just visit your local Mackie dealer and check out a much simpler Onyx solution.



And what about sound quality? Glad you asked. Built upon our new flagship Onyx mic preamps, warm "British"-style 3- and 4-band Perkins EQ, and premium analog circuitry, the Onyx series easily makes the best-sounding analog-to-digital interface at anywhere near its price.



Onyx: it's superior sound quality, single-cable FireWire connectivity, and a powerful recording application all packaged into a premium analog mixer.

To get you going, we also bundled a fully licensed copy of our acclaimed, "no-fuss" Tracktion music production software so





SoundMiner

JOHN KROGH: AUDIO KILLED THE VIDEO STAR

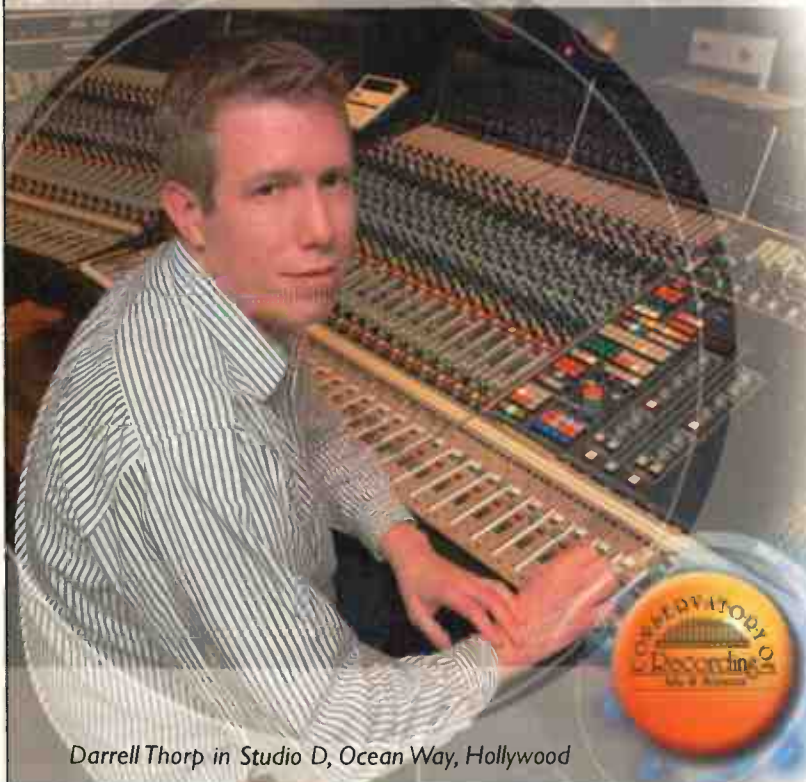
The AES show and surrounding events, as usual, provided no shortage of mind-bending and productivity enhancing widgets

for me to lust after. Make that *LUST* after, since my primary music production work is composing, recording, and mixing music and sound design for commercials, where lust figures heavily. In my world, things need to happen crazy fast, and yet sound like you've had a luxurious production schedule and an actual budget. So when I happened upon **PreSonus's ADL600**, I immediately added it to my "Must Audition" list.

The ADL600 is a 2-channel Class A tube mic preamp designed by Anthony DeMaria, who's widely known for his high-end tube compressors. But what got me was the fact that the ADL 600 offers variable impedance settings, so you can tailor the sound of your microphones, or

shade stereo DI'd keyboards, for example. This opens up a wealth of options for getting the "right" tone. And for those with passive summing mixers such as the Rolls Music Folcrom (reviewed on pg. 84), the ADL600 becomes even more attractive. Pair it with a high-quality stereo EQ and compressor and you have an impressive DAW front end. www.presonus.com ➤

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Darrell Thorp in Studio D, Ocean Way, Hollywood

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World Radio History

On the productivity front, I was finally able to get an up-close and personal look at **SoundMiner**, which is billed as an "asset management system" for Mac OS 9 and OS X. Basically, SM3 combines a sophisticated searchable database engine with a multichannel ReWire compatible audio engine, allowing you to organize and catalog samples on any number of drives. From within SoundMiner you can

audition sounds, process them with VST effects, and directly export them into a variety of host programs such as Pro Tools, Digital Performer, and Logic. In addition to on-the-fly sample rate conversion, Version 3 features support for REX SDII, AIF, broadcast WAV, AAC, and MP3 files, as well as CoreAudio compatibility and much more. Given SoundMiner's comprehensive management tools, I suspect I'll be able to cut my production times considerably. www.soundminer.com



Mackie C4

On a related note, I was pleasantly surprised by Mackie's latest control surface, the **C4**. I always wondered whatever happened to Emagic's Phat Channel, which was previewed a couple years ago. When Emagic and Mackie parted ways on their joint development of Logic-specific control surfaces, it seemed this knob-laden controller was destined to live in the limbo of "Cool Gear That Never Saw the Light of Day." Well, fortunately for those of us who prefer hands-on tactile control over our virtual recording environment (and who doesn't?), the PC has been re-released under the Mackie brand as the C4. It features four banks of eight V-Pots each, and four full-size displays that provide instant access to as many as 32 software parameters, virtually eliminating the need to constantly "bank switch" in order to access parameter-packed software instruments and effects. The C4 can be used alongside Mackie Control Universal and Logic Control surfaces, as well as Mackie Control Universal and Logic Control Extenders. www.mackie.com EQ

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Cambridge 5-band Parametric EQ with 17 Filters	•	•
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Myths Revealed

Warming Trends

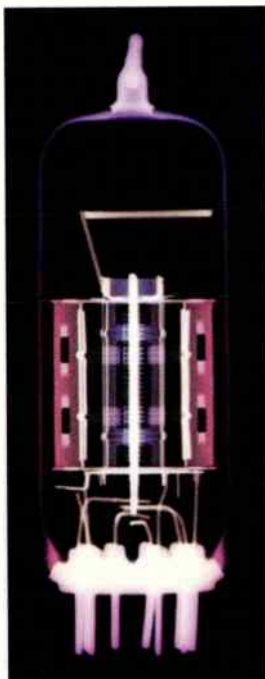
Tube Warmth: Cure? Or Crock?

by Lynn Fuston

When I did blind listening tests for my comparison CDs in 2000, one of the objectives was to pick out which preamps were tube and which were solid-state. Easy, right? We were shocked to find that even with a room jammed to the rafters with experienced engineers, none of us could reliably pick out the tube preamps — a task we all thought would be relatively simple because of the “warm sound” of tubes. It was a real ear-opener.

Since then I’ve pursued the tube versus solid-state argument, seeking to use my ears as the only criteria, instead of looking for the little glowing bottles to assure my conscious mind of a unit’s “tube-iness.” I inquired of tube experts whether my experience was singular or universal. I asked them to comment on some common statements concerning tubes. This marks Part I of the answers they gave. Watch for Part II in a future issue.

Several of the designers simplified their replies in order to conform to our space limitations and broad audience. For expanded info on this topic, go to 3dB: www.3daudioinc.com/cgi-bin/ultimatebb.cgi.



typically used in tube-based products that create the illusion of “warmth.” There is a lot of vintage solid-state gear that used transformers and is commonly described as “warm.” A typical transformer adds some odd-order distortion at the lowest frequencies and tends to restrict the ultrasonic frequencies, which we subtly perceive because of the phase shift. Part of this effect also seems to smooth transients. Tubes probably tend to offset some of that effect, because a little THD tends to exaggerate transients.

Perhaps the only aspect that is generally true is that tubes rarely sound sterile. Digital converters, and specifically their filters, have completely different problems sound-wise, but it might be over-generous and a holdover from the days when we were told that “digital is perfect” to just use the word “sterile.” It’s a bit more complex than that.

Aspen Pittman: There is a common myth that tubes are “warmer” sounding. It certainly can be said that cranking up a tube amp will make an electric guitar sound “warm, fat, or distorted.” That scenario, however, is one in which distortion is desirable. On the other hand, distortion is

the enemy of the engineer who is attempting to record a sound source faithfully and realistically. Here you want accuracy and transparency rather than any coloration that might be described subjectively with a word like “warm.”

Fortunately there are many types of tubes and related circuitry that result in a comparatively transparent sound.

As far as tubes “warming up” digital recordings, there seems to be a lingering implication that there’s something inherently deficient in digital recording. While some purists will always make a case for analog over digital, the fact remains that the vast number of pro recordings today are made with digital recorders. Rather than saying that tubes “warm up” digital, it would be more accurate to say that tube mics deliver a truer, more pleasing sound when auditioned against the comparative dynamic improprieties of a solid-state mic.

Doug Fearn: Let’s face it: no recording has ever sounded exactly like the live event. No audio professional is likely to be fooled into thinking any recording, no matter how good, is equivalent to listening to a live performance. But that’s okay, because what we do is provide an alternative experience that isn’t precisely the same, but is potentially equivalent in emotional content. ►

MYTH #1: Everyone knows that tubes are “warmer” sounding. This is important because digital recording is so sterile and we need tube warmth to balance out that sterility and harshness.

Oliver Archut: The warmer tube sound is quite a marketing tale; when pentodes and beam-power tetrodes were first introduced during the 1930s, the hardcore triode users at the time (and still today) brought up the same warmer tone argument. Yes, there are tube designs that do sound horribly sterile and just putting a tube into the signal path won’t change the tone response too much.

But what some people refer to as a “warmer” sound is a sum of components and design philosophy. Some classic audio designs require a certain tube or tube maker and cannot be replaced without the sound being compromised.

Hutch Hutchison: There are a ton of misconceptions about tubes including the belief that they sound “warm.” Tube circuits have about as many sounds as there are circuits. It is more about the topologies used and aims of the designer as to how a circuit will sound. In fact, it is usually the transformers that are

Myth-busters and Truth-seekers

Our cast of experts for this installment of “Myths Revealed” includes:

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AMI/Tab-Funkenwerk
www.tab-funkenwerk.com

Doug Fearn
D.W. Fearn
www.dwfearn.com

Hutch Hutchison
Designer, Manley Labs
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SHANGHAI SURPRISE

One billion people
into home recording?
EQ's Craig Anderton
susses out the score
at Music China.

Stepping off the plane in Hong Kong, a city that packs 6.3 million people into a space the size of San Francisco, the first thing I saw was a thermal image of just one of those people: me. Being searched. For? Guns? Bombs? Windows XP cracks? No, elevated body temperatures. Something about SARS.

But Hong Kong, the I/O port from China to the world — incredibly wealthy, occasionally decadent, and a poster child for capitalism in a communist country—and how I got here actually started at the Frankfurt Messe. At the Alto booth, to be exact. I saw their Typhoon mixer (June 2004), whose innovative shape, size, build quality, and pricing intrigued the hell out of me. I started asking lots of questions, including ones about working conditions. Eventually, a representative said "Maybe you should just come to China and see how they're made."

And so: Hong Kong. And beyond that China, several delightful meals that may have been of extra-terrestrial origin, nights at a Karaoke TV (KTV) "private room" surrounded by a bevy of beautiful, uh, "hostesses," late night solo walks around town ("You want watches? Rolex? DVDs? Massage? Sex"?), and of course, audio mania. Starting with "Alto Day" where the company introduced 37 new products to their worldwide distributors, moving on to a tour of the Sekaku factory that makes the Alto gear (as well as gear for a bunch of other big music industry companies) and ending up with three days in Shanghai for the Music China trade show.

ALTO DAY

The Chinese music industry exists largely as the result of aggressive partnership arrangements: Alto is run by an Italian and Taiwanese, using European and North American engineers, with manufacturing in China and Taiwan. Much of the product line revolves around live performance, but one of the big intros at Alto Day was their "Esotar" line of high-end preamps for studio and live.

High-end Chinese? Yes.

As Gian Piero Staffa of Alto said, "Usually we decide on a price, then design the gear. This time we designed the gear first, then figured out the price." The result: Gear that costs in the sub-\$1,000 range, but competes with gear in the over-\$1,000 range. First up: The MP2D stereo and MP8D (8-channel) mic

pres with ADAT 44/48/96kHz outs, along with AES/EBU and S/PDIF outs with up to 192kHz sampling rates. Both units look extremely promising.

There was much other cool stuff (like the Cyclone mixers that fill the slot between compact mixers and large mixers for live use, and some tasty digital equalizers), but the Big Deal was the "Orient Express." It looks like a Miele vacuum cleaner on super-steroids, and rolls around like a suitcase — but holds a 1,000W portable PA with satellite speakers, subwoofer, mixer, mics, cables, and even speaker stands. Two Alto guys set it up, and two minutes later, a three-piece band from the Philippines was making loud, hi-fi music. There are also drop-in modules for wireless mic receivers and an MP3 player.

Price? Under a grand. Amazing, as was the product introduction itself: A club in Shenzhen (home of the Sekaku factory), where to pounding dance music and a bunch of live dancers, the Orient Express appeared amid smoke machines and lasers. White courtesy phone for NAMM: you could learn something from this.

THE FACTORY TOUR

You've heard the rumors about slave labor, 12-year-olds working on dirt floors, toxic chemicals, and the Chinese version of Fritz Lang's "Metropolis." But I saw a modern factory with plenty of light and ventilation, top-shelf test gear, an ethic where quality control mattered more than sheer output (they even QC'ed their shipping boxes), and housing and a restaurant for the 1,500 (soon to be 4,500) workers. Like China's economy, the factory is growing exponentially.

One China vet assured me that sweatshops do exist. But as he said, "The people here are sort of like migrant workers in the US. Many live in [sparsely populated] Western China, and come here to make money and send it to their families. But after breaks like Chinese New Year, about a third didn't come back. Sekaku's jobs require skilled labor; they 'observe' for two weeks before they even touch a product, then they undergo the actual product training. Rotating a third of your work force was a problem. So Sekaku made working conditions that are science fiction by Chinese standards. People *want* to work here, turnover is way down, and the quality is extremely high."

Was this just a Potemkin showcase for gullible Westerners? I broke away from the main buildings, past some of the guards. I half-expected to be stopped and politely told to return. Instead, I got a wave and a smile . . . and saw more of the same type of facilities.



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SHANGHAI SURPRISE



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The Orient Express in action at an after-hours club in Shenzeng.

MUSIC CHINA

The attendance says it all. The first show in 2002: about 8,100 people. The 2003 show: 21,000. The 2004 show: All space sold out six months in advance, temporary tents for the overflow, a bigger venue for next year, and 34,000 attendees. China wants to be a player, and convert "Made in China" to "Made by China." Yes, they're going to take over the world — not by force, but by one billion highly directed people seducing the world's consumers.

