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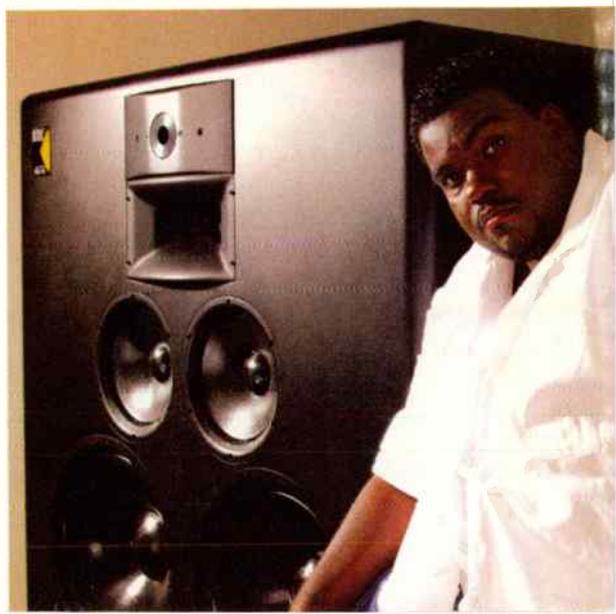
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simply different...

simply stated.

the new tube reviews



AT3060
phantom-powered tube microphone

30

series

"... the AT3060 is an easy-to-use, surprisingly wonderful-sounding microphone. It brings the Audio-Technica sonic legacy to a warm, musical tube design ..."

Home Recording Magazine July 2003 **David Darlington**

"One Cool Tube! The specialty of the AT3060 is that it does not require a separate power supply and cable, making it easy to set up and use ..."

The Female Musician May 2003 **Theresa Orlando**

"... a delicious sonic character—even when compared to mics that cost four times as much."

Pro Audio Review July 2003 **Andrew Roberts**

"The sound was as sweet and warm and clear as I could have hoped."

Recording, November 2003 **Bruce Kaphan**

"It definitely gives you that sought-after 'classic warmth' of a tube mic."

Performing Songwriter July/August 2003 **Fett**

"The AT3060 typically captures a nice sparkle... the lows seldom get muddy, making this a wonderful mike for jumbos and other large-body acoustics."

Guitar Player November 2003 **Michael Molenda**

"There's a nice softness to the top end, and although the mids are forward, they're not peaky; it's a pretty smooth sound overall."

Tape Op September/October 2003 **Scott Craggs**

"... round and full, with nice presence and good top-end detail... [It] held up well under even the loudest assault."

EQ April 2003 **Mitch Gallagher**

"I found the mic's all-around usefulness, smooth high-frequency response and warm sound make this one a solid winner."

Mix July 2003 **Barry Rudolph**

The AT3060 large-diaphragm cardioid condenser phantom-powered tube microphone. To put it simply, just ask for 'the new tube' from A-T.

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RIAA REBOUND?

Many businesses have suffered hard knocks in the post-dot.bomb world, and the record industry is certainly among them. With sales of commercial CDs dropping like lead balloons, and an epidemic of retail shops shutting down, it's no surprise that the RIAA has taken drastic measures and started launching lawsuits.

But is suing illegal downloaders really the best course of action? In some cases, surely it's justified. But, zooming out, the record industry should consider looking inward to solve the problem, whether by exploring attractive download models or promoting next-generation formats (as mentioned in last month's Talk Box).

In this issue's "new formats" installment by DVD-Audio pioneers Studio Voodoo, industry notables such as Ted Cohen, A&R, EMI Records, offer some provocative comments: "Compare the value of a 100-million-dollar feature film plus extra bonus content on DVD for \$20 to an audio CD for almost the same price. The music industry has done a really poor job of articulating the value of the creative process. We're basically selling you 50 cents of plastic for \$15." Intrigued? For more tasty tidbits, turn to page 52. And don't miss Roger Nichols' column this month (page 98), which taps into the same hot subject.

On a more festive note, we've rounded up info on a batch of affordable studio tools that might be just what's needed for your next project. Our three featured categories are tube warmers, hardware effects, and effects-type plug-ins — each product for less than \$500. Stay tuned for more of these "mini buyer's guides" in future issues. And don't miss our upcoming *Mics & Monitors Buyer's Guide* — a special edition dedicated to these critical transducers. It's coming to bookstores, music outlets, and newsstands soon.

—Greg Rule

The BAND STAND

We've all heard the one about the gold-top Les Paul at the garage sale for \$50. What's your best gear acquisition story?



Greg Rule, Executive Editor
In the 1980s, when FM synthesis dethroned the almighty analog, I traded a beat up 4-op Yamaha DX9 for a mint-condition Sequential Circuits Prophet-5 in an Anvil flight case. *Shock the monkey!*



Mitch Gallagher, Editor
I was broke on the road with a band and needed a guitar amp. I had quite long hair, of which my mother wasn't fond. We made a deal: haircut for amp. It worked out to around \$100/inch of hair. Painful, but necessary.



Craig Anderton, Editor at Large
Power Computing sent me a 60-day loaner MacOS clone to review. When I was done and called for return authorization, they said they weren't allowed to sell clones any more, and could I please not send it back? Uh... sure!



John Krogh, Technical Editor
I scored a mint-condition Hammond A-105 organ — with pedals and bench — for a mere 500 bucks. I had to drive it up from L.A. to San Francisco in a U-Haul, but it was worth it.

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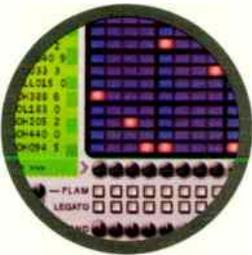


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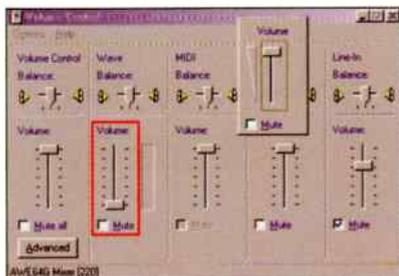
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Punch-In

Tips & News You Can Use
BY GREG & CRAIG

tip



DUDE, WHERE'S MY VOLUME?

You're running Windows, call up your favorite audio program, and map your output using the Microsoft Sound Mapper. There's no volume, but you know the solution: Click on the little speaker icon in the task bar, and turn it up to full. Except . . . there's still no sound! What's the deal?

The speaker is just one element of the mixer applet that's part of Windows. Go Start > Programs > Accessories > Entertainment > Volume Control to see the mixer in all its primitive glory. Odds are the lack of volume is caused by the Wave Balance control being down (see the area outlined in red on the screen shot), or its associated Mute check box being checked. Move up the fader, make sure the box is unchecked, and all should be well.

Design-It-Yourself Gear Service

VTG Corp has a new application called NetCAD that allows you to design, configure, and order custom connection and control panels online. The application will be delivered through the websites of daughter companies Horizon Music and Rapco—two of the largest suppliers of cables, connectors, custom panels and metalwork in the US with outlets in the UK and Europe.

Based on Stardraw.net, the new service is delivered by a web server and works from within a browser so there is nothing to download or install in the conventional sense. It comprises a drag-and-drop interface linked to a library of all of Rapco's and Horizon Music's panel products, so you simply select the panel you want, then drag on the connectors that are needed, and set engraving, finishes, artwork and so on. Once the design is complete, a separate pop-up report delivers an instant quote.

The benefits of this technology are clear. Customers can design, price and order custom panels in seconds, 24 hours a day, seven days a week without having to wait for any third party input. At presstime, VTG reported that Audio-Technica U.S., BSS, and TOA had enrolled in the program as well. For more info, browse to www.stardraw.com.

Producer Spotlight Terry Howard

The Hollywood spy cam recently caught producer/engineer Terry Howard with Ray Charles at Ocean Way Studios during sessions for "Sinner's Prayer"—a track on Ray's new album. In addition to Sir Charles, Terry has worked with Barbara Streisand, Fleetwood Mac, Stevie Wonder, and Tom Jones to name a few.

"Working with Ray in the studio, I'm always thinking analog," says Terry. "It's the recording process I've used for 30 years, and Ray for more than 50. Recording quality always has to relate back to our own analog standards, so most final mixes at Ray's studio are carried out in analog domain on one of the last Quad Eight consoles manufactured." A Studer two-inch 24-track is used for tracking.

Digital isn't MIA, however. On the Cakewalk site, Terry details his computer-based process for restoring historic recordings, as well as tracking and editing in Sonar on the Cakewalk website (www.cakewalk.com/Artist/Howard.asp and [Artist/Howard2.asp](http://www.cakewalk.com/Artist/Howard2.asp)). He's also quick to tout his fondness for Lucid 24/96 converters. "I already own or have tried just about every digital converter there is," he states, "and there seems to be a sweet sound with the Lucids. It's hard to exactly describe, but when you get down to the nuance level, there is something that makes me lean toward their sound. It just sounds like good analog to me.

"When I do transfers from the Studer," he continues, "I want it in real time, so I'll make two passes to get all 48 tracks in my computer DAW ready for editing." After multitrack editing within the DAW, Terry transfers the 48 tracks back to the Studer in analog for mixing on the Quad Eight. "If I mix internally within the DAW, sometimes I'll come out analog to add a Manley Variable Mu compressor across the mix, then I'll use the Lucid DA 9624 stereo D/A converter for this stage and then use the AD 9624 to feed the Manley's analog output to my second DAW. The second DAW is for stereo mixing, editing, and pre-mastering, and runs at 24/96. In all cases, the final mix is recorded to a Studer MO disc recorder at 24/48 for mastering. Stereo Lucid converters are used again here for D/A and A/D and sample rate conversion at the same time."

Keep tabs on Ray and Terry's work at www.raycharles.com. And for more on Terry's recording techniques, visit www.midiman.net/m-pulse/june2003/ray.php.

[Thanks to Heather at AAdvert for the steady feed of studio info.]



tip

MINIMIZING CONTROL ROOM NOISE

If you record vocals in the control room and favor multitrack hard disk recording, you're recording hard disk and fan noise as well. An isolation box is a fine solution, as is putting the computer in a different room and running extension cables back to the keyboard and monitor. But there's a budget option that will also give your poor, neglected DAT recorder something to do.

Create a mono premix of the existing tracks, and burn it to an audio CD. Place the CD in a standard CD player; feed one out to one channel of a DAT deck. Send your vocal signal chain (mic, preamp, effects, etc.) into the other DAT track.

Turn off your computer, and plug a set of headphones into the CD player's headphone out jack so the vocalist can monitor the premix. Record the vocal while listening to the premix. When it's done, turn the computer back on and transfer both tracks — the premix and vocal — over to your hard disk recording system. It doesn't matter whether the tracks are tightly synced up with the original, because you can always "nudge" the tracks until they line up perfectly. Once they're lined up, erase the premix as it's no longer needed as a timing reference.



CD of the Month Bob Marley and the Wailers

Catch a Fire (Deluxe Edition),
Island Records

Catch a Fire, with its sensuous mix of love, tears, ganja, and rhythm, established the Wailers as major artists to an international audience — and spokesmen for a generation of Jamaicans. This reissue has an extraordinary bonus for recording fans: While Disc 2 contains the album as originally released, Disc 1 has the unreleased, original Jamaican versions.

Disc 1's sound is more direct and raw, but with the commanding artistry that connects the dots between Marley's rough, early music and what was to come. Yet Disc 2, despite non-Wailer additions like John Bundrick's clavinet on "No More Trouble," Wayne Perkins' steel guitar on "Stir It Up," and a smoother, more hypnotic mix, shows you don't have to sell out to sell music.

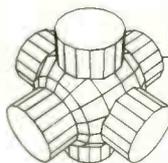
Credit for this goes to Chris Blackwell, whose sensitivity to the music and the message created a topical, radio-friendly release that had the enthusiastic approval of the Wailers. Three decades later, Marley's integrity and passion come through as clearly as ever — on either disc.

Studio News NRG Heats Up



Left to right: DJ Lethal (seated), Dave Holdridge (engineer), Terry Date (producer), Fred Durst, Sergio Chavez (assistant engineer).

Limp Bizkit recently returned to NRG's Studio B with producer Terry Date and engineer Dave Holdridge to complete the band's forthcoming album — tentatively titled, um, *Panty Sniffer* and scheduled for release in Fall 2003. In 1998, Limp Bizkit locked out NRG's Studio B with Terry Date to record the multi-platinum album *Significant Other*.



Gadgetphile

Link Tools

While not as fly as a spy capture device for sunglasses, or as wonderfully weird as a dummy head mic, this month's Gadgetphile might very well be one of the most useful utility items you could add to your studio's toolbox. Link Tools are magnetic-locking tools that can swivel and twist into nooks and crannies like few other wrenches and screwdrivers can. And they stay locked bolt-tight until you release the spring-loaded cuff, so no worries about attachments dropping off and damaging delicate electronics.

The anchor of the line is the UniDriver. Made of aluminum and steel, the universal tool connects at both ends and combines the functionality of a speeder, an extension, a screwdriver, and more. Snap a socket onto the front end of the UniDriver and you have a nutdriver. Add a socket-mounted bit, and the UniDriver becomes a screwdriver. Push on the Link Universal Joint and you can go around corners without fear of a disconnect. Connect the back end to the Link ratchet wrench to create a powerful, high-torque ratcheting screw or nutdriver.

The Link System is available in a variety of sizes and configurations, from \$39.99 and up. For details, log onto www.link-tools.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:

Music News



BT Sets Record

"Simply Being Loved (Somnambulist)," the latest single from Netwerk America artist BT, is more than a just a hit song — it's a record holder too. In late August, the single was certified into the *Guinness Book of World Records* as the track with the most edits ever: 6,178 (!) stutter edits. Can you say "carpal tunnel?"

tip

DON'T CHAIN WORD CLOCK

If you have three or more digital audio devices that you need to synchronize, avoid chaining their Word clock connections (out to in, out to in, etc.), as this causes problems. Instead, use a dedicated synchronizer or a word clock distribution device. [Source: MOTU]

tip

STOP THAT FADE!

When mixing, don't add fade-ins or fade-outs to a song — leave that for the mastering process. You may find after assembling the complete CD that a particular song needs a longer or shorter fade than anticipated. Furthermore, the mastering gear may have higher resolution, leading to a higher-quality fade (especially at the lower end of the dynamic range). If you're not able to work in person with the mastering engineer, then write specific notes as to the fade's start time, end time, and shape (for example, "a linear fade starting at 2:33 and ending at 2:52").



■ www.usefulnoise.com

Programmer *extraordinaire* Keith Hillebrandt of Nine Inch Nails fame is the driving force behind this site. By purchasing a copy of Keith's *Useful Noise* sample CD (\$99.95) you'll become a member of the online site, where you'll receive a steady, ever-evolving feed of world-class sounds from Keith. Over 1,000 sounds are currently available on the site, plus a variety of custom instruments for Emagic EXS24mkII and REX2-format loops and sounds. New sounds are posted weekly.



■ www.studioexpresso.com

StudioExpresso is an online information exchange that provides the recording community realtime information on available studio time and more in a one-stop, convenient, and private environment. The service is funded by a group of private investors; revenue is generated from commissions paid by studios on bookings facilitated by studioexpresso, which enables studioexpresso to offer all of its services free of charge to registered users and VIP members — artists, producers, engineers, record companies, managers, production co-coordinators. The site was founded in January 2000 by Clary Sayadian-Dodge, who has been active in the Los Angeles music industry since 1986, and has held positions at various music/media entertainment companies including: Frank Dileo Management, Management III, PMK, Rogers and Cowan Public Relations, Prairie Sun Studios, Ocean Way and Record One Recording studios, studio bau:ton & TEC:ton engineering. She is an independent marketing/PR and management consultant to the recording industry, and has more than 20 years of studio management, sales, and public relations experience.



■ www.discmakers.com/dad

How can an indie artist get their music on high-profile download websites such as Apple's iTunes Music Store? Disc Makers has a solution called DAD (Digital Audio Distribution), a service that gives independent bands and artists the opportunity to sell their songs online on sites like Apple's, Listen.com's Rhapsody, AOL's MusicNet, Emusic, and newcomer BuyMusic.com. "It usually takes a while before breakthroughs in music distribution are available to independent musicians, but with DAD, Disc Makers is ahead of the curve," says Tony van Veen, VP of Sales and Marketing for Disc Makers. "Our goal is simple: to give independent musicians the tools they need to sell more music. When they succeed, we succeed."

By using DAD, artists that would normally never have a chance to get their music on these large web sites can now do so. In order to qualify, an artist needs to have a CD out on the market. Once an artist completes the sign-up process. The DAD service is FREE with all new CD orders with Disc Makers, a \$75 value. The service is also available to artists who do not make their CDs with Disc Makers for \$75.

■ www.usbman.com

With more USB devices appearing in studios, it's good to bookmark this not-for-profit site that keeps up with all the latest news on USB, USB 2.0, drivers, and the like. While Windows-centric (95, 98SE, ME, 2000, NT, XP), there are also useful links for Apple and Linux users. You'll find a ton of troubleshooting tips, many of which relate to updating and patching issues in general; if you run Windows, use USB, and encounter a problem with how they work together, you'll likely find a solution here.



NEW! FW-1884

The only DAW control surface with built-in FireWire audio-MIDI interface!

It's an 18-input, 24-bit/96kHz* Firewire audio I/O box...and a 4-in/4-out MIDI interface! And a fully-mapped controller for Digital Performer™, Nuendo®, Logic™,

Add banks of eight channel strips with FF-8 expanders.

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Fourteen DAW shortcut buttons including Save, Revert, All Safe, CLR Solo, Marker, Loop, Cut, Delete Copy, Paste, ALT/CMD, Undo, Shift and CTRL. Your mouse and keyboard will feel very neglected.

Eight channel inserts.

Channel strip rotary encoders can be assigned to 8 Auxes or Pan via keypad.

Eight channel strips with 100mm, touch-sensitive motorized faders, Mute, Solo and Select buttons, Pan, trim and access to 4-band parametric EQ.



Four MIDI inputs and four MIDI outputs for sound generation and timing.

100mm, touch-sensitive motorized Master fader. Varoom!

Eight balanced 1/4" XLR analog Mic/Line inputs with studio-grade, high-headroom, low-noise mic preamps and switchable phantom power. XLR Input 8 is even switchable from Mic/Line to Guitar level.

Eight channels of ADAT® lightpipe I/O and stereo S/PDIF inputs & outputs.

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Why spend extra on audio and MIDI I/O boxes? Our new three-in-one FW-1884 has everything you need to maximize workstation productivity in a single intuitive tool. For far less than the cost of a piecemeal approach.

Fire up the FW-1884 at a TASCAM dealer or visit our web site for more information.

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No more mouse-and-keyboard juggling: Dedicated transport buttons plus Nudge, cursor, In/Out/Set, Locate, function and Bank Switch keys.

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www.tascam.com

DJ AND PRODUCER

PERSONAL CREATIVITY

News

Industry Blotter

■ **Akai** recently set up direct distribution facilities and headquarters in the L.A. area to better serve Akai Professional customers. "The new organization will be the first step in improving every level of dealer, customer service, and product support for AKAI Professional products," says Akai. Here's the new contact info: US headquarters: Akai Professional USA Corp., 100 Exchange Place, Pomona, CA 91768; 909-869-8870, 909-869-8892 (fax); www.akaipro.com. Product support: All Akai Professional products 817-834-1900, 817-834-1983 (fax), akaipro_support_us@akaipro.com. DPS24 and DD post-production specialist: sean@akaipro.com. Akai Professional service repair: VST, 1270 Lincoln Ave., Ste. 1000, Pasadena, CA 91103, akaipro@vstservice.com.



■ **Congrats to Sony Electronics**, who announced that their DMX-R100 digital mixing console has surpassed a pivotal milestone with more than 2,000 units sold worldwide since its introduction in October 2000.

www.sony.com



■ **Wave Distribution**, purveyors of high-tech audio processing, effects, and related studio toys, has announced an exclusive international distribution arrangement with Studio Electronics for their entire line of rack-mountable signal processing equipment and effects pedals. (Studio Electronics' Greg St. Regis is pictured.)

www.studioelectronics.com and www.wavedistribution.com



■ With the ink still drying on their deal with Roland (reported in our Sept. issue), **Cakewalk** has expanded their technology portfolio

by gaining exclusive publishing and distribution rights to all **Ultrafunk** technologies. Ultrafunk is a leading independent developer of DirectX and VST audio plug-ins for Windows. Support and future updates for registered Ultrafunk product users will be handled directly through Cakewalk. In addition, registered Ultrafunk users will now become registered Cakewalk customers, eligible for future offers on Cakewalk products and upgrades. "The acquisition of Ultrafunk products and technologies will translate into more functionality in select Cakewalk products and provide our customers with more choices and flexibility in expanding their studios," says Michael Hoover, VP of Product Marketing for Cakewalk. "The [Ultrafunk] Sonitus:fx pack also provides a great sounding, low CPU-resource effects solution." "After a difficult period for Ultrafunk, we decided that the only way our flagship product could survive was to find a company willing to take over all development and sales," adds Ultrafunk's Rune Johnsrud. "We truly believe that Cakewalk is the best home for our plug-ins and customers."

www.cakewalk.com/press/ultrafunk-faq.asp

tip

LIVE BAR OR ROUTING WINDOW?

A lot of Creamware users like the "overview" the Routing Window provides when patching together their hardware interface, soft synths, sequencers, processors, etc. But it takes up space on screen, so if you just need to tweak a few connections, you can do pretty much everything you need from the Live Bar. Click on Ins and Outs to reassign, delete, or add connections; click on a module's downward arrow in the lower right corner to see current connections, and right-click on an entry to disconnect or replace the connection. You can even send a module's output to more than one input by holding down the Ctrl key (Mac: Apple key) while adding the new connection — this doesn't delete the previous one.



Forum Exchange

EQmag.com Posts of the Month



George Massenburg's forum was buzzing with news of a recording studio for sale on eBay (item number 2335666678). The well-stocked 31,000-sq-foot facility in Muscle Shoals, AL, was listed at \$650,000. Here are a few comments from the forum dwellers:

- Only \$650,000? Man, some empty condos are going for that here in Connecticut!
- I guess the home project studio boom really is taking its toll on pro studios. Maybe next they'll be blowing out Abbey Road for 400,000 pounds.
- This is on my watch list, if for no other reason than morbid curiosity.
- It's sad to see a studio like that become obsolete.
- This is a direct result of label budget cuts. There are at least three major studios in Los Angeles facing a similar fate.
- I guess you could make somewhat of a case about zillions of project studios available versus big studios, but I tend to put more of the blame on two things: the big labels not being first to have music distribution on the internet and still lagging way behind, and the overall talent these companies choose to promote. But in the end, things change. Big studios and big labels are slowly becoming things of the past.



Morphoder is for any musician or audio engineer who needs vocoding type effects. The NEW Waves Morphoder is a vocoder with ease of use and create new worlds of tone and articulation. It employs Formant shifting technology and release control laws not available in any vocoder so that you can superimpose the tone and volume characteristics like you have never done before.

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- TransX**—A transient designer—for edge control
- Doubler**—Doubling, Chorusing, add Dimension

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(NORTH & SOUTH AMERICA) 306 W. Depot Ave., Suite 100, Knoxville, Tennessee 37917, phone: 865-909-9200, fax: 865-909-9245



Live Recording News Remote Recording Records The Stones

Last summer, 490,000 people found their way to Downsview Park in Toronto for a massive 15-act event, and Remote Recording was there to capture every note. Artists on the bill included Have Love Will Travel (Dan Akroyd and Jim Belushi), The Flaming Lips, Sass Jordan, Isley Brothers, Blue Rodeo, Justin Timberlake, The Guess Who, Rush, AC/DC, and the venerable Rolling Stones. Due to the size and magnitude of the event CBC Radio Mobile and Live Wire Remote were also on hand to share in the recording duties.

Remote Recording's David Hewitt coordinated the pre-production, assigning the different bands to the various trucks. "I've recorded a lot of festivals in my day," says Hewitt, "but I have never seen one come together this quickly. In a matter of weeks, the Rolling Stones tour management organized and built a show for 500,000 people. We had a great time working with the audio crew from CBC Television and Radio. The game plan was to checkerboard the acts between three trucks and feed the live mixes to CBC mixer Jeff Kozak. Remote Recording was there primarily for Ed Cherney to mix the Stones, as we have for the last 21 years. But as long as we were there, why not join in the fun? Working backward from the Stones, I assigned alternate trucks to the list of acts. We had the pleasure of working with Doug McClement from Live Wire Recorders, plus Todd Fracchi and Ron Skinner from CBC Radio Mobile. Ed Cherney and I mixed in our Silver Studio.

"We all interfaced with the Clair Brothers crew," Hewitt continues, "who were handling the stage inputs. Thanks to Mike Wolff and his stage commando, everything went very smoothly. They set up alternating FOH and monitor consoles plus dedicated consoles for headliners. Many of the opening acts had only 15-minute sets, so things were flying on and off that stage under the direction of Jake Berry, who came in from the Stones' European tour to manage this monster. It was quite an adventure and a pleasant one at that. Unlike Woodstock '99 where the mobs ransacked the concessions and set fire to the delay towers, the Canadian audience of almost half a million people just had a great rockin' time of it and no one got hurt. Maybe there's a lesson here."

Asked his thoughts on the event, Ed Cherney said, "We've done some big shows together: 500,000 thousand people, 10 hours, 15 acts, 3 trucks, record everything, mix live broadcast to air around the world, one week to put it all together, and we didn't miss one note of music. The live broadcast sounded great. Everything went as smoothly as it possibly could. Dave Hewitt, his crew, and Remote Recording made it look easy and effortless. The only things missing were margaritas!" A DVD of the show is in the works — release date to be determined. For more information on Remote Recording, visit www.remoterecording.com.



News Chart Topper

Congrats to producer **Andy Wallace** for having seven out of ten mixes on *Billboard's* Top 10 Mainstream Rock Tracks chart for the week of Sept 1. He also had ten out of the Top 20. [Thanks to reader **Steve Sisco** for the tip.]

Music News Aimee Mann on SACD

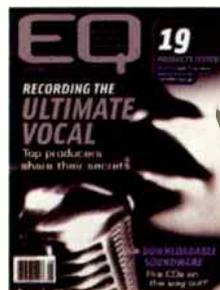


Mobile Fidelity Sound Lab (MFSL) is trumpeting the release of Aimee Mann's *Lost In Space* on the Ultradisc UHR SACD series. *Lost In Space* is the former Berklee student singer/songwriter/guitar/bass player's fourth solo release. Addressing themes of addiction and social misconnections in songs such as "High on Sunday 51" and "Invisible Ink," Mann and producer Michael Lockwood sought to create an aural environment that matched the album's lyrics. "As we were recording, we started to put sounds in what we referred to as 'space noise,'" Mann explains, "which obviously tied in with the title of the record and the theme of the songs. It's feeling isolated and cut off from other people and yourself, trying to make connections to people and failing."

The release of *Lost In Space* on Ultradisc UHR SACD illustrates Mobile Fidelity Sound Lab's expanding commitment to deliver the best of cutting edge new music to the emerging SACD format. The title will be distributed by Koch in the U.S. For more information, visit www.mobilefidelity.com.



CORRECTION



In our feature on downloadable soundware (Sept. '03), our mention of **Riot Act** was slightly misspelled; it is actually two words (Riot Act)

rather than one, as printed in the article. Similarly, their URL is hyphenated: www.riot-act.com. Riot Act can also be reached via phone at 708-222-9842. Please update your browsers, and accept our apologies for the slip.

The New P-Series Power Amplifiers From Yamaha LONG ON POWER, SHORT ON DOLLARS



There's no question that the cost of power has dropped significantly in recent years. Unfortunately, quality and reliability have often suffered as a result. The trick is to not sacrifice features and performance simply for a lower price. That's where the new Yamaha P-Series amplifiers come in...

- > 4 models ranging from 390 to 1100 watts per channel
- > Variable high/low pass filters eliminate need for external crossovers
- > EEEngine technology for cool, efficient operation
- > YS Processing for optimized sonic performance with Yamaha Club Series loudspeakers
- > Front panel attenuators (with security cover)
- > XLR and 1/4" phone jack inputs
- > Speakon®, 1/4", and binding post outposts
- > Quiet, variable-speed fan cooling
- > Compact, lightweight design
- > 3-year warranty
- > MSRP starting at only \$549

For More Information Log on to www.yamaha.com/proaudio



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Tool Box

BY KEVIN OWENS

Trident LDC-77

Large diaphragm condenser mic

Designed to deliver warm analog tone, the **Trident LDC-77 condenser mic (\$550)** has three switchable patterns — figure eight, omni directional, and hypercardioid — a 20 dB pad, and low frequency roll-off. The LDC-77 comes in a flight case with a shock-mounting holder and accessories.

Trident, www.tridentaudio.co.uk



Mackie Control Universal Control surface

The **Control Universal (\$1,299)** combines the functionality and compatibility of Mackie's Emagic Logic Control and HUI protocol in one controller. It features eight channel strips, each with a 100mm Penny & Giles optical touch fader and V-pot, a backlit LCD, and shortcut navigation and editing for all major software functions. The Universal features full implementation for Emagic's Logic Audio as well as DAW apps that currently support the Control, including Digidesign Pro Tools, Cakewalk Sonar, Magix Samplitude and Sequoia, MOTU Digital Performer, RML Labs Saw Studio, Steinberg Cubase SX/SL and Nuendo, Syntrillium Cool Edit Pro, and APB Tools TH-S software.

Mackie, www.mackie.com

API 8200 Rackmount mixer

Designed for use with their 7800 master and 7600 input modules, API's new **8200 8-channel mixer (\$1,995)** allows DAW users to bypass their internal digital mix bus and use the 8200 as a discrete summing mixer for warm analog sound. Each channel has level and pan controls, aux sends, solo and mute buttons, and insert points. The unit also features balanced +4 dB external audio connections and industry-standard dB-25 multi-pin connectors.

API Audio, www.apiaudio.com



Glyph GT Series FireWire storage drives

Glyph's GT Series FireWire drives were specifically designed to add portability to professional audio and video production. The fixed-mount **GT 050 (\$469-\$799)** and the hot-swappable **GT 051 (\$500-\$1,089, pictured)** are available with 80 GB, 120 GB, and 180 GB 7200-rpm drives. The GT 051 features the removable GT Key, which is compatible across the entire GT series of enclosures. Each GT series enclosure is constructed with QuietMetal, a composite material engineered to protect recordings by absorbing vibrations before they turn into unwanted sound.