That said, a trade show is a trade show, but with a few significant differences.

First: no software. Zero. As a musician from Beijing told me, "It's all cracks and PCs." In a country where you can buy a knock-off \$15,000 wristwatch for \$25, I'm not surprised.

Second: traditional Chinese music is huge. You couldn't go far without hearing the strains of an erhu, or Chinese flutes.

And thirdly: you know all those Chinese mixers and mics at NAMM? Well, this is where they come from, except there's a zillion

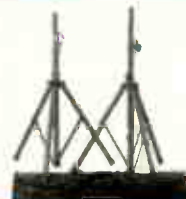
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CME's home-grown USB keyboards are slated for introduction in the US in 2005.

times more. Large-diaphragm condenser mics, tube mics, matched stereo mics, vocal mics, inexpensive mics, really, really inexpensive mics, mic accessories. I think there were more mics on the floor than cockroaches in NYC.

And how about mixers? 8 ins, 48 ins, with power amps, without power amps, with effects, portable, huge, cheap versions, quality versions. Anyone concerned about a possible mixer shortage need not worry.

Piano manufacturing, also from joint ventures, is a really big deal. But some companies are breaking the mold. CME, from Beijing, showed a line of USB keyboards that turned heads. They're metal, solid, have a great UI, and are way competitive (try 88 keys for about \$600). And I loved the Cnk Roll Piano, a flexible keyboard controller you could roll up into a little cylinder. I want to hook that up to my laptop and run Reason.

The bottom line: Just as Japan turned the corner from cheap knock-offs to gold-standard quality, China is turning that corner too. And they're turning it *fast*, which seems to be the Chinese way.

Would I go back? In a millisecond, even though the dominant form of pop music seems to be jailbait-age girls singing sentimental songs (and I heard a disturbing amount of Kenny G). And is it really a commie police state? If it is, it's well hidden, at least where I was. I wouldn't want to cross that threshold where I'd be considered a troublemaker, but these days, it's apparently a fairly high threshold.

China is opening up wide, and that's going to change the world, and the world of recording, even more than it has already. You could see the seeds being planted at Alto Day, at the Sekaku factory, and at the show. I wouldn't have missed this trip for, well, all the tea in China. Which, come to think of it, is quite a lot of tea. **EQ**

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The Art of Recording:

EQ's Top 10 Guitar Recording Mistakes

Making them once is one thing. Making them again (and again and again) is just plain wrong.

by Craig Anderton

Whoa! That was some bad note. So naturally, you re-record the part. But are you paying attention to the other mistakes — the ones that involve the recording process itself? The following mistakes can tear your tone in two, so a word to the wise: Avoid them.

1. Forgetting to check for mono compatibility.

You love your cherished, vintage AxeBlaster Flanger with its super wide stereo spread. Ah, but the way they get that stereo spread is by flipping the phase 180° on one of the output channels. This may sound great live, but when the signal gets re-combined in mono, portions of it (maybe even all of it) will disappear. Ouch. This can also happen with stereo mics on a single sound source, so always check what a track sounds like in mono before you sign off.

2. Stringing along with dead strings.

Yes, change your strings before that important recording session and no, adding compression to increase sustain is not a suitable substitute. With new strings, your axe will sound brighter, notes will sustain longer, and tuning will be more consistent. Don't just boil them — go ahead and splurge, spend the \$2-\$4, and re-string.

3. Using "automatic double tracking" instead of playing the part twice.

It's that popular preset in your multieffects: Automatic Double Tracking, where the processor copies your signal, delays it a bit, detunes the copy to "humanize" it, then recombines it with the straight signal. Although ADT is a valid effect in its own right if you want a sort of more focused version of chorusing, nothing substitutes for doubling a part by actually playing it twice. Furthermore, when you record each part on a different channel, you can spread

the stereo image — one track more right, the other more left — for a bigger, more enveloping sound.

4. Mixing direct and miked signals without compensating for delay. Here's the deal: Sound travels at about one foot per millisecond, while electrons move at 186,000 miles per second. So the miked signal arrives at your mixer at the speed of sound, while the direct signal arrives at the

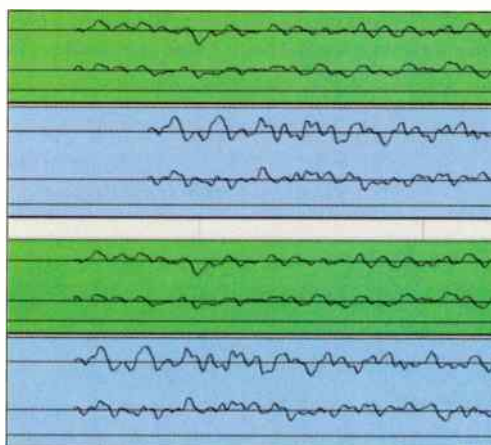


Fig. 1: The green track is the direct signal, and the blue, the miked signal. The upper view shows their original time relationship. The lower view shows the same tracks after being time-aligned in Cubase SX.

speed of light. If the mic is one foot away from your speaker, zoom in on the tracks and shift the miked signal ahead in time by about a millisecond until they line up (Fig. 1). You'll hear a much fuller, punchier tone. This is particularly important with bass.

5. Falling into a "mic rut." You found a condenser mic that sounds great on

acoustic guitars, and have a favorite dynamic mic for amps. And you've used them forever. But maybe you need to experiment. For example, one of the things that surprised me was just how great a Royer ribbon mic can sound on a guitar amp. And I once got an ultra-fat sound on an acoustic with a dynamic mic. Why be normal? Just don't do anything dumb, like placing a super-sensitive condenser in front of an amp blasting at the levels of a Saturn 5 booster rocket.

6. Not orienting an electric guitar for minimum noise.

"Pickups" are appropriately named, because they pick up a lot more than strings — like buzzes, electrical hash, dimmer noise, and the like. The good news is that the pickup is directional, and changing the guitar's position can make it less prone to picking up garbage. Don't use your ears; look at the meters, because the levels will be really low. If the noise is hitting at -45dB, it may not be that obvious, but it will be if you start adding effects like compression. Try moving the guitar position, and you may be able to get that noise down to -55 or even -60 dB.

7. Tuning up your amp too high.

We all know that you need to turn an amp up to a certain point to get a good "tone." But don't go past that point widely known as 11. Why? Aside from the possibility of overloading your mic, things in the room will have more of a tendency to rattle, and poor room acoustics may be overemphasized. As Johnny Cochran once said, "Once you get your tone, leave it alone."



Fig. 2: If you're using software that includes a guitar tuner, take advantage of it. This shows the tuner from Native Instruments' Guitar Rig, which is one of the components in the Guitar Rig "virtual rack."

8. Forgetting to bring a spare set of tubes. Tubes fail, tubes go soft, and they sometimes do it at in opportune moments . . . 'nuff said. And remember, if one tube of a matched set fails, you need to replace them both. It's a good idea not to trust the tubes you buy, but to try them out immediately in your amp to make sure they actually work. Once you're satisfied they're okay, pull them out and save them for when they're needed.

9. Not paying attention to tuning. This doesn't just mean tuning up before the session; we all know that's a good idea. But have you adjusted bridge intonation lately? Just changing strings can be enough to throw the intonation out of whack. You may not notice that there's any problem until you start recording, and everyone's listening to your guitar under the audio equivalent of a microscope. In my experience, few things can destroy a session faster than having to adjust intonation on a guitar with dead strings (mistake #2), because it will be next to impossible to get it in tune. Tempers will fray, harsh words may be exchanged. And while you're at it, leave a tuner in-line at all times, or use the tuner in a piece of software (e.g., Native Instruments' Guitar Rig and Cakewalk Sonar both have built-in guitar tuners). It's better to take 30 seconds to check tuning before recording a part than having to re-record the part because the tuning was off.

10. Using a stompbox with an AC adapter. Or for that matter, with batteries. If you record with a stompbox that can use batteries or AC, try both and see which sounds better. With some old stompboxes, the AC adapter might add some noise or buzz that batteries will eliminate. Conversely, if the batteries aren't super-fresh, the lower voltage may degrade tone. Moral of the story: When you show up at the session, bring both the AC adapter and a fresh set of batteries.

Also, note that rechargeable batteries sometimes peak out at a slightly lower voltage than alkaline types. Normally this shouldn't make any significant difference, but if you use rechargeables (which is indeed a good idea), make sure that the sound is equivalent to what you get with standard alkaline batteries.

Of course, there are plenty of other mistakes that guitar players make in the studio, from snorting cocaine to bringing in annoying people who aren't a part of the band. But if you're working with an engineer, one of the biggest mistakes is not letting the session evolve according to the engineer's working style. Your job is to play a great part; the engineer's is

to record. Don't worry too much about any fine points that should be reserved for the mix (not "fix it in the mix," but "perfect it in the mix"). Give the engineer a lot of space, and don't try to do two jobs at once. If you're really concerned that the recording isn't right, then record a dry part so you can re-amp later if necessary. **EQ**



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The Art of Recording:

Can you, EQ?

EQ can be your mix's best friend, or it can be an enemy to be feared. Learn to love the difference.

by John Krogh

Fix it in the mix.

It's an overused phrase that can mean many, many things, depending on what horrible mistake you're trying to correct. But the hard, cold truth is there's a limit to what can and cannot be fixed.

Lame lyrics?

Sorry, no amount of compression, distortion, or reverb will fix those. But when it comes to dealing with a muddy or lackluster mix, there are a variety of tools at our disposal. And first on the list is EQ. Equalization can be a powerful ally in your quest for a clean, well-balanced mix.

EQ TYPES

You'll encounter several kinds of EQs in both hardware or software environments so it's important to understand the various EQ types and which is best suited to address whatever miserable mistake you're trying to fix, mix-wise.

Shelving. Applies equal gain change for all frequencies above/below a certain frequency. These can be useful for general shaping — adding brightness or beef to a sound.

Lowpass/highpass. With lowpass EQ, frequencies above a certain point, commonly referred to as the cutoff frequency, are attenuated while frequencies below the cutoff pass through unimpeded, hence the name "lowpass." Likewise, highpass EQ attenuates frequencies below the cutoff, allowing frequencies above it to pass through untouched.

The rate at which frequencies are attenuated is called the *slope*, and is

represented as a ratio (e.g., 12dB/octave). (See Figure 1).

Peak. The peak EQ boosts frequencies at, and around, the center frequency. This type of EQ allows you to accentuate or emphasize a limited slice of the frequency spectrum without dramatically affecting the general tonal quality. Often, you can control how wide or narrow the "slice" is (called bandwidth), for broader or more focused changes. (See Figure 2.)

Notch. Similarly, notch EQ is used to "notch out" or cut a narrow band of frequencies. Use this to reduce computer noise, ground hum, and so on. It can also help get rid of ringing drum tones, or take the "point" off electric guitars, snares, and other piercing mid-frequency sources.

In most DAWs, peak and notch EQs are often combined as one type, giving you the choice of cutting or boosting from one EQ.

Parametric. Parametrics are so called because they offer parameters for adjusting the EQ's frequency, bandwidth, and gain.

Most DAWs combine several EQ types into one "multi-band" parametric EQ (e.g., 4-band, 5-band, and so forth), where you can choose the type (lowpass, peak/notch, high-shelf) for each band.

Fixing Common Mix Problems

The combination of tracks and the way they interact can cause frequency ranges to build up, resulting in a dull or uneven mix (e.g., too boomy). Additionally, some tracks may "jump out" at certain frequencies.

A well-balanced mix where no single instrument or frequency range consumes too much sonic space may require a fair amount of nipping and tucking. Often, individual tracks need to be massaged to blend better with others, which requires close scrutiny to hear problem areas. To zero-in on these offending frequencies, it helps to use a peak EQ with considerable gain (10dB or more) and sweep this across the frequency spectrum. You won't use this EQ in the final mix, but as you sweep the center frequency, you'll be able to hear which frequencies help define the track's tone, and which ones are problematic.

Experiment with this to find the "center" of various instruments — it's an exercise that will pay off big when you run up against mixes that are:

Muddy. *Possible cause:* Build-up of low and low-mid information as a result of the proximity effect from cardioid mics, too many tracks with extended low-frequency material, or poor room acoustics.

Solution: Highpass EQ on any track that isn't supposed to sit in the low frequency range (percussion, vocals, guitars, strings) to make room for bass guitar and kick drum. Start somewhere between 100–200Hz, with a semi-steep slope. You can sometimes get away with a higher center frequency, provided you use a more gentle slope, which will make the EQ less obvious, but still clear out space in the low end.

Possible cause: Similar-sounding instruments competing for space in the midrange.

Solution: Separate similar tracks by using peak EQs to emphasize different

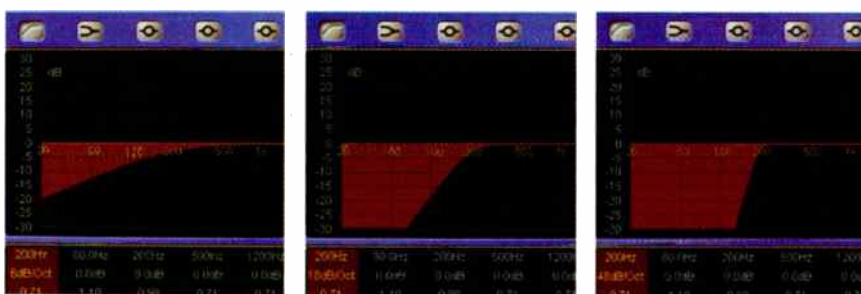


Fig. 2. A highpass EQ with a center frequency of 200Hz, shown with three different slopes.

frequencies, while cutting others, so that sounds complement and fill in around each other. On double-tracked guitars, for example, try boosting one at around 1.5kHz, cutting at 600Hz, and rolling off some of the highs starting at 3kHz. Conversely, reduce the other track by 2–3dB around 1–1.5kHz, and use a high-shelving EQ starting at around 3–4kHz to bring out more of its highs. This will allow both tracks more space, and create a better blend.

Dull. *Possible cause:* Midrange-heavy tracks masking and crowding high-frequency material (strummed, driving acoustic guitars, tambourines and shakers, vocals).

Solution: Apply lowpass starting around 5–6kHz on tracks that don't need to "sparkle," making space for high-frequency tracks to shine. Additionally, if mid-frequency tracks are still getting in the way, you can try cutting around 1–2kHz. You can also use shelving EQ (1–2dB of gain) to brighten similar tracks, such as grouped background vocals and guitars.