Glyph Technologies, www.glyphtech.com



New Audio Spatial One Series Nearfield monitor system

The QB3-aligned **Spatial One Nearfield Control Room Monitor (\$1,099 per pair)** features a specially designed diffuse tweeter that results in an extended sweet spot, and vents on each end to help achieve maximum bass performance without adding wind coloration under heavy loads. The Spatial One has a 5-way terminal binding post for active powering, and a passive input terminal that can be removed and replaced with an active input allowing the high-frequency tweeter and driver to connect directly to system amplifiers.

New Audio, dist. by Steven Klein SCR, www.soundcontrolroom.com

Verbatim Store & Go Portable USB drive

About the size of a AA battery, Verbatim's new **Store & Go USB drives (\$29-\$349)** are non-volatile flash memory devices that plug into the port of any PC or laptop. The key ring-sized drives allow you to store, share, and transport up to 1 GB of data, photos, audio, and video from one computer to another. The drives are based on USB 2.0 interface specifications and feature password protection and public/secure partitioning to prevent unauthorized access to your data.

Verbatim, www.verbatim.com





MusicXPC Professional Audio production computer

Built from the ground up specifically for use with audio and music applications, the Intel-based **XPC Professional audio production computer (\$1,599)** features a 2.53GHz processor, two 80 GB ATA-133 hard drives, 512 MB of PC2700 RAM, DVD combo drive, keyboard, optical mouse, and Windows XP Home. The small footprint MusicXPC Professional (11.8" x 7.9" x 7.3") has numerous expansion ports, including four USB 2.0 ports, three FireWire ports, and S/PDIF I/O connectors, and utilizes a patented heat-pipe cooling system that eliminates the need for multiple fans, resulting in less unwanted noise. MusicXPC computers are available through music retailers and are not sold direct.

MusicXPC, www.musicxpc.com



QSC SRA Series Studio reference amplifiers

The **SRA 1222 (\$1,499), SRA 2422 (\$1,999), and SRA 3622 (\$2,499)** studio reference amplifiers range from 200 watts per channel to 725 watts per channel at 8 ohms, and were designed to bring the exacting cinema reference standards of QSC's professional-grade DCA series to project studios and post-production facilities. Features include an ultra-quiet variable speed fan, individually addressable clip limiters and subsonic filters, balanced XLR connectors, active inrush limiting, gold-plated RCA inputs with hum-reduction circuitry, and LEDs for power, signal, and clip.

QSC Audio, www.qscaudio.com



TAPCO S-5 Active studio monitor

The **Tapco S-5 (\$499 per pair)** is a bi-amplified monitor with two internal amplifiers that provide a total of 120 RMS — 60 watts for the 5.25" woofer and 60 for the 1" waveguide-loaded silk dome tweeter. The S-5's rear panel includes low-frequency boost and high-frequency cut/boost switches, and 1/4" TRS/XLR balanced and RCA unbalanced inputs.

TAPCO, www.tapcogear.com



➤ Where do you want to take your music?



FireWire 410

M-Audio's legacy in building high-quality, affordable PCI and USB audio interfaces is legendary. Now our highly anticipated **FireWire 410** delivers the most compact **FireWire audio/MIDI interface** available—not to mention the best price/performance value around (just **\$499 MSRP**).

4-in/10-out operation includes **two mic/instrument preamps**, eight discrete analog outs, digital I/O and MIDI I/O. The on-board **ASIO compliant mixer** and **software control panel** provide total flexibility in routing inputs and outputs—perfect for applications like monitoring with external effects. FireWire 410's eight direct outs and AC3/DTS-encoded digital outs also make it perfect for **surround sound mixing**. You also get ultra-low latency software monitoring and **zero latency** hardware direct monitoring—and two headphone outs with independent level controls let you collaborate with a partner anywhere, anytime. FireWire 410 can even be completely **bus-powered** for total mobile operation. **Where do you want to take your music?** Wherever you want to go.



M-AUDIO

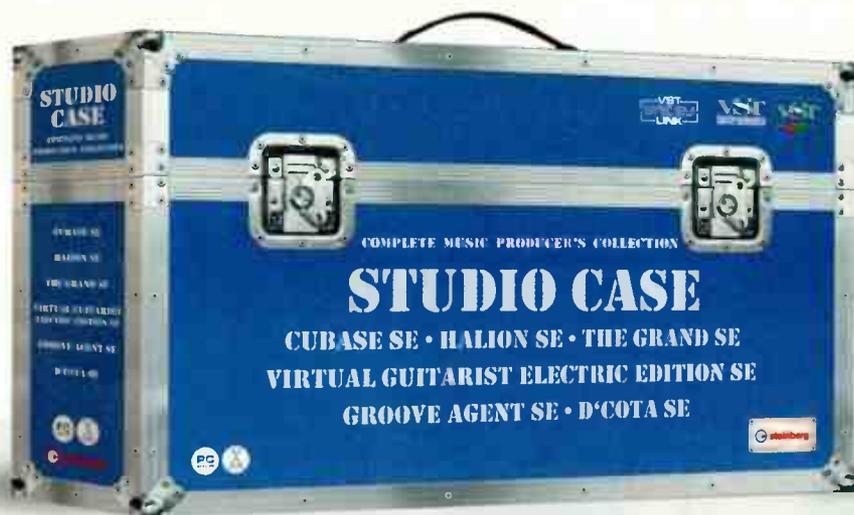
www.m-audio.com



Steinberg Studio Case Software bundle

Steinberg's Studio Case (\$299.99) is a collection of SE versions of Steinberg's Virtual Guitarist EE, Groove Agent, Grand Piano, D'Cota, and HALion, and a special edition of their Cubase sequencer for Mac OS X and Windows 2000/XP. The package contains more than 700 MB of sounds, is upward file compatible with Cubase SL, SX, and Nuendo, and features 24/96kHz audio quality.

Steinberg, www.steinbergusa.net



Gepco X-band Analog audio cable

Available in 4-, 8-, 12-, and 16-pair versions, the **X-band** is an ultra-flexible, sonically transparent, low-noise, balanced audio cable for studio and live sound applications. Key features of the X-Band series include finely stranded oxygen-free conductors, 95-percent braid shield, special foam dielectric for minimal wickback when soldering, and excellent RF and EMI rejection. Prices vary depending on length and version. Contact Gepco for details.

Gepco, www.gepco.com

dbx DriveRack Studio Monitor management system

The single rackspace DriveRack Studio (\$859.99) features dual XLR inputs, six XLR outputs, dual-channel graphic EQ, dbx compression, multiple crossovers, parametric EQ, stereo output limiters, and a built-in realtime audio analyzer. The unit can also function as a programmable output switcher, and, with the addition of a reference microphone (not included), the DriveRack Studio will automatically compensate for the frequency response curve of your studio. The processor comes with 24 presets specifically written and designed to work in tandem with popular studio reference monitors.

dbx, www.dbxpro.com



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Vol. 1

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- Everything you need to play electric guitar
- STRAT™ type electric guitar featuring a 22 fret maple neck, solid body, sealed chrome machine heads, three single coil pickups, five way switching and vintage vibrato bridge
- V-TONE GM108 15 Watt modeling amplifier with 27 classic guitar amp sound presets, 8" guitar speaker, headphone output and CD input
- High quality instrument cable, adjustable guitar strap, 3 picks, padded gig bag, guitar instruction book and amp manual



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HPM41000

- Multi-purpose headphones
- Ultra-wide frequency response 20 Hz - 20 kHz
- High dynamic range
- High resolution capsule
- Single sided cord
- Over-ear padded ear cups
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- Sensitivity: 105 dB @ 1 kHz
- Impedance: 32 Ohm



HEADPHONES

US\$ 9.99*

TUBE ULTRAGAIN MIC100

- High end tube mic/line preamplifier for studio, live and hard disk recording applications
- Hand selected 12AX7 vacuum tube, dynamic limiter, phase reverse switch, +48 V phantom power and 20 dB pad for utmost flexibility
- The ultimate sound enhancing tool for virtually any sound source
- Particularly complementary studio grade condenser mics and all other mic types



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US\$ 39.99*

ULTRABACK UB 204FXPRO

- Ultra low noise design 12 input 2/2 bus mic/line mixer with premium IMP "Invisible" Mic Preamps and 24 bit multi-FX processor
- Phantom power, 2 subgroups
- 2 aux sends and 2 stereo aux returns
- 3 band EQs on all mono and stereo channels (flw cut on mono channels)
- Rack mounting kit included



UB SERIES MIXING CONSOLES

US\$ 149.99*

MICROPHONE KAT1000H

- Excellent vocal/instrumental dynamic microphone
- Presence lift in critical mid-range gives you maximum voice projection
- Cardioid characteristic with excellent feedback suppression
- Sturdy, reliable metal construction
- Balanced low noise XLR output
- Two stage pop filter
- Practical On/Off switch
- 3 prs. delivered in a rugged hard case with mic clip and stand adapter



DYNAMIC MICROPHONES

US\$ 29.99*(3 pcs.)

V-TONE GM108

- True analog modeling 15 Watt guitar amp with original vintage design guitar speaker
- Authentic Ampeg modeling for 3 classic guitar amps, 3 speaker simulation modes plus 3 gain modes - providing you with 27 classic sound presets
- Wide range drive control, 3-band EQ, CD input and powerful headphone output with speaker simulation



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US\$ 49.99*

ULTRABACK MKB 100B

- 10 channel mixing console with optional battery operation
- 2 mono channels with IMP "Invisible" Mic Preamps and inserts, 3 stereo channels with IMPs plus phantom power on all channels
- Dedicated tap/return channel
- Separate gain controls for mix and line inputs on stereo channels allowing both inputs to be active



ANALOG MIXING CONSOLES

US\$ 99.99*

ULTRABASS PRO EK 1000

- Professional sub-harmonics processor for super low bass sounds
- The perfect tool for PA clubs, cinemas, sport/fitness studios or your home stereo system
- Digital synthesis based on waveform analysis generates ultra low frequencies
- Dynamic punch control adds breathtaking "kick bass" to your program material
- Bass mode control allows you to fade between "ultra low" and "punchy" bass sounds



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- Automatic Feedback Destroyer and multifunction signal processor
- Discrete ultra low noise mic/line input stage with gain control and -48V phantom power
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- Delay line with up to 2.0 seconds of delay, adjustable in meters, feet and msec
- Noise gate with automatic and manual parameter adjustments



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Fully Automated 32-Channel 16-Bus Digital Mixing Console

- 32 full fledged channels/12 ultra low-noise IMP "Invisible" Mic Preamps
- 16 buses, 8 aux sends and comprehensive routing options
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- Compressor/limiter plus gate, 4-band parametric EQ, sweepable high pass and phase reverse on all 32 channels, additional delay on channels 1-16
- Additional compressor/limiter (switchable pre/post) and EQ for stereo main mix
- Four a multaneously operable effects processors with dozens of first class algorithms, accessible from all 32 channels



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ADT1616: 16-Channel ADAT™ Interface for DDX3216 • **TDF1616:** 16-Channel TDF Interface for DDX3216 • **AES80B/ACB80B:** 8-Channel AES/EBU Interface for DDX3216/19" Connector Box

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ULTRAPOWER PRO8000

- 2 x 250 Watt 10 channel power mixer with 24 bit multi-FX processor
- 6 mono channels with IMP "Invisible" Mic Preamps and phantom power plus 4 stereo channels (3 with IMPs)
- 3-band EQ on all channels
- 9 band stereo graphic EQ allows precise frequency correction
- Optional stereo (main L/R) or double mono (main/monitor) operation possible
- Professional SPEAKON™ connectors



POWERED MIXERS

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- The ultimate tone toolbox for bass/acoustic/electric guitar and keyboard amp modeling
- 32 amp models, 23 speaker cabinet simulations, noise reduction etc.
- 16 analog and digital multi effects including ultrabass, synth, delay/hop sampler, chorus, flanger, rotary speaker, voice box, wah etc.
- Stereo aux input, extensive MIDI implementation
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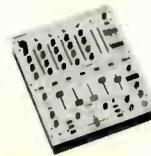


MODELING AMPLIFICATION

US\$ 139.99*

PRO MIXER DJX700

- Professional 5 channel DJ mixer with digital effects and BPM counter
- 4 dual input stereo channels, 1 ultra low noise microphone channel with "On Air" switch
- 47 breathtaking digital effect presets - 24-bit quality delay reverb, flanger, phaser, w/hyler etc.
- Awe-inspiring adjustable XPO stereo surround effect
- Super smooth VCA ULTRAGLIDE™ faders with up to 100,000 life cycles



DJ MIXERS

US\$ 199.99*

BLU DEVIL GX118

- 60 Watt RMS VIRTUBE™ guitar amp
- Original JENSEN™ 70 Watt 12" speaker
- Two channels with separate volume and FX settings
- Stereo 24 bit multi effects processor with 99 user presets
- 31 original VIRTUALIZER/MODULATOR™ presets with world class effects
- Channel select/FX bypass footswitch included



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- 300-Watt RMS bass amplifier with DYNAMIZER™ technology for ultimate punch
- Switchable ULTRABASS sub-harmonics processor & revolutionary "Shape" filter
- Extremely musical 5-band EQ with "Bright" and "Deep" functions
- Vintage-style VU meter
- Dual footswitch included
- Balanced XLR DI output effects loop with tuner function and line output
- 3 speaker outputs on 1/4" jack and SPEAKON™ connectors



BASS AMPLIFICATION

US\$ 199.99*

ULTRA-3 MIC PEQ8000

- Ultra musical and low noise 5 band parametric equalizer
- Precision state variable filters with constant-Q characteristic
- Parallel filter architecture ensures minimal phase shifting
- Sweepable high and low cut filters remove unwanted frequencies
- Each band bypassable and fully adjustable from notch filter to broadband equalization
- Broad frequency band overlapping allows extreme boost/attenuation



EQUALIZERS

US\$ 79.99*

VIRBUCLIVE P1280

- High power 2-way floor monitor
- 400 Watts program
- Titanium HF driver for brilliant, natural high frequency reproduction
- BEHRINGER RHF driver protection
- Professional SPEAKON™ connectors
- Ultra rugged enclosure with two mings (30" and 60")
- Rugged steel grille for optimal speaker protection



PA LOUSPENER SYSTEMS

US\$ 159.99*

ES300

- Fully active 2 way 300 Watts PA loudspeaker
- High-power 15" woofer and 1 1/4" HF driver
- Suitable as main PA and floor monitor
- Two high-power amps delivering a total of 300 Watts
- Integrated limiters ensure speaker protection
- Additional ultra low noise mic input and 2-band EQ
- Integrated suspension points and socket for pole or stand mounting
- Extremely rugged, low resonance plastic enclosure



PA LOUSPENER SYSTEMS

US\$ 349.99*

ULTRAPOWER GP1600

- High end power amp with all protection modes
- 2 x 700 Watts in 2 Ohm/1,400 Watts in 4 Ohm bridged operation
- 2 channel, parallel or bridged mono operating modes (for flexible application)
- Independent limiters for each channel offer dependable protection against distortion
- Programmable and trip LED indicators to monitor performance



POWER AMPLIFIERS

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The Philosophy: "Double the Features—Half the Price"

The success of BEHRINGER is the result of a partnership with YOU, our customer. Over the past 15 years, we've always listened to your suggestions, which ultimately helped us design some of the most successful products in the industry. The huge demand

and our highly sophisticated factories allow us to produce products at much lower cost than most of our competitors. Isn't it fair to pass those cost savings back to you? We call this the "YOU" factor and that's what BEHRINGER stands for.

www.behringer.com





Celemony Melodyne 2.0

Recording/editing app

Building on its impressive feature set that allows audio to be molded and shaped in a unique and flexible manner, Celemony has released **Melodyne 2.0 (\$440)** for OS X and Windows 98SE/ME/XP. New features include the MelodyneBridge, a technology that allows the multitrack recording and editing application to be connected to any VST or AudioUnit host. The new version supports the ReWire, can be synced to MIDI clock and SMPTE, and features MIDI I/O. It also boasts improved mixing via its added EQ, insert effects, aux sends and returns, group tracks, and DirectIO support.

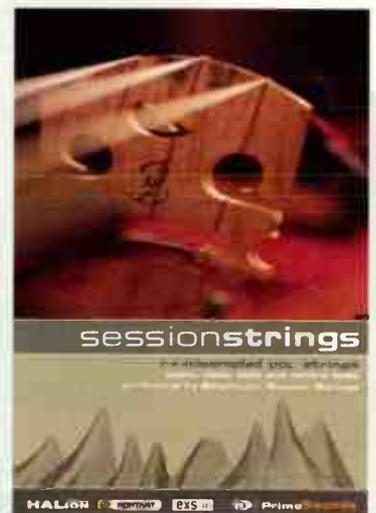
Celemony, www.celemony.com

KV2 Audio EX10

High-output speaker

The **EX10 high-output active full-range speaker (\$1,699 each)** employs a new low frequency transducer with KV2's TransCoil technology and neodymium motor structure that the company claims increases force, lowers distortion, and provides increased frequency linearity. Capable of sustained output at 126 dB, the EX10 features a wide-dispersion, rotatable horn assembly, is housed in a Baltic birch cabinet, and has onboard EQ, time correction, phase alignment, crossover filters, overdrive protection, and setup/level controls.

KV2 Audio, www.kv2audio.com



PrimeSounds

Sound library

Session Strings (\$99.95)

from PrimeSounds is a collection of multisampled violin, viola, cello, and contra bass performed by Stockholm Session Strings, a 12-piece string ensemble known for their work with such artists as Celine Dion, Backstreet Boys, Britney Spears, and Westlife. All instruments were recorded using Neumann U87 microphones.

PrimeSounds, dist. in the U.S. by Big Fish Audio, www.bigfishaudio.com



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R

odney Jerkins completed more personal goals before he reached

legal drinking age than most people achieve in a lifetime. In only eight years, the 25-year-old Grammy-winning producer has gone from being an ambitious teenage hopeful wooed by Teddy Riley and Puff Daddy to becoming one of today's most sought-after pop and R&B producers. Before he turned 21, Jerkins produced a Number One pop single — Brandy and Monica's "The Boy is Mine" — and worked with Aaliyah, Mary J. Blige, Destiny's Child, Jennifer Lopez, and Whitney Houston. Since then, he has produced Brandy's multi-Platinum *Full Moon* album, recorded chart-topping singles with the Backstreet Boys, N'Sync, and Britney Spears, and worked with legendary artists such as Natalie Cole, Lionel Richie, and Michael Jackson.

A self-made multi-millionaire, Jerkins enjoys all the trappings that come with success, such as fancy cars and a mansion that boasts a custom miniature golf course. But Jerkins' most-prized possession is the Grind Factory, a state-of-the-art recording studio he built in a high-rise building above Hollywood's Sunset Strip. This is the place where Jerkins helps everyone from established stars to the newcomers he's signed to his label, Darkchild Records, turn their dreams into realities.

"I believe in giving people opportunities," says Jerkins. "Once you become successful it's not just about making records and money. It's about giving other people insight so they can get their songs out there. I want people to be able to say, 'Rodney taught me this. Rodney influenced my life and what I do.' I do a lot of panels and programs to help other people out."

This desire to help others extends to the deep commitment that Jerkins devotes to his projects. He often collaborates as a

songwriter and musician with the artists he's working with, which is part of the reason his productions possess an immediately identifiable, signature sound. But what makes Jerkins's productions so magical is the way he infuses his personality into each recording while enhancing the unique strengths of the artist he produces. From the smooth sounds of Whitney Houston's "It's Not Right But it's Okay" to the digital edge of Brandy's "What About Us," Jerkins's productions always sound fresh and innovative, while retaining a timeless edge that keeps his work from sounding trendy or trite.

Of those who have reached Jerkins's level of success, many would be content to rest on their laurels. But even though Jerkins has three Grammys, several Billboard awards, and dozens of platinum albums, he still looks forward to new challenges. "I believe in short term goals," he says. "A lot of people do long term planning and say they want to accomplish

Platinum Producer

RODNEY

JERKINS

The How-To of Hitmaking

by Chris Gill

this and that in the next 20 years. I'm looking at doing those things in the next five years. That's what my life has been about. What can I do *now*? What can I do by tomorrow? What can I do by next week? I like to go, go, go. I still have a long way to go, but I'm getting there."

Jerkins graciously agreed to share his insights about production with *EQ* readers while taking an all-too-rare break between recording projects.

BEGINNINGS

How did you get into recording?

I started as a kid. I was one of those kids who felt like I could do anything I put my mind to. There were a lot of musicians in my family, so I decided to become a producer. I got myself a Boss drum machine and a Fostex 4-track and started recording demos. The more I focused on what I wanted to become, the more I got into my craft. I learned everything I could and got a lot of hands on experience. I

surrounded myself with good people who knew what they were doing, and I watched. I didn't want to be a person who just sat behind a keyboard. I wanted to learn the whole production process. That's what I'm trying to teach the younger guys now. Being a producer is not just making beats. You need to know what to tell the engineer to do. You need to be able to control the whole session. People will come up to me and go, "I produced this song." "Oh yeah? What did you do?" "I made the beat!" That's not producing.

When were you discovered?

My mentor was Teddy Riley. I met him in Virginia Beach when I was 13 years old. I went to his studio hoping that he'd be there, and I got lucky — he was pulling up in his drop-top Mercedes as my car was pulling away. I rushed his car and a security guard grabbed me. I said, "I'm a kid. I can't harm him." Teddy invited my parents and I into the studio and gave us a tour. Then he listened to my stuff. When he

told me that my stuff was great, that changed my life. Before I met him, record companies wouldn't let me in the door to meet with them. But Teddy put a buzz in the industry about me, saying that there was this young kid from Jersey that they should check out. That made it easier for me to get through those doors.

What was your first big breakthrough project?

In 1995, when I was 17, I discovered this girl named Gina Thompson from Vineland, New Jersey. We did this record with Missy Elliott called "The Things You Do" that was co-produced by Puff Daddy. That record opened up every door. I proved to the industry that I could take a little girl from New Jersey and made a gold single. It was a big song in all the clubs. The next thing you know everybody is knocking on my door. That led to work with Mary J. Blige, Aaliyah, and then

RODNEY JERKINS



Brandy. I felt that I had to keep proving myself, though. I wanted to experience that first feeling again and again.

It seems easier to break new artists in the clubs, where people want to hear new sounds, than over radio.

That's how I started off. I was doing a lot of remixes. I couldn't just knock on record company doors and get a job producing

used to. Now they're back to playing the original versions.

How did you get the a cappellas from the labels?

Basically it was due to the success of the track I did with Gina Thompson. My Darkchild remix of that song became the single. It blew up so big that all the A&R people wanted me to take a crack at

few years was that I was getting my name out there but I wasn't making as much money as I could as a producer. You don't get any publishing when you do a remix. Sometimes I'd create a whole new song, but I wouldn't get any publishing because it was considered a remix. The record company would often go with my remix as the single, but I wasn't making any publishing off of that. That's when I decided to focus on producing.

How much were you making for doing a remix?

I got \$35,000 for the Gina Thompson remix, and I built my fee up to about \$50,000, which is what I was getting when I stopped. I'd take a lower fee if I really liked the song and wanted to work on it, but I wouldn't take anything less than \$25,000 for a remix.

How did you make a name for yourself as a producer?

Brandy was the big breakthrough for the Rodney Jerkins/Darkchild empire. I worked for a lot of artists before that and built up my name. Then I came to Los Angeles to sell my tracks, and I bumped into Brandy at a restaurant. She was already a star — she had a TV show that was doing well and a double platinum

“What makes the vocals on my mixes sound different is that I prefer a very dry sound. A lot of producers like to use reverb and delays. I usually go completely dry. . . . A lot of Bruce Swedien's vocal mixes with Michael Jackson are wet, but I wanted to record Michael completely dry. I wanted him right in your face. Bruce loved it.”

artists. I thought if I could do a remix of an *a cappella* and put my own spin on it, then they might notice me. I did a remix of Patti LaBelle's "All This Love," Vanessa Williams' "The Way That You Love Me," and remixes for Puffy like Total's "No One Else" featuring Lil' Kim, Da Brat, and Foxy Brown. I started knocking down the remix circuit to the point where I was doing 15 to 20 remixes at once. And those remixes were so hot that they'd go with my mix as the lead track on the single. They were big in clubs. DJs love remixes. I wish I could go back to that. You don't really hear the remix like you

their artists. I started letting people know that I was a remixer and that I could remix anything. I just kept knocking them out.

What is your basic approach to a remix?

I have two ways of doing a remix. I'll get the *a cappella*, but I won't listen to the original version at all because I don't want to be inspired by it. I just want to create whatever I'm feeling. The other approach I'll take is to get the artist in the studio with me and create a whole new song. What I found out after doing remixes for a

album — and she was only 14. Next thing you know she was saying let's get in the studio this week. Two days later we were in the studio, and after five days straight we had five songs. The record company flipped, she flipped, and I flipped. I went into the project intending to prove something. I knew it could make or break me, and I had to hit a home run so people could see that I was the real deal. "The Boy is Mine" with Brandy and Monica was created with that mentality, and it was my first Number One song.

WORKING WITH VOCALISTS

Where do you start when you're working with a vocalist for the first time?

It's important to find that artist's niche. A lot of artists I work with will only spend about two days in the studio and everything is done. My situation with Brandy was different because we were working on a whole album. I had to get cool with her and become friends to make it work. It's a deeper bond when an artist trusts you to direct their whole record.

How much do you collaborate with an artist?

It changes. I used to be able to do whatever I felt like doing. Everyone looked to me to bring them a sound. Now a lot of artists are hands-on and want to be part of the creative process. It's real important to get together with the artists before you begin and find out what direction they want to go. I like to get together with an artist in the studio and vibe a little to see what we come up with and if we're a match. You push a certain

RODNEY'S DESERT-ISLAND INSTRUMENTS

Akai MPC3000 sampler
Clavia Nord Lead synthesizer
Moog Minimoog synthesizer
Roland HPD-26 HandSonic
Roland JV-2080 sound module
TASCAM GigaStudio sampler

button on the artist and the artist pushes a certain button on the producer. It's a challenge for each of them to step to the next level, but they push each other in that direction.

How do you handle conflicts or disagreements?

Everybody wants their best. When you want the best, sometimes you think you're the best, and that's the problem. Some artists will tell me, "I've been doing this for years. I know what I'm doing." But I always work through conflicts. That's part of life. Sometimes I'll just wait until we

cool down, but sometimes you keep working to see what happens because that tension can lead to great things.

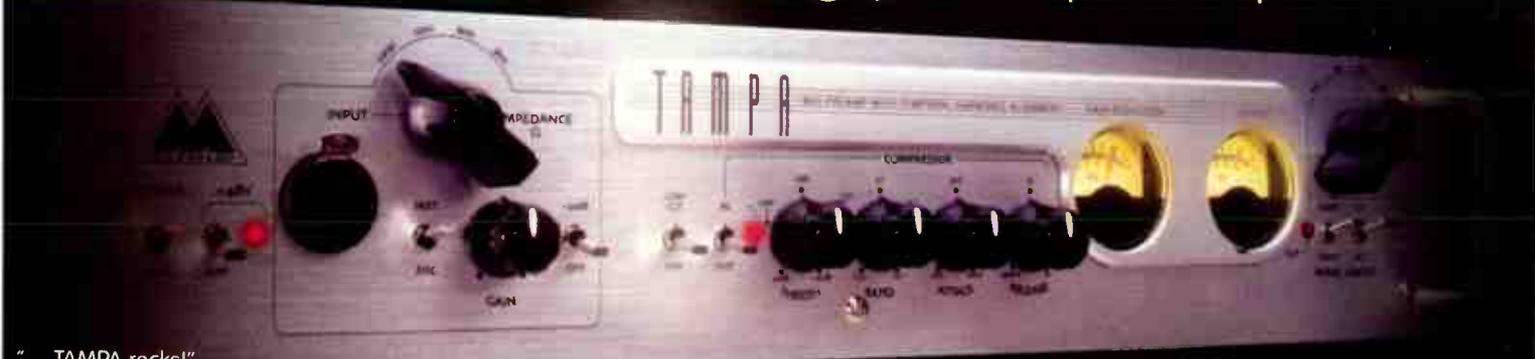
What mics and processors do you prefer for vocals?

I like the Sony digital mic, and I use that nine times out of ten. What makes the vocals on my mixes sound different is that I prefer a very dry sound. A lot of producers like to use reverb and delays. I usually go completely dry with just an occasional touch of processing. Spacing is the most important thing. I want the instruments to play with the vocal. I want them spaced correctly. As a result, you hear a lot of continuity in my mixes. You can tell it's my song because it has a certain thump, a certain clean, pristine sound that I bring to it every time. If it's not that way, I'm not happy and it's not coming out.

Do you use much compression, limiting, or any specific Pro Tools plug-ins?

Now we are. Before I used Pro Tools I recorded with a Sony 3348 digital recorder. I use a little bit of compression, but I try to

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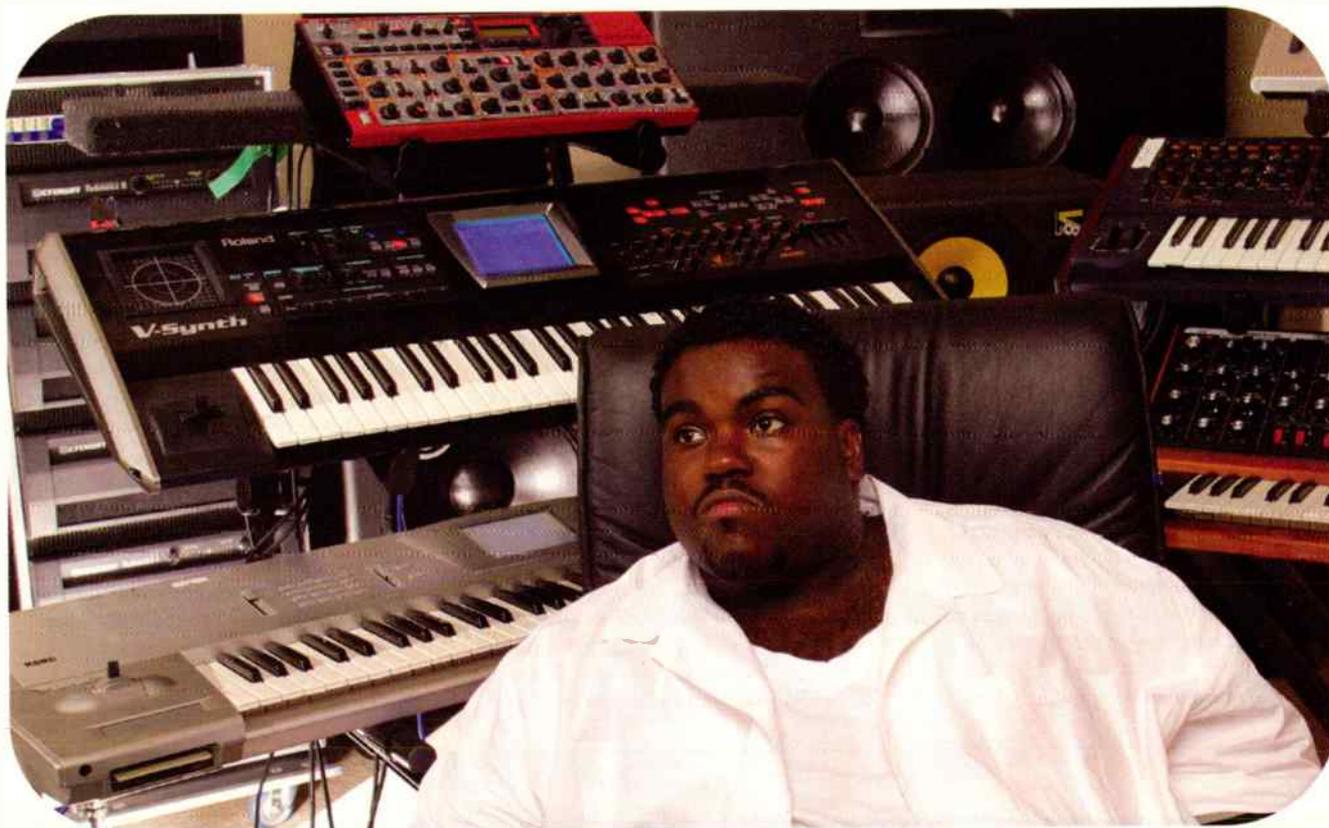
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RODNEY JERKINS



stay away from it. I like things to breathe and be open. Compression is cool for certain things, but it can often close a sound down. A lot of people tell me to use a lot of compression on the snares and kicks, but I disagree. I want the air. I want that ambience you hear after the sound. I want my mixes to breathe as much as possible.