Shrill. *Possible cause:* High frequencies being accentuated by one or more tracks.

Solution: Apply lowpass with a gentle slope to strident, overly bright tracks. If this isn't enough, try making a slight dip in the 4–5kHz range.

Piercing. *Possible cause:* Ringing drum tones; resonant frequencies from room acoustics picked up by the microphone, or from the instruments and vocalists themselves.

Solution: Notch EQ with narrow bandwidth to reduce or completely cut out unwanted frequencies.

ZOOMING OUT

During mixdown, EQ shouldn't be limited to track-specific changes — feel free to make more "global" tonal changes, too. I often use EQ sparingly to treat the overall mix. I may use a *little* high-shelving starting at around 7–8kHz to add "air," or cut out some of the low-mids with a gentle dip

around 400Hz, which also helps to de-mud.

However, if you make radical EQ changes to an entire mix, it's likely there's something wrong on a micro level. Go back and solo each track, paying close attention to whether anything is adding too much bass or high frequency material, then adjust accordingly.

With practice, you'll reach the point of quickly recognizing EQ-related problems, and how to fix them. Just remember to use your ears, not your eyes, and whenever possible, reference on several systems. This will help uncover any trouble spots, and ensure that your mix translates well to other playback systems. Your listeners will thank you for it. **EQ**

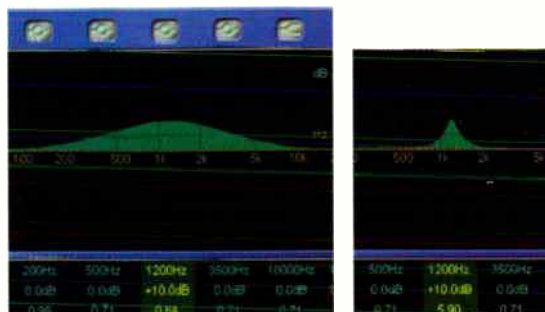


Fig. 3. Peak filter at 1,200Hz with wide and narrow bandwidths (left and right, respectively).

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by Craig Anderton

Cakewalk Sonar 4.0 Producer Edition (Windows)

It's not just about adding surround anymore.



turn off real-time plug-in delay compensation calculations (oooh, that sounds so *scientific!*) to minimize audio engine gapping. But no worries, it recalculates and compensates when you press the transport's Stop button, so PDC doesn't go away. 4.0.1 also fixes a bunch o' bugs and adds some new features.

Sonar still has a benign copy protection scheme; just enter serial number and install from CD. Sonar handily passes the "My computer died, but at least I can re-install my sequencer without exploding" test. A DVD includes additional content, including a Public Enemy song with the original Sonar project used to make it.

The biggest new feature doesn't show on a spec sheet: Better workflow. This results from multiple tweaks and changes, with a cumulative result that projects get done faster. There's something about Sonar that lets you get into a groove and stay there. As to the other features . . .

SurroundBridge is what makes the surround implementation special. Insert any mono or stereo effect into a surround bus, and Sonar clones it enough times to cover all the channels. You can control all of them from the interface for one of them, or unlink parameters to make adjustments for some channels but not others. Yes, there's a surround version of the Lexicon Pantheon Reverb and Sonitus Compressor, but SurroundBridge means you

The biggest new feature doesn't show on a spec sheet: Better workflow.

Watching Sonar evolve is like watching a makeover show on reality TV: "We took Cakewalk Pro Audio, did a CPU tuck, user interface enlargement, and took care of 'time stretch marks.' We then improved the complexion by appropriate use of color, and removed unsightly interface complexities. And now, it's time for . . . The Big Reveal!"

Well, Cakewalk has converted the ugly duckling called Pro Audio into the swan of Sonar. On the way, they've picked up major market share, created a lively set of user forums, and changed public perception of the company's products from "Don't they make something for [grimace, sneer] Windows?" to "Sonar rocks."

Sonar 4 (\$959 list for the Producer Edition, \$499 for the

Studio Edition with a lesser feature set) brings the fourth version in four years. An upgrade from Sonar 3 Producer will set you back \$179; Sonar 3 Studio, \$229; Sonar 1 or 2, \$249; Sonar 4 Studio/Pro Audio/Project 5, \$299; registered Cakewalk owner, \$349. Frankly, for a Sonar 1 owner to pay \$249 and get Sonar 4 Producer Edition is a helluva deal.

As with the Acid Pro 5 update review, we won't get heavy into Sonar's specs as you can find them on the web (<http://www.cakewalk.com/Products/SONAR>). We'll concentrate instead on the Top 10 upgrade features.

FORE! WITH FOUR

Actually, this review is of Sonar 4.0.1, which lets you

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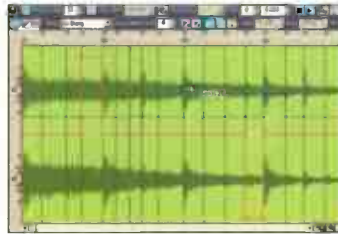
Cakewalk Sonar 4.0

can use any of your fave effects (including VST) in surround-world.



I always thought Prosoniq had great-sounding time stretch algorithms. Apparently Cakewalk thinks so too, because they've licensed their MPEX3

algorithms. The sound quality is light years ahead of Sonar 3's stretch functions.



It's never been easier to edit acidized files in Sonar, as you can now audition individual slices (is the click in that slice from picking up part of the next transient?), and the Now time marches across the

window so you know where you are in the loop. But in a Rex-like flight of fancy, there are also pitch, gain, and pan envelopes for each slice, so the loop construction window is more of a creative tool as well.

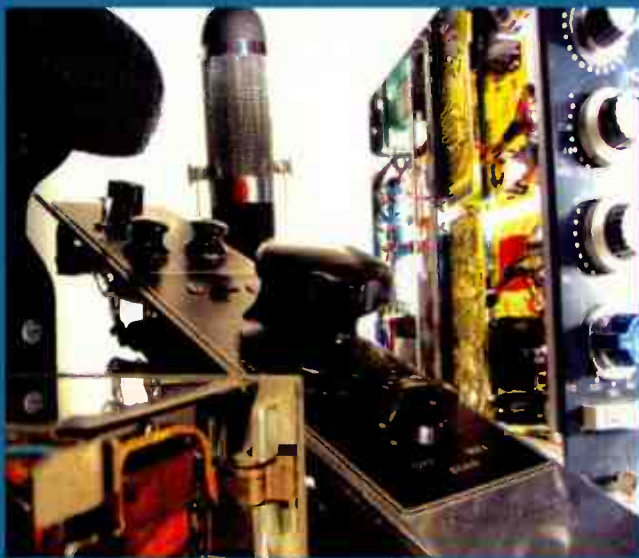
Dump tracks into a Track Folder? Sure. But the Track Folder itself creates a clip that you can slip edit, move, cut, copy, normalize, and otherwise process. When you perform operations on a Track Folder, they affect all eligible tracks within the folder (of course, an audio process won't affect MIDI tracks). However, you can't nest folder tracks.



Because of the new "Show Layers" option, you can loop record into a single track, then "unfold" it into multiple lanes of takes. Next, a Mute tool lets you mute and unmute sections to come up with the perfect composite track. Then "Bounce to Clip," and all the good bits end up in one track and all

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Cakewalk Sonar 4.0



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It's not the synth to end all synths. But as a general purpose GM module, it's a considerable improvement over the older VSC. The Roland-powered TTS-1 has 256 GM2 sounds and 9 drum sets, 32-bit internal processing, supports 96kHz sampling, and doesn't stress your CPU too heavily. The sounds are fairly edible, so you can also store 512 user



sounds. Like any GM module, you'll find some sounds useful, and some not; but given the paucity of bundled instruments, this one is welcome.



Even Sonar V1.0 had a freeze function, but most people didn't know it. So Sonar 4 re-packaged it as a one-click operation, with of course Unfreeze to blow away the frozen data (hey, why don't companies just

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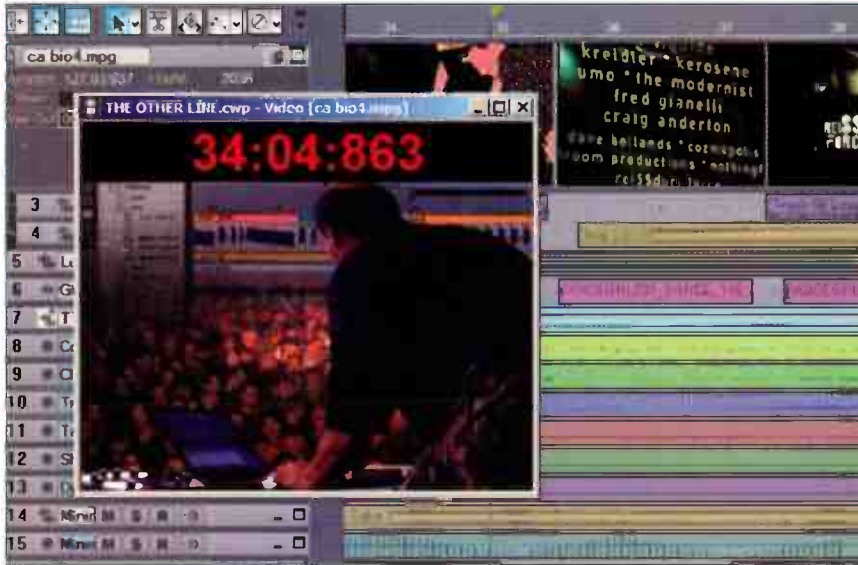
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World Radio History

Cakewalk Sonar 4.0



call it "thaw?"). But there's also a "quick freeze" and "quick unfreeze" mode, which retains the frozen data so you can diddle with effects or other parameter

changes while unfrozen to see if you like them better. If you don't, you can quick freeze again. The bad news: If you do like the changes, you can't just "re-freeze."

You have to quick freeze, then unfreeze, then freeze. Not a huge deal, but a re-freeze command would save mouse clicks.

I first got into Cakewalk Pro Audio because it could load just about any video format into a resizable video window without complaining. Sonar 4 adds video thumbnails that can show absolute frame numbers, which simplifies navigating around an audio-for-video project.



And speaking of navigation, there's a project overview with a resizable zoom rectangle. Drag it over the part of the project you

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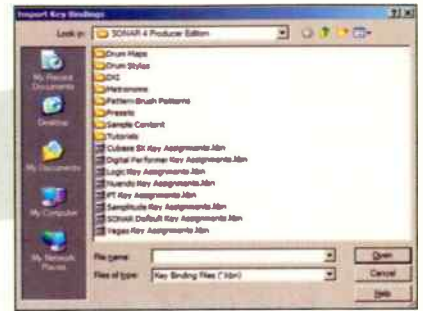
Cakewalk Sonar 4.0

want to see in the Clips pane; shrink the rectangle to zoom in, expand to zoom out. This saves much time when you're jumping around in a long project.

Here's the "defector's" feature: Call up keyboard shortcut sets that duplicate those of Cubase SX, Digital Performer, Logic, Nuendo, Pro Tools, Samplitude,

and Vegas. I used to use Quickeys on the Mac to do this when reviewing different platforms so I could get around with a familiar set of shortcuts, and believe me, it does help a lot when you're making the transition.

That's it for the Top Ten, but also note the horizontal and vertical "nudge" commands to move clips (and notes in the



Piano Roll editor) in fixed increments — from as little as 1ms to as many frames, samples, ticks, notes, measures, or seconds as you like. Sonar now has real dither from Pow-R, more export options, and a better audio engine that's not quite as gapless as Ableton Live, but seriously good. And there's much better color customization.

VERSION 5 WISH LIST

I'd like to see better integration of time-stretching and loops, like Cubase SX3 has done, where you can convert a stretched loop to a standard audio file using stretch algorithms. I also like Live's ability to "warp" hard disk audio to arbitrary rhythms. And maybe it's time for Cakewalk to resurrect .CAL files as a well-implemented suite of MIDI effects. They're wonderful, but don't get no respect.

Finally, Apple's Logic 7 has really raised the bar for including loads of cool plug-ins. The Sonitus effects suite rises to the challenge, but the instruments don't. Sonar needs to augment the TTS-1 with a good virtual analog synth (the DreamStation is starting to look pretty tired), a slammin' drum machine, and a basic sampler. Of course, Sonar veterans have the DR-008 drums, VSampler, and Timeworks effects from previous versions, as well as the outstanding Cyclone DXi. But someone just getting into Sonar will want to factor some decent soft synths into the total price.

THE SKINNY

I've always appreciated Sonar's ease of use. The latest version takes workflow to a much higher level; this is a truly efficient (and stable, by the way) sequencer that gets out of the way when you're in The Creative Zone. Sonar 4 is a program that rewards the faithful, and just may cause others to wonder if perhaps the grass isn't a bit greener — or at least needs less mowing and weeding — on Sonar's side of the fence. **EQ**

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by Lynn Fuston

AEA R88

An encore to that old ribbon mic magic

LType: Stereo ribbon microphone

Price: \$1,895

Contact: Audio Engineering Associates, www.wesdooley.com

Capsule: two Large Ribbon Geometry elements (LRG)

Polar pattern: two figure-8 mics fixed at a 90-degree offset

Frequency response: 20Hz to 15kHz (±3dB)

Output impedance: 270 ohms

Maximum SPL: 165dB at 1kHz or higher



Confession: The AEA R84 has become one of my favorite mics. It's taught me so much about ribbon mics that after reviewing it, I couldn't bear to send it back. So a pair of R84s became my constant companions in the studio. For orchestral work, brass, acoustic guitar, group vocals, even lead vocals, they're good at capturing a diversity of sounds.

The R84 (reviewed in the Sept. '03 issue) was AEA's first original mic design after years of restoring/recreating classic RCA 44B ribbon mics. But it's more versatile, lighter, and affordable than the 44B.

TWO = BETTER?

When I heard that Wes Dooley at AEA was planning a stereo version of the R84 — the R88 — I was interested. I frequently use my R84s for stereo miking, but putting two 12" long mics end-to-end at 90 degrees on a single stand at a height of 8' 12" is no small task. The ability to position one mic for stereo was appealing.

The R88 is the same diameter as the R84 (2.5"), but is 13" long — 9" shorter than an R84 pair. With

its black "stealth" finish, the R88 is much less attention grabbing than an R84 pair — a good thing for live and videotaped performances.

The R84 has three layers of protection between the ribbon and the outside world, with another layer on the back. The R88 does away with most of that protection. "The goal was to put as little as possible between the music and the dancing ribbon," according to Dooley. Translation: Greater clarity, less resonance within the mic chamber, and greater susceptibility to outside nuisances like wind.

THE SOUND

I tried the R88 on a piano I've recorded many times, which is bright and present. I tried R84s on this piano but wasn't impressed. But the R88, compared to even my standard miking setup for this instrument, was the choice of everyone in the control room. The imaging, with the mic just inside the lid, about 18" above the strings, was superb. It had separation of the high and low strings, but made the instrument seem like a cohesive whole. It also tamed the brightness of the instrument and made it wrap around and support the vocalist without drastic EQ.

On voice, it was apparent that the extra acoustic protection was gone — where's that pop filter? At a distance of 8", the R88 has enhanced low frequencies compared to the R84. The R84 seemed more present and forward when up close, while the R88 was flattering on the top and bottom of the voice. With a shaker at 12", differences were also noticeable, mostly in the presence range.

The R88's stereo imaging is wonderful, but may seem narrow to those accustomed to spaced cardioids. The R88 presents a natural, almost binaural sense with strong center image and very precise imaging.

OUTPUT

For those concerned about using a low-output ribbon without a high-gain preamp, I tried an experiment using a Digidesign Mbox. Would the output from the R88 be enough using this preamp? Yes: I was able to achieve good levels on soft voices, although I had to run the gain wide open. This proved that louder sources, such as brass or electric guitar (both favorite ribbon applications), would be fine without a special preamp.

Even though they share near-identical motor designs (the magnetic assembly that surrounds the ribbon) and identical ribbon dimensions, the R84 and R88 are different mics with different strengths. I think either would make a great addition to anyone's mic closet. Are they different enough to own both? Yes, especially considering how versatile they are, their affordable prices, and the sonic qualities each offers. **EQ**

Strengths:

- Easy setup
- Uniform polar response
- Black-on-black for reduced visibility
- Integral shock mount
- Excellent low end
- Effortless imaging
- Wonderful mic case

Limitation:

- Large physical size makes it difficult to position

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Kill

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-6

Mix

Position

Diffusion

Gain

Freq

-20

100 %

10 %

30 %

2 dB

Low

2 Hz

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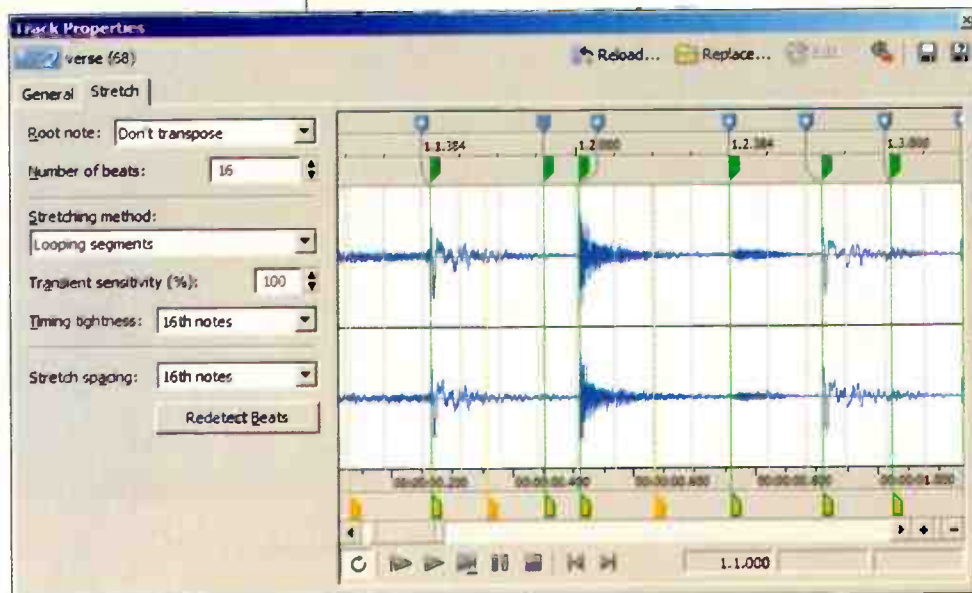
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www.plugzilla.com

by Craig Anderton

Sony Acid Pro 5.0 (Windows)

Lower your PH with some good Acid



Acid was
miraculous,
scandalous,
and the birth
of serious
groove
software.

In 1998, Acid didn't just change the world — it created a new one, where audio went from a rigid bunch of bits to the musical equivalent of Silly Putty. Perhaps more significantly, Acid provided a shortcut to the "look and feel" of musical talent for those without any.

It was miraculous, scandalous, and the birth of serious groove software. It was even the kind of program that made diehard Mac addicts who'd drunk the Cupertino kool-aid hold their noses and get a PC, just so they could run this wild new software that turned the sequencing paradigm inside out.

Acid's claim to fame was that you could bring audio of just about any tempo and key into the program, and like magic, convert it to the current project's tempo and key. Previously, you had to either fit your tune to the available audio, or apply arduous digital signal processing techniques that usually did considerable

violence to the audio quality. The program even included a bunch of loops to get you going, and *Acid aficionados* started to notice them in everything from dance music to TV commercials.

GIMME (VERSION) FIVE

You'll note there's no Specs sidebar; Sony's web site has all the specs you need — go www.sony.com/mediasoftware, click on Products, and then go to the Acid Pro 5 page. We'll concentrate on the main update features, and their impact on the user experience.

Version 5 has three obvious goals:

- Higher quality sound and more flexible looping
- Better project management and workflow
- Improved compatibility with the rest of the world

Acid also has a more efficient audio engine. The engine stops while you're inserting effects, but then

picks up where you left off. There's also a blip when you insert a bus, but other than that, it's pretty gapless.

GETTING STARTED

You insert the CD, install the program, then the Media Manager (which requires installing the included Microsoft Data Access Components 2.8), then restart. If MDAC is already installed, this step, including restart, is unnecessary. Next up: Install the Native Instruments Xpress Keyboard Instruments, call up the program, enter the serial number, and finally, authorize the program on the Sony web site.

I was pleasantly surprised at the two CDs of loops, one with 439 new loops for Acid (Electronica, Dance, Hip-Hop, Rock, Organ, and Ambient Cinematic). The other is a sampler of 668 loops from Sony's deep library of Acid grooves. Yeah, it's a teaser, but it's license-free — so don't complain.

TOP 10 NEW FEATURES

Let's take a graphic tour of Acid Pro 5's greatest hits.

Acidization markers tell the software where hits occur so they can maintain the correct rhythm when the tempo changes. But Acid now offers separate beat anchors and beat (stretch) markers. You can force a note that's off beat to hit on a beat anchor, but you can also shift the beat anchor and fool the loop into thinking that's the beat. This lets you lag, lead, swing, or correct beats.

Overall, there's a lot more control over stretching

Live lets you focus on what really matters: your music.



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vintage tube technology



(40) SERIES

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cardioid vacuum tube condenser microphone

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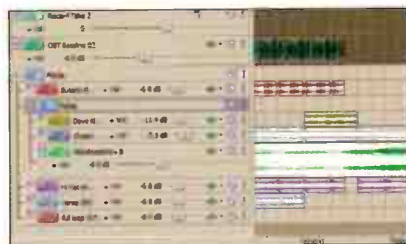


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Acid Pro 5.0 (Windows)

characteristics with the new groove tools, including the ability to apply grooves to acidized files. Acid Pro 5 comes with 52 grooves, but you can create and customize your own based on how you've placed stretch markers in an acidized file.

The stretching sounds better, and the beat detection engine seems more accurate, requiring less "tweaking" to get loops to stretch over a wide range. Although Acid hasn't added Rex file-type capabilities to change characteristics of individual slices, it has reclaimed first place as the best environment for creating acidized loops.



Acid has always had a "one loop, one track" philosophy. This makes it easy to draw loops in a track, because Acid always knows which loop goes in that track. The downside: Variations on a part can chew up a ton of tracks.

Folder tracks group tracks into one track. You can nest folders within folders, and do anything with a track within a folder (change track height, move, split,

add envelopes, and so on) that you can do when it's not in a folder — including "cluster edits" on collapsed folder tracks. You can also mute and solo folder tracks, however, you can't do operations on the folder track itself. Drag parts out of the folder any time, as well as minimize folders to minimize space; this is a fine implementation of a much-needed feature.

Yes, that's a VST effect (out of a chain of five) you're seeing — Acid speaks something other than DirectX, and it still maintains PDC so the sound doesn't get all phasey when it goes through multiple buses. It's also learned how to shut up its effects, thanks to a "bypass all" command, and can do multiport VST instruments.



Acid can now tell time, thanks to effects (Amplitude Modulation, Flange/Wah-Wah,



Get Real

What the critics say:

"Sonically the M930 delivers. The mics are small and light enough to be positioned anywhere and the mounting hardware allows you to exactly set the angles. Brilliant! I really liked the M930s on every source I tried and in every case they came through with fine imaging and open sound. Give them a try. You'll be convinced. I was; I bought them."

~ Mitch Gallagher
EQ Magazine



"Honey they shrunk my M49! Compared to my \$10,000 reference, both had that big bold Neumann sound, yet the M930 seemed to have a deeper low end and was definitely quieter. Wow was I impressed! Despite its diminutive size, the M930 contains a full 1" diaphragm and amazingly hip electronics. The tiny form factor makes various stereo arrangements easy to accomplish and the M930 is the quietest mic I have ever used. I liked them so much, I bought them."

~ Dr. Fred Bashour
Pro Audio Review



"The compact size of the M930 is very useful when trying to get a mic into a tight space. It is smaller, lighter and has greater headroom than others. It acquitted itself very well indeed in all cases, including all forms of human voice, capturing lots of detail, but in a fairly neutral way. The M930 matches or exceeds the performance of alternatives costing substantially more."

~ Hugh Robjohns
Sound on Sound



"In all of the applications, the M930's small size was an asset. I found myself writing the word superb over and over. The M930 gave me lovely, unblemished signals, that were easy to mix and required little or no EQ. The M930 is a rare critter. In short, a superb professional microphone, among the best I've used. I bought them."

~ Paul Stamler
Recording



M930 matched stereo pair with SH93 X/Y bracket

Real History

Since 1928, Gefell has led the world in microphone technology starting with the world's first condenser. In 1935 the remarkable M7 capsule was introduced that led to the legendary sound of the U47, the U49 and in 1957, the UM57 – the first ever multi-pattern microphone.

Today, Gefell continues the tradition under the direction of Mr. Kühnast Jr. with the original M7 capsule featured in the UM75 and UM92.1S tube microphones.



Georg Neumann with Chief Engineer Mr. Kühnast Sr. – circa 1933

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2004 – Hand drilling an M930 back plate

Real Innovation

Introducing the M930 – the most advanced condenser microphone made today. Compact for easy placement, the M930 features a full-size 1" diaphragm mounted on a triangulated pedestal to diffract body reflections away from the capsule and minimize acoustic field disturbance. Inside, the M930's optical power isolation lowers self-noise to a mere 7dB while providing 80 Volts to the capsule for an unprecedented 142dB signal handling. The results are stunning: that 'big bold German sound' without compromising sensitivity, articulation or tonal structure. No other microphone comes close.



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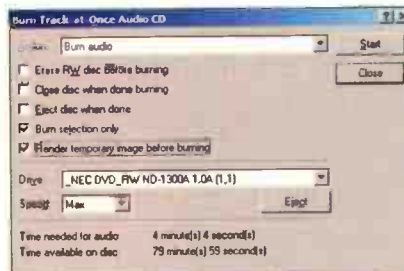


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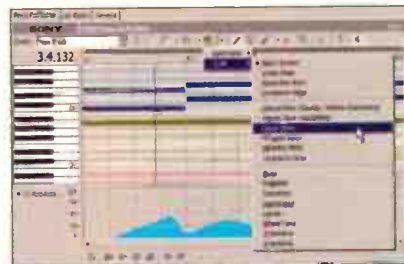
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Acid 5.0 (Windows)

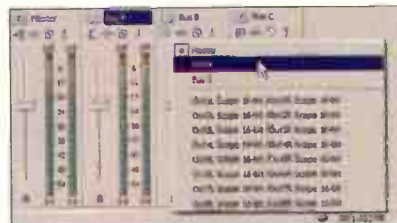
Chorus, and Simple Delay) that can sync to tempo. All I can say is — it's about time.



When you're finished with your masterpiece, burn it to CD (disc or track at once). Well, at least you can; my computer refuses to talk to the Sony, Sequoia, or Wavelab CD burning engines ever since I made the mistake of installing Roxio CD burning software that came bundled with a DVD drive. (Guess I'd better hack the registry and get rid of it.)



MIDI's been spiffed up a bit with constrain to scale (just noodle on the keyboard, then snap to a specific scale/key to banish bad notes). The MIDI implementation is still kinda low-rent; don't expect a lot of editing goodies, or the ability to plug-in MIDI effects. But it will get you through recording your virtual instrument parts.



I use a lot of bus effects, so I'm happy it's possible to route a bus to another bus (and it won't let you do anything stupid, like set up a feedback loop).

Customizable media folders help organize the files you use in a project, and you can

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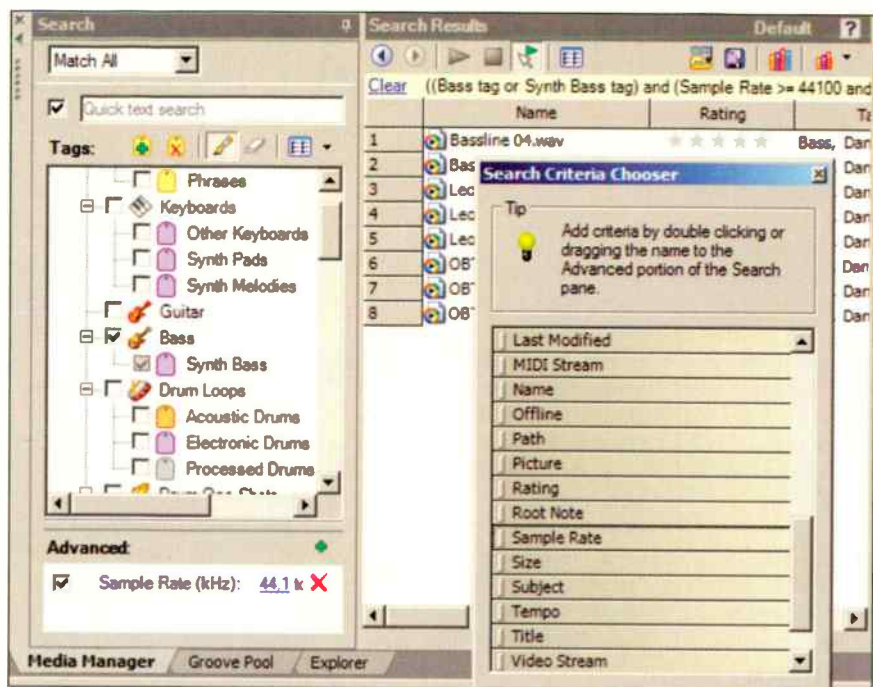


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Acid Pro 5.0 (Windows)



save a project path in a rendered file to edit a rendered file's source project. But the killer feature is Sony's new Media Manager technology for locating different types of files, as well as the ability to tag, search and browse files with metadata that makes specific attributes easier to find — think "database and search" functions. The program even gives you access to a listing of all 130+ CDs in Sony's Loops & Samples collection, tags the libraries you already have, and provides immediate links on how to purchase a particular collection.