Some of your arrangements have lots of vocal harmonies and instru-

ments. How do you maintain clarity in such a dense mix?

that's not what you expect it to be. Usually I'll go with a minimum of a four-part harmony and a maximum of seven or eight parts. The most important thing is to make sure that everything is balanced correctly. You can add one note that's barely there but you can feel it. If you bring it up too much it will clash, but if it's barely there it's perfect.

How do you create that distinctive high-end sheen on the vocals?

you need warmth and air underneath to give it some balance. There's nothing like it.

I also like to record vocals dry. A lot of Bruce Swedien's vocal mixes with Michael Jackson are wet, but I wanted to record Michael completely dry. I wanted him right in your face. Bruce loved it.

Who are some of the best vocalists you've worked with, and what did you learn from them?

“You can tell it’s my song because it has a certain thump, a certain clean, pristine sound that I bring to it every time. If it’s not that way, I’m not happy and it’s not coming out.”

ments. How do you maintain clarity in such a dense mix?

My background is with church choirs, so I know a lot about parts and arrangements. I try not to overdo the harmonies. Some things require a triad harmony, but a lot of times I just like the vocals to establish the melody first. Sometimes the top and bottom will do something completely different

A lot of that comes from the background vocals. We'll do the first eight background vocal tracks totally straight, then we'll do another four to eight that are totally buried where the artist sings with a lot of air and breath — it's almost like a whisper. It doesn't have to be real loud in the mix. It adds a lot of clarity to the vocals. You can put all these bells and whistles on top, but

Michael Jackson is the best by far. I don't know who taught him how to cut background vocals, but he does things that no one else does. He'll do a hundred tracks of background vocals. He would do eight tracks of what he called accent vocals. He'd barely be singing but he'd hit the chorus line with a hard, syncopated rhythm. It was almost like he was talking, but it's not

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RODNEY JERKINS

"I've never seen anyone use more mics (than Michael Jackson). He would have all these great mics in the room and then go through each one to figure out which one sounded the best for the track. A lot of artists are in too big of a rush and they don't take the time to do that stuff."

talking. He'd stack that over and over, and it would give the vocals aggression and bite.

I've never seen anyone use more mics. He would have all these great mics in the room and then go through each one to figure out which one sounded the best for the track. A lot of artists are in too big of a rush and they don't take the time to do that stuff. He also taught me that you don't have to be right up on the mic on everything. Before I would tell the artist to breathe in the mic, to eat the mic. I wanted the vocalist right in your face.

Michael would do that, but then he'd go in the corner and sing the next four tracks. That would give it a room sound, but without using a machine. That taught me so much. I never understood ghost tracks until I watched him work. He'll do these things that you think you can't hear, but they fill in the mix and make it bigger.

RECORDING INSTRUMENTS

Where do your drum sounds come from?

All over the place. I have a serious catalog of drum sounds. Yesterday I made

what I call the Darkchild kick, which is going to be my new signature drum kick. When people hear that kick they're going to go, "That's got to be Rodney's song." I took a live kick, tuned it a certain way and added a couple more kicks with it. One was filtered so it was nothing but bottom, which gives it an unbelievably fat sound. I was searching for that sound for years, and I got it from a live kick. It's so hard it shakes this whole building.

Now I'm going to create the Darkchild snare. I have to find a snare that's mine as

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well, so you'll know it's me when you hear it. Of course, then everyone will sample it and it won't be mine anymore. But that's how it goes. A lot of people use an 808 kick, but I've always felt that using that sound took away from what I was trying to accomplish. It's too recognizable, and it takes up too much space. I was trying to come up with a pristine, clean sound for R&B, and it didn't work with my sound. You should never hesitate to push buttons and try new things. There's no limitation on what the human mind can do. Try things like making your kick into a snare and making the snare into a kick.

What are your main sound sources?

I have a Minimoog that I use a lot for bass and I use Gigastudio for orchestral stuff. I'm always creating new sounds. I just got a set of Roland V-drums, and I want to do a lot more live playing on records. For a long time I was just doing things with an MPC and a keyboard. Now I'm into bigger productions, so I'm buying a lot of equipment and instruments.

What samples do you use the most?

I have some sweet Rhodes sounds and some sweet strings, but sometimes it's just not as good as the real thing. That's why I'm heading more in that direction. All my songs used to be quantized. When I made "What About Us" with Brandy I decided to turn the quantizing off. Now I haven't used quantizing in about two years. A lot of people are scared to do that, but I believe in human rhythm. I want to hear what I give the machine, not what it gives me. When you quantize you're locked into the machine. Playing a beat a little late or early gives it some funk.

What string library do you use?

Vienna [VSL] Strings. I haven't maxed it out yet. I play it like an actual orchestra. I'll play the cellos first, then the violins. It sounds more real when you do it that way. Even though nothing will ever replace a real orchestra, it sounds really close.

Did you study orchestration?

I was classically trained on piano. I listened to classical music a lot, and I have a great ear. I can tell what a violin and cello player does. I don't just go up to the keyboard and start playing chords. I play each part as if I'm playing that instrument.

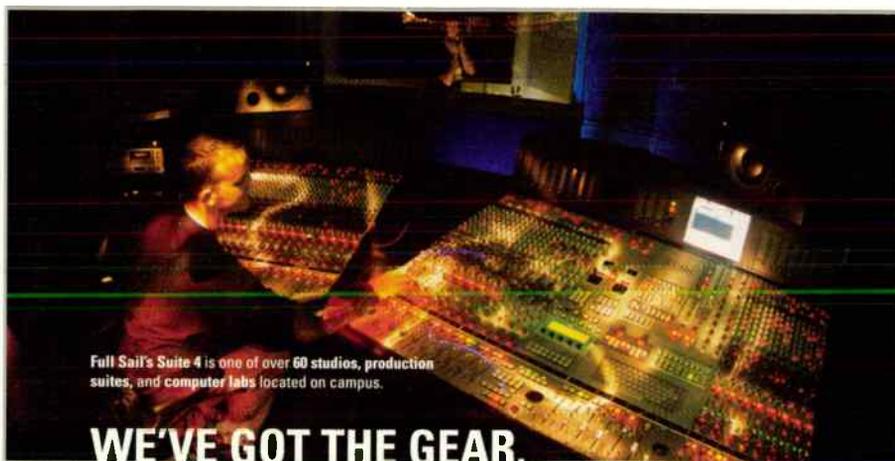
How do you keep the string arrangements from clashing with the vocals?

I rely on my ear. I like to use strings, but they take up a lot of space, especially

in the vocal range. My arrangements already have a lot going on, so when you add the strings it can sound cluttered. I'll roll the low end off the strings and the background tracks, and that creates a certain balance in the mix. The strings are aggressive enough where they're in your face but they don't get in the way of the vocals.

A lot of people follow rules like rolling off 150 Hz on everything but the bass and drums. Do you have any similar rules?

No. I'm against rules. I just do whatever I feel. The vocal could be distorted or sound like a car phone if you think it sounds good. Each record makes you feel a certain way and you've just got to go for



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RODNEY JERKINS

it. When I did "What About Us" with Brandy, I wanted a completely digital sound. I wanted it to sound new, fresh, and in your face — totally different than anything you've ever heard before, not just musically but also how it sounded. That's what I went for. When you hear that song on the radio it sounds different. We mixed it in stereo, but you'd swear it was 5.1. We

had so much panning going on throughout the mix, you never knew what was going to happen next.

What type of EQs do you use?

I totally depend on Dexter Simmons for EQ. Dexter and Jean-Marie Horvat, who are my mixing engineers, are the masters for making my sound. I might give them some suggestions if I think

something sounds too dark or bright, but generally I leave it up to them. I can take a sound to a certain place and then they take it somewhere else, but we're on the same page sonically. I've heard them both do great mixes on the SSL, but Dexter has so many racks of processors that you don't know what he's using. But I'm at the level now where I don't like all those processors. I just want a natural sound. How I give it to you is how I want to hear it back, but maybe with just a little more punch. As a producer I try not to overproduce or overthink a track. I really like that initial sound you get when you create something. That's the real deal, and that's the feel I want in the final mix. I wish you could just put out the rough mix, but it never happens that way.

NEW DIRECTIONS

Where are you heading stylistically?

I want to really challenge myself. I think it's been my calling to bring back some integrity to music. I feel that R&B is at a stalemate right now. I had a chance to take a week off, and I listened to Marvin Gaye, Stevie Wonder, Isaac Hayes, the Stylistics, and the Bee Gees. That was really great music. Right now everything sounds the same. I want to be one of the new millennium pioneers to bring back that old integrity and blend it in with what's going on today. I love the aggressiveness of today's songs, but I'd love to bring back those horns and soulful sounds — something that's not just a loop, but something that constantly changes.

How would you describe your signature sound?

I'm moving in a different direction now, but my sound has always been clean and pristine. I also like syncopated rhythms and instruments, whether it's a harp or strings. I'll keep the beats straight. You know how house music is on the one, two, three, and four? I was doing that in R&B, but I had a lot of syncopation. There's a lot going on between the beats. It makes it full sounding. Most of my records sound dramatic. I don't just give you a chorus and just take out certain instruments for the verses. I give you an intro, a b-section, a buildup, a bridge. There are a lot of different elements in each song from beginning to end. And I'll end my songs dry all the time. I never use fades. I always want to make the song bigger than what it is. EQ

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Behringer Tube UltraGain T1953, \$249.99

Tube preamp with Ultra-Tube circuitry, discrete input stages, input gain adjustment, phantom power, mic/line capability, switchable highpass filter, and a phase reverse.

Behringer UltraGain Pro MIC2200, \$129.99

Tube preamp/DI with integrated parametric EQ.

Behringer UltraVoice VX2000, \$159.99

Mic preamp, EQ, compressor, expander/gate, de-esser, and tube emulation in one rack space.

Behringer UltraVoice Digital VX2496, \$200

Mic preamp/voice processor based on the VX2000. The VX2496 features AES/EBU output (digital output up to 24-bit/96 kHz), opto compressor, dynamic enhancer, expander, de-esser and tube simulation.

Behringer UltraGain MIC100, \$50

Tube mic/line preamp/DI with integrated limiter, selected 12AX7 vacuum tube with UTC technology for exceptional warmth and low noise.

dbx 286A Microphone Processor, \$300

Single-channel mic preamp plus five dynamics processors with internal power supply, phantom power, and frequency controllable de-esser, as well as a premium preamp section and expanded metering 2-knob compression, spectral enhancer, and expander/gate.

dbx Mini-Pre Microphone Preamp, \$150

Tube preamp with roadworthy construction, a hand-selected Russian-made 12AX7 vacuum tube, phantom power, 20 dB pad, and phase reverse.

dbx ProVocal, \$449.95

Mic pre with 24-bit effects/signal processing including mic modeling, EQ, gate, compressor, and de-esser, as well as 24-bit reverb. Additional features include chorus, delay, and 44.1/48k S/PDIF digital out.

Focusrite Platinum Penta, \$495

Stereo mic preamp with compressor.

Focusrite Platinum TrakMaster, \$450

Channel strip for vocals and instruments.

Joemeek MicroMeek MQ3, \$299

Mic preamp with optical compressor, Meekqualizer (3-band EQ with phase leveling), a TRS mix in for adding a second sound source, LED input and overload indicators, phantom power, and balanced outs.

M-Audio Audio Buddy, \$119.95

Two-channel mic preamp/DI with phantom power, independent gain controls, XLR balanced input, 1/4" unbalanced high impedance input, signal and clip LEDs and 1/4" balanced TRS/TS outputs.

M-Audio DMP3, \$249.95

Two-channel mic preamp/DI with phantom power, independent gain controls, XLR balanced input, a 1/4" unbalanced high impedance input, VU meters, clip LEDs, a 30 dB high gain switch, a low-cut filter, a phase reverse, and balanced TRS/TS outputs.

Nady TMP-1, \$135

Mono tube mic preamp with 12AX7 tubes and analog meter.

Nady TMP-2, \$200

Stereo tube mic preamp with 12AX7 tubes and analog meter.

Nady TMP-3, \$260

Tube channel strip with mic preamp, EQ, compressor, 12AX7 tubes, and analog meters.

Nady PRA-8, \$135

Eight-channel mic preamp in a single rackspace unit.

Peavey TMP-1, \$290

Single-channel tube mic pre with transformer-balanced XLR input and unbalanced 1/4" inputs, transformer-balanced XLR output, unbalanced 1/4" outputs, and switchable 40 Hz highpass filter in a single-rack-space design.

PreSonus Acousti-Q, \$300

Half-rack acoustic instrument preamp/EQ/blender with tube preamps for both pickups and condenser mic inputs, internal mixer, EQ with a tunable notch filter, brilliance, and bass controls, sweepable midrange, footswitch control, and stereo effects loop.

PreSonus DigiTube, \$300

Single-channel tube preamp, EQ, and 24-bit digital output in a 1/2 rackspace unit with dual-servo mic/instrument/line input, 3-band EQ with overlapping bands, EQ bypass, XLR and 1/4" I/O, coaxial S/PDIF 24-bit out, and TRS insert.

Rane MS 1b, \$199

Single-channel mic preamp.

Samson C-Valve Tube Preamp, \$160

Tube preamp with variable gain, variable tube saturation, analog VU meter, phantom power, phase reverse, peak limiter, digital output, insert points, and 6-segment LED.

SM Pro Audio PR4, \$99

Four-channel 1/2-rack mic preamp with independent gain controls, JRC4558 op amps, XLR I/O, and phantom power.

SM Pro Audio PR8, \$199

Eight-channel 1U mic preamp with independent gain control, peak indicator, phantom power, balanced XLR inputs, and TRS balanced/unbalanced outputs.

SM Pro Audio PR8 mkII, \$399

2U version of the PR8, with ADAT output (\$199 option), -10 dB 1/4" line outs.

Sonifex RB-MA1, \$300

Mic preamp with controls and connections on rear panel, and electronically balanced input. Gain is adjusted using recessed preset potentiometer.

Sonifex RB-MA2, \$380

Two-channel mic preamp.

TL Audio 5050, \$469

Tube mic/line/instrument preamp and mono compressor with 30 dB pad, hard/soft knee compression, balanced line output and optional digital output.

HARDWARE: SIGNAL PROCESSING

Akai HV1 Duo Buddy, \$399

Single-voice harmony generator with 12 preset styles (intervals), nine user styles, separate harmony and mix outputs, adjustable random delay and pitch shift, formant (gender) control, and nine banks of two programs.

Akai HV10 Deca Buddy, \$499

Ten-voice harmony generator with random delay and pitch deviation per voice, and "gender" formant control parameter. Harmonies can be programmed using preset intervals or chords, or by MIDI input.

Alesis Akira, \$299

Rackmount 2-channel stereo multieffects processor with 100 programs, including reverbs, delays, pitch mod, filters, and special effects, 24-bit A/D-D/A, 28-bit internal processing, 48 kHz sample rate, MIDI I/O, balanced 1/4" TRS analog I/O, and +4 dBu/-10 dBV operation.

Alesis ModFX, \$129 each

Family of 14 digital effects boxes. Link ports located on either side of each box allow passing digital audio, word clock, and power between ModFX line family members. The line includes:

Fidelity X (simulates tape, vinyl), radio, megaphone, telephone, etc.); **Vertigo** (rotating speaker simulator); **Ampliton** (tremolo with autopan); **Spectron** (adds bass and treble harmonics); **Bitrman** (compression, distortion, dual phasing, and a fourth effect that can be comb, decimator, bit reducer, frequency modulator, ring modulator, or frequency shifter); **Korus** (chorus); **Phlnjr** (flanger with beat-synchronized modulation sources); **Formantz** (filter modeling); **Lymitre** (2-band limiter); **Metavox** (beat-synchable vocoder); **Faze** (phase shifter); **Philtre** (resonant filter with beat-synced modulation); **Nastify** (distortion box); and **Smashup** (compressor).

Alto AlphaVerb, \$109

Digital reverb and multieffects with presets and variations.

Alto BetaVerb, \$179

Digital stereo effects with 64 factory and 64 user presets, reverb, chorus, flanger, and delay.

ART FX-1, \$139

Multieffects processor with reverbs (halls, chambers, plates, gated, reverse and true stereo rooms and plates), delay, chorus, flange, vintage tremolo and panning effects, and pitch shifting.

BBE 482i Sonic Maximizer, \$349

Two-channel, 4th-generation BBE process, 1/4" and RCA inputs and outputs, extruded aluminum faceplate.

BBE 362 Sonic Maximizer, \$179

Two-channel with stereo controls.

BBE 362NR Sonic Maximizer, \$349

362 with single-ended noise reduction.

BBE BMAX Bass Preamp, \$499

Bass preamp/processor with Class A/B front-end, tube-loading emulation, Sonic Maximizer, 3-band quasi-parametric EQ, bright switch, electronically balanced DI output, single-knob soft-knee optical compressor, custom toroidal transformer, and inputs for both passive and active pickups.

Behringer Modulizer PRO DSP1224P, \$99.99

Eight-voice chorus, spatial flanger, ring modulator and resonator with LFO- and MIDI-controllable analog-modeled filters with resonance, amp and speaker simulations, and 3-D processor.

Behringer Virtualizer Pro DSP2024P, \$189.99

Digital effects with 71 algorithms including modulation, amp simulation, distortion, special effects, dynamics, psychoacoustics, EQ processing, and wave-adaptive Virtual Room reverb algorithms.

Boss GT-6 Guitar Effects Processor, \$495

24-bit COSM processor with 30 amp models, 15

overdrive and distortion pedals, and five wahs. Effects include modeled Uni-V, mono guitar synth, Harmonist, Auto-riff, and many more. 15 knobs, coaxial S/PDIF output, stereo 1/4" outputs, control and expression pedals, 200 preset and 140 user programs.

Boss GT-6B Bass Effects Processor, \$495

24-bit COSM processor with modeled bass amps stereo XLR, 1/4", and coaxial S/PDIF digital out, true bypass of direct bass sound, overdrives, wahs, and compressors, 4-band parametric EQ, plus more effects, built-in expression and control pedals, 40 preset and 80 user programs.

DigiTech S100, \$220

Multieffects processor with reverb, delay, chorus, flange, detuner, and pitch-shifting, MIDI in, and footswitch control.

DigiTech S200, \$340

Dual-engine processor with five effect configurations, MIDI program change, program dump, CC control, remote foot switch control, and 20-bit A/D and D/A conversion. Effects include reverb, delay, chorus, flange, karaoke, pitch shifting, vocoder, compressor, and rotary speaker.

DigiTech Quad 4, \$480

Four independent mono or two true stereo processors. Effects include reverb, delay, chorus, flange, karaoke, pitch shifting, vocoder, compressor, and rotary speaker.

DigiTech RPx400, \$400

Guitar-modeling floor processor with USB computer connectivity, mic preamp XLR speaker-compensated outs, 1/4" outs, 40 artist presets, 12 amp models, six cabinet models with four mic placement choices, humbucker or single-coil modeling, 26 programmable effects, 3-band EQ, drum machine, amp channel switching, chromatic tuner, footswitches, expression pedal, 24-bit A/D/A conversion, and a rugged metal chassis. Includes ProTracks multitrack recording software.

DigiTech Vx400, \$400

Vocal processor with a mic preamp and multiple vocal character selections, reamping, compression, and 3-band EQ, USB audio interface, stereo line I/O, balanced XLR outputs. Can be used as a multieffects processor for voices or instruments. Includes ProTracks multitrack recording software.

DigiTech Vocal300, \$249.95

Vocal effects processor with multiple mic preamp types, 26 programmable effects, including compression, EQ, noise gate, 12 modulation and pitch shifting effects, delay, and reverb, built-in expression pedal and footswitches, and 40 programmable and 40 user presets.

Electro-Harmonix Holy Grail, \$136

Digital reverb stompbox with three analog-style reverbs (spring, hall, and "flerb"), one selector switch, one knob, and a footswitch.

Korg AX1500G, \$350

56 effects with models of stomp boxes, amps, and speaker cabinets, chorus, reverb, delay, pitch shift, 48 preset and 48 user programs with up to eight effects at once, two selectable channels per program, and expression pedal.

Korg KP2 (KAOSS Pad 2), \$350

Effects, synthesis, and sampling functions controlled

via touch pad. Samples can be played from buttons, manipulated on the pad, and looped on the fly. The KP2 sends and receives MIDI.

Korg AmpWorks G, \$TBA

Models of 11 amps and 11 cabinets, nine effects plus noise reduction for 1,210 sound combinations. Three controls for amp, cabinet or effects selection, six amp controls, and footswitch jack.

Lexicon MPX 110, \$299

Stereo multieffects processor with 240 programs including ambience, pitch shifting, and 5.7 second delay, 24 bit A/D/D/A, and S/PDIF digital output.

Lexicon MPX 200, \$399

True stereo 24-bit processor with unbalanced analog and S/PDIF digital I/O. 240 presets with stereo reverb programs, ambience, plate, chamber and inverse, tremolo, rotary, chorus, flange, pitch, detune, 5.5 second delay and echo, compressor, and 64 user presets.

Line 6 POD 2.0, \$360

Digital processor with 32 amp models, 15 cabinet models, 36 programmable channels, 16 digital effect combinations, and stereo 1/4" outputs.

Line 6 GuitarPort 2.0, \$230

Audio and guitar processor with 19 effects and stompboxes, 16 amp models, A.I.R. II emulation, chromatic tuner, and opportunity to play along with CDs and MP3s. Optional GuitarPort Online membership (\$7.99/month) provides access to lessons, and artist tracks with tab, loops, grooves, and songs.

Metasonix TM-1, \$399

Vacuum-tube ring modulator and waveshaper with tube saturation, internal oscillator plus carrier injection jack, and CV inputs for preamp gain and waveshaper. Usable as standalone effects stompbox or mounted in modular synths or EIA racks with optional kits.

Metasonix TM-2, \$399

Vacuum-tube audio filter with two parallel bandpass filters with adjustable tuning and resonance, control voltage inputs for filter sweep and VCA gain, and bypass switch. Usable as standalone effects box or mounted in modular synthesizers or EIA racks with optional kits.

Metasonix TM-5, \$399

Tube guitar or acoustic instrument preamp, switchable 6N6 beam modulator tube gives a unique and extreme distortion effect, pentode gain CV input, and an envelope follower output. Usable standalone or mounted in modular synthesizers or EIA racks with optional kits.

Moog Music Moogerfooger MF-101

Lowpass Filter, \$269

Analog lowpass filter with envelope follower, with four main controls (Filter Cutoff, Filter Resonance, Envelope Follower Amount, and Mix), and control inputs.

Moog Music Moogerfooger MF-102 Ring Modulator, \$269

Analog ring modulator with internal LFO, and control inputs for the four main parameters (Mix, Frequency, LFO Rate, LFO Amount).

Moog Music Moogerfooger MF-103

12-Stage Phaser, \$339

Analog phaser with rate, phase amount, center

frequency (sweep), and resonance controls, and dedicated control inputs.

Nady CL-5000, \$135

Single-space dual-channel compressor/limiter with gate.

Nady DigiComp 16, \$TBA

1/3-rack stereo digital compressor with 256 compression presets.

Nady DSP-256, \$135

1/3-rack stereo digital multieffects processor with 256 effects.

Nady MSE-100A, \$120

Single-space multiband processor with simultaneous enhancer and exciter effects, and dual-mode bass processing.

Nady SDP-20, \$175

Single-space stereo programmable digital multieffects processor with 256 effects and 4-band digital EQ.

Nady SDR-260, \$170

Single-space stereo digital 24-bit reverb with 120 effects.

Peavey Deltafex, \$160

Digital stereo effects processor with stereo inputs and outputs 16 effects types (seven reverbs, four delays, one parallel delay plus reverb, chorus, flange, phase shifter and rotary speaker with morphing speed control), two adjustable parameters per effect, reverb and delay that continue after effect is switched off, mix control, input and output level controls; defeat jack that doubles as speed control for rotary speaker; and bicolor clip LED.

Rolls RFX147 Rotorhorn, \$230

Single-space rotating speaker simulator with a 2-way crossover network to produce the effect of bass and treble rotors, stereo 1/4" unbalanced line-level I/O.

TC Electronic G-Minor, \$159

Multi-purpose triple MIDI footswitch for G-Major or any MIDI device.

TC Electronic M300, \$299

Dual-engine 24-bit digital processor with 15 stereo reverbs and 15 effects, tap tempo, MIDI in/out, MIDI clock sync, pedal control of tap tempo and global bypass, G-Minor-compatible, five direct access parameters, five seconds of delay, 256 factory and 99 user presets, dual send/return and serial setups, and automatic format-sensing digital I/O.

Vox ToneLab, \$TBA

Amp and effect modeler with compact desktop design, Valve Reactor power amp circuit, 16 amp models, 22 vintage modeled effects (compressor, overdrive, chorus, tremolo, rotary speaker, tape echo, and others), four simultaneous effects.

HARDWARE: EQ, DYNAMICS, AND ANALYSIS PROCESSORS

Alto AlphaComp, \$109

Digital compressor/limiter with presets and variation controls.

Alto EQU131VU, \$149

Single-channel 31-band EQ with VU meters, 6 dB/12 dB range, bypass, high- and lowpass filters, signal clip pilot, ground lift, selectable line voltage, and long-throw faders.

Alto EQU215, \$119

Dual-channel 15-band EQ with 6 dB/12 dB range, bypass, high- and lowpass filters, signal clip pilot, ground lift, and selectable line voltage.

Alto EQU231LED, \$199

Dual-channel 31-band EQ with 6 dB/12 dB range, bypass, high- and lowpass filters, signal clip pilot, ground lift, and selectable line voltage.

Alto EQU231VU, \$209

Dual-channel 31-band EQ with VU meters, 6 dB/12 dB range, bypass, high- and lowpass filters, signal clip pilot, ground lift, selectable line voltage, and long-throw faders.

Alto BK 2.0, \$109

Two-channel compressor/limiter/expander with programmable threshold, ratio, attack, release.

Alto CLE 2.0, \$124

Stereo compressor/limiter/expander/gate with threshold, ratio, attack, release, and selectable interactive knee adaption or hard knee compression.

Alto CLE 4.0, \$169

Four-channel compressor/limiter/expander/gate with threshold, ratio, attack, release, and selectable interactive knee adaption or hard knee compression.

Alto Control 30, \$179

Digital 2x15- or 1x30-band parametric/graphic EQ with 64 factory presets and 64 user presets available.

Alto Control 60, \$279

Digital 2x30- or 1x60-band parametric/graphic EQ with 64 factory presets and 64 user presets available.

Aphex Systems Model 204 Aural Exciter with Big Bottom, \$399

Exciter with optical Big Bottom, two independent channels, XLR and 1/4" I/O, and updated circuitry.

ART 341 EQ, \$229

Dual-channel 15-band graphic EQ with level, bypass, and high- and lowpass filter controls.

ART 343 EQ, \$159

Dual-channel 15-band EQ with level and bypass controls.

ART 351 EQ, \$229

Single-channel 31-band graphic EQ with level, bypass, and high- and lowpass filter controls.

ART 352 EQ, \$279

Single-channel 31-band graphic EQ with 60-mm sliders, level, bypass, high- and lowpass filter controls, and VU metering.

ART 353 EQ, \$159

Single-channel 31-band graphic EQ with level and bypass controls.

ART HQ15 EQ with FDC, \$299

Dual-channel 15-band Graphic EQ with FDC feedback detection circuit, analog VU metering, level, bypass, and high- and lowpass filter controls.

ART HQ231 EQ with FDC, \$349

Dual-channel 31-band graphic EQ with FDC feedback detection circuit, LED metering, level, bypass, and high- and lowpass filter controls.

ART HQ31 EQ with FDC, \$299

Single-channel 31-band graphic EQ with FDC feedback detection circuit, level, bypass, and high- and lowpass filter controls.

ART355 EQ, \$389

Dual-channel 31-band graphic EQ with level,

bypass, and high- and lowpass filter controls.

Avlex SPX-1 1/3-Octave Single-channel Graphic EQ, \$250

Single-channel EQ with XLR and 1/4" I/O, ground lift, 40 Hz low-cut switch, master level control, EQ bypass, and detachable AC power cable.

Avlex SPX-2 Dual-channel 31-band Graphic EQ, \$400

Dual-channel EQ with XLR and 1/4" I/O, ground lift, 40 Hz low-cut switch, master level control, EQ bypass, and detachable AC power cable.

Avlex SPX-4 Single-channel 5-band Parametric EQ, \$265

Five-band parametric EQ with overlapping Q, independent gain, Q and frequency controls, peak LED, bypass switch, servo-balanced XLR and 1/4" I/O, ground lift switch, and automatic system bypass should AC power fail.

Avlex SPX-5 Dual-channel Compressor/Limiter/Gate, \$300

Dual-channel compressor/limiter/gate with independent mono or stereo link operation, attack, ratio, threshold, release output controls, hard knee/soft knee option, separate threshold/rate controls for gate, 12-stage gain reduction meters, and 12-stage I/O level meters.

Avlex SPX-6 Dual-channel 15-band Graphic Equalizer, \$280

Stereo 2/3-octave graphic EQ with XLR and 1/4" I/O, ground lift switch, 40 Hz low cut switch, master level control, and bypass.

Behringer AutoCom Pro MDX1400, \$90

Compressor/limiter with dynamic enhancer.

Behringer AutoCom Pro-XL MDX1600, \$110

Similar to Composer Pro-XL with adjustable dynamic enhancer.

Behringer Composer Pro MDX2200, \$110

Compressor with Auto mode, sidechain filter, peak limiter, and expander/gate.

Behringer Composer Pro-XL MDX2600, \$140

Compressor, with voice-adaptive de-esser, a dynamic enhancer, and tube emulation.

Behringer MultiCom Pro MDX4400, \$130

Single-space four-channel compressor/limiter with Auto function, metering, and professional connectivity.

Behringer MultiCom Pro-XL MDX4600, \$160

Single-space four-channel dynamic control with program-adaptive expander gate, metering, and various configuration options.

Behringer MultiGate Pro XR4400, \$160

Single-space four-channel frequency-selective expander/noise gate with sidechain and parametric sidechain filters.

Behringer Tube Composer T1952, \$250

Composer Pro with Ultra-Tube circuitry, compressor/limiter, Auto function, expander/gate, program/peak limiter, stereo link, and selectable operating level.

Behringer Tube Ultra-Q T1951, \$190

Stereo four-band parametric tube EQ with constant-Q filters, center frequency, bandwidth, and amplitude controls.

Behringer Ultra-Curve Pro DSP8024, \$250

31-band graphic EQ with real-time analyzer and Auto-Q function for automatic room measurement and correction, 3-band parametric EQ, peak limiter, delay, a noise gate, and Feedback Destroyer.

Behringer Ultra-Dyne Pro DSP9024, \$230

Six-band dynamics processor with multiband compression, loudness maximization, de-essing, selective gating, program-adaptive 3-band exciter, tube emulation, and integrated delay for look-ahead parameter adjustment.

Behringer Ultra-Graph Pro GEQ3102, \$190

Dual-channel 1/3-octave EQ with sweepable high- and low-pass filters, dual 12-segment level LED chains that can display either input or output level, and independent channel bypass.

Behringer Ultra-Q Pro PEQ2000, \$100

EQ with center frequency, bandwidth, and amplitude adjustment for each filter, state-variable,

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constant-Q filters, and parallel filter configuration, and up to 30 dB of level correction.

Crest Performance CPQ-1215, \$TBA

Single-space dual 15-band EQ with 12 or 6 dB boost/cut range, 24-dB 40 Hz low-cut filter, constant Q filters, gain control, 1/4" and XLR balanced/unbalanced I/O, output level LEDs, bypass switch with status LED, and 45-mm, center-detent control sliders.

Crest Performance CPQ-1131, \$TBA

Single-channel 31-band version of the CPQ-1215.

Crest Performance CPQ-2215P, \$TBA

Dual 15-band graphic EQ with +12 dB boost/-18 dB cut per band, 1/3-octave filter sets, constant Q filters, FLS Feedback Locating System, output level LEDs, 18 dB/octave 40Hz low-cut filter with status LED, 1/4" TRS inputs and outputs for balanced or unbalanced operation, and bypass switch with status LED.

Crest Performance CPQ-2131P, \$TBA

31-band version of the CPQ-2215P

Crest Performance CPL-1288, \$TBA



Single-space stereo/dual-mono compressor with true RMS summing, voltage-controlled amplifier and RMS-integrated circuits, sidechain, low cut filter; sibilance filter (de-esser), 12-segment gain reduction LED meter for; 10-segment I/O level LED meter, balanced XLR and 1/4" I/O, and special "one cable" 1/4" TRS I/O.

Crest Performance CPS-1203, \$TBA

Spectrum enhancer.

dbx 266XL, \$230

Two-channel compressor with AutoDynamic attack and release controls, OverEasy/hard-knee switch, program-adaptive expander gates, balanced I/O, LED metering, sidechain insert, and +4/-10 operation.

dbx 166XL, \$360

Dual compressor with OverEasy or hard knee compression, PeakStop limiting, soft-knee expander/gate, true RMS Power Summing, and stereo or dual-mono operation.

dbx 223 Stereo 2-Way, Mono 3-Way Crossover, \$207

Stereo 2-way, mono 3-way crossover with 1/4" TRS balanced I/O, summed subwoofer output, 40Hz highpass filter, individual level controls and phase reverse switch on each output, and 24dB/octave Linkwitz-Riley filters.

dbx 223XL Stereo 2-Way, Mono 3-Way Crossover, \$243

dbx 223, with Neutrik XLR I/O.

dbx 234 Stereo 2/3-Way, Mono 4-Way Crossover, \$270

dbx 223, with stereo 2/3-way, mono 4-way.

dbx 234XL Stereo 2/3-Way, Mono 4-Way Crossover, \$315

dbx 234 with Neutrik XLR I/O.

dbx 131 Single 31-band Graphic EQ, \$210

Single-space 1/3 octave graphic EQ with 20-mm sliders, XLR and TRS 1/4" I/O, toroidal transformer, ISO-centered Constant Q frequency bands, switchable boost/cut ranges, low-cut filter, bypass, and 4-segment LED output meter.

dbx 215 Dual 15-band Graphic EQ, \$210

2/3 octave, dual 15-band version of the dbx 131.

dbx 231 Dual 31-band Graphic EQ, \$280

1/3 octave, dual 31-band 2U version of the dbx 131.

dbx 1215 Dual 15-band Graphic EQ, \$380

Two-space 2/3-octave, graphic EQ with 4-segment LED output meter, status LEDs, 45-mm faders, XLR, TRS 1/4", and barrier strip I/O.

dbx 120A Subharmonic Synthesizer, \$300

Subharmonic synthesizer with patented Modeled Waveform synthesis, individual control for two ranges of subharmonics level, low-frequency boost, separate subwoofer output level, selectable crossover at 80 Hz or 120 Hz, and balanced inputs with 1/4" and RCA outputs.

dbx AFS224, \$450

Dual-channel Advanced Feedback Suppressor with 24 filters per channel, live and fixed filter types, selectable filter reset times, and 1/4" TRS and XLR I/O.

DD SR2310X, \$230

Two space dual 31 band FO with Constant Q, and balanced XLR and 1/4" I/O. ▶

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² Cardioid and omni switchable on mic. The full range of five patterns is available via optional remote control/power supply using standard XLR cables.



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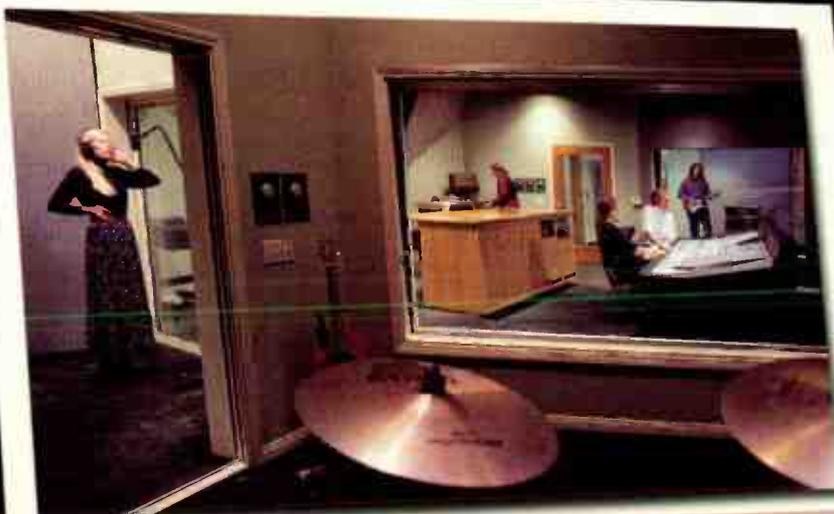
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Format: VST, AU

Elemental Audio Eqium, \$99

EQ with user-determined number of overlappable bands and an unlimited number of filters. 4- and 8-harmonic parametrics, 11 filter types.

Format: VST, AU

Emagic EVOC20, \$179

Provides three tools for sound design: A polyphonic vocoder with built-in synthesizer, a formant filter bank, and a pitch-tracking vocoder.

Format: Logic

IK Multimedia AmpliTube, \$399

Physically modeled guitar amp plug-in with separate preamp, EQ, amp, cabinet, and mic sections. Includes ten classic stompbox and rack effects, and over 1,260 amp combinations.

Format: RTAS, HTDM, VST, DX

IK Multimedia AmpliTube Live, \$129

Stand-alone virtual guitar amp and fx modeling includes three amps, three cabinets, four effects, chromatic tuner, 128 presets, and MIDI control.

Format: Standalone Mac OS X

IK Multimedia T-RackS plug-in, \$399

32-bit floating-point physically modeled analog components: EQ, compressor, limiter, and a soft-clipping output stage for mastering.

Format: RTAS, HTDM, VST, DX

IK Multimedia T-RackS 24, \$299

Modeled stand-alone mastering application with four separate processors: EQ, tube compressor, multiband master limiter, and soft-clipping stage.

Format: standalone Mac/PC

iZotope Ozone 2, \$199

64-bit analog mastering plug-in with high-order noise-shaped dither with five distinct types of noise shaping algorithms, DC offset reduction meters, third octave spectrums, critical band meters, DirectX automation of over 140 parameters, automatic non-destructive normalization, band-delay exciter effects, and numeric level readouts.

Format: DirectX

Lake Technology TheaterPhone HSMS.1, \$449

Models a surround sound speaker system over stereo headphones.

Format: TDM

Line 6 Echo Farm, \$495

A plug-in collection of modeled classic echo boxes: classic tape echo, old-school analog delay, and filter-swept echophonic modulations with extended delay times, bpm/note value delay time settings, tap tempo, and automation.

Format: TDM

McDSP plug-ins, \$495 each

Emulates high-end analog tape machines, analog tape, and analog channel amplifiers; with control of analog gain staging (**AC1**), analog tape and tape machines (**AC2**). *CompressorBank* emulates vintage and modern compressors. *FilterBank* emulates vintage and modern equalizers/filters. *MC2000* emulates vintage and modern compressors in 2-, 3-, and 4-band configurations.

Format: TDM, RTAS, AudioSuite

Metric Halo ChannelStrip, \$345 (MAS, RTAS, AS), \$699 (TDM, HD), \$299 (VST)

Channelstrip plug-in equipped with three tools: EQ, gate, and compression.

Format: TDM, HD, MAS, RTAS, VST, AudioSuite

Metric Halo SpectraFoo, \$400 (TDM, HD, RTAS, MAS), \$800 (complete)

High-speed/high-resolution spectral analysis on any number of input or output channels. SpectraFoo Complete package adds code-level metering, a transfer function, a signal generator, and a capture/analysis environment.

Format: TDM, HD, MAS, RTAS, AudioSuite, standalone

Native Instruments Spektral Delay, \$299

Real-time FFT (Fast Fourier Transformation) that splits up each channel of audio input into as many as 1,024 individual frequency bands. The amplitude, delay time, and feedback ratio can be adjusted independently for each frequency band. Additionally, various modulation effects can be applied to the signal in the frequency domain.

Format: VST 2.0, DirectX, DXi, ASIO, RTAS/HTDM

Ohm Force OhmBoyz, \$89 (Expert), \$224 (RTAS ProPack), Free (standalone)

Four pre-delays feeding two delay lines with resonant filter, distortion, and high shelf.

Format: AU, VST, DX, RTAS, MAS, WinAmp2, standalone

Ohm Force Predatohm, \$89 (Expert), \$224 (RTAS ProPack), Free (standalone)

Analog hardware simulation.

Format: AU, VST, DX, RTAS, MAS, WinAmp2, standalone

Ohm Force Hematohm, \$89 (Expert), \$224 (RTAS ProPack), Free (standalone)

Frequency shifter with envelope follower, LFO, and delay.

Format: AU, VST, DX, RTAS, MAS, WinAmp2, standalone

Ohm Force Mobilohm, \$89 (Expert), \$224 (RTAS ProPack), Free (standalone)

Multi-phaser, with four oscillators, LFOs, preset morphing, and smooth controls.

Format: AU, VST, DX, RTAS, MAS, WinAmp2, standalone

Ohm Force Quad Frohmag, \$168 (Expert), \$337 (RTAS ProPack), Free (standalone)

4-filter unit with 30 filter modes for each filter, LFO, envelope follower, and ADSR on every parameter, MIDI control and modulation, and live-dedicated features.

Format: AU, VST, DX, RTAS, MAS, WinAmp2, standalone

Prosoniq Orange Vocoder, \$250

Virtual simulation of an analog vocoder with 8-voice virtual analog synthesizer unit, a freeform EQ, a filterbank, and reverb.

Format: VST, RTAS

Prosoniq Time Factory 2, \$TBA

Playback of 5.1 and 6.1 surround files, waveform editor, preview mode, and time/pitch/formant processing.

Format: VST, RTAS

PSP Audioware/Lexicon PSP-42, \$149

Based on the Lexicon PCM-42 delay processor,

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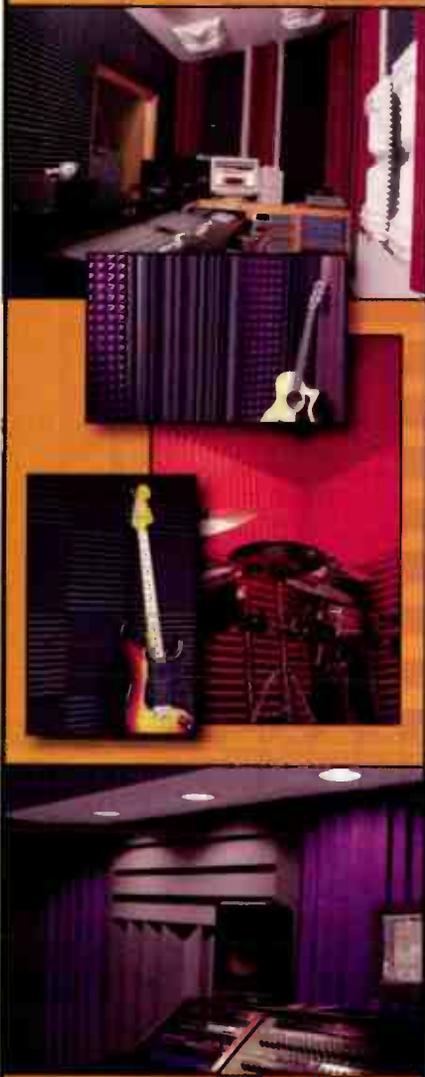
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provides tape machine-like delay with high-frequency absorption, variable tape speed, tape compression, complex modulated feedback delay, and more.

Format: VST

PSP VintageWarmer, \$149

Simulated analog-style multiband limiter can be used for both single and multiband compression, as well as brick-wall limiting. Offers VU and PPM metering, and accurate overload indicators.

Format: VST, MAS, DX, RTAS

Serato Equalizer, \$299

Multiband phase linear graphic EQ with a real-time spectrum analyzer, advanced curve editor, and side-chain vocoder.

Format: RTAS, HTDM

Serato Pitch, \$399

Polyphonic, realtime, multi-channel pitch-shifting with MIDI control.

Format: RTAS, HTDM

Serato Scratch Studio Edition, \$299

Real-time turntable or mouse-controlled scratching, with ability to record mic input and scratch on the fly. Two controller records are included. Full standard turntable controls include reverse play and pitch control.

Format: Audiosuite, RTAS, HTDM, MAS, standalone

Sound Burst FX4U 2.0 Vol. 1, \$69

Plug-in suite including 20 voice chorus, multiband distorter, delay, and filter.

Format: VST

Sound Burst FX4U 2.0 Vol. 2, \$69

Plug-in suite including speaker modeler, 16-stage phaser, granular synthesizer, and filter.

Format: VST

Sound Burst FX4U 2.0 Vol. 3, \$69

Plug-in suite including flanger, compressor, tremolo/vibrato generator, and gate.

Format: VST

SpinAudio RoomVerb M2 1.2, \$125

Reverberator using Virtual Room Acoustic modeling to simulate acoustic spaces from small bathrooms to huge open spaces, using a single set of parameters. Rooms, plates, halls, gates, reverse reverbs, open spaces with 200-second long tails, full tone control, air damping and walls material simulation, reverb tail modulation, and more than 200 presets.

Format: VST, DirectX

SpinAudio 3DPanner Studio 1.1, \$80

Panner with 3D Positional Audio engine. Place your tracks in a 3D space around your head and arrange them all with a single window.

Format: VST, DirectX

Steinberg Voice Machine, \$199

Two realtime voice effect tools: VM Generator creates up to 4-part harmonies triggered via MIDI. VM Processor lets you either change the melody or correct intonation by changing the pitch of a voice.

Format: VST

SynchroArts VocAlign Project and VocAlign Project for Pro Tools, \$299

Editing tool that automatically syncs two audio signals. Can be used to create performances with aligned overdubs, aligned double-tracked vocals,

tight backing vocals, and easy re-grooving of recorded vocals for remixing and overdub sessions.

Format: RTAS, MAS, TDM

TC Works Assimilator, \$249

Absorbs the frequency curve of any reference mix or solo instrument track and applies it to another track. The Morph page allows the blending of multiple curve sets by moving just one fader. The equalization is phase linear.

Format: PowerCore

TC Works D-Coder, \$249

Vocoder plug-in with integrated synthesizer as tone generator, high-resolution analysis and vocoder section, 3-band EQ, and chorus. Synth section provides two oscillators, standard waveforms, ring modulation, resonant filter section with different filter types, LFO, glide, and simple envelopes.

Format: PowerCore

Ultrafunk FX:compressor, \$50

Variable-knee compressor, able to mimic hard- and soft-knee compressor units.

Format: DirectX, VST

Ultrafunk FX:equalizer, \$50

Six-band parametric EQ with five filter types.

Format: DirectX, VST

Ultrafunk FX:reverb, \$50

Emulates the character, decay, and frequency response of various environments.

Format: DirectX, VST

Ultrafunk FX:surround, \$50

Surround sound panner with doppler and attenuation rendering.

Format: DirectX, VST

Ultrafunk FX:modulator, \$30

Three time-varying modulation effects.

Format: DirectX, VST

Ultrafunk FX:phase, \$30

Phase shifter/phase delay.

Format: DirectX, VST

Ultrafunk FX:wahwah, \$30

Wah-wah guitar effect emulator, modeled after real wah stompboxes.

Format: DirectX, VST

Universal Audio DreamVerb, \$499

Stereo reverb plug-in with room shapes and surfaces and control over EQ and dynamics of early and late reflections.

Format: TDM/HD, UAD-1

Universal Audio RealVerb 5.1, \$499

Emulations of acoustical spaces in 5.1 surround.

Format: TDM/HD, UAD-1

Universal Audio surround encoder plug-ins, \$495-\$1,495

SmartCode Pro is available in two versions: Dolby Digital and DTS. Both convert the six discrete tracks of a surround mix into a single 5.1 file ready for a master.

Format: TDM/HD, UAD-1

Universal Audio vintage compressor and EQ plug-ins, \$399-795

Physical modeled emulations of vintage analog 1176LN and LA-2A compressors and Pultec EQ.

Format: TDM/HD, UAD-1

Wave Arts WaveSurround, \$90

Spatial enhancer using HRTF binaural processing and crosstalk canceling technology. Includes

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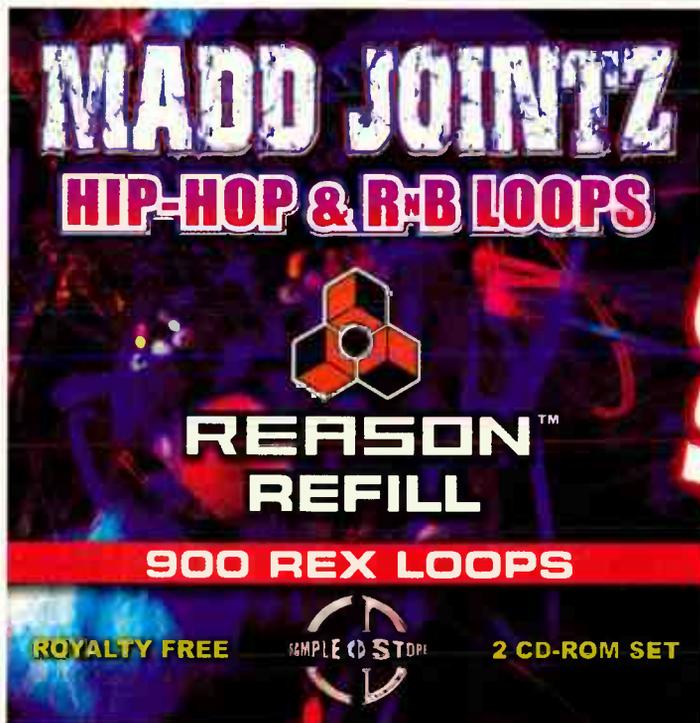
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spectral shaping filter and reverb to enrich the imaging effect. Supports playback over headphones or loudspeakers.

Format: VST, Direct X, MAS, AU

Wave Mechanics SoundToys FilterFreak, \$TBA

Analog-modeling plug-in with a 48 dB/octave filter, adjustable filter slope, resonance and filter shape, syncs to tempos.

Format: TDM, RTAS, HTDM

Waves AudioTrack, \$150 (Native), \$300 (TDM)

Channelstrip with 4-band parametric EQ, compressor, and gate.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves C1, \$200 (Native), \$400 (TDM)

Single-band dynamic EQ/dynamics processor.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves C4, \$400 (Native), \$800 (TDM)

Four-band dynamic EQ/dynamics processor.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves Doppler, \$150 (Native), \$300 (TDM)

Realistic and extended doppler effects with control over panning, pitch, path curve, gain, start/stop points, and reverb tail.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves De-Esser, \$150 (Native), \$300 (TDM)

High-frequency dynamics processor.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves Enigma, \$150 (Native), \$300 (TDM)

Complex notch filter system, short delay feedback loops, and modulation effects.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves L1, \$300 (Native), \$600 (TDM)

Level maximizer with look-ahead and requantization.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves MaxxBass, \$200 (Native), \$400 (TDM)

Bass Enhancer.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves MetaFlanger, \$150 (Native), \$300 (TDM)

Vintage-style tape flanging, flanging, and phase shifting effects.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves MondoMod, \$150 (Native), \$300 (TDM)

AM, FM, and Rotation (stereo panning) modulation effects.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves PAZ, \$200 (Native), \$400 (TDM)

52- or 68-band real-time psychoacoustic analyzer.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves PS22 Stereomaker, \$400

Generates stereo image from mono source.

Format: TDM, HD, HD Accel

Waves Q10, \$150 (Native), \$300 (TDM)

10-band parabolic EQ.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves Renaissance Compressor, \$200 (Native), \$400 (TDM)

Compressor with Opto and Electro modes.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves Renaissance Equalizer, \$200 (Native), \$400 (TDM)

Six-band vintage-style EQ.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves Renaissance Reverb, \$200 (Native), \$400 (TDM)

Virtual reverb with 2nd-generation early reflection system.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves S1 Stereo Imager, \$200 (Native), \$400 (TDM)

Stereo image processor using Blumlein/MS/LR tools.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves SuperTap, \$150 (Native), \$300 (TDM)

Six-tap mono or stereo delay.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves TrueVerb, \$200 (Native), \$400 (TDM)

Reverb processor and room emulator.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Waves UltraPitch, \$150 (Native), \$300 (TDM)

Six-voice formant-correct pitch shifter.

Format: AU, Premiere, SoundEdit 16, AudioSuite, VST, MAS, DirectX, TDM, HD, HD Accel

Yamaha Pitch Fix, \$299

Pitch correction utility using proprietary formant pitch correction and pitch shifting technology; with user scales, custom pitch detecting algorithms, pitch correct rate control, and formant shifting.

Format: VST, AU

Yamaha Vocal Rack, \$199

Vocal processing plug-in including 20 presets using highpass filter, compressor, harmonic enhancer, 3-band EQ, de-esser, gate, and delay.

Format: VST, AU

Yamaha Final Master, \$199

Compression plug-in with a multiband compressor/limiter with adjustable frequency control, three soft-clipping models, and look-ahead.

Format: VST, AU

Zarg Music Rotor 48 \$99, \$60 (Rotor Jr.)

Four rotor modules each with four inputs that can use multiwave or WAV oscillators, or external inputs as sources for each rotor. Rotor speed can run from a frequency-divided MIDI clock, or track a keyboard. Summed output can be routed through a ring modulator.

Format: Creamware DSP platform

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The Kiwi, Blue's top-of-the-line solid state Class A discrete mic, features capsule patterns of cardioid, figure of 8, omni and selections in between, all achieved using Blue's precision double-backplate capsule. As diverse as it is beautiful, the Kiwi offers many options for the most critical of recording tasks, putting it into a class by itself. It even comes bundled with its own custom-designed shockmount and is housed in a handsome cherrywood box.

The Class A Mouse is a large diaphragm, single-pattern, cardioid condenser mic, precision-built with a large rotating head that can be positioned in the smallest of spaces. With its shimmering, detailed highs and smooth midrange, the Mouse excels at vocals, acoustic guitar, drums, percussion and other critical high-end sources.

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ABLETON Live Digidesign Edition

Perfect for live performance or composition, Live Digidesign Edition enables you to incorporate samples from various sources and adjust their tempo in real-time. Just connect it to Pro Tools via ReWire, drag-and-drop your loops into Live Digidesign Edition, and hear everything play back in perfect sync right inside Pro Tools.



AmpliTube

IK MULTIMEDIA AmpliTube LE

Recreate popular guitar tones in Pro Tools with AmpliTube LE. With amp, cabinet, and effects controls, AmpliTube LE empowers you to easily craft your preferred guitar tone from physically modeled vintage and modern amps - all right within Pro Tools.



SampleTank

IK MULTIMEDIA SampleTank SE

An incredibly easy-to-use sample playback module, SampleTank SE offers a world of sample playback possibilities. Simply open the SampleTank SE plug-in right within the Pro Tools mixer and you've got instant access to a host of professional samples and integrated effects.



IK MULTIMEDIA T-RackS EQ

Pulled from the superb T-RackS mastering plug-in suite, T-RackS EQ is perfect for adding that rich, warm tube sound to your Pro Tools tracks. T-RackS EQ offers six bands of analog-modeled parametric equalization, complete with high- and low-pass filters, all in an easy-to-use interface.

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impressive bang for the buck considering its feature set, which included automation, six aux sends, two internal effects with returns, mic preamps and dynamics on every channel, surround mixing capability, and MIDI features that allowed it to control other devices.

Weighing in at around \$2,200, the 01V brought 24-channels of digital mixing to the

party a year later in 1998. Its streamlined chassis offered six mix busses, two stereo effects returns, six aux sends, snapshot storage, motorized faders, onboard dynamics, parametric EQ, and digital effects. An expansion slot for I/O option cards allowed connectivity to a variety of digital devices. Up to six units could be cascaded together, turning the

01V into a modular mix system that could function as a whole. Like the 03D, the 01V was well equipped to control external MIDI devices. Only recently did its successor appear, the 01V96 (reviewed in last month's issue).

From 2002 to 2003, Yamaha has been busy launching the new generation digital mixer line up of the **DM2000**, **DM1000**, **02R96**, and the aforementioned **01V96**. Says Yamaha: "We've stepped into a new stage of audio history with technologies such as true 96 kHz performance, complete surround solution, DAW integration, and Studio Manager software."

To date, Yamaha has produced over 110,000 digital mixers. The original DSP1

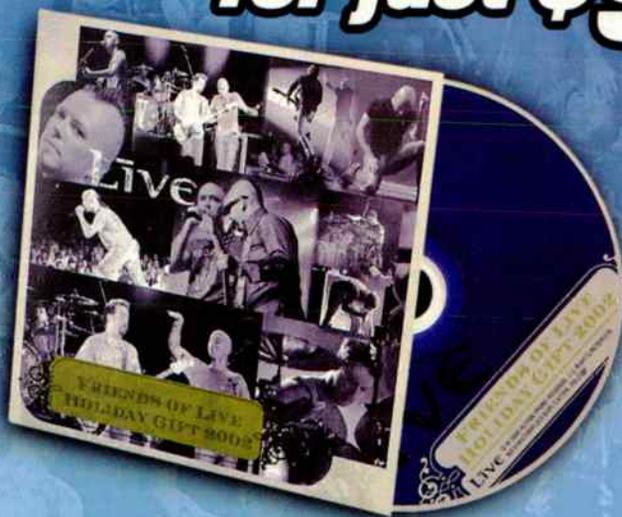
**"To date,
Yamaha has
produced over
110,000 (!)
digital mixers."**

chip has now evolved to DSP7. Says Yamaha's Shoji Fujikawa: "Our key challenges have been to always make the sound quality better, not only in the digital domain, but also at the analog circuit of the I/O interface, and to evolve the user interface for more intuitive operation." It's taken many talented, devoted engineers and product specialists to help Yamaha uphold its reputation for quality and innovation. It will be fun to see what they bring us in the next 15 years. **EQ**

Special thanks to Yamaha DM team members Shoji Fujikawa and Mick Okabayashi, who contributed information to this feature. Additional information was culled from a 1996 report penned by former Yamaha product manager Peter Chaikin, who now works with the Harman Music Group.

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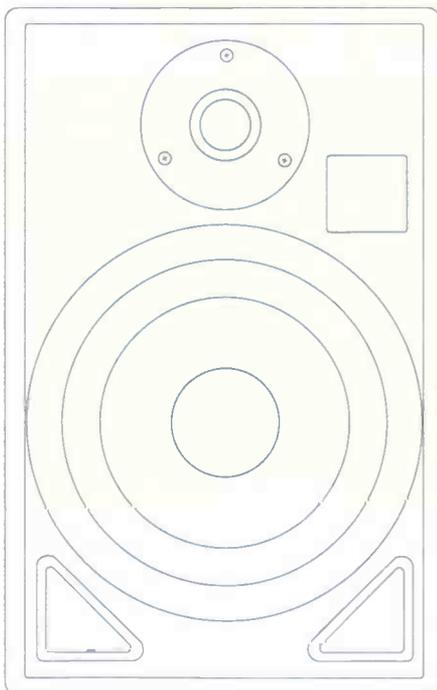
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CASE STUDY: STUDIO VOODOO, Pt. 2

with the original recording. At our facility we always record in high resolution from the very beginning.

How do the retailers view DVD music?