Acid can serve as a ReWire 1.0 client and ReWire 2.0 host. Well, sorta. It worked perfectly as a client with Adobe Audition, but when I hit stop with Sonar 4 and Live 3, Acid would freeze. It hosted Reason just fine, but audio sync would fall apart with Project5 — unless P5 had the focus. And as a Storm 3 client, the audio was garbled;

as a host, it didn't work. Sony had done a lot of testing with a variety of programs (but not some of the ones I used) without problems; maybe the issues are unique to my setup, but in any event they indicated an interest in getting more data so they can do any necessary fixes.



Part of the Pro package is Native Instruments' Xpress instruments (B4, Pro53, and FM7). These are not keyed to Acid so you can use them with other VST hosts (thank you!).

There are other goodies too, like downmix monitoring for surround projects, easier ways to create loops out of one-shot hits, a chopper window, Macromedia Flash format import, event reverse, and assignable keyboard mappings. And here's a real labor-saver: Changing a loop envelope can affect all selected loops. If you've ever noticed a click on a loop after you'd painted in a zil-

lion instances, then had to go into each effing loop and add a teeny fade to get rid of the click, you'll appreciate this.

WHAT'S MISSING

The biggies: No one-click "freeze" function to premix a virtual instrument track, then archive it to give the CPU a vacation. Nor can you control the level faders, or any parameters for that matter, using external hardware control boxes. This is a major omission if you're into adding the human element by working with a control surface.

Version 5
smooths out
Version 4's
rough edges,
while adding
significant
features.

Put this on the "must-have" list for Version 6. As to MIDI, editing options remain limited; it's really a record/playback engine.

CONCLUSION

Acid started as a simple, elegant program. When it added features to compete with more conventional programs, it started to lose its way; MIDI had a tacked-on feel, and little was done to tweak the user interface. Version 5 smooths out Version 4's rough edges, while adding significant features that greatly enhance the experience of making music on Acid. I mean, *with Acid*.

I still wouldn't say Acid competes with hosts like Cubase SX, Samplitude, Sonar, and so on; they're apples and oranges. But I also feel it shouldn't try to — by zeroing in on being the best implementation of Acid it can be. Version 5 shows it's neither willing, nor ready, to cede its long-held turf. And it's *still* the quickest way to put music together on Windows. **EQ**

by John Krogh

TC Electronic PowerCore Compact

Packing bags for a power trip

Type: Portable DSP engine for native-based DAWs

Price: \$995

Contact: TC Electronic,
www.tcelectronic.com

DSP chips: 2x150 MHz

Connections: 3 FireWire

Included Plug-ins: EQsat, ClassicVerb, MegaReverb, MasterX3, Vintage CL, VoiceStrip, 24/7•C limiter, O1 synth, Chorus•Delay, Character, Filtroid, Tubifex

Plug-in Formats: VST (Mac and PC), Audio Units (Mac)

Resolution: 24-bit/96 kHz

Software Version Reviewed: 1.9.3

Minimum System Requirements:

Mac: G3 or G4 with OS 10.2 or higher, 256 MB RAM, VST- or Audio Units-compatible host application, 400 MBit FireWire connection

PC: PIII/500 or faster with Windows XP, VST-compatible host application, 400 MBit FireWire connection

Tested with: dual processor 1.25GHz G4 with 1.25GB of RAM, OS 10.3, Logic 6.4 and 7

There's nothing worse than getting deep into the mixing stage of a project, only to run out of CPU resources for more plug-ins. What can you do? Render tracks with effects? Shuffle sample buffer settings to relieve the CPU strain? It's a situation many of us have faced. One of the more appealing solutions is to employ a dedicated DSP device, which can be used to run proprietary plug-ins within your host. The net result is, you're able to run way more software effects without taxing the main CPU. These DSP "helpers" are a boon for those of us with native-based music production studios.

TC Electronic virtually defined this market when they launched PowerCore PCI, a processing card (now called PowerCore Element) that fea-

tured Motorola DSPs and included a collection of high-quality effects. It wasn't long before TC released an external version, PowerCore FireWire, which was rack-mountable — a big plus for recording engineers on the go. But 19" rack-mount gear isn't exactly the most ergonomic solution for those who like to travel light. So TC has added PowerCore Compact, which features a smaller, stylish, smooth-contoured form, which slips neatly into backpacks and soft-shell computer cases.

There's less CPU horsepower onboard compared to other models. Compact has two 150MHz DSP chips and two 512kWord S-RAM modules — half that of the larger FireWire model. Fortunately, Compact uses the same 266MHz PowerPC processor as the rackmount unit. And if

one PowerCore isn't enough for you, you're free to mix and match; you can mix and match up to four PCI units and two FireWire units on a single computer to create an extended DSP "farm."

Back in December 2003 we reviewed PowerCore FireWire, along with its included effects. This time out, I'll concentrate on Compact specifics, including the new Character plug-in, along with the recently released MD3 stereo mastering bundle, which TC was gracious enough to send me in time for review.

GETTING STARTED

Installing Compact is simple and straightforward: Connect the power supply, then connect a FireWire cable from your computer to one of Compact's three FW slots (the extra ports can be used for



DESIGNED BY NOVELTECH, CHARACTER IS ONE OF 12 PLUG-INS INCLUDED WITH COMPACT.

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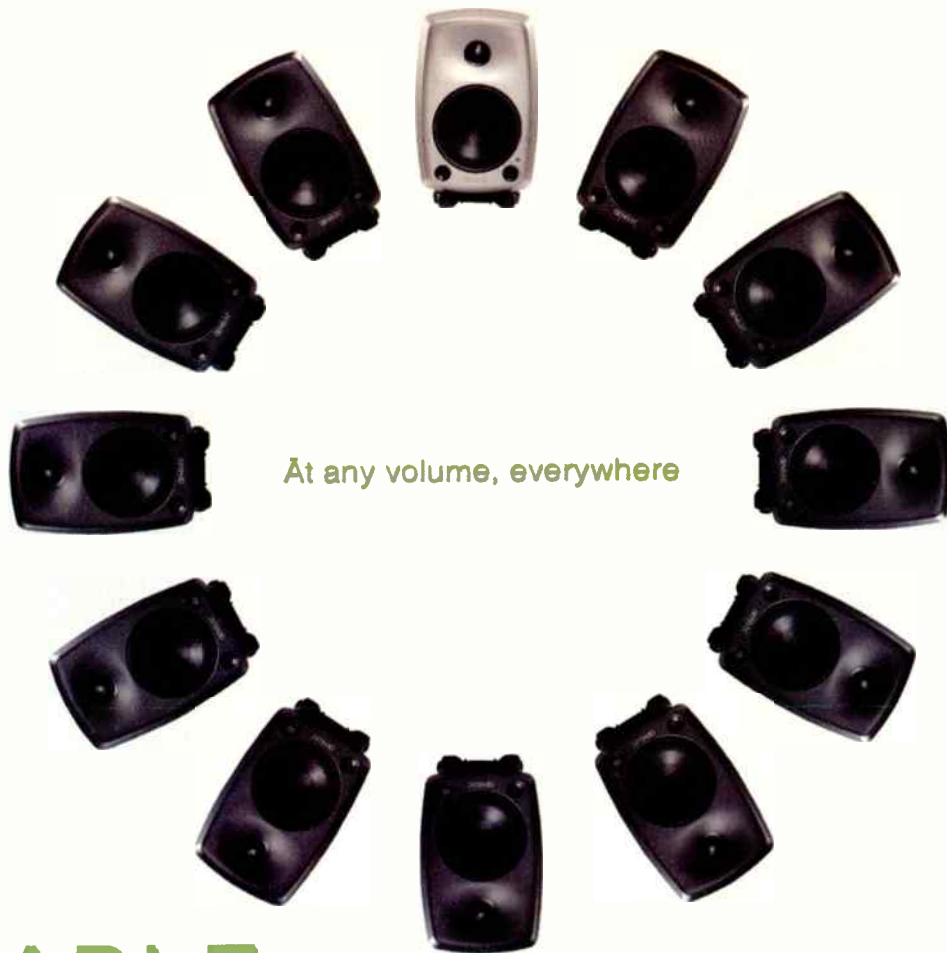


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8000 Series



8030A's shown in optional silver finish

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daisy-chaining other FireWire gear). Next, install the software, and that's it.

When you're finished, PowerCore's 12 plug-ins will appear along side any other effects within your VST host. For Audio Units hosts, PowerCore automatically "wraps" its VST plug-ins, so they'll run as AUs. In Logic 7, all the PowerCore plugs showed up immediately after I installed them. However, adding optional plug-ins requires an extra step: After installation, you'll need to re-run the PC installer, and choose an update option, which scans for any new plug-ins. Once this process is complete, the installer works its wrapping magic. When it's finished, the plug-ins show up in AU hosts. This worked without a hitch when I installed the MD3 and Dynamic EQ plug-ins (the latter of which I hope to review in the near future).

STRESSING THE TESTS

So how much power can Compact bring to the table?

To find out, I performed a

Some words of caution: These tools require practice. You won't master them in a couple of days...

series of stress tests. In Logic Pro, I was able to run 12 24/7•C limiters and two 5-band EQs before using up my available DSP. That's not a lot, when you consider you'd likely get way more native compressors and EQs from your host app. But according to TC, the 24/7•C is a detailed hardware emulation based on an 1176, and consequently requires more DSP power than your average host comp.

While there's no reason you couldn't, or shouldn't, fill up an entire PowerCore with compressors, a more practical approach would be to

pick and choose your effects on the basis of typical mix conditions. For example, I was able to run one instance each of Classic Verb, MegaReverb, and TC Chorus/Delay, two instances each of VoiceStrip and 24/7•C limiter, and an EQ Sat before hitting the wall.

The lesson is this: While Compact's DSP might not afford you dozens of PowerCore effects, you can expect to run more than enough choice reverbs, along with, say, Master X multiband compression, and a few other useful processors during mixdown.

CHARACTER ACTING

Developed by Noveltech, Character is the newest addition to the line-up of effects included with PowerCore Compact and FireWire. On a technical level, I'm not exactly clear just what Character does. The documentation suggests Character is related to conventional dynamics and EQ, but it doesn't really fall into either camp. There are no attack, ratio, or threshold controls, nor are there frequency gain and bandwidth settings. What I do know is, with Character it's possible to enhance and emphasize a particular frequency range. It works best on individual tracks, not full mixes, and to my ears, the results sound a bit like multi-band compression based on predefined EQ curves.

I suspect there's a lot going on behind the scenes, but on the surface, there are few controls, making it easy to dial in a pleasing tone. The Target parameter sets the relative frequency range where the processing is, um . . . targeted. This doesn't represent an absolute frequency range, but rather, a relative range based on the input signal. Essentially, Character analyzes the input signal to determine the frequency range that Target will affect.

To help narrow your "characterization," three modes are provided. Mode 1 is optimized for percussion and vocals, Mode 2 for guitars and synths, and Mode 3 for bass guitar and pads. Of course, you're not required to adhere to these guidelines. I was able to significantly reshape the tone of guitar and vocal tracks by using "alternate" modes. It's all about using your ears, not your eyes.

This is Character's strength. Twist a couple of



COMPACT'S SLEEK, SEXY DESIGN COMPLEMENTS APPLE TITANIUM AND SONY VIAO LAPTOPS NICELY. MORE TO THE POINT, COMPACT BOASTS A HEALTHY AMOUNT OF DSP UNDER THE HOOD, AND A WELL-ROUNDED SET OF INCLUDED EFFECTS.

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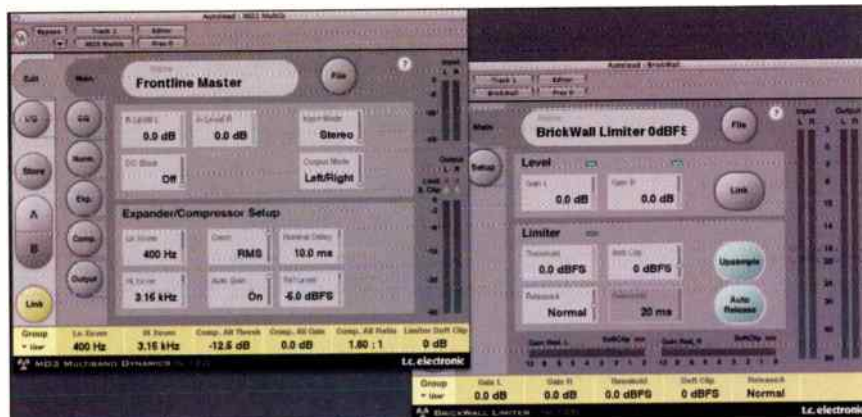
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TC Electronic PowerCore Compact



THE OPTIONAL MD3 BUNDLE IS A DIRECT PORT OF SOME OF THE MASTERING FACILITIES FOUND IN TC'S OWN SYSTEM 6000.

dials to focus on the frequency content you'd like to emphasize, then crank up the Character knob. It's simple, and doesn't overwhelm with parameter "option anxiety," so you can get on with the mix.

MD3 STEREO MASTERING BUNDLE COOLNESS

First there was the Finalizer, a hardware "mastering" processor whose specialty was multiband compression and EQ. Then came Master X, a software incarnation of the Finalizer. More recently TC, rolled out the System 6000, a multichannel hardware processor that includes, reverb, multi-effects, and mastering-oriented tools. The MD3 Stereo Mastering for PowerCore is a port of two System 6000 algorithms — the multiband dynamics processor and full-range limiter. At \$995 (the cost of Compact itself), the MD3 bundle isn't exactly an impulse buy. But if you operate a well-heeled project studio or mastering facility, MD3 is well worth the price of admission.

TC's claim is that the MD3 Multiband Dynamics (MD) and Brickwall Limiter (BL) are designed to protect against digital overs, which can sneak past most other dynamics plug-ins. Detailed AES papers of the danger in producing mastered tracks that cross the threshold of 0dBFS and why this frequently happens can be found online at TC's website (www.tcelectronic.com). It's worth checking out.

Brickwall Limiter uses upsampling to preserve sonic quality, and is guaranteed to eliminate signals that will distort on consumer players. Interface-wise, BL is uncluttered and simple to use. Release

times are fixed, with "normal," fast 1/2/3, and slow 1/2/3 — there's no worrying over how many milliseconds of release time is necessary, and so on.

MD comprises a stereo 4-band EQ, 3-band compressor, limiter, soft clipper, and MS encoder/decoder, all within a single menu-tabbed interface. You can bypass each section, but the signal path is fixed; EQ > normalizer > compressor/expander > limiter.

The look and feel of MD and BL is quite different from other plug-ins in PowerCore's stable. The UI is "flat," clean, and 2-D, which is a nice break from the norm of hardware-looking software. It's easier on the eyes, which is a good thing, as you'll likely be spending a lot of time in front of these interfaces, especially MD's.

My only complaint: Many of the multiband's related parameters aren't presented on the same menu page, so I found myself clicking around more than I'd like. For example, EQ frequency, gain, and type controls are separated, not available within a single page. Fortunately, it's possible to group any six parameters from any page along the bottom of the screen, which helps minimize excessive clicking.

Any operational inconvenience is minor in significance compared to the sonic quality of MD3. Simply put, this is the most transparent and effective set of software mastering tools I've ever used. In particular, the EQ is capable of radical or microscopic gain changes without introducing any phase artifacts. Even with extreme settings, my tracks never became lopsided or smeared, as can sometimes happen with lesser EQs.

The compressor never showed signs of heavy-handedness, either. In fact, using MD in combination with the brickwall limiter on full mixes, I was able to achieve much more perceived loudness, with remarkable definition in high-frequency material (shaker, acoustic guitar strumming, mallet percussion), smoother mid range without any scratchiness, and solid, contained lows. In short, these plug-ins rocks.

Some words of caution: These tools require practice. You won't master them in a couple of days, or even a couple of weeks. That's not to say you can't get great results quickly. But the MD3 bundle is a serious set of tools that take time to learn. However, the time you take to experiment with them will be well spent, and no doubt, your mixes will be that much better.

THE SCOOP

If you're hitting the limits of your CPU during mixdown, or you're looking to beef up the processing power of your portable DAW rig, PowerCore Compact is a compelling option. It comes with a well-rounded set of software for creative and utilitarian needs, works with all major Mac- and PC-compatible hosts, and can be expanded by adding optional effects.

At just under \$1000, Compact isn't cheap, but it costs a lot less than what you'd pay to upgrade your entire machine, and you'll be guaranteed a fixed amount of DSP for your projects. And besides, it just looks cool — how can you resist? **EQ**

COMPACT

Strengths:

- Doesn't require PCI slot
- Travel-friendly design
- 12 plug-ins included
- Growing family of optional plug-ins
- Can use up to four units on a computer

Limitations:

- Host CPU is still limiting factor on number of plug-ins you can run

MD3 MASTERING BUNDLE

Strengths:

- Super-transparent compression and limiting
- EQ is capable of sonic surgery without introducing distortion or phasing

Limitations:

- Fixed signal path in Multiband Dynamics

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The Synergy XL series is designed to provide beautiful and functional console housings for all the popular mixers, providing you with optimum flexibility to accommodate these mixers and associated peripherals.

The S6DXBXL pictured features:

- ◆ One 6-space rack bay sloping up on the right side of the DXB, with a large writing surface between it and the wrist pad.
- ◆ The left side has a small writing surface is next to the wristpad, followed by 2 rackspaces, with 6 more rackspaces angling up. These rack spaces have a usable depth varying from a little over 6" in the front section to 14" in the back.
- ◆ Padded wrist rest across the front of each writing surface. The DXB has it's own built-in wrist rest.
- ◆ Mounted on heavy duty powder-coated black steel legs.

**Synergy S6DXB XL
for Mackie DXB**

pictured with optional solid mahogany "cheeks"

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by Mitch Gallagher

Hot House PRM 165/Model Six Hundred

Rock the house with this passive monitor/amplifier combo

Type: Passive 2-way monitors, 2-channel power amp
Price: PRM 165 (pair), \$1,299 (hyper-shielding \$100); **Model Six Hundred**, \$2,499; (optional polished front panel, \$199)
Contact: Hot House, www.hothousepro.com

PRM 165
Format: 2-way rear-ported
Low-frequency driver: 6.5" long-excursion woofer
High-frequency driver: 1" dome tweeter
Impedance: 8 ohms
Frequency response: 58Hz–20.5kHz, ± 3 dB
Recommended power: >100 watts per channel
Inputs: binding post
Magnetic shielding: yes
Dimensions: 12.5" H x 8.5" W x 13" D
Weight: 25 lbs. each

These days the trend is unquestionably toward active monitors (speakers with built-in power amps). And actives are attractive; they're convenient, compact, they require fewer cables, and so on. But that doesn't mean that passive monitors (which require external power amps) are dead. Hot House has been offering the PRM 165 passive nearfields for some time, as well as a substantial line of power amps that can be paired with any passive monitors. We reviewed the PRM 165 back in October '99, so the focus here will be on the Model Six Hundred power amp.

Simplicity is the word with the Model Six Hundred. There's a power connector, power switch, inputs and outputs. That's it. Plug it in, turn it on, and go.

The Model Six Hundred does its job well — in my trials it was clean and transparent, with excellent dynamics. Frank Wells at *Pro Sound News* also put the Model Six Hundred through its paces: "The highest praise you can give an amplifier is that it has no distinctive sonic signature. The Model Six Hundred performs as advertised, simply taking the input, making it louder, and driving speaker loads without audible artifacts. I used the amp with PRM 165s, Tannoy System 600s, cheapo consumer speakers that have proven a difficult load in the past, and even with a modest PA stack. In all cases, the Model Six Hundred performed its task with transparent ease."

Frank also put the amp on the tech bench: "I measured the throughput gain at just

over 28dB, with left and right channels matching within 0.01dB. The power ratings are conservative. I measured 184/285/325 watts/channel at the onset of clipping. Intermodulation distortion numbers were equally good, as was frequency response: I measured the 3dB down point at close to 100kHz, acceptable even for high-resolution audio."

The PRM 165s are an excellent match for the Model Six Hundred. They provide great dynamics, surprisingly solid low end for a compact driver/cabinet, and excellent imaging. They're un-hyped tonally; ear fatigue is not a problem. They're revealing of negatives in a mix, particularly in the midrange. I found them plenty loud for nearfield applications.

POWER ON DEMAND

If you're using passive monitors with a less than stellar amp, the Model Six Hundred will provide you with an instant upgrade. It's powerful, dynamic, and transparent. Paired with the PRM 165s, you've got a high-performance monitor rig that can rival anything out there. **EQ**



IF YOU'RE LOOKING FOR TONS OF EQ AND ROOM COMPENSATION CONTROLS YOU WON'T FIND THEM HERE — WHAT YOU WILL FIND IS GREAT SOUND QUALITY, SOLID LOW END, AND NO EAR FATIGUE.



Strengths:

PRM 165

- Solid low end
- Unhyped highs and lows
- Compact size
- Capable of high volume
- Extremely revealing

MODEL SIX HUNDRED

- Plenty of power
- Transparent

Limitations:

PRM 165

- None to speak of

MODEL SIX HUNDRED

- No overload indicators

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A Harman International Company

by Phil O'Keefe

Soundcraft Compact 4

Defeat latency with this handy mixer

Type: Small-format analog mixer

Price: \$149.99

Contact: www.soundcraft.com

Mono inputs: 2 mono XLR/1/4" mic/line inputs with 48v phantom power, 12dB/octave highpass filter on channel 1, hi-Z switch on channel 2

Stereo inputs: RCA line inputs, RCA and balanced 1/4" Playback In

Outputs: balanced 1/4" mix and monitor outs, balanced 1/4" and RCA record outs

Mic preamp gain: 60dB

EQ

Low-frequency: shelving at 60Hz

Midrange: peaking at 600 Hz

High-frequency: shelving at 12kHz

Boost/cut: ±12dB

Frequency Response: 20Hz-20kHz, ±0.5dB (mic/line input to any output)

THD + Noise: <0.007% (Mic gain 30dB, mix out, fader max @ 1kHz)

IMPEDANCES

Mic input: 2k ohm

Line input: 10k ohm

Hi-Z input: 300k ohm

Stereo input: 47k ohm

Outputs: 75 ohm

MAX LEVELS

Mic input: +16dBu

Line input: +30dBu

Stereo input: +20dBu

Dimensions: 10.9" W x 2.17" H x 9.69" D

Weight: 3.85 Lbs.

It's always good to know who your friends are. Unlimited time and money? Very definitely: friends. Latency? Very clearly *not* a friend. More like a committed enemy of anyone who is trying to record audio via a computer soundcard. But savvy engineers know that you can get around this problem by using an external mixer to monitor the output from the computer simultaneously with the input source. What they may not know is that the Soundcraft Compact 4 is designed to meet this need. Does it? Well, let's see.

With two mono input channels and two stereo channels, the Compact 4 first appears to be a fairly typical small-format mixer. You get 3-band EQ on every channel with a 60Hz low shelf, 12kHz high shelf and 600Hz peaking midrange controls. While Soundcraft states that they decided on 600Hz for its usefulness when recording vocals, I wish they had picked a bit higher mid-center frequency. That aside, the knobs do have center detents

so you can easily set the EQ flat. There's no EQ bypass, but you wouldn't expect that in this type of product anyway. Moreover, the EQ is effective and sounds very good for a product in this class.

The two mono input channels have 1/4" balanced and XLR inputs on combo Neutrik jacks for mic and line use. Channel 1 has a 12dB/octave highpass filter, while channel 2 substitutes a hi-Z switch for DI recording of guitars and bass — a smart choice. The switchable 48V phantom power-equipped mic preamps have up to 60dB of gain, and sound quite nice. You also get insert jacks on these two channels for applying outboard processing. The two stereo channels have RCA jacks for connections. One notable addition to the stereo channels is the RIAA EQ switches for use with turntables. This makes the Compact 4 an attractive choice for DJs who need a small mixer. A pan/balance knob and rotary level control are also included on all channels.

I would have liked a USB interface, but adding that would have increased the cost.

However, Soundcraft plans to release an optional battery

pack for the Compact 4, so lack of USB bus powering shouldn't be a large issue for mobile users. The location of the power jack on the recessed side panel makes removing the line-lump AC adapter's plug impossible without yanking on the cable itself. The lack of aux sends may also be a limitation for some users, but for the most part, these aren't major issues.

Where the Compact 4 differs from many small mixers is in the bussing and monitoring. Each channel has two switches to handle audio routing. When the first switch, labeled "Rec" is depressed, audio is routed through a master record level control and then out to the 1/4" and RCA record outputs. The channel Monitor switches act as a stereo-in-place PFL, and when depressed, the signal is also routed to the two headphone jacks — one for the engineer and one for the artist. A "Mix" control allows you to blend and control the relative levels of the input source and the computer playback level from the dedicated 1/4" and RCA "Playback In" jacks. It's a fairly clever and intuitive layout that makes things easy for a novice.

For someone who needs a good set of basic tools for DJ or computer home recording use, the Compact 4 delivers at a rock bottom price.

Strengths:

- Good mic preamps.
- Clever routing and monitoring design.
- Great latency control features.
- RIAA EQ switches for DJ use.
- Good price/performance ratio.

Limitations:

- Unusual midrange EQ center frequency
- Power jack is difficult to access.
- No aux sends



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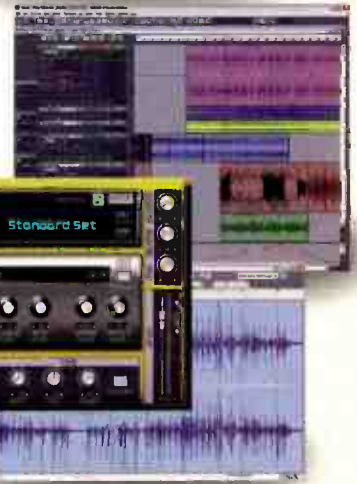
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World Radio History



by Lee Flier

RealTraps MiniTraps

Giving your studio an up-market upgrade for downtown prices

Type: Acoustical panel/bass trap

Price: \$179.99 each

Contact: RealTraps,
www.realtraps.com

Dimensions: 2' x 4'

Weight: 16 lbs.

When it comes to studio gear, acoustical treatment seems about as exciting as, well, acoustical treatment. We'll spend untold hours and thousands of dollars purchasing microphones, preamps, converters, monitors and other gear, but the actual sound of the room is all too often an afterthought. This seems a shame, considering that room acoustics easily dictate more of the eventual sound of our recordings and mixes than anything else we buy.

Yeah, you might own a high quality mic, but if you're recording in a bad sounding

room it will only faithfully capture the room's negative qualities. And even the best monitors are still subject to the laws of physics and if your room isn't accurate, you won't get an accurate mix. The reverse is also curiously true: less-than-stellar mics and monitors perform better if the room's acoustics are good. So it pays to spend time and money getting the acoustics right, right?

Well, for those of us with small home studios, improving the room's acoustics seems like a futile exercise: changing the shape or size of a room, which is usually the problem, is not a solid choice. And I've never been happy with the available options for home acoustical treatment. Foam tends to create a "sterile" sounding room while doing nothing to improve the low end. Building wood and fiberglass panel bass traps is very time consuming, and traps that perform well are typically large, heavy structures that take up most of your wall space and require a lot of hardware to support the weight.

Ethan Winer and his RealTraps company propose

to change all that. Their MiniTraps bass traps absorb sound all the way down to 50Hz, while remaining slightly reflective in the mid and high frequencies. Each trap measures only 2x4 feet and weighs just 16 pounds. MiniTraps also outperform foam in absorbing bass frequencies, while retaining most of the high and mid frequencies and thus avoiding a "dead" room. To me, this sounded like the best of all worlds. I didn't expect it to make my basement sound like Carnegie Hall, but I was anxious to discover just how much the room could be improved.