Dean: Until three or four months ago, we were in the music video DVD section. I saw it as the red-headed stepchild. We were just kind of dumped there until they could figure out what to do with the format. But now there are 550+ titles in DVD-Audio and they're figuring out how to merchandise it. When the retailers made the geographic switch within their stores, they took it away from their video buyers and gave it to the music department to buy. And it has made a big difference. Everyone's numbers are up. The sections look different; they're shop-able.

DelGrosso: The recent DVD explosion was fueled primarily by movie discs that offered better clarity and more features than ever before. But now that consumers have created their DVD movie libraries, there has been a significant surge in the popularity of music concerts on DVD. And most retail forecasts predict that music on DVD will be a strong growth category for many years to come.

What will be the killer application for DVD Music?

Dean: I don't think it's a catalog title. I think it's going to be a new release by a big name artist who involves him or her self enough in the process of creating the DVD and surround mix that they can credibly and effectively effuse and excite people in their interviews about making the record. Whether it's Eminem

or Nelly or Dave Matthews, someone at the top of the heap that's credible from an artistic musical standpoint. That will be the thing that's going to blow it up.

Owsinski: What's the killer app? For surround sound, I think it's rap. I do know that Dr. Dre is now working on a couple of surround projects, and actually rap is probably better suited to surround than a lot of pop [music].

I do believe we're coming back around, going back to the future. Instead of things being layered and layered as they are now, I think we're going to start going back to more performance-oriented music because of DVD-Video. Concert DVD is becoming a standard mindset with record labels. Everyone is approaching each project as if it's going to DVD. There is a huge shift in live concert recording to provide the highest quality multitrack recording for release in 5.1 and DVD.

DelGrosso: The new car-audio acronym tells it all: ICE "In Car Entertainment." Imagine that two-hour commute home, but this time you can blast out your Led Zeppelin album in full-blown 5.1 surround! Later this year, there will be a significant market infusion of affordable DVD surround upgrades for your car audio system, enabling us all to experience our favorite albums with unprecedented clarity and sonic realism. **EQ**

Our next article will feature an inside look at how artists approach their work in the world of DVD. See you then.

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Colorful Language

Let your studio communicate with you via color

In previous articles, we've mentioned the importance of staying in your "right" brain (the hemisphere that processes more intuitive and artistic thinking) while recording. When your "left" analytical brain gets involved, it diverts attention away from the creative process, and it's hard to return to right brain mode.

Ideally, you wouldn't have to think *at all* while recording. It used to be this way: You had an engineer and producer to take care of the analytic tasks. But if you're producing or engineering yourself, the best way to stay in creative mode is to make your workflow as smooth and intuitive as possible.

WHY COLOR MATTERS

Your right brain parses non-verbal media (such as music and color) well. When dealing with words, your brain has to recognize the symbols first, *then* process the information. Color is like a "DMA" process that has a more direct pipeline into your "personal CPU." Stoplights use colors rather than signs that say "Stop," "Go," and "Caution" because you react instantly to that red light.

Here's one example of using color: My TASCAM DA-30 DAT recorder has a remote with 41 buttons. I often need to reset the margin to make sure overloads aren't occurring, but picking out the margin button from the other 40 took squinting at tiny type under studio lighting. So I cut a blue colored label to the button's size, then applied it. Now when I need to hit the Margin Reset button, my eye instantly sees the blue label. This worked so well I added a red label to the Record button and a green one to Play. (By the way, use self-adhesive *removable* labels.)

OTHER APPLICATIONS

Here are some other tips about using color in the studio.

- For patch cords, buy a selection of enamel paints (model and craft supply shops are a good source) and put a dab of the same color on each end of a



Fig. 1. The top half shows Sonar 3's default colors on an audio and MIDI track. The bottom half shows the same tracks after tweaking the colors. Note how the lettering stands out more in the lower half.

patch cord. Ideally, each cord would have a different color. This simplifies tracing a cable's patching.

- If you use a hardware mixer, you likely have a "scribble strip" to write down which instruments are on which channels. But try taking this one step further; use some small, round or square colored labels to color-code certain types of tracks. For example, use red for all the drum channels, orange for percussion, etc. This "visual grouping" helps you locate instruments faster.
- When organizing sample libraries, decide on certain color-coded categories for CD and DVD cases (place removable labels on the case spine). Try one color for construction kit CDs, another for drum loops, one for sampler-based instruments, etc.

SOFTWARE COLOR CUSTOMIZING

Today's software programs often let you tweak the UI colors. There are two, sometimes conflicting, goals: choosing colors that minimize eye-strain, yet provide enough contrast to emphasize a program's most important aspects.

One issue is readability — yellow type on a black background is considered highly readable. But a black background can be less restful than muted gray or dark blue. As a result, consider using yellow-on-black for important graphic elements that don't involve lots of background area. For program elements that are less important than others, choose a typeface color that doesn't contrast as much with the background. Your eye will be drawn first to the important parameters, which have greater contrast.

A PRACTICAL EXAMPLE

Sonar 3 allows significant color customization. The default tends toward the "restful on the eyes" philosophy, which makes sense for the greatest number of users.

However, different work methods suggest different colorization. I tend

to use the new Console View for final mixing and fader automation, and the Track View for recording and editing. As a result, I need to see parameters fast and unambiguously in Track View. With the Console View, I'm more interested in something that I can stare at for hours on end.

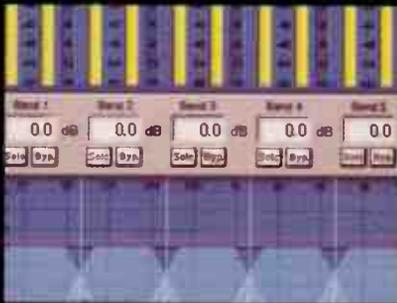
The upper half of Fig. 1 shows the Track View default colors. The lower half shows changes I made for greater contrast. As Sonar lets you save color "presets," you can even call up separate color schemes for recording (where the track names and bus names are really important) and editing, where you might be more concerned with viewing waveforms and automation envelopes.

COLOR MY WORLD

Once you become aware of color's importance, try using it to improve your workflow. It *will* make a difference! 

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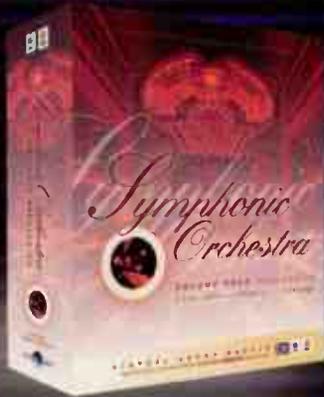
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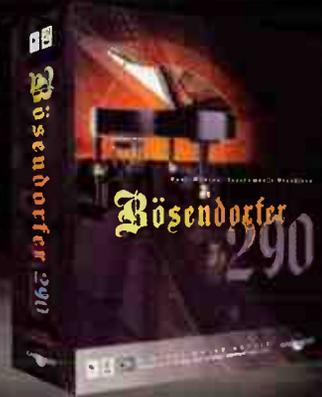
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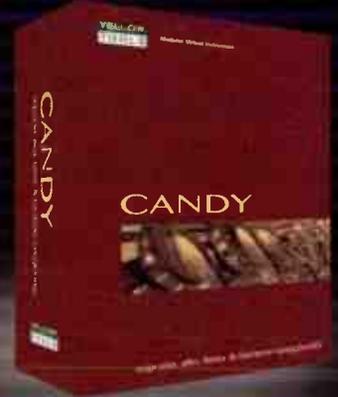
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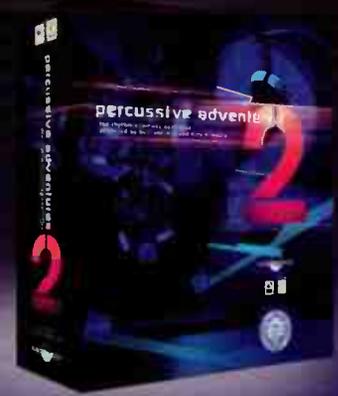
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by Greg Rule

M-Audio Luna

Condenser Microphone

Type: Class A FET condenser microphone

Price: \$249.95

Contact: M-Audio, www.m-audio.com

Pattern: cardioid

Capsule: brass, with 1.1" evaporated gold diaphragm

Phantom power req.: 48V

Max SPL: 130 dB

Self noise: 14 dB

Connector: standard XLR

Accessories: shock mount and road case (included)

When we first laid hands on M-Audio's new Luna condenser, we were impressed with its stylish design and heavy-duty construction. When we learned that its retail price tag was a mere \$249, we were genuinely intrigued. While cost cutting is clear in Luna's lack of pattern selection, filter, and pad, there are other aspects that defy the price, such as the rock-solid build. And, hey, how about that free road case and shock mount?

So we've established the fact that Luna is a good looking, well-built product at an affordable price, but how does it sound?

SESSION NOTES

I hit the ground running with this mic. It's quick and easy to use — just plug it in, activate a 48V phantom power source, and you're off. I recorded a variety of earthy percussion and Foley-type sounds in my home studio to get a general feel, and in all cases Luna delivered clean, near-transparent results. I appreciated its healthy signal, low self-noise, and high-SPL handling capabilities. But the most telling test came when vocal pro Yoly Tolentino paid EQ studios a visit, and unleashed a full assault on Luna — from subtle passages

to soaring, powerhouse crescendos.

For the sessions, I compared Luna side-by-side with two popular (and higher-priced) large-diaphragm condensers. In consecutive passes, Yoly sang dead center between each closely positioned pair. The capsules of each were aligned on a horizontal plane, and the vocal source was hitting each mic from a distance of about six inches. All mixer settings were flat, and input levels were matched. Admittedly this was a slightly off-axis test, but the capsules were so close together, the effect was negligible.

And the results? Monitoring the 24/96 playback through a Pro Tools HD rig and pair of Genelec 1031As, the jury listeners and I unanimously found Luna to be the all-around brightest on Yoly's voice, which is particularly strong in the upper-mid registers. Luna's edge was most evident on sustained notes with heavy vibrato; the other two mics were a bit gentler by comparison. For slicing through a mix, however, Luna was king in this setting.

In Nashville, Mitch Gallagher tested the mic in his studio. His findings? "It has a round lower midrange that really works well for fattening up thin voices and other sources such as distorted lead guitar lines. On acoustic guitar it's round with good midrange, and provides nice, open detail on top. Luna doesn't have a big peak in the upper-midrange like some other large-diaphragm models. This means that it doesn't have the presence of some mics. However, the tradeoff is a fatter sound and an open top end

that sits nicely in a mix."

Mitch also applauded Luna's excellent off-axis rejection and moderate proximity effect. "An inexperienced vocalist will be able to use this mic without problem — plus that big lollipop shape gives you a great target to sing into!"

JURY

For first-timers and pros alike, Luna has a lot to offer. It's a well-built, versatile mic that performs beyond its price range. About the only real letdown is the shock-mount mic holder, which isn't nearly as attractive as the microphone itself, and doesn't hold its position too well. You'll have to put some serious torque on the small wing nut to get a stable hold. But it's hard to complain too loudly, since the mount is included for free.

At \$249, Luna is certain to find its way into many studios. "It's a great value, and a nice tonal alternative," says Mitch, "plus it doesn't have the hyped top end of many lower-priced models." Aesthetics, performance, and price — Luna scores high marks on all three fronts. **EQ**

Thanks to San Francisco-based vocalist Yoly Tolentino for lending us her pipes. Visit her online at www.yoly.sings.com.

Strengths:

- Affordable
- Attractive, solid build
- Versatile, clean performance

Limitations:

- No pattern selection
- Shock mount slips easily



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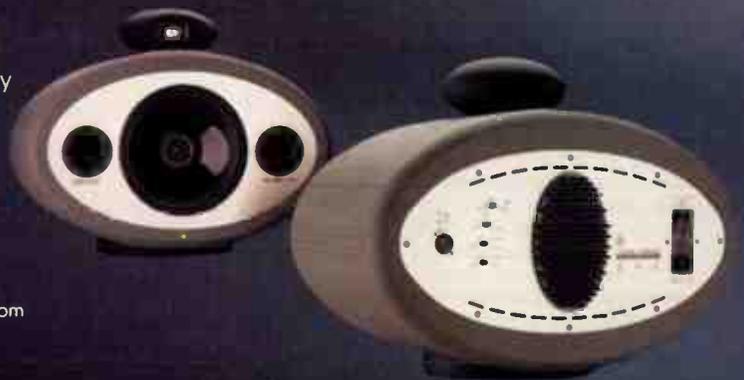
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by John Krogh

Apple Soundtrack

Acid killer for the Mac?

Type: Loop-based audio sequencer with QuickTime video support.

Price: \$299

Platform: Mac OS

Contact: Apple, www.apple.com

Minimum system requirements:

Apple G4 processor, OS X 10.2.5 or later, QuickTime 6.1 or later

Audio driver compatibility:

CoreAudio

Plug-in support: Audio Units

Audio resolution: up to 24-bit/96 kHz

MIDI support: none

Audio file compatibility: AIF, WAV, Acidized WAV, Apple Loops

Soundtrack is an OS X-only program designed to make it easy for video editors to assemble music tracks for video projects. The program ships with over 4,000 royalty-free loops that can be pasted into an arrangement. Audio Units plug-ins are supported; effects parameters can be automated, along with volume and pan. A handful of basic AU effects are included, along with a number of Emagic Logic Platinum plug-ins such as Auto Filter, Platinum Verb, Bit Crusher, Fat EQ, Phase Distortion, Sub Bass, etc.

Samples can be looped or played as one-shots, and are automatically synced to your session's tempo and key. You can record mono or stereo tracks into Soundtrack and make loops of the recordings, but true multitrack recording is not possible.

The way it works is, Soundtrack lets you quickly search a large loop collection to instantly find the sound you want by instrument, genre, mood or a combination of the three. These sound clips are dragged and dropped onto linear audio tracks in the same way you might place audio

files in a traditional audio sequencer. Clips can be moved around on a variable grid, which can be disabled, allowing you to slide clips freely within a project. You can cut, copy, and trim Soundtrack clips as you would any other sampled material within Pro Tools, Logic, DP, and so on.

Sonically, the samples range from "okay" to "well recorded and performed," and they cover a variety of styles, which should make it possible to assemble "rough ideas" that can later be replaced by your own customized samples. Even better, WAV, Acidized WAV, and AIF files can be imported, so building songs from your existing sample library is conceivable.

To help manage and work with samples, Apple includes the Soundtrack Loop Utility, which can be launched separately, and is available as a stand-alone download from Apple's developer website. (See Figure 1.) SLU strikes me as a cross between ReCycle and Sonar's Cyclone, but neither program comes close to SLU's database features. With the loop utility, you can assign (or "tag" in Soundtrack speak) characteristics such as tempo,

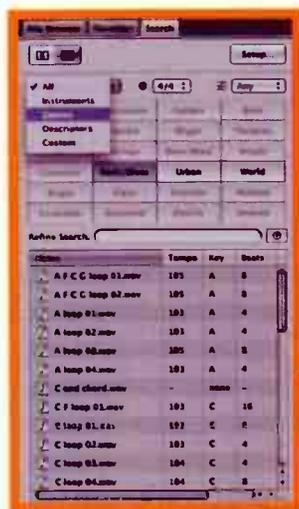
key, instrumentation, and mood. Tagging data is saved as part of the file — Soundtrack uses an enhanced AIF format that contains metadata for key signature, tempo, etc. Clips saved in Apple's new AIF format are called Apple Loops. Multiple files can be opened and tagged at once, which is a nice time-saving feature.

During the review I spoke with several major soundware developers, who all said they had either already made arrangements to work with or were considering working with Apple to develop Soundtrack titles or at the very least adopt the Apple Loops file format for their current and future libraries. This is certainly good news for non muso-types, but I don't know how I feel about Apple putting cutting edge samples in the hands of the musically illiterate masses. Whether this cuts into legitimate music for picture work is anyone's guess, and I personally don't see Soundtrack taking any work away from me. Others may see things differently.

STRENGTHS

On a more positive note, there are a few tricks Soundtrack offers that should win fans among musicians.

■ **Sample indexing.** Entire volumes of sounds stored locally or on external hard drives can be indexed and organized by Soundtrack's Media Manager. During the process, Soundtrack tries to identify key signatures, tempos, styles, and so on by looking at file names. Indexing is quick and does an okay job of properly tagging files. I indexed a variety of sounds — flute and trumpet riffs, whole batches of acoustic



SAMPLES CAN BE QUICKLY INDEXED, CATEGORIZED, AND SEARCHED WITHIN SOUNDTRACK. CLICKING ON VARIOUS STYLE AND INSTRUMENTATION BUTTONS FROM THE MEDIA MANAGER TAB WILL SHOW YOU ALL SAMPLES THAT MEET WHATEVER CRITERIA YOU'VE CHOSEN.



and electric guitar strums and arp patterns, live and programmed drum loops, synth pads, etc. Errors were mostly related to categorizing sounds by style, and in a few cases Soundtrack refused to index all the files within a given folder.

I had good luck using samples with informative names such as "C# loop funk 110." Unless your samples are very carefully named, you'll need to use the Loop Utility to fine-tune the descriptor settings after the fact. Even so, no pro DAW I can think of offers such extensive support for managing large sample libraries.

Ideally I'd like to see Apple beef up this utility and release it as a separate product. More likely we'll see some of this functionality rolled into Logic. My fingers are crossed.

■ **Markers.** There are three types to choose from: beat, time, and score. Time markers are the most powerful. These can be placed at key moments (e.g., scene changes, onscreen actions, etc.), then by option-dragging the markers to say, the

downbeat of a loop, Soundtrack will automatically create a tempo change so the music hits on the marker. This can be a life-saver in certain situations, like when the video editor trims a few frames here and there without telling you.

More significant is that clips can snap to markers. If you're given a new cut of the video and you had music coming in at a specific hit point but now your music is off, you can simply move the marker to the new location and snap the tracks to the new location. Nice.

■ **Loop stretching/transposing.** I had my doubts about how well Soundtrack's time and pitch changing would work. I mean, I've worked with Acid and Live; both programs do a great job at locking loops on the fly to the same tempo and key. These programs are designed for musicians, so how could Apple hope to compete with a piece of software aimed at the video market? Well, props to Apple — Soundtrack does an excellent job at stretching and transposing harmonic material.

I was consistently impressed by the quality of stretching — drum loop hits remained punchy, even when slowed down more than 25 bpm from their original tempos; acoustic guitars were still natural sounding when pitching up or down within a 5- or 6-step range. Sure, I'd hear artifacts if I went too far, but in most cases I found I could push things a little further than I could with Live, for example, and still have useable results. This is due in part because Soundtrack does a remarkable job at accurately detecting good slice points. For shoring up loops quickly, this program kicks butt.

WHAT IT ISN'T

There are a number of features missing from Soundtrack that musicians have come to expect from a professional audio program. Below is a list of the obvious MIA items.

■ **MIDI support.** There isn't any. There's no software instrument support, so this shouldn't come as a huge surprise. ➤

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Apple Soundtrack

■ **Recording functions.** Soundtrack isn't built for tracking your band. There's no metronome or count-off. Forget about punching in or setting a pre-roll.

Fortunately, Soundtrack is perfectly happy to loop record live signals — you can put the program in Loop record and jam away. When you're done, Soundtrack will automatically create Apple Loops

from your performances, and will even tag the resultant files with the proper key and time signature.

■ **SMPTE hit point calculator.** Given that the idea is to make music for QuickTime movies, I'm surprised there's no tempo calculation features for creating music that matches the pace of scenes or hits selected markers.

■ **Mixing.** There are no effects sends, aux channels, or grouping. Effects are applied on a per-track basis, which means you can't use a single reverb plug-in and bus individual tracks to it with varying amounts, for example.

There's no mixer, only the equivalent of a master fader channel. Luckily, effects can be applied to this channel.

■ **ReWire support.** This isn't part of Soundtrack's feature set either. If just this one feature was added it would make Soundtrack much more appealing for "real" musicians.

CONCLUSIONS

I can't simply judge Soundtrack according to the standards set by professional audio and music programs — it isn't fair. I know plenty of video editors who will probably go nuts for Soundtrack, provided they know enough about music to make intelligent choices regarding instrumentation, tempo, and so on.

Let's change gears: Looking at it as another tool in my studio, I can see the advantages. It does a better and faster job of time stretching loops than my current DAW of choice, and when it comes to managing my samples, nothing comes close to Soundtrack's capabilities.

I can see myself using it to mock up or help nail down conceptual and pacing issues with clients. I dream of initial creative meetings where I show up with my loop libraries, talk about musical direction, then bang out a rough idea where music will go, where it will cut out, the feel and timing, and so on. Of course, this could backfire and after a couple of meetings my clients might get the idea that they can cut me out of the process entirely. Regardless, I'm encouraged by Apple's first serious effort in the pro music software market. There are some surprisingly good features within Soundtrack, which if developed with musicians in mind, could turn it into a heavy-weight power app. We'll have to wait and see. **ED**

Strengths:

- Excellent real-time time stretching and transposition.
- Extensive sample management features

Limitations:

- Missing many pro audio/music features such as MIDI, control surface, and software instrument support
- Expensive, considering the lack of these features

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Frequency Response: 10 Hz to 22 kHz, -1 dB
Noise: -92 dB

Geoffrey Daking takes a "vintage" approach to designing pro audio gear. Not only do the units have the look and feel of time-proven models, but they're designed using a similar philosophy: all discrete Class A circuits, transformers for balancing on input and output, and no surface-mount construction.

Case in point is the 52270B mic preamp/EQ, which has a heavy stainless-steel chassis, engraved aluminum knobs, and heavy laminated faceplate. The 52270B is powered from an external power supply, which connects to the channel unit using a multipin cable. A power supply can drive up to four channels at once, saving money if you need more preamps/EQs.

The preamp section of the 52270B is straight-ahead: There's a 10-position stepped input gain control and a continuous output level control. Switches select the line input, turn on a 20-dB pad, activate 48V phantom power, and reverse polarity. Preamp mute and hardware EQ bypass switches light up when depressed — the only indication that AC power is flowing into the unit.

The EQ section has four semi-parametric bands (you can select frequency and adjust gain, but not bandwidth): a low shelf, a low-mid band, a high-mid band, and a high shelf. In addition to the global hardware EQ bypass, each band can be individually bypassed, and offers 15 dB of boost/cut. Also included are a lowpass filter that operates

at 20 kHz and a highpass filter at 25 Hz.

IN USE

I bypassed the EQ, and dove right in, tracking heavy rhythm guitar parts. The Daking preamp immediately distinguished itself with fat low-end and great mids. My Marshall 4x12 sounded thick and thumpy, with tons of chunk. The highs were solid without harshness or fizziness, and with nicely rounded detail.

On vocals, the 52270B has a round low-end, with smooth midrange and lovely extended top end. The preamp responds faithfully to the dynamics in the source vocal. With its smooth midrange and fat bottom, the 52270B is a good match for a thinner voice, or one with problems with harshness or nasal tone. It doesn't have the presence that some preamps have, but I didn't find this a problem in my tracking and mixing sessions.

For nylon string guitar, the 52270B gave the inexpensive guitar I was using a real boost in low-end girth and punch. The mids were smooth and natural sounding, while the extended high end added a nice sense of air around the detail.

As mentioned above, each channel of the 52270B lives in its own chassis — unfortunately there's no way to link them together for true stereo operation. This isn't much of an issue when you're using it solely as a preamp, but it can be if you're using the 52270B during mixdown, as the EQ gain controls are continuous,

not stepped. However, this independence makes it easier to use the units as multiple mono channels.

Speaking of the EQ in the 52270B, the unit has a ton of power and flexibility. The EQ is best suited for broad shaping applications, since you can't dial in the bandwidth for tight surgical cuts or boosts. As a sound-shaper, the 52270B excels. Remember that smooth midrange I mentioned above? If you want more presence, a quick twist of the upper-midrange knob, a dB or so of gain, and it's right there. At the time of this review, I have 11 or 12 high-end preamps in my studio. It was simple to simulate the sound of most of them (the solid-state units, anyway) using the 52270B and its EQ. I also found the EQ useful for shaping stereo mixes.

VERDICT

I have no significant complaints to report on the Daking 52270B — and perhaps more important, I was quite pleased with its strengths. But you'd expect little else when you combine a pure, round, extended preamp with great dynamics alongside a broadly powerful sound-shaping EQ. If you're looking for a preamp/EQ with vintage tone and lots of flexibility, you've found it with the Daking 52270B. **EQ**

Strengths:

- Fat low end
- Extended top end
- Smooth midrange
- Very powerful, flexible EQ
- Hardware bypass for EQ section

Limitations:

- No level or peak metering
- No AC power indicator

THE DAKING 52270B OFFERS A POWERFUL EQ SECTION COMPRISING HIGH AND LOW SHELVES, TWO PEAKING MID BANDS, AND HIGH- AND LOWPASS FILTERS.



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Accurate reproduction. That's what it's all about. And that's exactly what you'll get from every member of the Resolv Monitor family. Custom-designed low frequency drivers and amplifiers, Titanium tweeters and perfectly tuned enclosures. You'll get useful features found no where else, like the 4-position mid-range control on the 6.5" and 8" driver models. There's a Resolv solution for every studio and a price for every budget. Resolv Monitors by Samson. True blue studio monitoring performance.



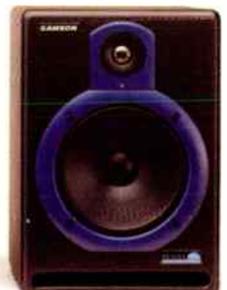
Resolv 120a Subwoofer



Resolv 50a



Resolv 65a



Resolv 80a

SAMSON
A U D I O

samsontech.com

by Mitch Gallagher

Buzz Audio SSA-1.1

Extended range stereo mic/instrument preamp

Type: Dual Class A/op amp hybrid mic/instrument preamp

Price: \$1,700; Sowter output transformer option kit, \$300

Contact: Buzz Audio International, www.buzzaudio.com

Inputs: 2 balanced XLR (mic), 2 unbalanced 1/4" (mic/instrument)

Outputs: 2 balanced XLR, 2 unbalanced 1/4"

Preamp: Class A, line driver-balanced, discrete

Highpass filter: 50 Hz, 18 dB/octave

Impedance: 1,200 ohms balanced. DI input, 1 megohm

Total Harmonic Distortion: <0.01%, 100 Hz to 10 kHz

Frequency Response: 4 Hz to 200 kHz, -3.0 dB

EIN: -132.5 dB

New Zealand's Buzz Audio generated a fair amount of, well, *buzz* with the release of their first preamp, the MA-2.2, which featured a discrete Class A design, amazing specs, and unbalanced outputs (which Buzz says improves purity). The second preamp from the company is the lower-priced SSA-1.1, a 2-channel hybrid Class A/op amp design that offers both balanced and unbalanced outs.

The SSA has both XLR mic and 1/4" instrument/line level inputs; each input has its own gain control. As mentioned, both balanced and unbalanced outs are provided. The balanced outs use what Buzz calls "transformer acting" line driver circuits; the unbalanced outs are a more direct path, bypassing any unnecessary electronics between the preamp and the output. As an option, you can order the SSA with Sowter output transformers; bare transformers or a kit are available if you'd like to add transformers to an existing unit.

Controls are kept to a minimum. In addition to the stepped mic and instrument gain controls, there's a 15 dB mic gain boost — Buzz prefers to provide extra gain, rather than pad the input — 50 Hz highpass filter, phantom power, and a 3-position polarity switch that incorporates a preamp "mute" function in its center setting. The only other feature is a peak LED per channel.

The SSA-1.1 specs out extremely well — manufacturer's stated frequency response, for example, is 4 Hz to 200,000 Hz.

IN USE

I tend to reach first for straight-ahead preamps, with few controls, and little extra processing in the signal path. The Buzz certainly qualifies. Aside from the usual required features (phantom power, polarity reverse, etc.) there's not much here to get in the way of the process. Plug in a mic or instrument, set the corresponding gain, and go.

I started out using the SSA-1.1 on male vocals with a large-diaphragm tube mic. My first impression was of big sound, with smooth midrange, open top end, and solid bottom. The SSA-1.1 isn't quite as present as some other preamps, but it has clarity and "naturalness" that let the track sit perfectly in the mix. The open top end also handles processing well. When compressing the vocal track during mixdown, the top end remained clear and dynamic, with a nice liveliness.

Next up were crunchy electric guitar tracks for a rock tune. Again, the SSA-1.1 didn't provide as much presence as some other preamps, but the track sat perfectly in the mix. All the punch and thump of the Marshall amp was there, with nice, smooth, highly detailed top end and chewy mids — this is a big sounding preamp. I also tried the SSA as a DI for guitar. While the SSA-1.1 works fine as a DI/instrument preamp, it sounded a bit "flat" to me — subtly lacking in depth and life compared to a great direct box.

Switching over to nylon string classical guitar, the SSA-1.1 quickly emerged as my favorite preamp for this

application. It has a natural, unhyped sound, with tons of detail and clarity. Its dynamic response was perfect, and the midrange of this particular guitar came across as the richest I've ever heard it.

I had similar results on steel-string acoustic guitar: rich mids, smooth, detailed highs, plenty of drive and punch. As with nylon string guitar, the steel-string sounded real, with a nice sense of liveness. This experience was repeated with virtually every source and mic.

THE BUZZ WORD

While I've been hearing about Buzz preamps for a while now, this is the first chance I've had to plug a mic into one. To say that I'm impressed would be an understatement. The SSA-1.1 immediately became my favorite preamp on classical guitar and other delicate (and not-so-delicate) acoustic sources, and it ranked among my top choices on just about every source. It doesn't have the inherent presence of some preamps, but it more than makes up for it with richness and clarity in the midrange, always without a hint of harshness.

At \$1,700, the SSA-1.1 is a great deal. If you're looking to step up to your first "high-end" preamp, give the SSA-1.1 a hard look. If you're looking to expand your preamp palette, the SSA-1.1 offers outstanding quality at a reasonable price. **ED**

Strengths:

- Rich midrange
- Outstanding clarity, detail, and depth
- Excellent dynamic response
- Instrument/DI input with separate gain control adds versatility

Limitations:

- DI input lacks depth and life

OPERATING THE BUZZ AUDIO SSA-1.1 COULDN'T BE EASIER. THERE ARE GAIN CONTROLS FOR THE MIC- AND INSTRUMENT-LEVEL INPUTS, AS WELL AS SWITCHES FOR ENGAGING AN EXTRA 15 DB OF GAIN, 50 HZ HIGHPASS FILTER, POLARITY/MUTE, AND PHANTOM POWER.



Remove. Repair. Restore.

Ultimate Restoration tools for PowerCore



TC RESTORATION SUITE - THE SOUND OF SILENCE

DeScratch

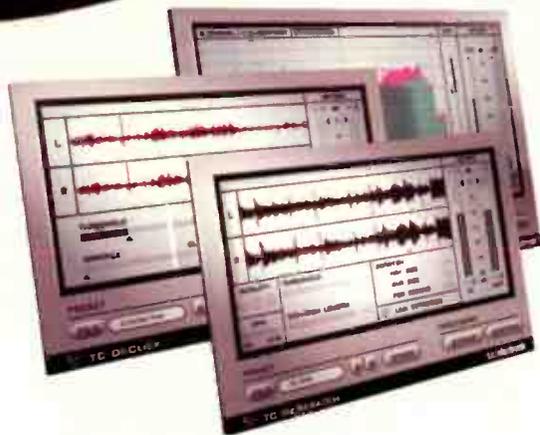
This new tool employs unique patented technology that eliminates clicks, scratches and even long disturbing dropouts. DeScratch is perfect for removing extreme impulsive-type errors in digital signals or scratched vinyl recordings. At last it's possible to eliminate extremely large scratches without audible artifacts.

DeNoise

DeNoise removes broadband noise, from tape hiss to static environmental noise. The Denoiser is fingerprint-based and offers manual adjustment for very precise and predictable processing results.

DeClick

The DeClicker repairs crackle and clicks with an extremely easy and fast user interface. The Audition feature allows monitoring of the removed signal parts for optimal results. In combination with the DeScratcher, small and large artifacts can be reduced dramatically in just one pass.



THE POWERCORE PLATFORM

PowerCore is the open platform DSP engine for professional signal processing. Serious processing power that seamlessly integrates with any Audio Units- or VST-compatible host application.

PowerCore FireWire



PowerCore PCI



Includes Nine Virtual Processors: PowerCore comes with a complete production and mastering set of Plug-Ins: ClassicVerb, MegaReverb, MasterX3 Virtual Finalizer, 247C Limiting Amplifier, Vintage CL, VoiceStrip, Chorus/Delay, EQSat Custom and PowerCore 01 Synthesizer

Add even more: From mastering to restoration, inspiration to innovation. You can expand PowerCore with Plug-Ins by Sony Oxford, Waldorf, TC-Helicon, D-Sound or TC – New optional TC and 3rd party Plug-Ins are constantly being offered. 11 products are already available!

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WWW.TCELECTRONIC.COM

by Mitch Gallagher

TC Electronic Reverb 4000

Reverb so real, you'll think you're there

Type: True stereo reverb processor
Price: \$2,999
Contact: TC Electronic,
www.tcelectronic.com

Analog I/O: balanced XLR
Digital I/O: optical (ADAT and Toslink), AES/EBU (XLR), S/PDIF (coaxial)
Control I/O: MIDI in/out/thru, USB, word clock input
Factory presets: 150
User presets: 100 internal, 100 on optional PCMCIA card
Sample rates: 32, 44.1, 48, 88.2, 96 kHz
Resolution: 24-bit

I'm starting to wonder if I should stop writing gear reviews (no smart comments, please) — I have a near-terminal case of gear lust. It was well under control, but lately I've had the chance to play with so many cool monitors, preamps, and mics — to say nothing of software — that I'm having a serious relapse. Case in point: The TC Electronic Reverb 4000. I knew what to expect from it: High-end stereo reverbs taken from the company's flagship System 6000 and M5000 processors — neither of which I'm likely to have the means to spring for in the foreseeable future. But it's just a reverb, right? I mean, I have a ton of cool reverb plug ins. I also have several great-sounding hardware 'verbs, including TC's M3000. No way I'd be too smitten with the Reverb 4000.

So I plugged it in to my Pro Tools HD rig, routed a bone-dry stereo-miked example from some classical guitar pieces I've been tracking through it and... *dang*... what can I sell so I can afford this thing? And that was just using the first preset, before scrolling through the factory presets or creating my own sounds.

Okay, so that's a strange way to start a review; giving you the thrilling conclusion before running through the list of inputs and outputs, whining about faults, etc. But that's just me, I live on the edge.

For those who *are* wondering about the details, the Reverb 4000 has balanced XLR analog in and out, and on the digital front it has optical

connections, which support ADAT and S/PDIF formats, as well as AES/EBU on XLR, and S/PDIF on RCA. When using the ADAT I/O, you can choose which pair of the eight available channels is processed. There's also MIDI for selecting programs, USB (see "Icon" below for more on this), and a word clock input.

The Reverb 4000 has a streamlined user interface. Its LCD is about as big as you're going to get in a single rack unit. Navigating is easy, and — major bonus — three front-panel knobs control the most commonly accessed parameters for each preset. It's a joy to reach over and tweak pre-delay, decay time, or high-frequency decay with a simple twist of the wrist.

A variety of algorithms live in the Reverb 4000 — TC claims that 30 man-years of effort went into them. They're classed into several categories: VSS-4 true stereo algorithms from the System 6000, VSS-3 as in the M3000, and so on. Presets using these algorithms are arranged into four banks: Halls, Rooms, Plates, and Effects. There's also a user bank for storing your own 'verbs.

ICON

Included with the Reverb 4000 is a virtual version of TC's Icon hardware controller. Currently Icon runs only on Windows machines (98se through XP). A Mac version is promised by spring. Icon communicates with the Reverb 4000 using USB. Installation is simple: I had Icon happening in less than a minute.

From Icon you can access all parameters on the Reverb

4000, create and manage libraries of user presets, and remote-control the box. There are even input and output meters that display what's happening with levels. If you have more than one Reverb 4000 (up to eight), Icon can manage and control them all.

SPACE TO BREATHE

What it comes down to is that the Reverb 4000 sounds great. The halls are spacious and lush, and have a true sense of realism. Likewise the rooms give you the feel of being there — this is a "real" sounding box. The plates sound, well, like plates.

The only real complaint I have is that the effect mutes for 2–4 seconds when changing presets. Other than that, the unit functions as expected, and sounds wonderful doing it.

Is there still a place for a pricey reverb-only processor in today's world of plug-in 'verbs? I'd say, "Yes." Reverb is extremely demanding of processing power. While there are wonderful software reverbs out there, they tend to be CPU-eaters. Having a hardware processor like the Reverb 4000 lets you apply dedicated power to a very important element, your main ambience. Then plug-ins can be applied as needed — a win-win situation. **ED**

Strengths:

- Gorgeous, luscious reverbs
- Comprehensive digital I/O
- Word clock input
- 96 kHz support
- Multiple reverb algorithms
- Fast user interface
- Icon control software

Limitations:

- 2–4 second delay when changing presets



USING THE INCLUDED ICON EDITOR YOU CAN EDIT ALL PARAMETERS, MANAGE PRESET LIBRARIES, AND REMOTE-CONTROL THE BOX FROM A WINDOWS PC. (MAC VERSION COMING SOON).



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ORIGIN STT-1

"As reproduced music submerges into computer workstations it is easy to forget the importance of the quality of the source material we are manipulating. Whether your work is for ProTools or an audiophile vinyl LP, there is no substitute for the quality and communication of a tube preamp like your **M-2b**." Tony Faulkner, Europe's leading classical music recording engineer

"We've been using our **TCL-2** Twincoms for a number of stereo and six channel surround mastering projects with great results. The ability of each unit to sound either as transparent as the Class A solid state electronics or as warm as the vacuum tube electronics is a big advantage. The Twincom has become our reference analog dynamics mastering processor." Bob Ludwig, Gateway Mastering & DVD



Platinum crackle finish shown (optional) Also available in mirror black

"Your **TD-1** sounds fantastic, huge, full range. The apparent size of instruments is so much bigger on the TD-1 than other recording channels. You guys have made another great product. Congrats!" Jim Meyer, Bass Guitar, Jimmy Buffet Band

"The **NSEQ-2** is as close to an analog straight wire with equalization as I have heard in 27 years of audiophile and professional engineering work..." Bob Katz, Digital Domain Mastering

"This is an outstanding mic preamp. I've never heard our mics sound this clean on piano. We've been using our (52 channels of **HV-3**) Millennium preamps on everything..." Jack Renner, 6 time Grammy winner, Telarc International

We have had the use of the **Origin** for several weeks now, and I have to commend you on it. Each of the sections sounds good, and as both an all-in-one box and a "demonstrator" unit for the circuits it is exemplary... Really, I think you've done a remarkable job with this thing. Steve Albini, Recording Engineer/Producer (Nirvana, NIN, Pixies,...)

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Millennia
Music & Media Systems

530-647-0750

by Craig Anderton

Line 6 Variax and Vetta II

Is this the ultimate studio guitar rig?

Type: Modeling guitar and amplifier

Price: Variax \$1,399.99, Vetta II Combo (150W) \$2,399.99, Vetta II Head (300W) \$2,399.99, FBV foot controller \$599.99

Contact: Line 6, www.line6.com

VARIAX

Number of guitar models: 50

Controls: Volume, tone, "pickup selector," model knob

Body type: Double-cutaway basswood body

Neck: Maple, 22 frets, rosewood fingerboard, 25-1/2" scale length, 10" fingerboard radius

VETTA II

Architecture: Two-channel operation with dual 12" speakers

Stereo analog I/O: Balanced XLR outs, unbalanced 1/4" out, 1/4" inputs, stereo effects loop, additional speaker outputs (stereo or mono)

Digital I/O: XLR AES/EBU, coaxial S/PDIF digital out, selectable among 16-/20-/24-bit, 44.1/48/88.2/96 kHz sampling rates; Variax digital in; MIDI in/out

When I was doing session work in New York, one of my least fond memories (aside from the alcoholic C&W singer trying for a comeback) involved carting gear to the studio. You never knew exactly what the producer would want, so you had to be prepared.

Times have certainly changed; the Variax guitar models other guitar sounds, from acoustic to electric, putting what Line 6 calls "an entire guitar collection in a single instrument." So what does all this mean to recording guitarists (especially with the release of the Vetta II amp, which fits the Variax like a glove)? Frankly, a lot — starting with the fact that your guitar can stay in the digital domain until it comes out of your speakers.

VARIAX BASICS

Variax comes in a sturdy

Many sounds emulate the source instruments to an astonishingly high — often indistinguishable — degree.

gig bag, with two pouches for holding strings and the included power supply and XPS footswitch. The footswitch has inputs for the Variax and power supply, and 1/4" and XLR audio outputs. Mercifully, there are no weird cables tethering the Variax to reality (unless you decide to do a

direct digital feed into the Vetta II, as described later), just a stereo cable that connects to the footswitch to carry both audio and power.

You can patch the Variax into an amp or wireless pack using a regular mono cable if you power the Variax with six AA batteries (good for about 12 hours of continuous operation), accessible through a trap door in the rear of the guitar. In emergencies, a 9V battery will give an hour or two of juice.

The guitar is an upper-class Korean double-cutaway type. Will it replace my PRS? No. But it's stylish, comfortable, has tasteful chrome-plated hardware, and boasts a very playable neck. The axe supplied for review had a satiny black finish (nice); other choices are red and sunburst. Once you adjust the action to your liking, it feels downright good.

BYE BYE RFI

Variax uses piezo transducers for each string, not pickups, so



THE VARIAX DOES CONVINCING EMULATIONS OF 50 DIFFERENT GUITAR SOUNDS, INCLUDING ACOUSTIC AND ELECTRIC GUITARS, 12-STRINGS, AND ESOTERIC AXES LIKE THE CORAL ELECTRIC SITAR.

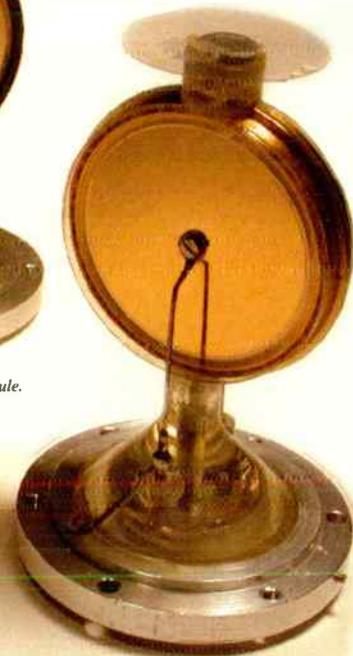
THE VETTA II AMP CAN WORK AS PART OF THE VARIAX'S ALL-DIGITAL SIGNAL CHAIN, BUT IT'S A BITCHIN' GUITAR AMP IN ITS OWN RIGHT.



75 years later... Nothing has Changed!



2003 - UM92.1S capsule.



1957 - UM57 capsule.



The original
'Baby-bottle'.

Gefell microphones are still hand made in Germany with the care and precision that one can only equate with old-world craftsmanship and a commitment to excellence. From the early days with Georg Neumann, through the relocation of the factory during the 2nd World War, and the many years separated behind the Iron Curtain, Gefell has remained true to its roots. And these roots run deep...

From the 1st generation multi-pattern UM57 to the fabulous UM92.1S, Microtech Gefell continues the tradition with the legendary 'tube sound' that is only possible with the original M7 capsule. That's right, the original M7, with gold sputtered PVC, hand made in the Gefell factory.



(Left to Right) Tube mics:
Original UM57 (1957),
UM57 V.E.B. (1972), and
today's Gefell UM92.1S

That's not to say we have rested on our laurels... Since the beginning Gefell has set the pace for microphone innovation and continues to elevate the bar: The Gefell UM900 Phantom, the world's only 48V phantom powered tube mic; the Gefell M930 Compact, a large-diaphragm studio condenser with optical isolation and the lowest self-noise in the business; and now the Gefell MV230 digital for better than 140dB performance. But wait, there's more...

Today, Gefell measurement microphones lead the world in metal diaphragm technology. For those 'in the know', nothing compares to the precision of an ultra-thin 0.8-micron pure nickel membrane for true, full bandwidth performance. This incredible technology is now available with the new Gefell M295, a low profile cardioid that will absolutely blow you away.

Of course there are lots of mics to choose from and for the average person, a mass-produced copy is just fine. But if you want something truly special and a cut above, visit one of our exclusive Gefell Dealers and listen to the difference that quality, tradition and pride can make. You may be surprised at how good a hand-made microphone can truly be.

Gefell - Quality, Tradition and Innovation



Gefell M930 Stereo X/Y



Gefell UM900



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Line 6 Variax and Vetta II

you can hold the Variax next to monitors, magnetic fields, transformers, or fluorescent lights, and you'll hear . . . nothing. No buzz, no hum, no noise. The strings don't decay into crud, but into quiet. *Very cool.*

The signals generated by the transducers aren't converted into MIDI, but processed using DSP. As a result, any playing technique that causes a string to vibrate is fair game, and will be faithfully reproduced without any significant delay.

The Variax definitely has its own sound quality. Remember the first time you played a standard guitar through a high-impedance direct box and got to hear *everything* your pickups were putting

The Cast of Characters

The following types of guitars are modeled in the Variax.

FENDER

1960 Telecaster Custom
1968 Telecaster
1968 Telecaster Thinline
1959 Stratocaster

GIBSON

1958 Les Paul Standard
1952 Les Paul "Goldtop"
1961 Les Paul Custom (three PU)
1956 Les Paul Junior
1976 Firebird V
1953 Super 400
1955 Les Paul Special
1957 ES-175
1961 ES-335
1995 J-200
Mastertone Banjo

OTHERS

1959 Gretsch 6120
1956 Gretsch Silver Jet
1968 Rickenbacker 360
1966 Rickenbacker 360-12
1967 Epiphone Casino
1959 Martin D-28
1970 Martin D 12-28
1967 Martin O-18
1966 Guild F212
1935 Dobro Alumilite
Danelectro 3021
Coral/Danelectro Electric Sitar
1928 National Style 2 "Tricone"

The Variax/Vetta II isn't necessarily designed to replace what's gone before; it charts a path for the future that respects tradition, but discovers new realms.

out? The Variax takes that one step further by eliminating all the garbage that makes its way into pickups. There's a cleanliness, transparency, and definition for all the modeled guitars that is truly a joy.

THE CONTROLS

There are four controls: volume, tone, "pickup selector," and model. The volume knob taper changes to reflect that of the guitar being modeled, and sometimes the tonal effect changes too. The tone control again matches the instrument but for the Acoustic and Reso models, you'll hear various filtering effects that simulate what happens when you vary mic placement.

The Model Select knob has 12 positions. Ten choose different models, with variations selected by the "pickup switch." The variation may be a pickup change, or an entirely different type of guitar. The remaining two positions are custom banks for storing your own favorite models, accessible by the pickup selector. This is easy to do, and you can also choose whether the

Tone control setting will be saved with a particular sound.

THE SOUNDS

The sidebar (left) shows the available guitar models in the Variax. Having played quite a few of the original guitars, I think I'm qualified to comment.

At first, I was taken aback by the subtlety of the differences between certain models. But that's because I'm not used to thinking of *just* the guitar — I think of a Tele through a Twin Reverb, or a Les Paul through a Marshall. Feeding the Variax into the Vetta II and adding processing put a magnifying glass on the differences. With some overdrive, the Tele did its "sparkle" thing, while the Les Paul gave that chunkier sound. And I must admit, physically speaking, Strats have always felt a little too "beefy" for my tastes, so it was great to be able to get that kind of sound from a lighter guitar.

I was pleasantly surprised by the acoustic models. Granted, they sound like an acoustic going through a pickup, but when mixed into a track I bet few listeners would realize it wasn't the "real deal." As a plus there are no miking hassles, and you won't pick up control noise if that's where you like to record.

The 12-string electrics were okay, but the octave sound is not as defined as the real thing. A little compression with a hint of distortion improved matters considerably. However, the Martin and Guild acoustic 12-strings gave a pretty convincing tone right out of the box.

The Reso guitars include Dobro, Coral Sitar, Danelectro 3021 with "lipstick" pickups, banjo, and the 1928 National Tricone, a truly strange bird. The sitar really came to life with a little compression — this is as close as you're going to get to the real thing. Even the sympathetic strings are modeled, with the amount set by the tone control.

Of course, the very idea of modeling is controversial, as Line 6 found out when they introduced the Pod. But putting snob appeal and one-upmanship aside, I think any rational person would agree that the Variax packs a wealth of eminently useful models, sounds great, and is fun to play. Many sounds emulate the source instruments to an astonishingly high — often indistinguishable — degree.

And a funny thing happens after you play the Variax for a while: The idea of it

being a modeling guitar sort of drops by the wayside. You end up choosing sounds because of their musical usefulness, and apply processing to bring out the best of them. You stop thinking "Hey, this sounds like a Tele" and instead think "This is a great sound." After the novelty wears off, you're left not so much with a modeling guitar, but with a musical instrument. Judged by those standards, the Variax is a home run, and a versatile performer in the studio

THE VETTA II

The Vetta II combo I reviewed (the head is forthcoming) isn't totally new territory, as it's a superset of two PodXTs in an open-back cabinet with dual 12" speakers. However, it includes all 73 amp models found in Line 6 products, adds some synth-like textures, a lot more control, and allows combining the two channels in various novel ways. (Note that a free software update can bring any older Vetta up to Vetta II specs, while a hardware board to allow a direct Variax connection costs \$99.)

There are analog and digital stereo direct outs, and the support for 24-bit/96 kHz is welcome. Tone-wise, the two-channel architecture opens up exceptional stereo possibilities; you can lock controls to vary the same parameter on both amps with one knob twist, which also preserves relative levels between the controls. And it's ideal for re-amping — record the straight out digitally, while miking the speakers and/or recording the processed direct outs. ▶

This Just In!

As we go to press, Line 6 has announced left-handed models of the current line as well as the Variax 700 series, with a more upscale, Japanese guitar and vibrato tailpiece (lefty versions also available). Furthermore, a free cross-platform, stand-alone Vetta editor will be posted on the Line 6 website.

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Ross says



"I've used my Royer's on every recording I've done since 1998. These mics have made a huge difference to me in my quest for real sounding records. From blues to heavy metal, I keep finding new and effective ways to use the mics and by far they have become my main electric guitar mic. I just finished producing and engineering Ziggy Marley's new record and single and the Royers are everywhere. I used them on the drums, organ, percussion, the four piece horn section and of course the guitars. I brought in my old friend David Lindley to play his arsenal of stringed instruments and he was very impressed with the size and detail translated from the mics. 'Irie!' I don't look back now, only forward and the bottom line is, I won't ever make a record again without these mics."

Ross Hogarth (Grammy winning Producer/Engineer - Ziggy Marley, Gov't Mule, Keb Mo, Coal Chamber, Jewel, Roger Waters, Black Crowes)



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Line 6 Variax and Vetta II

You can save Variax settings within a channel, so that calling up a preset also calls up the appropriate guitar. However, note that this requires connecting a multiconductor cable (which also feeds the Variax's digital out to the Vetta) into a second jack on the Variax, in place of the 1/4" cable. In a pinch, you can use a standard RJ-45 cable, although it won't have the locking feature of the cable supplied with the Vetta II.

GETTING EFFECTIVE

There are tons of effects — 53 "stompbox" effects, of which any three can go into any of three positions in the signal chain, as well as more "studio" types of effects (tremolo, gate, compressor, and EQ). Re-routable

After the novelty wears off, you're left not so much with a modeling guitar, but with a musical instrument.

(i.e., you can change the order) post-amp effects include pitch shift, modulation, delay, and reverb, as well as the effects loop. As with the PodXT, there are six mic models for simulating amp miking when going direct.

But the "guitar synth" effects are a real ear-opener. They also use DSP processing, and range from beautiful to just plain weird. Unfortunately, they require single-note lines. They're still fun, though, and things become more interesting when you get the FBV floor controller (with its 18 switches, display, and two expression pedals) into the act, and start swelling synth lines in behind some vintage amp effect. (By the way, don't sell the FBV short; even though we don't have the space to go into much detail, it's useful and greatly simplifies onstage control.)

Finally, Vetta II addresses a PodXT limitation: You can insert the volume pedal before everything, after the stompboxes, after the amp/cab but before the re-routable post effects, or at the end of the entire signal chain.

THE BOTTOM LINE

Okay, together the Vetta II, Variax, and FBV list for almost 4,400 smackers. Even though you'll pay much less than list, that's still not cheap. But it's a first-class guitar rig, and if you can afford to fly first class, you'll get more than a drink on takeoff, slightly better food, and a wider seat: You'll have an amp system that re-defines "flexibility," a guitar that re-creates some of the most desirable guitar sounds of all time, an all-digital signal path, freedom from interference, and a clarity of tone that you simply cannot believe until you've heard it. It's truly a vision of 21st century guitar.

However, this vision is probably not for everyone, just as even in this age of digital audio some still prefer vinyl. But the Variax/Vetta II isn't necessarily designed to replace what's gone before; it charts a path for the future that respects tradition, but discovers new realms. As someone who ditched guitar amps onstage decades ago in favor of keyboard amps to get better fidelity, and uses direct boxes in the studio (followed by processing) for more clarity of sound, this is *exactly* what I've been seeking. I'm not selling my PRS, but now it has a bunch of new friends. [EQ](#)

VARIAX

Strengths:

- Convincing acoustic and electric sounds
- Freedom from electrical interference
- Wide variety of vintage guitar models
- Playable, stylish guitar

Limitations:

- No vibrato tailpiece in current Variax series

VETTA II

Strengths:

- Clean, detailed, "high resolution" sound
- Digital interface for Variax
- AES/EBU and S/PDIF digital audio outs, up to 24/96
- Dual amp architecture

Limitations:

- Synth lead sounds aren't polyphonic
- No "whammy bar" effect with pedal

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"The external inputs are fantastic for guitar and drum processing...the vocoder is stellar." - Craig Anderton, musician/author

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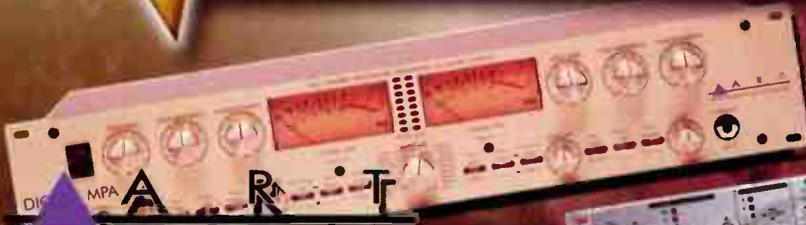
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Steinberg Groove Agent

by Craig Anderton

Price: \$249.99

Contact: Steinberg,
www.steinberg.net

Strengths:

- Useful grooves for idea generation
- More capable than expected
- Mixable room ambience
- Easy to use

Limitations:

- Limited ability to output MIDI notes to sequencer track
- Can't import drum sounds
- No audio filtering



The Groove Agent VST plug-in comes from the same brain trust as Virtual Guitarist and strives for a similar goal: Deliver grooves with a living, human feel, coupled with a super-simple interface.

GA gets off to a good start, with a strong collection of grooves played by actual drummers. The organization is a timeline of 54 styles, from the early '50s to past 2000, with an 8-sound drum kit matched to each style. However, you can separate the two and mismatch kits and styles, often with good results.

Styles are fairly complete (though sadly lacking in world music styles), as are the kit sounds. You can't import drum sounds, but can mix and match (e.g., choose a different

kick, while leaving the rest of the kit as is) as well as vary several automatable drum parameters. It's technically possible to expand the number of grooves and drums, so perhaps GA will shed some limitations in the future.

Individual drums, and patterns, can be played via MIDI notes. This is great: Play just the percussion, for example, while letting the rest of the drums follow the groove. Patterns are available in multiple versions with varying degrees of complexity (25 patterns and matching fills per style). This helps create that human feel, but calling them up with the front panel interface can be fiddly. Doing so with a MIDI keyboard is much easier.

A standout feature is the ability to dump notes on to a

MIDI track for editing or playback through other modules, but doing this with programs other than Cubase SX or Nuendo is iffy at best (the manual says you can't, but some users report success). Other features include four stereo outs, automation (which even works with VST-DX adapter), the ability to mix in ambience, and humanize/shuffle controls.

While not as versatile as something like Native Instruments' Battery, Groove Agent is a superb idea generator, a solid drum module, and a quick way to lock down grooves when you're writing, or need something more customizable than a drum sound CD. No wonder there's a buzz about it. **EQ**

Alesis ProActive 5.1

by Mitch Gallagher

Price: \$499

Contact: Alesis, www.alesis.com

Strengths:

- Excellent real-world reference
- Self-contained surround monitoring
- Wireless remote control
- Built-in Dolby and DTS decoders
- Four switchable inputs
- Compact

Limitations:

- For music work, sub over-powers satellites
- Short cable connecting control module to sub
- Angle of satellite stands may be a problem

Setting up a surround system can be daunting. In the consumer world, "surround systems in a box" are readily available; now Alesis has brought this approach to studios with the ProActive 5.1.

The system comprises five satellite speakers and an 8" subwoofer, which contains 53w amps for the satellites and a 185w amp for the sub. Also included are a control module and a wireless remote. The control module contains the audio inputs, as well as processing circuitry. It connects to

the sub with a 5¢ cable similar to a computer monitor cable — though Alesis says not to use a VGA extension cable with it. Although you can control everything from the wireless remote, depending on where you put the subwoofer in your studio, where to set the control module may be a problem. The satellites have stands that can be set for wall mounting or placement on a desk next to a computer monitor. Placed on speaker stands, the satellites aim over your head.

The system has four switchable inputs: coaxial and optical digital, and 2- and 6-channel analog. The digital inputs feature built-in DTS and Dolby surround decoding, an excellent bonus. For non-surround encoded

signals, you can turn on effects for "surround-izing" the input.

Sonically, the ProActive 5.1 may surprise you. It sounds full, crisp, and punchy, with good definition and imaging. For music work, I found the sub too powerful for the satellites. Even after turning the sub down to its lowest setting, it was too much. Overall, the system is surprisingly loud, able to fill a good-size room and maintain clarity even at high volume.

As a real-world reference for your mixes, as a surround monitor system, as a convenient way to check out DTS and Dolby sources, the Alesis ProActive 5.1 shines. And it doesn't get much easier than this: just plug in your mixer/interface and/or DVD player. The fact that it's super-compact and inexpensive only sweetens the deal. **EQ**



Creamware Noah

by Craig Anderton

Price: Noah \$1,385, Noah EX \$1,795,
Noah to EX upgrade, \$595

Contact: Creamware,
www.creamware.com

Strengths:

- Great-sounding synthesizers
- Lots of useful effects
- Superb computer-based editing
- Updateable

Limitations:

- Won't host non-Creamware plug-ins
- No sampling-based instruments

I'm a huge fan of Creamware's soft synths, but not every studio wants to use the PowerPulsar series of DSP cards/audio interfaces/instruments (reviewed Nov. '02) — the only way to access Creamware's family of great-sounding, DSP-powered synths and effects.

That is, until now: Noah EX puts 11 SHARC DSP chips, six instruments (Pro One and Minimoog emulators, wavetable synth, vector synth, classic drawbar organ, and SixString, reviewed 7/03), and 37

effects (including a very hip vocoder) in a 2U package for road or studio. A junior version, Noah, contains 7 SHARC chips.

It doesn't need a computer — you can edit every parameter from the front panel — but a USB 1.1 interface (along with ADAT/SPDIF optical, stereo analog in and out, MIDI, and word clock in) talks to superb graphical editing software for Win98/ME/2000/XP. Mac OS X support is in beta. Noah also serves as a signal processor for the analog I/O (or audio fed in via USB), and as a simple audio interface.

Noah runs two instruments simultaneously, and Noah EX, four; however, running multiple instruments limits polyphony for the CPU-hungry

analog modelers. Other instruments are more economical (e.g., the B2003 organ does 16 voices using only 25% of the EX DSP).

The instruments feed a software mixer with three aux effects (delay, chorus, and a great reverb); you can add two insert effects max among the instrument and master channels. Almost all parameters respond to MIDI (control surfaces, anyone?); four assignable front panel knobs also provide realtime control.

Noah accepts only Creamware plug-ins. However, once you hear them, you'll understand why Creamware fans border on the fanatical. Noah's soft synths (more are on the way, too) radiate presence, power, and transparency. **EQ**



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Linksys ProConnect KVM Switcher

by John Krogh

Contact: Linksys, www.linksys.com

Price: \$39

Strengths:

- Affordable
- Simple to use
- Compact; cables and switcher built into one unit

Limitations:

- No USB support

Like many of us, I have more than one computer living in my studio. Besides my two Macs, I have two PCs that are dedicated to running virtual instruments. Problem is, I don't have enough room for each machine to have its own dedicated QWERTY keyboard, mouse, and video monitor. I've used higher-end keyboard/video/mouse (KVM) switchers in the past, but devices such as these are overkill for my current needs.

So after a bit of research I discovered the Linksys

ProConnect KVM 2-Port Switcher — a dirt-cheap device for sharing one monitor, mouse, and keyboard between two PCs.