IN WE GO

How many MiniTraps you will need and where to place them depends on the size of your room and the existing treatment. My room is quite large for a home studio, 19x24, and it's already got the advantage of an absorbent drop ceiling stuffed with insulation. So how much benefit would I gain from the traps, anyway? I mean, the room never sounded that bad, although it did have some definite low end problems,



THE MINITRAPSTIP THE SCALES AT 16 POUNDS APIECE AND ARE HUNG USING THE SAME HARDWARE USED FOR PAINTINGS.

and a few flutter echoes that caused an annoying ring in the upper mids. Well, after looking at my floor plan, RealTraps recommended that I use 12 traps, and gave me a rough idea where I should place them.

At 16 pounds each, the traps can be hung with ordinary picture hangers, without any special hardware or damage to the existing walls or ceilings. Typically, one installs them in each of the room corners, with additional traps in the wall-to-ceiling corners, and some flat on the walls as well.

I did hang several traps on the walls, but wall-to-floor corners are "corners" just as well as floor-to-ceiling, so in several cases I simply laid one edge of a trap on the floor and leaned it against the wall. This takes up more floor space than ceiling mounting, but considering I already have an absorbent ceiling and I like having the flexibility to move the traps around (more on this later), I considered it worth the sacrifice in space.

Also, rather than permanently installing traps in each of the four room corners, I decided to mount four of the traps on mic stands (detailed instructions for doing this can be found on RealTraps' web site) and place them in the corners that way. Again, this gives me the ability to move them around easily.

TESTING, TESTING, TESTING

I'm intimately familiar with my studio and its sonic signature, recording and

rehearsing in it for the past four years, and wondered if I'd notice a difference. When my band rehearsed for the first time after the traps were in, we all noticed how much the clarity was improved in all frequencies — the bass and kick drum were tighter and more focused, as well as more pronounced, guitars were clear and ringing without any harshness, and everything just seemed to be better defined.

The first recordings I tried were with guitar amps and vocals. In both cases, I was looking for an up-front focused sound. I took four MiniTraps from their positions on the floor and simply stood them up around the amp for the guitar tracks, fashioning a makeshift booth. The traps will stand up on their own, although you can hold them together with twine if you're worried about them falling over. The result was fabulous — the track sounded up-front as desired and the amp itself had a greatly improved tone.

I then used the four traps from the corners that I'd mounted on mic stands for the vocals and set these around the mic in sort of a makeshift vocal booth. It had traditionally been hard for a vocalist to "work the mic" by varying the distance, because the vocal would lose definition as the room's anomalies came into play and the voice would sound thin. But with the MiniTraps, the room characteristics are much more pleasing, and also more consistent no matter where the vocalist is in relation to the mic. With the MiniTraps, I often don't use any kind of "vocal booth" at all now — if the room sounds good, I like hearing some ambience in the vocal as opposed to being forced to close-mic all the time.

Having had great results so far, it was time for the ultimate test: drum recording. Drums are one of the toughest things to record in a smaller room with poor acoustics, because it's such a loud instrument and cuts across such a wide and complex frequency range. So I was most curious to see what the MiniTraps would do for drum tracks.

Well, the low end was more present and less muddled than it had been before, and I found

that I had to apply less EQ in the mix. Also, where drums normally have a huge amount of buildup in the 250–500Hz range in a small room, most of these "bumps" are now lower down, in the 150Hz area, which sounds more flattering to the mix in many cases.

We also used traps to vary the drum sounds for some songs. While most of the tracks were cut in the wide-open room, for songs where we wanted a particularly tight drum sound we simply surrounded the drum kit with traps on three sides, as I had for some of the guitar tracks. The snare and toms sounded punchy and well defined in a way that they hadn't before in this room. Far more dramatic differences in the sound were achieved using traps than we've ever managed by using different mics, preamps, or compressors.

AND THE WINNER IS?

The small size, lightweight, and portability of the MiniTraps also make them useful for recording in less conventional spaces. We cut some drum tracks in my garage, for example, and placing the traps in front of the garage door helped tame the worst of the reflections off the steel and glass while leaving the "live" character of the concrete block walls intact.

Mixing accuracy, too, is greatly improved. I can now hear the low end more consistently with fewer holes because of standing waves. And the harshness in the high mids is mostly gone too.

In short, RealTraps have a winner. All for the price of a single good mic or preamp. I don't know if I was supposed to be keeping them, but I am going to. **EQ**

Strengths:

- Light and portable
- Don't "dead" the room
- Easy to install with no damage to walls or ceiling

Weaknesses:

- None to speak of

[Ed. Note: In the interest of full disclosure, it should be noted that Ethan Winer from RealTraps is a freelance contributor to EQ and moderates our Acoustics forum at Musicplayer.com.]



Joemeek ThreeQ

by Phil O'Keefe

Price: \$299.99

Contact: Joemeek, dist. by PMI Audio, www.pmiaudio.com or www.joemeek.com

Strengths:

- Clean mic preamp
- Punchy compressor
- Effective tone-shaping EQ
- Improved metering and control

Limitations:

- Rear-panel phantom power switch/indicator
- Compression ratio fixed at 5:1
- Some hiss at extreme input gain settings

The Joemeek line has a good rep as the "go to" secret weapon for engineers who seek brash, "in your face" sounds with oodles of musically pleasing coloration.

While the ThreeQ may appear similar to the earlier VC3Q and MQ3, it's a completely redesigned product. Like the earlier units, it's a "channelstrip in a 1/2-rack box," comprising mic pre, optical compressor, and 3-band EQ.

A front-panel switch allows you to leave front- and rear-panel inputs connected and switch between them.

The phantom power switch remains on the back, and the

phantom indicator was moved to the rear panel. If the ThreeQ is rackmounted, phantom switching/verification will be a hassle. But with so many controls on a 1/2-rack unit, compromises had to be made. The mic preamp is clean, uncolored, and offers 60dB of gain; there's some hiss at high gain settings. Instead of a 4-segment LED input meter, you now get an 8-segment LED output meter. A peak LED lights at 6dB below the preamp clip point.

The EQ has changed from the older models. You still get ± 15 dB of boost/cut on three bands. The 80Hz low and 12kHz high controls are now peaking instead of shelving, and the mid EQ is now sweepable between 300Hz

and 5kHz — a nice addition. The EQ is better suited for tonal adjustment than precision problem solving.

The compressor has the expected Meek color and punch. The compression control range has been increased and the new 4-segment gain-reduction meter makes dialing in the compressor much easier. The compression ratio remains fixed at 5:1.

The ThreeQ retains the classic Joemeek flavor, with loads of musical color. While the preamp is neutral, the EQ and compressor are definitely not transparent. If you're looking for uncolored sounds, look elsewhere. But if it's brash, rude, and flavored sounds you crave, the Joemeek ThreeQ delivers. **EQ**



Roll Music Systems Folcrom

by John Krogh

Price: \$1,000

Contact: Roll Music Systems, www.rollmusic.com

Strengths:

- Passive design for pure signal path
- Each input channel can be set for left, right, both, or neither output channel
- Affordable

Limitations:

- Requires an additional 2-channel mic preamp (factor this into the cost)

It's official: Mixing DAW projects entirely in the digital domain is passé. The new trend?

Summing mixers: boxes that mix 16 channels or more down to stereo. We've seen several approaches to this basic concept. The Dangerous 2-Bus, for example, features a built-in amplifier. Roll Music Systems has a different take. Their RMS216 Folcrom is passive; there are no op amps or ICs, no gain or pan controls, and no power supply.

All processing (EQ, compression, and so on) and gain/pan automation is handled by your DAW. You route as many as 16 separate tracks (e.g., eight stereo subgroups) via your multichannel audio interface into the Folcrom, which is equipped with two 8-channel DB25 audio

connectors. This is where the fun begins: You can use whatever preamps are available to you, letting you color and fatten your mixes as you see fit.

Each channel can be routed to the left, right, or both outs, or neither output, which is handy for monitoring only certain channels or subgroups in the mix. The summed signal requires around 30–40dB of gain, which means you'll need some sort of 2-channel mic preamp to bring the output signal up to line level. I found it was easier to work this way than to use my DAW's group/solo functions.

I own a few "higher end" preamps, all of which yielded different results when used as 2-bus preamps. While I was happy with the results of one preamp over another, I can't say there was a "magic bullet" combination that improved mixes. But in general, Folcrom

mixes had more detail in reverb and delay tails, better separation among instrument subgroups (drums, guitars, vocals, effects, and so on), and I found it easier to deal with levels, without worrying about digital clipping. Indeed, the Folcrom seems very hot signal tolerant.

Is it better than mixing in the box? It's very difficult to make direct comparisons, because I recorded the analog-summed mixes back into my DAW for A/B-ing, which required another stage of level matching. Since the resultant stereo files weren't "maximized" like mixes I'd made entirely in the box, I used some limiting to bring the analog-summed mix up to a "competitive level" for comparison. At that point, determining which method is better becomes subjective. That said, I haven't bounced a final mix in the box since I added the Folcrom to my setup. **EQ**



Resource.

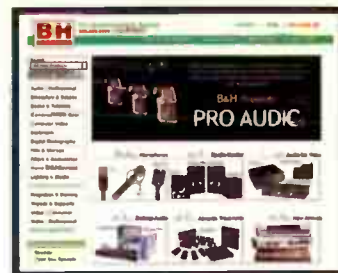
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Sounds



MODERNBEATS.COM Vinyl Scratchez vol. 1

Contact: ModernBeats.com,
www.modernbeats.com

Format: downloadable soundset in Reason NN-XT, Native Instruments Kontakt/Battery, Logic EXS24, SoundFont, Steinberg HALion, and WAV formats

Price: \$29.95

Being avid *EQ* readers and seasoned sound biz heads, you probably have

crazy turntablist skillz, right? Bumping big beats and breaks, you KNOW YOUR WAY AROUND the so-called vaunted wheels of steel, yeah? Well, me neither.

But there have been more times than I care to recount (either for producing “nu” modern rock tracks or hip-hop sound-a-likes) when I’ve found myself in desperate need of authentic sounding vinyl scratches. I’m no seasoned scratch specialist, so I’ve relied on vinyl simulation software and tedious sample editing to approximate credible results. And when I’ve had the budget, I’d hire real experts, which certainly adds to the production costs, but at least I was getting the real deal. Thankfully, ModernBeats.com has a

cost-effective, street-approved alternative. They specialize in hip-hop scratch samples — kicks, vocals, vocal phrases, and what not, all performed by hip-hop DJs.

ModernBeats sent me the first volume of their *Vinyl Scratchez Collection* titled *Vinyl Scratchez 1* for review, but there are many more to choose from. *VS 1*, like all the MB soundsets, is presented in a variety of soft sampler and “friendly” audio formats, and in the case of the sampler presets, the producers have thoughtfully keymapped related scratches, which I found to be a big time saver when it came to auditioning.

The focus of *VS 1*? Kick and hi-hat/snare scratches. And while I was hoping for more spin-downs, and tweazy

kicks, stuttered vocals, and the like—there doesn’t manage to be much variety here. All of the high-frequency material (hats, cymbals, and so on) have a “samey” quality, and the kicks, though more varied, tend to be short. However, what IS here is good stuff. I was able to sequence new scratch patterns and drop vinyl hits into tracks easily, and because *Vinyl Scratchez* consists primarily of single hits, I didn’t have to worry about re-quantizing the scratches to match the feel of my tracks.

Final word: despite a few warts, namely some samples that sound unintentionally “clicky” (translation: poorly edited), for the price, you can’t go wrong. And to sweeten the deal, ModernBeats.com offers free “scratch” drumkits

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and sampler packs of newly released titles. All you have to do is join their mailing list. So what are you waiting for? —JOHN KROGH

SONY PICTURES
Sound Effects Series
(Volumes 1-5)

Contact: Sony,
www.sony.com/mediasoftware
Format: 5 CD-ROMs (44.1kHz/16-bit WAV)
Price: \$499.95

Every studio needs a good sound effects collection, and these five volumes (drawn from Sony's never-ending audio archives) offer a lot. We'll cover the big picture; for a listing of each volume's effects and durations, surf to



<http://mediasoftware.sony.com/products/showproduct.asp?PID=916>

Categories include Animals, Natural Elements (rain, waterfalls, and so on), Backgrounds (mostly ambient city sounds), Home and Office (doors, appliances, phones, clocks), Impacts (bottle breaks, footsteps, and my next kick drum: "Impact Body Heavy"), Weapons and Explosions,

Instead of a zillion sounds, you get a more limited number — but there's zero filler.

Sports and Recreation (fairly lackluster), Vintage Cartoon (Pay dirt! Work these into your next dance mix), Vocals and Wallas (babies, crowds, laughing), and Vehicles.

The emphasis is quality over quantity. Although samples like comedy "boings" are naturally short, many backgrounds clock in at

over a minute so you can lay down a decent bed without detectable repetition. Instead of a zillion sounds, you get a more limited number — but there's zero filler.

I'm surprised Sony elected to do a box set, as all five CDs would have fit on a DVD-ROM, even with 24-bit resolution. Perhaps they plan to break out individual volumes someday. In any event, this series brings major league sound effects within the reach of real-world studios. —CRAIG ANDERTON



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MIDI Troubleshooting

Troubleshooting MIDI in your computer-based DAW always starts with your MIDI interface. If the interface isn't working properly, or if your computer is having problems communicating with the interface, you won't get far with MIDI production. In this installment, we'll take a look at AudioMIDI Setup (AMS) in Mac OS X (version 10.3). I'll use a MOTU MIDI Timepiece AV (MTP AV) in my example, but these steps apply to almost any MIDI interface.

When you open the MIDI Devices page in AMS, you should expect to see your MIDI interface (in this case the MTP AV) appear automatically (Figure 1). If your interface doesn't appear at all, or it's "ghosted" or grayed out (Figure 2), try the following steps. You may only need to perform one or two before things start working. So try them one at a time, see if the interface appears properly, and try the next step if necessary.

1. Make sure the unit is on and attached to the Mac with a USB cable.
2. Make sure you've got the newest available driver for your MIDI interface. In almost all cases, drivers can be downloaded free of charge from the manufacturer's website. Drivers get updated frequently — don't assume that because you just bought your MIDI interface or it's "new in the box" you've got the latest drivers. Driver installation in Mac OS X often works best when the device is turned off or disconnected — turn the interface back on after the drive is installed.
3. Try creating a "New Configuration" in AMS (Figure 3). This allows the system to rescan for interfaces and drivers and "start over." You'll need to add your external MIDI devices again, but this ensures that all is being detected correctly.

If the interface isn't working properly, or if your computer is having problems communicating with the interface, you won't get far with MIDI production.