The switcher couldn't be easier to set up: Power down both machines, including the monitor, then plug the monitor, keyboard, and mouse into the KVM unit. Next, plug the cables attached to the switcher into the appropriate ports on two computers. Cables are color-coded, so it's virtually impossible to plug them into the wrong ports. Once you've made the connections, you're good to go. When the computers power up, you can use the switcher immediately — there's no software installation required.

There's an Auto Scan feature that lets you set a time interval for switching between

the computers automatically. I found Auto Scan to be a little annoying, so I stuck with manually switching, which is done by simply hitting the Scroll Lock key twice.

Initially I had a problem getting my PC laptop to work with the mouse. I needed to install a driver on the PC to allow it to work with the mouse. After I did, everything worked as expected with the switcher.

One of the benefits of Linksys' KVM switcher is that it supports 32-bit color at resolutions of up to 1,920 x 1,440. If you're one of the lucky ones with a large flat screen monitor, the switcher won't limit your display options.

Criticisms? I wished it had a USB port, but for less than 40 bucks what can you expect? **EQ**



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"Brilliant!"

Tony Romano, Front of House, Diana Krall

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Larry Cummings,
Grammy Award Winning Engineer,
David Grisman Quartet

"The SCX-25 is my go-to mic for acoustic guitar. It adds a gentle presence boost that makes any acoustic sound better, and its lack of proximity effect makes the bass more natural than other mics I have used."

John Getski, PRO AUDIO REVIEW

"Two SCX-25s in a Baby Grand and my work is done! There's just nothing else like it."

Raz Lucartas, Audio Engineer,
The Tonight Show

"My first choice on Grand Piano. Easily one of the finest acoustic guitar mics ever! The wire and unique design make them very camera-friendly. I love them for the sound...

...television directors love them for their looks!"
Vaughn Stone, Audio Producer,
Live from the Bluebird Cafe

"What you hear is what you get. Not only is it the best sounding piano mic available, the shape, size and mount allow you to get right in top of the soundboard."
Paul Mitchell, Front of House,
Jon Soble and The Crossroads

"I have mixed dozens of bands at recent bluesgrass festivals with just one mic—the SCX-25. The band's response is always the same—they can't believe the tremendous sound that comes out of a microphone with such a small footprint."

Paul Knight,
Knight Sound Systems

"I honestly think the SCX-25 is one of the best mics available, and destined to become a classic."
Dennis Leonard, Supervising
Sound Editor, Skywalker Sound



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ANDREW GILCHRIST, ENGINEER, ANI DIFRANCO

"I put a pair of SCX-25 mics in Diana's piano in July 2007 and they haven't come out since. These are the best piano mics I have ever heard—Brilliant!"

Tony Romano,
Front of House, Diana Krall

"I license piano samples to major keyboard companies like Emu and Emsonic. In what I do, every note is like a mastered CD. It is painstakingly hand crafted and has to be perfect. I have chosen the SCX-25 mics simply because they produce better source material."

William Cookley, Sound Designer,
PERFECT PIANO SERIES

"Those in need of an excellent piano mic need look no further. As an overhead drum mic, it provides a transparent and full-sounding presentation that is out there with the best. It's also a great choice for a sizable range of vocal recording duties."

Richard Sale,
ELECTRONIC MUSICIAN

"On Merle's current CD we recorded Willie and Big with a pair of SCX-25s in the middle of the band to get a 'live' feel—and the vocals sounded great."
Lori Bradley, Engineer/Producer,
Merle Haggard

"I essentially just set the mics up, bring up the fader... and just sit back and enjoy the mix!"
Pete Horne, Horne Audio

"It behaves like a mic twice its size, a condenser with solid highs but no excessive cap, and with a robust midrange and upper bass range that bring its visual appearance."

Marty Pecora,
RECORDING MAGAZINE

"Having played the roles of artist, engineer, and producer, there is a fine balance between the technical and the artistic side of music. I find that the SCX-25 has really helped to bridge that gap as it faithfully reproduces vocals and acoustic guitar regardless of the style or content of the music."
Phil Keaggy, legendary guitarist

"...destined to become a classic."

Dennis Leonard, Supervising Sound Editor, Skywalker Sound

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Sounds



UEBERSCHALL Nu Metal

Contact: Ueberschall, U.S. dist. by East West, www.soundsonline.com
Format: Audio CD + WAV CD-ROM
Price: \$99.95

Modern "metal" sample/loop CDs are hard to come by, which is why I was thrilled when *Nu Metal* fell onto my desk. This two-CD set is chock full of construction kits and drum loops aimed at the drop-D crowd. Most of the material is presented construction kit-style, with nearly full arrangements; all the isolated elements are broken out. Just add shredded vocals and you're good to go.

It's clear the producers understand modern metal/rock — many of the tracks leave enough space to add 909-like low end or hyper-thick bass, which is what you'd expect to hear from P.O.D., Limp Bizkit, System of a Down, and others in their genre. Kick drums are clicky and spikey, for example, making it easy to layer fatter elements underneath.

Evenly played, well-recorded acoustic strums and arpeggios are also provided. These reminded me of STP unplugged, but you might hear the tracks differently.

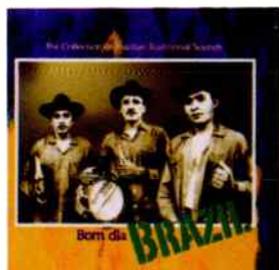
You might find that many of the electric guitars and drums need some EQ and compression to fit them

into your mixes; the loops and one-shots aren't "fully mastered" the way some construction kits are. In this case it's a good thing, though, because it makes it easier to use the samples in a variety of contexts.

On the guitar front, there's no shortage of creative arrangements, which sometimes include heavy, rectified tones in stereo with slightly chorused or clean arpeggios. *Nu Metal* even goes so far as to provide ReCycled phrases to create impossible-to-play parts.

On the whole, sound design-type effects processing is kept to a minimum. You will, however, find plenty of menacingly tweaked guitars and basses to push your tracks over the edge.

—JOHN KROGH



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Contact: Discovery Sound, www.discoverysound.com
Format: Rex2, Acidized Wav
Price: \$55

Brazil is a hotbed of spicy grooves, but their infectious patterns aren't limited to South America. "With *Born dia Brazil*," says Japanese soundware developer Discovery, "the focus is not only on the legendary sound of *capoeira*, but on *samba*, *marcha*, and others that are currently in Japan breaking through into the new dance beats."

Unlike Ueberschall's excellent *Brazil Electro*, which contains both melodic and percussive loops, *Born dia Brazil* focuses on the latter. There are 360 percussion performances to peruse on this disc, both solo and ensembles. The breakdown: 126 solo percussion loops, 61 "Brazilian Grooves," 106 "Capoeira" loops, and 52

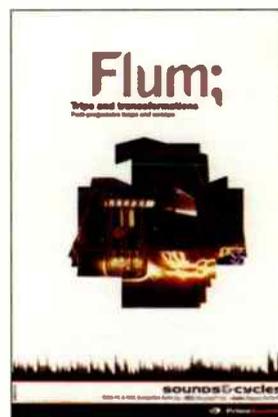
These earthy ensembles gyrate like an egg rolling down a slope.

"Kabasaon Styles." The ensemble performances in the "Brazilian Grooves" section include *baiao*, *carimbo*, *marakatu*, *maxixe*, *samba de breque*, and *xote* styles, among others. Some of the loops feature a combination of percussion and vocal chants/riffs.

Looking for perfectly placed notes? Don't look here. These earthy ensembles gyrate like an egg rolling down a slope. In some cases this is perfectly authentic; if the rhythms were *too* precise, they'd smack of bogus programming. But in a few cases, the loops on this disc go beyond the "egg" effect and sound like sub-par editing. Depending on the tempo you select, this may or may not bother you.

In search of pristine audio quality? Keep looking. Solo instruments such as the Udu and Talking Drum are gritty, and almost sound like the result of spontaneous field recording. On the other hand, you might say that this adds to the funky charm of this collection.

If you want a bit of carnival inside your computer, *Born dia Brazil* is for you. The ensemble loops, in particular, are absolutely infectious. While not exactly top shelf from beginning to end, this disc is well worth its \$55 price tag. —GREG RULE



PRIMEOUNDS Flum

Contact: PrimeSounds, www.primesounds.com; U.S. dist. by Big Fish Audio, www.bigfishaudio.com
Format: 1 CD WAV/REX2, 1 CD audio
Price: \$99.95

Flum is billed as "post-progressive loops and swoops" and falls into the "trance-but-not-stereotyped-trance" category. There are two loop types: Beats (102 files, duplicated in WAV and RX2 formats) and Flum (168 WAV, 136 duplicated in RX2). Neither WAV version is Acidized, so

they're segregated into tempo-specific folders (80, 90, 100, 110, 120, 130, and 140 BPM). They're not sample-accurate either, but are close enough if you're snapping the beginning to a grid.

The beats are deceptively simple, dark loops that are more polyrhythmic and evolved than most dance music loops. Flums are also rhythmic, but tend toward bloops, bleeps, blurples, szforps, and effects. This is not construction kit material, unless you like sparse (very sparse!) melodic elements. If you add something vaguely melodic on top and bassy on the bottom, though, you'll have a pretty complete musical package.

Rather than trying to explain this in words, go to

www.eqmag.com and check out the demo I did, which has some representative beats in the background and bits of Flum pasted on top. It will pretty much tell you all you need to know about the CD; if you like the audio example, you'll love the rest of the loops — overall, they're ideal for lifting something trancey out of the ordinary, and into more sophisticated territory.

—CRAIG ANDERTON

SONIC IMPLANTS
Symphonic String Collection

Type: String orchestra ensemble and section multisamples

Price: \$999

Contact: Sonic Implants,
www.sonicimplants.com

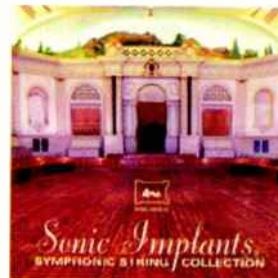
Format: GigaStudio
Discs: 20 CD-ROMs or 3 DVDs
Sections: 1st violins, 2nd violins, violas, cellos, basses, ensemble
Articulations: *legato, espressivo, con sordina, tremolo ordinaire, tremolo sul ponticello*, whole-step trills, half-step trills, *pizzicato, staccato, spiccato, col legno*, bowed natural harmonics, bowed artificial harmonics, *pizzicato* harmonics, effects

Sample rate: 48 kHz

Resolution: 24-bit

Copy protection: serial number

Recommended system: 1 GHz PC or faster, 1 GB system RAM or more, CD or DVD drive, video card with minimal system RAM and CPU requirements, Windows 98se, 2000, or XP, TASCAM GigaStudio, Emagic EXS24, or compatible software, 7200 RPM hard disk, GSIF-compatible audio card (if using Giga), otherwise audio card compatible with your sample software, MIDI interface.



It's a grand time to be a composer or producer who works with orchestra or string ensemble — a computer and a software package such as GigaStudio, EXS24, HALion, or Mach5; that's all it takes to have an orchestra on your desktop. Okay, a few other things may be necessary, one being excellent orchestral samples and another being knowledge of how to score and arrange for orchestra. The former we at *EQ* can help you

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with; the latter will probably require some study or at least a trip to your bookstore for a copy of *Orchestral Scoring for Dummies*.

A number of large-scale orchestral libraries have hit the market, most of which take advantage of the sample streaming technology first introduced by GigaSampler/GigaStudio. That's the case with Sonic Implants' *Symphonic String Collection* (hereafter "SSC"), which is in GigaStudio format. While the samples and programs are in Giga format, you can load them in other compatible programs. One snag: Installing the Giga library requires decompressing the sample files, which requires a PC. If you're a Mac user, you're out of luck (unless you can lay your hands on a PC for long enough to install the files and move them over to Mac.) As we were going to press, Sonic Implants began shipping the EXS24 version of *Symphonic String Collection* for both Mac and PC; this version also has the advantage of offering 24-bit sample support.

Speaking of installation, allot some time from your busy schedule; a library of this magnitude takes a while to decompress and load on your hard drive — the time will depend on your computer and whether you purchased SSC in DVD or CD-ROM format.

Once the library is installed, you'll find over 13 gigs of data copied onto your hard disk. The files are broken down by section: 1st violins, 2nd violins, viola, cello, and basses. Each section performs the same set of articulations; *legato*, *spiccato*, harmonics, up-down bows, etc. There's also a nice assortment of effects: harmonic glisses,

The strings are full and real sounding, and the performances are all topnotch.

taps on the instrument body, bowing behind the bridge, and so on — sure to bring out the *avant garde* or horror soundtrack composer in you.

In addition to the separate sections, SSC includes programs that feature the entire ensemble playing in unison. This allows you to quickly and easily put together string ensemble parts without spending a lot of time programming each section individually.

A big challenge with a library like this is making it usable — "Where was that down-bowed 2nd violin *staccato* program again?" Sonic Implants has done a good job of naming the multitudinous programs well — arcane contractions and abbreviations are kept to a minimum.

The recording quality is excellent across the board. The instruments are placed in standard orchestral arrangement, from the conductor's perspective (1st violins on left, basses on right). In his review of SSC for *Keyboard* magazine, *EQ*'s John Krogh commented, "I much prefer this approach as opposed to placing everything equally in the stereo field the way some other libraries do. It certainly helped make my MIDI orchestrations more life-like and convincing, although I found that panning the violins and cellos more left and right respectively gave me a more pleasing

stereo image than what you get right out of the box."

The strings are full and real sounding, and the performances are all topnotch — as you'd expect from the players behind this library, which includes some of the best from the Boston Pops and Boston Ballet Orchestras. John commented, "I'd characterize the overall sound to be rich and lively — you can clearly hear the difference in the players' placement." *Keyboard*'s second listener Ernie Rideout agreed, adding, "These have the warmth added by the touch and vibrato of the players, probably due in part to the generous loop lengths."

Whether you're after smooth, enveloping, flowing *legato* parts, dramatic *staccatos*, or trills, SSC delivers. I loved the rich *legato* programs, and immediately put the artificial harmonics to use in a piece. Ernie Rideout had his own favorite: "The muted string programs are exquisite. They give you the chilly clarity of a muted section, but the warmth comes through. I love the programming; a little push on the mod wheel and the section grows in volume and intensity just the way I like it. All in all, the library delivers a well-rounded set of string section tools."

Programming is straightforward, but effective. There are 2- and 3-layer velocity-switched programs, and

"Keymap" programs where down- and up-bow samples alternate on consecutive keys. On some programs, the mod wheel is put to use to alternate between down- and up-bows, to crossfade between layers, or to switch between articulations. There are also "R" programs that trigger ambience release samples featuring the sound of the room SSC was recorded in. John was a fan of this, stating "Basically, the reverb is built into the sounds — when GigaStudio receives a note-off message, the release samples are triggered. Sweet." If polyphony is an issue, SSC also has "No Release" programs. In addition, MIDI controllers can be used to control envelope attack and release times. In version 1.1 or higher, controller 80 can activate open string samples.

What's not included are key-switched programs like those found in some similar libraries. You can work around this using MIDI programming, but for performance work, some may find it a limitation. John said, "I was disappointed to learn there weren't any setups for multiple articulations via key-switching. This is a common programming technique that many developers take advantage of." Perhaps Sonic Implants will address this in a future update — which are free to registered users, by the way.

I didn't find this to be a big limitation in my use of SSC, since I do most of my work using sequenced MIDI programming, rather than performance from a keyboard. Plus, if you really want key-switched programs, you could dig into Giga and create them yourself. For me, the programs worked great, and were quite expressive — the use of MIDI

controllers simply increased this expressiveness. This experience continued throughout my use of SSC — the library is well presented, highly organized, and quite user friendly.

John agreed, stating, "These are certainly the most playable and musical section string sounds I've heard. If MIDI orchestration is part of your routine work, and you'd rather spend your time playing and making music than wading through a sea of patch options and tweaking string parts in a sequence editor window, *Symphonic String Collection* is for you."

CONCLUSION

Sonic Implants' *Symphonic Strings Collection* is an

impressive, highly useful library, perfect for adding "real" strings to a recording or for mocking up orchestral compositions. As John commented, "According to Sonic Implants, their goal 'was to create a collection that would enable musicians and composers to evoke the true essence of an ensemble string orchestra, in all its complex shading and color.' After having worked with SSC over a period of months, I'd have to say they succeeded, for the most part. From mournful and languid to ripping and triumphant, these strings can cover it all — assuming you've got the chops and MIDI know-how to make them sing."

Which brings up a good point: With any library like

this what you're given are the basic building blocks required to emulate a string orchestra — granted, we're talking amazing raw material with a broad array of articulations and massive flexibility, but building block material nonetheless. To really make *Symphonic Strings Collection* effective, you need to know your stuff — how to write for each section, how to arrange string parts realistically, what the strengths and limitations of each instrument and section are, and so on. Then you'll need the MIDI programming and performance ability to get your ideas down and access the library's features. Sonic Implants has done their job: They've provided composers, musicians, and

producers with a powerful, great-sounding tool for orchestral emulation. It's up to us to bring it to life.

—MITCH GALLAGHER EQ

Strengths:

- Broad variety of samples and articulations
- Excellent recording quality
- Natural ambience
- Free updates for registered users

Limitations:

- No key-switched programs



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"Coming Attractions" are previews of new products that haven't arrived in the marketplace. These aren't product reviews, but are designed to bring you up-to-the-minute information on the next generation of cool recording tools.

COMING ATTRACTIONS

Digidesign Accel, Impact, & 96i I/O

by Mitch Gallagher

What is it? New hardware, software, and plug-ins for Pro Tools

Who needs it? Any current or potential Pro Tools users who want to maximize their system's power.

Why is it a big deal? HD Accel provides tons more DSP power and track count. 96i I/O provides 16 balanced/unbalanced analog inputs. Impact is a powerful mix-bus compressor TDM plug-in.

Shipping: By the time you read this.

Price: Pro Tools|HD 2 Accel, \$10,995. Pro Tools|HD 3 Accel, \$13,995. 96i I/O, \$1,995. Impact, \$695.

Contact: Digidesign,
www.digidesign.com

The latest and the greatest for the world of Pro Tools

At the recent IBC show in Amsterdam, Digidesign unveiled the latest components for their Pro Tools platform. Here's what was on display:

HD Accel/Pro Tools 6.2 — HD Accel (pictured) is a new DSP card for Pro Tools|HD that utilizes significantly more powerful DSP chips to provide almost twice as much DSP power as the previous HD Process card, and four times that of a Mix Farm.

The HD Core card remains the same; you install HD Accel cards in place of (or in addition to) HD Process cards. The new cards provide improved track counts (up to 192 tracks at 44.1 or 48 kHz, 96 tracks at 88.2 or 96 kHz, and 36 tracks at 176.4 or 192 kHz), as well as more muscle for greatly increased plug-in counts. TDM plug-ins will require optimization to support the new DSP chips (the HD Accel card includes two "legacy" DSP chips, and the HD Core card can still run legacy

plug-ins; current AudioSuite and RTAS plug-ins work fine with HD Accel and Pro Tools 6.2), HD Accel supports all existing HD-compatible interfaces and peripherals right out of the box.

Pro Tools version 6.2, introduced along with HD Accel, provides support for the new HD Accel DSP cards, as well as for the 96i I/O interface (see below). Version 6.2 also provides specialized plug-ins, and for Windows XP users, Windows Media Audio 9, and Windows Media Audio 9 Pro import and export.

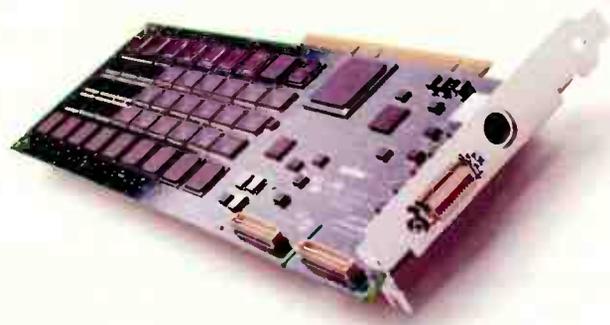
Special exchange program pricing is available for current Pro Tools|HD owners who want to upgrade their systems to HD Accel.

96i I/O — Latest in the line of Digidesign's HD-compatible audio interfaces is the 96i I/O, a multi-channel 24-bit/96 kHz device. The new interface provides 16 1/4" TRS balanced/unbalanced line level inputs, as well as a pair of 1/4" TRS balanced/unbalanced line level outputs. Stereo digital I/O is supported via coaxial (RCA) connection. Connecting multiple units can provide up to 96 inputs (depending on Pro Tools configuration).

Similar to Digidesign's existing 1622 interface, 96i I/O is aimed at Pro Tools users who have extensive arrays of synths and keyboards, as well as external hardware effects processors.

Impact — Also announced by Digidesign was Impact, a "console-style" mix-bus compressor plug-in with support for up to 7.1 channel operation at sample rates up to 192 kHz. Impact is intended to provide not only the look and feel of a classic mix-bus compressor, but to sound like one, too. In addition to an easy user interface, Impact includes both an "analog" VU meter and "LED" meters. A sidechain input allows any Pro Tools audio track to serve as an external key. Impact is the first TDM plug-in to be optimized for use on HD Accel cards.

Digidesign also previewed upcoming software functionality; new features in future versions of Pro Tools will include support for Avid Mojo (a video accelerator/I/O peripheral compatible with Avid video files), AVOptionV10 (a 10-bit video I/O peripheral that's fully compatible with files created by Avid's new Media Composer Adrenaline) support, TrackPunch (ability to punch in during playback on any track using track arm buttons — especially important on dubbing stages), and DigiDelivery network digital transfer, which allows fast, easy transfer of any file over a network or via Internet. DigiDelivery provides secure, password-protected transfers of multi-gigabyte files such as Pro Tools Sessions.



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COMING ATTRACTIONS

Mackie Spike

by Craig Anderton

"Coming Attractions" are previews of new products that haven't arrived in the marketplace. These aren't product reviews, but are designed to bring you up-to-the-minute information on the next generation of cool recording tools.

Hard disk recording for the masses?

What is it? An inexpensive, cross-platform, compact, hardware+software recording system for high-resolution audio.

Who needs it? Those who want to go 24/96 without hassling their bottom line or taxing their brain.

Why is it a big deal? Although well known for inexpensive mixers, this is the first time Mackie has dropped down into the budget hard disk recording range.

Shipping: 4th quarter 2003

Price: \$419

Contact: Mackie Designs,
www.mackie.com

Proponents of computer-based recording systems cite flexibility as the big advantage, while those who favor all-in-one "workstation" recorders commend the out-of-box ease of use. While numerous hardware/software solutions have tried to make setting up a computer-based system as simple as a workstation (e.g., Digi's Mbox), Spike comes with the Mackie pedigree — the company that brought affordable mixing to the masses. Can lightning strike twice?

Spike consists of the strikingly designed XD-2 audio/MIDI

interface for portable or tabletop applications (which, come to think of it, does look kind of spiky), and recording software. The interface is a two-channel, USB-compatible, cross-platform box with drivers for ASIO 2.0, WDM, and OS X Core Audio. It supports 24-bit resolution and sampling rates up to 96 kHz, while folding in two Mackie mic pre's with gain controls, low frequency rolloff filter, switchable 48V phantom power, and three-LED level meters. The preamps are claimed to offer the low noise and distortion characteristic of Mackie mixer mic pre's.

Audio I/O consists of combo-type input jacks that support line level, instrument level, or XLR mic-level inputs, along with stereo monitor and headphone outs (each with an associated level control). Digital I/O includes coaxial S/PDIF and MIDI I/O. To bypass latency introduced by the computer system, Spike offers direct monitoring via a mix knob that allows sending the input directly to the monitor outs.

In addition to these "bread and butter" functions, the big surprise is that Spike integrates an Analog Devices SHARC DSP chip that offloads processing functions (four-band parametric EQ, compressor/limiter, and gate/expander) from the host CPU. These processors can be routed serially, in any desired order, for each input or output channel. The same DSP effects can be used for a stereo mixdown

pass, accessed via the USB connection. The hardware DSP also allows low-latency monitoring through effects while recording.

Bundled software includes Raw Material Software's Tracktion, a cross-platform, multitrack audio/MIDI hard disk recording host/sequencer designed for ease of use. It provides unlimited track count (dependent on your computer), VST and VSTi plug-in support, automation, several plug-in effects, and soft synths — all glued together by a drag-and-drop oriented, single-screen interface. Ableton Live Mackie is a customized variation of Ableton's award-winning Live software, optimized for loop-based recording and live performance applications. Also part of the deal: the Nomad Factory Warmer-Phaser XD-78 frequency/panning modulator with tube emulation, based on the Blue Tubes plug-in bundle.

Although some might argue that computer-based recording has become far easier over the years, there are still those looking for something as close as possible to plug-and-play. The inclusion of the SHARC chip is a major bragging point for Spike, and brings something new to the mix. Whether Spike manages to convert hardcore computer-phobes to the world of hard disk recording remains to be seen, but it won't be for lack of trying.



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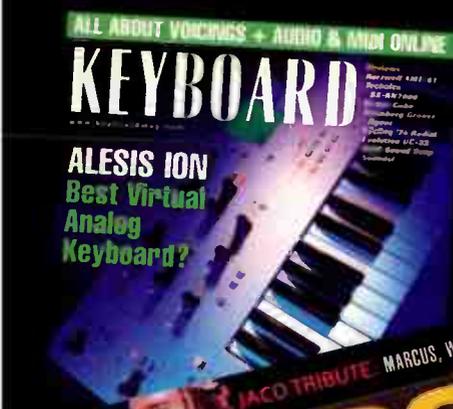
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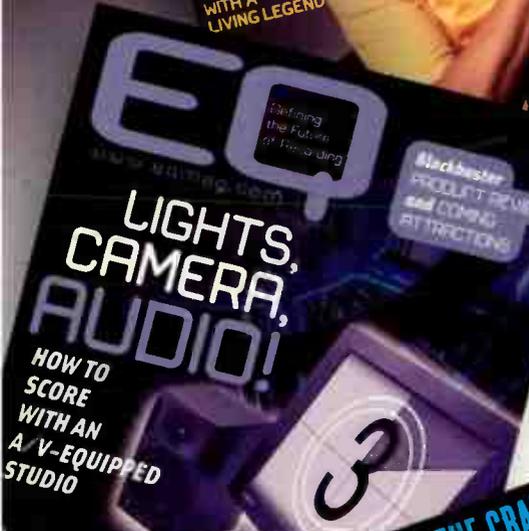
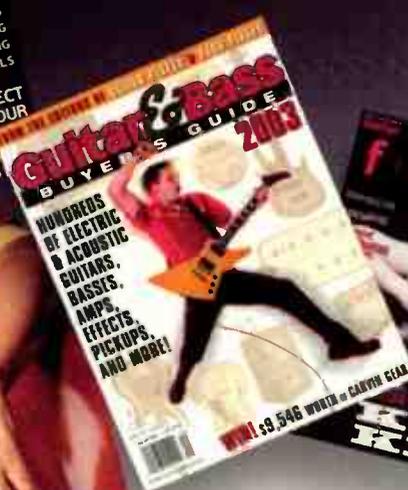


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COMING ATTRACTIONS

"Coming Attractions" are previews of new products that haven't arrived in the marketplace. These aren't product reviews, but are designed to bring you up-to-the-minute information on the next generation of cool recording tools.

Garritan Personal Orchestra

by Greg Rule

A price/performance breakthrough in virtual orchestra technology?

What is it? A sampled orchestral toolkit for Mac and PC that can run standalone or as a plug-in (VST, DXi, RTAS, AU).

Who needs it? Any computer-based musician who craves realistic orchestral sounds with minimal fuss and cost.

Why is it a big deal? An affordable virtual orchestral tool that promises to set a new price/performance standard.

Shipping: Soon, if not by the time you read this.

Price: \$249

Contact: Gary Garritan, 360-376-5766, www.garritan.com

Perhaps you caught a glimpse of Personal Orchestra in last month's Product Spotlight section. Now we'll take you a couple of steps deeper into this bang-for-the-buck breakthrough on the verge of its official release.

Most of you are familiar with the name Gary Garritan, and the excellent work he has done with the high-end Garritan Orchestral Strings library (reviewed Feb. '03) and GigaHarp. It may come as a bit of a surprise to see what Gary has cooked up now — a complete virtual orchestra toolkit for the jaw-dropping low price of \$249.

Featuring some of the world-class instruments from his existing libraries (Stradavarius, anyone?), Personal Orchestra gives you a total orchestral sample library, a sample player, and a notation program in one ultra-affordable, cross-platform package. Multisampled strings, brass, woodwinds, and percussion are provided, as well as a few unexpected surprises, such as a Steinway Concert Grand piano, Wurlitzer and Venus Concert harps, a Rudolf von Beckerath Concert pipe organ, a harpsichord, and more.

"Personal Orchestra allows you to create realistic sounding orchestral music quickly, easily, and right out of the box," promises Garritan. "Save time. No confusion, no clutter, and no steep learning curves. Just

load an instrument and play. And it's compact enough to run on a laptop computer for the musician on the go."

Here's a breakdown of instruments:

Strings: solo Stradivarius violin, Solo Gagliano violin, 6 violins to create ensembles, 12 first-violin section, 10 second-violin section, 22 violin section, solo viola, 3 violas to create ensembles, 10 viola section, solo cello, 3 celli to create ensembles, 8 cello section, solo double bass, 3 double bass to create ensembles, 7 double bass section, harp 1 (Venus), harp 2 (Wurlitzer), harp glissando package.

Brass: solo C trumpet (with and without mutes), second/third trumpets, hall trumpet (overlay *f*), piccolo trumpet, 2 solo French horns (with and without mutes), third/fourth/fifth/sixth French horn, hall French horn (overlay *f*), solo tenor trombone (with and without mutes), second/third tenor trombones layer trombone (overlay *f*), 2 solo bass trombones, 2 solo tubas, solo contrabass tuba, hall tuba (overlay *f*).

Woodwinds: piccolo, solo flute, second/third flute, alto flute, second/third alto flutes, bass flute, 2 solo Oboes, fourth/fifth/sixth Oboes, 2 solo English horns, third/fourth English horns, solo B \flat clarinet, second/third clarinet, E \flat clarinet, bass clarinet, second/third bass clarinet, contrabass

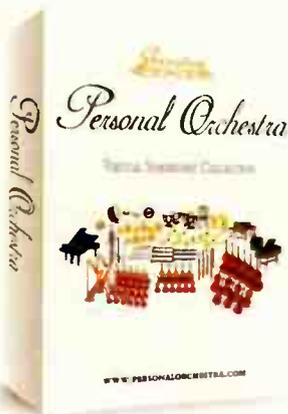
clarinet, 2 solo bassoons, third/fourth bassoons, two solo contra bassoons.