4. Try resetting your MIDI interface to its factory settings. For example, the MTP AV can be reset by holding its Panic button while turning its power on. Check documentation for reset procedure if you have a different interface.
5. Try a different USB cable, then try a different USB port on your computer. If you're using a USB hub, try bypassing it so the MIDI interface connects directly to the computer.
6. Use the "Test Setup" (Figure 4) button to test the interface. With "Test..." turned on (blue) clicking on a MIDI device connected to the MIDI interface in the picture should make output lights on your MIDI interface illuminate, as well as make the connected device play some random notes. Additionally, if you play notes on a controller device (like a keyboard) sending in to the interface, you should see corresponding input lights illuminate.

Getting your MIDI interface to function properly is the first and most important step. Of course, there's much more to look at, including your MIDI devices and the host DAW application. We'll cover other aspects of MIDI troubleshooting in future installments. [EQ](#)

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



Fig. 1



Fig. 2

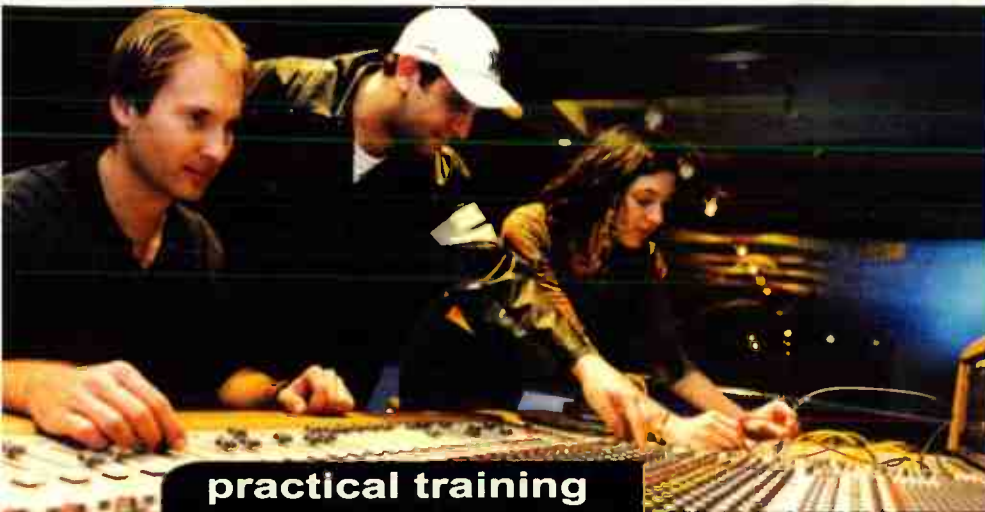


Fig. 3



Fig. 4

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Emagic Logic Pro

Configuring the Environment for multitimbral soft synths

Objective: Play multitimbral software instruments by building multi instruments in the Environment and patching them into audio instrument channels.

Background: Unlike some other host programs, Logic has no direct, straightforward way of addressing multitimbral software instruments. MIDI data sent to soft synths isn't automatically channeled to specific parts. The solution? Create a multi instrument in the Environment and then patch this into an audio instrument channel. Normally, multi instruments are used to represent hardware synths — you can enable up to 16 channels per instance, which is assigned to a MIDI port. But because we want to play a *software* instrument, the set up is a bit different.



1 From the Environment window, choose to view Audio objects from the flip menu (left hand side).

2 Create a new multi instrument (from the Environment window's submenu, go New > Multi Instrument), and then enable the MIDI channels you wish to use by clicking on the numbered squares.

3 Instantiate a multitimbral instrument on an audio channel, if you haven't already. Next, name the newly created multi "Multi MIDI A" or something more meaningful based on the name of the instrument you just loaded. (For our purposes, I chose Spectrasonics Stylus RMX.)

4 Drag the virtual patch cable from the multi instrument to the audio channel. Note, the Port assignment for the multi should be set to Off.

5 Go to the Arrange window and create several MIDI tracks set to different MIDI channels for the multi you just created. Now when each of these tracks is record-enabled, MIDI data will only be sent to the selected part/MIDI channel.

6 Finally, record MIDI data for each of the tracks. Each track should play back only on its respective MIDI channel.

tips

- If you frequently use multitimbral software instruments, save a Logic template with these plug-ins and their multi instrument "modules" already patched, so all you have to do is choose sounds and hit record.
- Some instruments, such as Native Instruments Kontakt, can operate in omni mode, which means each part will receive data from all channels. To avoid this, make sure to assign discrete MIDI channels from within the plug-in itself.

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Launch Date: January 2005

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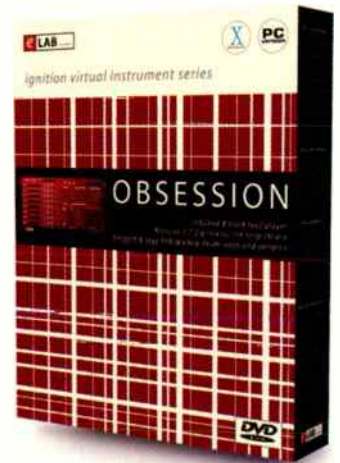
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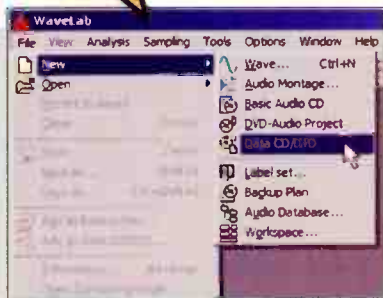
Steinberg Wavelab 5

Creating a DVD data backup using Wavelab

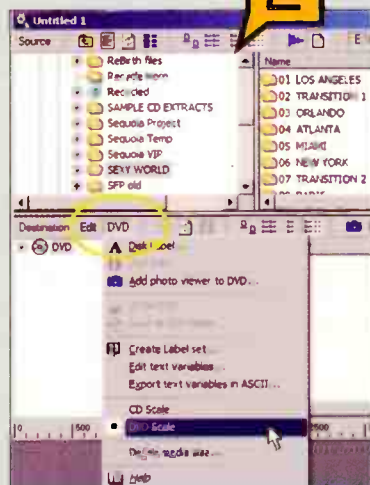
Objective: Backup data on DVD media using Wavelab's DVD-burning functions.

Background: Wavelab not only makes Red Book audio CDs and DVD-Audio discs, but can also provide data backup on either CD-R/RW or DVD±R/RW discs. You can even print labels from the program.

1



2



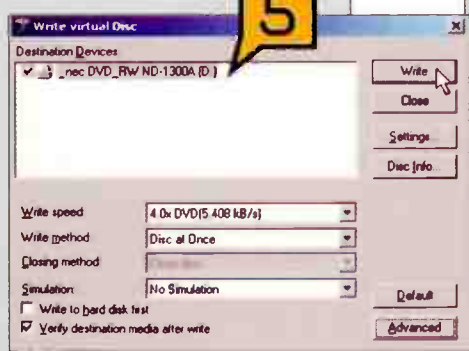
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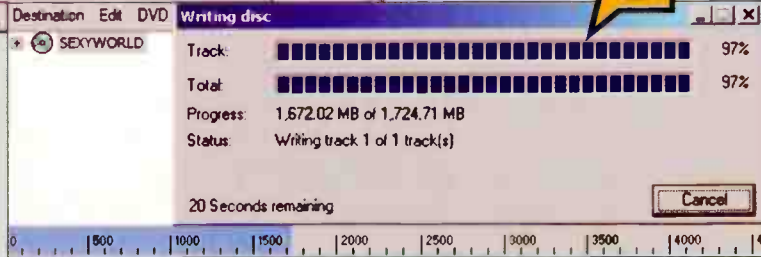
4



5



6



- 1 Go File > New > Data CD/DVD (or type Alt-F, N, T).
- 2 Make sure that "DVD Scale" is selected.
- 3 Drag the files you want to backup on top of the DVD icon in the lower left pane.
- 4 Click on the Burn icon, and when the disk label window appears, enter the backup's name.
- 5 The disc writing window appears. I just use the defaults, but if you want to know what all the goodies are, consult the online Help and documentation. I do recommend checking "Verify destination media after write."
- 6 Watch the "Writing disc" progress bar, and wait for media verification — when the disc pops out of the drive for the second time, it's done.

tips

- This shows how easy it is to burn a basic DVD-ROM, but the program has some bells and whistles — for example, you can rename files in the Explorer-type window before burning.
- To create a set of labels, go to the same place where you chose the DVD Scale, and select "Create Label Set."

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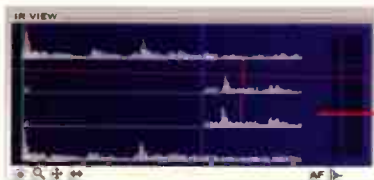
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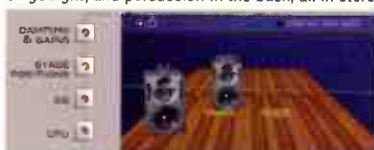
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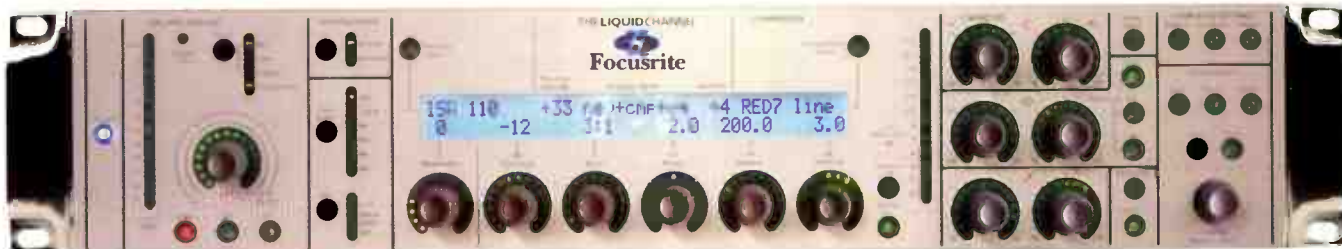
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Room with a VU

by Mitch Gallagher

STUDIO NAME: The Velvet Lounge

CONTACT: www.vlrecording.com

LOCATION: Cottage Grove, OR

KEY CREW: Keith Schneider (owner/engineer/producer/multi-instrumentalist), Phredd Talbot (engineer/producer/low-resolution delay aficionado)

CONSOLE/MIXERS: Mackie D8B digital mixer with 72 inputs

RECORDERS/PLAYERS: Mackie HDR 24/96, Alesis Masterlink, Nagra TA 1/4" 2-track

MONITORS: Mackie HR 824, dbx 15" sub, 223 crossover; Ashley CGT 1800

OUTBOARD: Empirical Labs Distressor [2], RSP Saturator, Apogee PSX 1000 AD/DA

EFFECTS: Line 6 Echo, Mod, Filter Pro, POD XT, Bass POD

MICROPHONES: Lawson L47MP [2], AEA R84, Neumann KM184 [2], Shure SM-57 [2], SM-58 [2], Sennheiser e835 [2], AKG D550, CAD TSM 422 [3], Rode NT-1, Electro-Voice BK1

MICROPHONE PREAMPS: Manley Voxbox, Millenia HV-3D (four channels)

COMPUTERS: Windows XP PIII with 384MB RAM, 240GB hard drive

DAW: Digidesign 001

SOFTWARE: Digidesign Pro Tools, Syntrillium Systems Cool Edit Pro, Sony Sound Forge, Antares Auto Tune, TC Electronic TC-1 reverb

KEYBOARDS/MIDI: Roland Fantom X, Rhodes, VK-7; Wurlitzer electric piano, variety of vintage Casio and garage sale air organs

GUITARS: Gretsch Country Classic JR, Duo Jet; Fender American Standard Stratocaster, Danelectro Baritone, Hodad, Dan-O bass; Washburn custom-shop readnaught, 1964 Gibson acoustic, many more

AC POWER: Furman IT-1220

ACOUSTIC TREATMENT: Acoustic Room Systems

STUDIO NOTES: The year 2005 marks the start of, not only the 10th anniversary of velvet, the fabric, but also the 10th year of operation for Oregon's The Velvet Lounge. OK, wait. That stuff about the fabric was a lie, but the Velvet Lounge stuff was on the up and up. The studio's produced over 50 full-length albums and 2005 sees them with a completed studio space renovation that had them gutting "the interior of our 1,200 square foot building and starting over. It was a monumental task, made easier thanks to the tireless help of several local high school kids — Rex, Ian, and Jason. . . .

"We're very fortunate to have Chris Klein of Acoustic Room Systems (www.acousticroomsystems.com) located in our little town of Cottage Grove. Chris helped us create a control room that is a joy to work in. We now have the control room acoustics of a million-dollar studio. The ARS treatment is a system that provides low- and high-frequency absorption and also high-frequency diffusion in a 1-1/4" thick profile. Once the acoustic system is installed it's covered with stretched fabric so it looks...beautiful.

"This studio is a space where artists feel completely secure to push the limits of creativity. Musicians who come to the Velvet Lounge want to stay forever; it's a really comfortable place to record. We're even in the process of purchasing a large yurt from Pacific Yurts, which will serve as living quarters for studio guests.

"And we're big fans of any piece of equipment that does severe damage to the signal. Distressors, saturators, filters — anything that makes something sound wounded. We record a lot of bold indie rock bands and songwriters who have the Tom Waits' aesthetic, so we often get to create strange alterations of everyday instruments — which makes our job a blast."

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:: Aug. 2004

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Macworld :: Oct. 2004



KEYBOARD :: Jan. 2004

After using the O1x for a few months, the coolest aspect is that it blurs the lines between a traditional digital mixer, control surface and audio/MIDI interface — it's all three.

Electronic Musician :: Nov. 2004

Considering all the functionality packed into the O1x's silver-gray front panel, its user interface is a miracle of modern ergonomics.

RECORDING

The Magazine for All Recording Musicians :: Dec. 2004

Quality inputs and effects and the ability to integrate into your computer setup could make it the perfect centerpiece for your project studio.

REMIX :: Dec. 2004

The converters are great, and the subsequent digital signal processing is fantastic, including the EQs and, particularly, the compressors.

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- Save & recall multiple trim setups
- Record up to 192kHz
- 8-bus monitor mixer
- Front panel LCD programming
- Stand-alone operation
- 8 channels of optical at 44.1/48K
- 4 channels of optical at 88.2/96K
- AES/EBU and S/PDIF digital I/O
- MIDI
- Word clock, SMPTE & ADAT sync



Attach the included rack ears for convenient studio installation.



Flexible power options fit any recording situation.