Percussion: timpani, wind machine, Grand Symphonic marimba, vibraphone, glockenspiel, xylophone, tubular bells, bass drum (adjustable fundamental), snare drum, orchestral cymbals, gong and tam-tam, triangles, crotales, hand bells, mark tree, castanets, ratchet, sleigh bells, assorted percussion.

Keyboards: Steinway Concert Grand piano, duo 1 & duo 2 pianos, concert pipe organ, harpsichord, celeste.

Solo instruments and ensembles — Personal Orchestra provides both. The Ensemble Maker allows you to build your own duos, trios, quartets, ensembles, and sections from individual solo instruments. Personal Orchestra also offers advanced programming features, such as legato and variations in articulation.

Personal Orchestra is RAM-based (no streaming required) and will run on MacOS and Windows platforms, either as a standalone program or as a plug-in. The instruments can also be loaded into Native Instruments' Kontakt. And look for new expansion sets in the future. "Add-on instruments, articulations, features, and enhancements will be offered," says Garritan, "so your investment is protected as technology progresses."





Downloading Music

Have you heard of Apple's iTunes yet? Apple started offering MP3s for download at \$.99 per song. You can log on and listen to a 30-second segment of any song, and if you like it, you can buy it. After four months in operation Apple had delivered over 10,000,000 songs. It's all legal. Apple has licensed the material from the record companies and pays the artist their royalties. It points out one important fact: If you offer a good product at a reasonable price, people will pay for it because it's the right thing to do. Almost the entire product line available through iTunes is also available on the Internet for free, but given the choice, most music lovers will gladly pay for their entertainment.

Let's look at the current system. The record company puts 10 songs on a CD and ships it to the stores. The CD sells for around \$16, although I just saw news that record companies are going to lower the prices of CDs because *nobody is buying them!* So, where was I . . . oh, yes. If you just like one song from your favorite artist, you have to buy the entire CD.

A Sign Of The Times

The record companies have been gouging consumers ever since CDs were introduced in 1984. While the LP cost around \$1 each to manufacture, the new CD format cost around \$4.50 each. The price of the CD was set at \$14.95 with promises that the price would come down as manufacturing costs declined. In addition to the higher retail price for CDs, record companies deducted \$1.00 to \$1.50 per CD from the artist's royalties for "packaging costs" of the new format. But that's not all; the record companies also reduced the artist's royalty rate on CD. Whatever the artist royalty agreement was for LPs, the record company only paid 75% of that rate for CDs. Unless you are a big name artist, this clause is still in record contracts today. There are no LPs, only CDs, so basically if your lawyer negotiates you a great 20% royalty rate, you will really only get 15% because there is a 25% reduction for CD sales. Some record companies still deduct a \$1.00 per CD special packaging cost.

No wonder the record companies are crying. I would bet you that if the record companies started playing fair, and let you pay for and download only the songs you wanted, that most people would stop downloading bootlegs and start paying for the songs they want. It seems to be working for Apple and iTunes.

Here's another small catch: The record companies have licensed mostly catalog material to Apple, and fewer new or current releases from the top artists. You still have to deal with the big boys, and you still have to pay for more than you get.

If the record companies got into this new mode of selling one or two of the good songs instead of all the fluff, then it would cost the record companies less to produce product. An artist could go in the studio and cut two songs instead of 10 or 12.



New artist development would do better also. If a group has a couple of great songs, then sign them, put out the two songs, and see what happens. If the new artist flops, then the record company is only out a fifth of the money they would have spent.

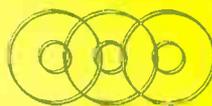
I just got an advertisement from DiscMakers, the company that specializes in small runs of CDs for independent artists. They have a deal with Apple for distribution through iTunes. This means that you can cut your songs, press up some CDs with UPC codes so they can be sold in stores, and have your songs uploaded to iTunes so everyone gets a chance to hear them. If you have a website, you can sell your CDs on your site and DiscMakers will take care of the shipping for you. You could become a mini Amazon.com!

False Starts. There have been attempts to come up with new delivery methods. There are still a few kiosks around that will let you select the songs you want to buy, and then the kiosk burns your CD while you wait. The problem: Limited access to new material from the major record companies.

IBM and Blockbuster tried to offer a service where you could do basically the same thing as the CD kiosk, but on a larger scale. Content would be downloaded to the kiosk via satellite, and besides the CD, you would get the actual color CD booklet. The system never got off the ground. They were never able to get licenses for the songs that would make everyone want the service.

Conclusion. Well, something has to give. Maybe after a few more record companies close their doors, or maybe after the FBI arrests your grandmother because you downloaded some songs on her computer while you were visiting her last spring, or maybe after a few more artists decide to leave the record companies and sell material directly, bypassing the middleman. . . . Wait! How about if the record companies lower the price of CDs down to where they should be; \$9.95 for ten songs by a top artist. Naw, it'll never happen.

I saw a guitar player by the freeway onramp holding a sign that read "Please help feed my family. Download my song 'The Upwardly Immobile Blues' from iTunes. Tell your friends." **EQ**



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Vocals: Pussycat Dolls

In the heart of the San Fernando Valley, just off Ventura Boulevard, sits a two-story office building. But this isn't your typical square office. Covered with platinum plaques from the likes of Lenny Kravitz and the BahaMen, this space is where Sovory, Ralph Churchwell, and Michael Nielson — collectively known as The Triangle — have recorded some of the hottest new music on the charts today.

The team walks us through their recent vocal sessions for Carmen Electra and the Pussycat Dolls.

ARTIST: The Pussycat Dolls, featuring Carmen Electra
TRACK: "Right Now" for NBC's *1-Minute Movies* (debuting Fall) produced by John Wells
STUDIO: Suite F'n Studios
LOCATION: Studio City, CA
PRODUCERS: The Triangle
ENGINEER: Michael Nielsen

■ **Signal Path.** "We put up an Audio-Technica AT4060 on Carmen and ran that through a Boulder Jensen Twin Servo mic pre to an Empirical Labs Distressor, then through an Apogee Rosetta," says Michael. All tracking is done to a Digidesign Pro Tools Mix-Plus system, with wiring by Monster cable.

"We like the Boulder," he continues, "because it's a clean mic pre that's great for vocals. In our studio, we don't have enough space for a bunch of different compressors, so we settled on the Distressor. We think it's the most versatile compressor on the market. As

far as converters are concerned, the Rosetta is a great option. We almost always record at 24/44.1, unless we know we'll be able to deliver the masters at a higher sample rate. We do a lot of the mixing here internally.

■ **Mic Placement.** Using a 4' x 4' Whisper Room, Michael admits that it can be a bit dead sounding. "But we like the convenience of having the vocalist right there

during takes," he says. "It's funny, some times you'll go into a big studio, but build a giant vocal iso box with baffles. You basically end up with a Whisper Room anyway.

"When having vocalists sing in a dead space," he continues, "consistent mic distance is imperative.

When you work in a great-sounding room, you have

a lot more leeway with mic placement and singer movement. But in a vocal booth it's better to go with a great mic, and let the mic do the work."

■ **Processing.** "If we're working with multiple singers, as we did with the Pussycat Dolls, I'll almost always cut the vocals flat," Michael states. "Occasionally I'll add 1 dB high shelf on a Neve 1073, or roll off 50 Hz with the highpass filter. When things are going well, it's important to keep the momentum of the session going; spending too much time tweaking would have really slowed things

down. The Distressor has a transparent highpass filter, so I just went with that and it sounded great.

"The original 'Right Now' had a real sexy vibe. We worked closely with the director and the Pussycat Dolls to recreate the feeling of a '60s era recording, while bringing its sound up to date. We started from the ground up, with Russ Kunkel on drums — who has an office studio just down the hallway. We then laid hand percussion and horns. The challenge was that there are no bass instruments in the arrangement. That leaves a lot of space to work with, so we felt it was important to have a big vocal sound. We had used the AT4060 on the BahaMen for *American Pie: American Wedding*, so we knew it was a perfect choice. It was flattering on Carmen's lead, and consistent from girl to girl. The 4060 is not really an 'over-charactered' mic; it has a touch of vintage flavor and yet is open sounding without being hyped.

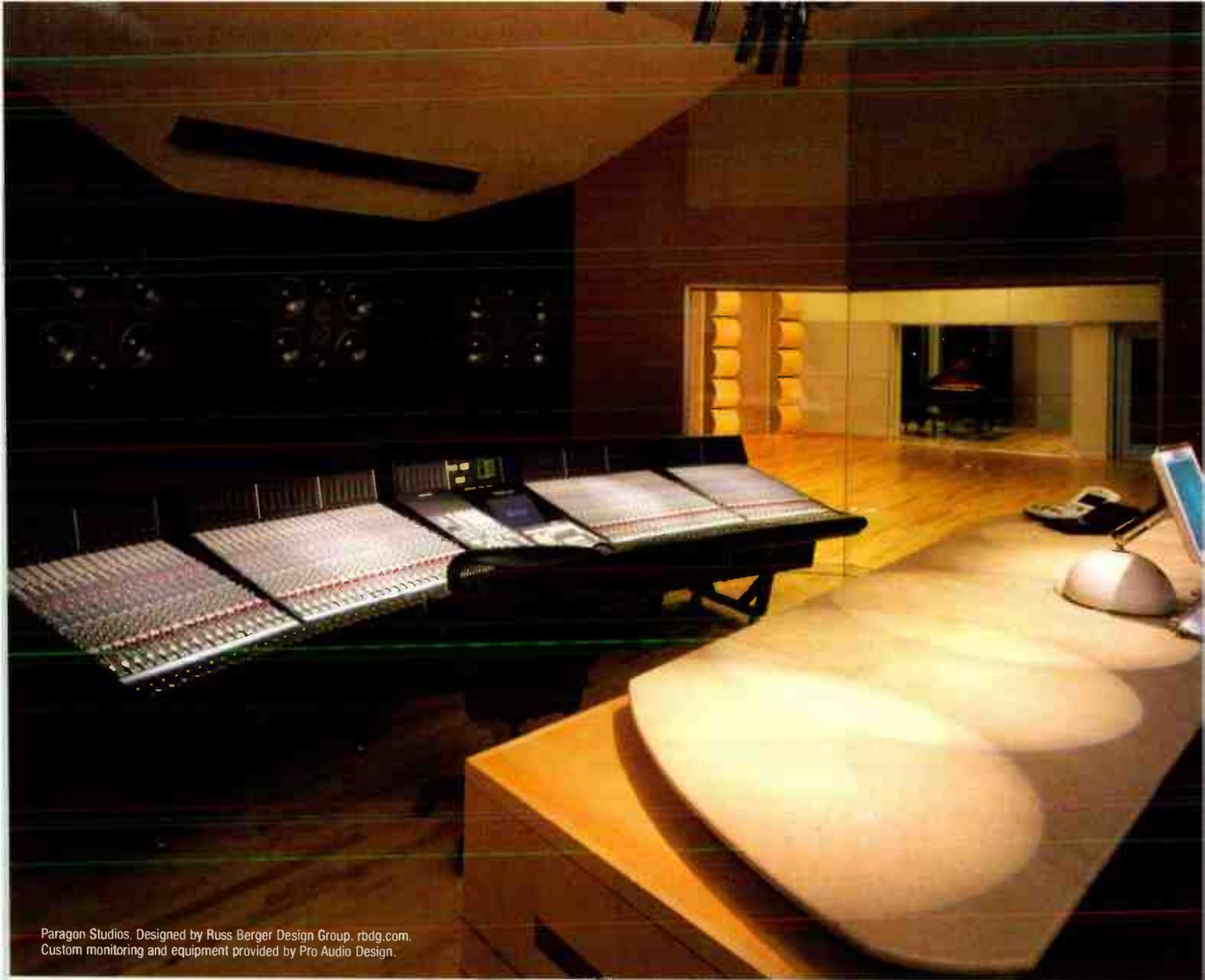
"I try to keep the compressor settings pretty mild unless we're going for a real effected sound, or a singer has dynamic problems. I like the compressor to be dancing around 1 to 3 dB of gain reduction when cutting vocals. We really love the sound of compressed vocals, but prefer to hit them hard at the mix stage, where we can take some chances without ruining a great take. We've found that most singers get louder as they run through the first couple of takes, so you've got to keep an eye out for that. If you set the threshold too liberally early on, you could end up with a squashed vocal sound on those magic second or third takes. Since I wasn't hard limiting the vocals while tracking, I used the Mic Lim feature on the Rosetta. It's our last line of defense against digital clipping and unwanted distortion."

■ **Pussycat Tracks.** "Throughout the recording session, MTV was on hand to document the process for an upcoming reality series featuring the Pussycat Dolls," concludes Ralph. "There were directors, producers, assistants, attorneys, and a parade of beautiful women. It provided an extra challenge of creating a trusting and creative space. Some of the girls had more studio experience than others. In a situation like this, it's important to establish a high level of trust very quickly with everyone involved."

"Putting singers at ease comes natural to us because we're recording artists as well. We know how scary it can be on the other side of the glass," adds Sovory. "You have to quickly get a read on a singer and figure out how to pull a great vocal out of them. We've had opportunity to work with and produce some of the best singers in the world, from James Brown to Lenny Kravitz. From them we've learned that there really is no substitute for a great performance. With less experienced singers, you might need to give a quick mic technique lesson, while others might need you to jump up and down in front of the vocal booth window. That's where having three people in The Triangle really benefits us. We each have very different personalities, so between the three of us we're usually able to connect with whomever's at the mic." **EQ**



(L to R) Robin Antin, Ralph Churchwell, Cyia Batten, Sovory, Carmen Electra, Michael Nielsen, Erica Reiss



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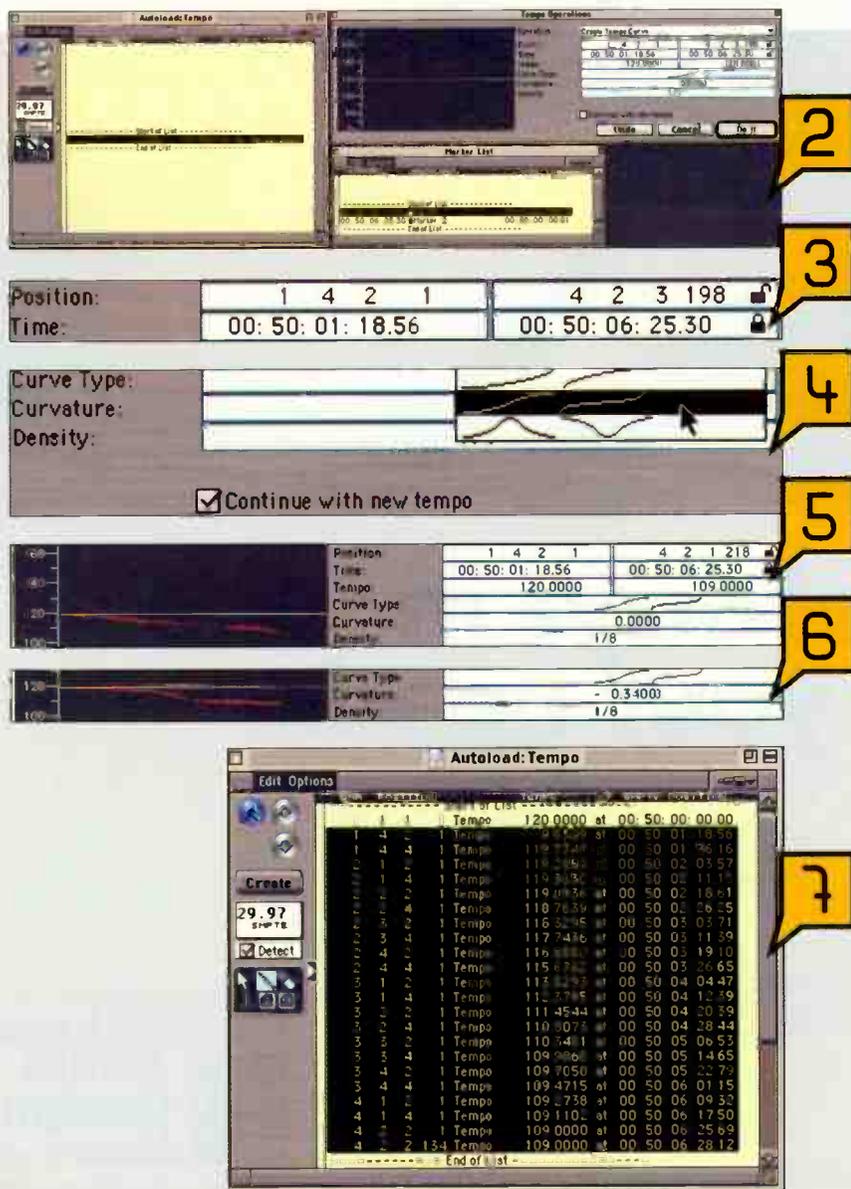
Emagic Logic Audio

Creating Smooth Tempo Changes

Objective: Use Logic's built-in tempo calculation features to create a smooth tempo change between two SMPTE locations.

Background: Logic has a number of tempo-related features, including the ability to create smooth tempo changes over a specified duration — all you need to do is provide the start and end points. Logic can then create a tempo "curve" that will either speed up or slow down the song to whatever new tempo you choose. This is critical for sequencing music cues that exactly hit specific SMPTE locations.

Step by Step: Manually determining tempo changes so musical events hit at specific times can be difficult, but Logic's Tempo Operations window makes it easy.



- 1 Insert two markers (you can do this quickly by setting up the "Create Marker w/o rounding" key command). The first marker should be the start of the tempo change; the second should be where you want to arrive at the new tempo. (I often work with markers locked to SMPTE locations; these markers help me decide how to choose tempos and compose transitions.)
- 2 Open the Tempo Operations and Tempo List Editor windows from the Tempo submenu. Lock the two marker SMPTE positions in the Marker window, then arrange the windows so your screen looks something like Step 2.
- 3 Select the first marker. Then turn your attention to the Tempo Operations. Assuming the end SMPTE location is where a scene changes or an on-screen event occurs, we don't want its position to change, so lock it by clicking on the padlock icon. Be sure to lock the *time* and not the *position*.
- 4 Click "Continue with new tempo," then choose a tempo curve type from the drop-down list.
- 5 Drag the "destination" tempo value up or down accordingly (or you can simply type it in). Notice how the curve is just a straight line?
- 6 To change the contour of the line, adjust the "Curvature" value — positive and negative amounts will produce different shapes.
- 7 Click "Do It." Now take a look at the tempo list. A series of tempo changes has been created to produce a smooth change from one tempo to another, ending at the SMPTE location you set.

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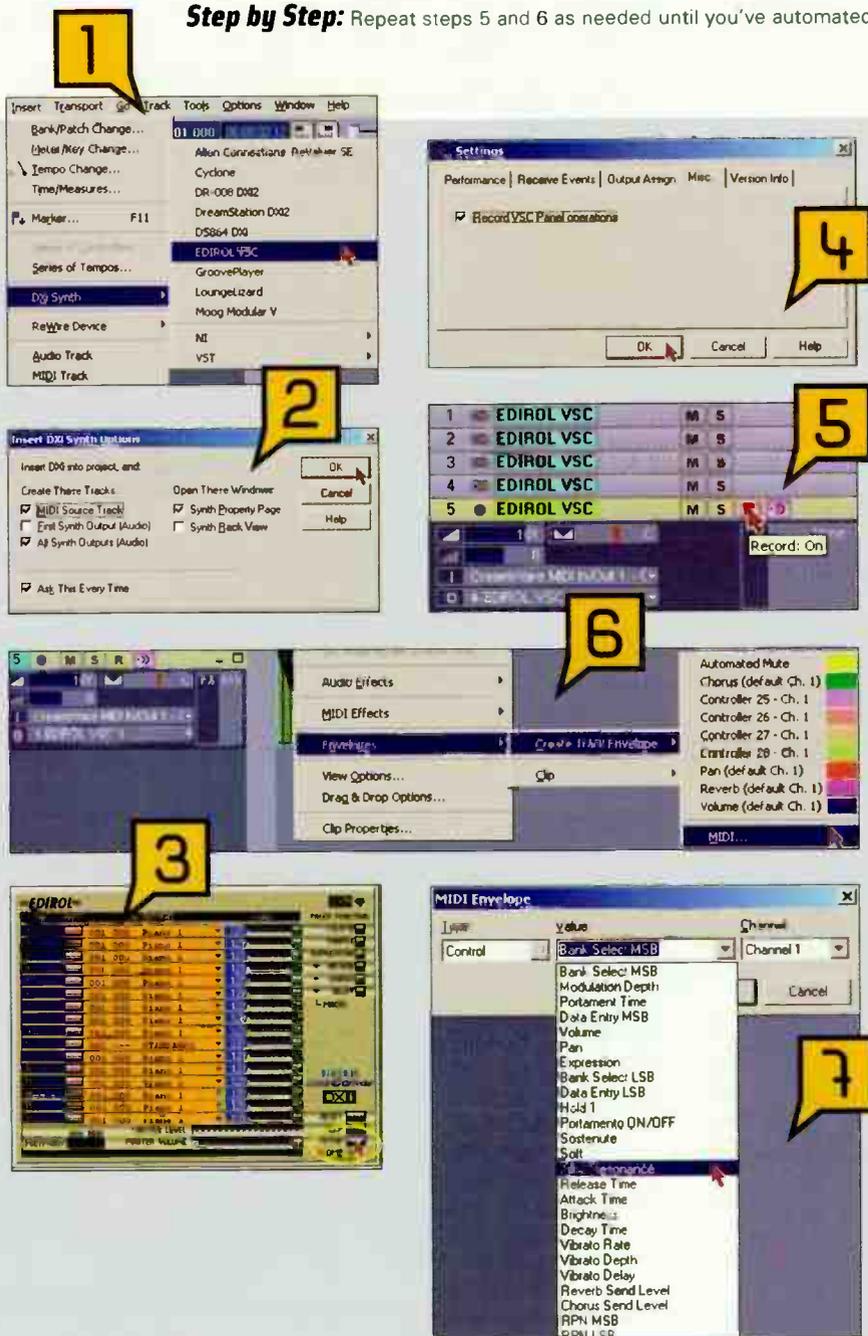
Cakewalk Sonar

Automating the Edirol VSC

Objective: Take advantage of the often overlooked automation options in the Edirol VSC soft synth.

Background: Edirol's VSC (Virtual Sound Canvas) comes bundled with Sonar. While it's not the "General MIDI Synth of the Gods," its extremely low CPU drain makes it ideal when you're sketching out a song and need lots of instances of a soft synth. Furthermore, it has considerable automation potential.

Step by Step: Repeat steps 5 and 6 as needed until you've automated all the parameters you want to tweak.



- 1 From the Insert menu, go DXi Synth > Edirol VSC.
- 2 Check MIDI Source Track and Synth Property Page (so you can see the VSC when it opens up). To use multiple outputs, check All Synth Outputs (Audio).
- 3 When the VSC appears, click Setup.
- 4 Click the Misc. tab, check Record VSC Panel Operations, then click OK.
- 5 Arm the VSC's corresponding MIDI control track for recording (not automation, just recording). When you start recording, move the VSC panel faders as desired. On playback, the faders will move to reflect the automation data.
- 6 The VSC will respond to even more parameters using envelopes. Right-click on the VSC's MIDI track in the Clips View, and go Envelopes > Create Track Envelope > MIDI.
- 7 Click on the Value drop-down menu to see a list of automatable parameters. These include the ones that can be recorded from the front panel along with several others.

Tip

- Check out the other *Setup* tabs. *Receive Events* has a useful MIDI event filter, *Output Assign* matches MIDI channels to one of the four outputs, etc.
- The little arrows to the left of the reverb, chorus, and delay functions call up presets.

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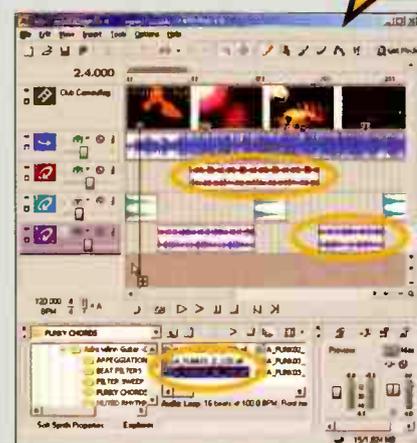
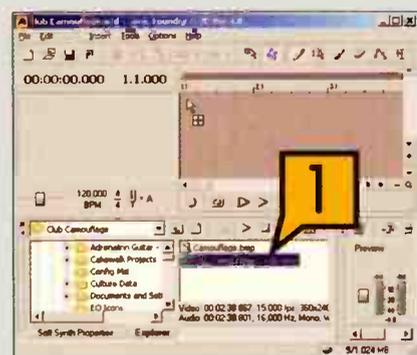
Sony Acid Pro

Add a Sound Track in Acid to a Video File

Objective: Load a video file into Acid, add a sound track, then export the compl of several video formats.

Background: You can load an AVI, MOV, or WMV format video into Acid, where first track as a video strip or in a separate video window. As you navigate through video follows along.

Step by Step: If you want to render the video in multiple formats, repeat steps



- 1 Click file menu
- 2 The video strip
- 3 Draw and select
- 4 When file
- 5 You export quick window (MP3 choice)
- 6 Two settings audio render

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Digidesign Pro Tools

Auto-Fade to the Rescue

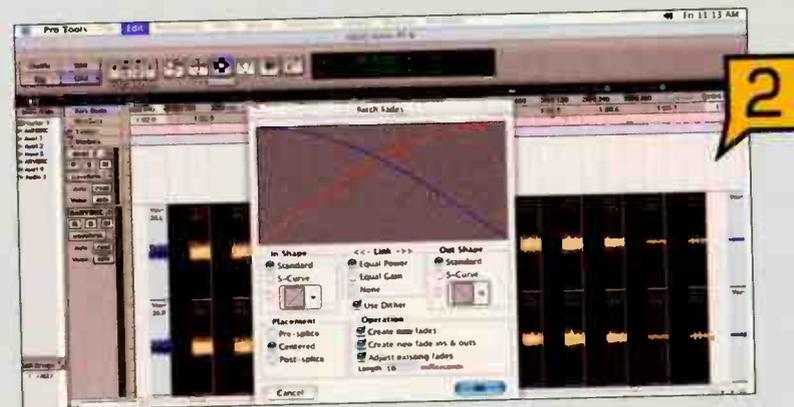
Objective: Save time, wrist fatigue, and headaches with this oft-overlooked (or misunderstood) feature in Pro Tools.

Background: Slicing audio files into tiny, rhythmically timed pieces is a great way to add excitement to a track (see Power App Alley, June issue, page 101). The time and hassle involved in drawing dozens — sometimes hundreds — of microscopic fades, however, can sour even the most seasoned Pro Tooler.

Step by Step: If you haven't discovered this feature, you're in for a treat. And only three simple steps are required!



1 With your audio pre-sliced, use the marquee tool to select across the entire region of slices you'd like to add fade-ins and -outs to.



2 Type *Apple-F* or choose *Fades* from *Edit* menu to access the fade options. Then select the fade curve you'd like to apply to the sliced audio pieces, and click *OK*.

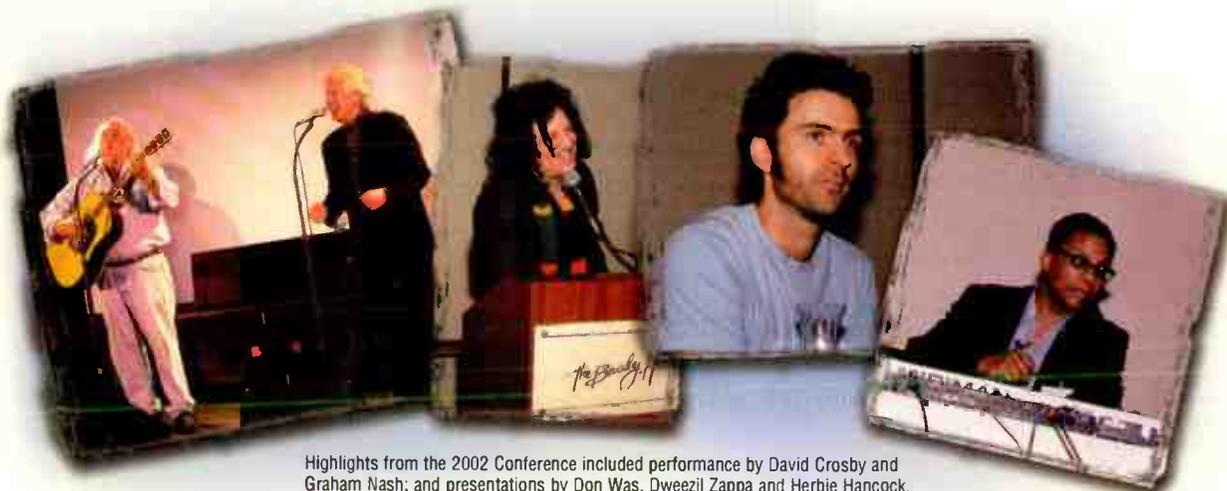


3 Now sit back and watch Pro Tools automatically draw the fade-ins and -outs for every slice in the selected region. If you've previously done it the hard way, manually piece by piece, you'll probably be doing cartwheels about now — especially if you're a BT-type who likes to create hundreds of sliced elements within a track.

tip

■ Once you've created fades for the slices, you can render the entire section as a new contiguous audio file by selecting the region and typing *Option-Shift-3*. The same result can be achieved by using the *Duplicate* plug-in from the *AudioSuite* menu. Be sure you've selected *Create Continuous File* when doing so.

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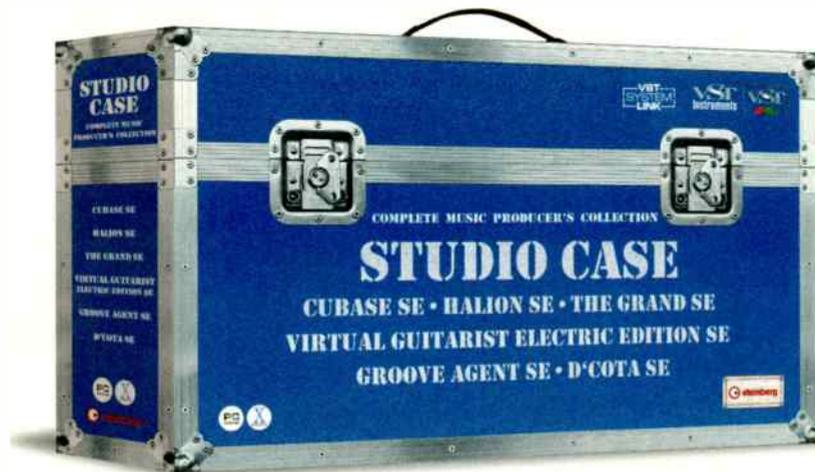
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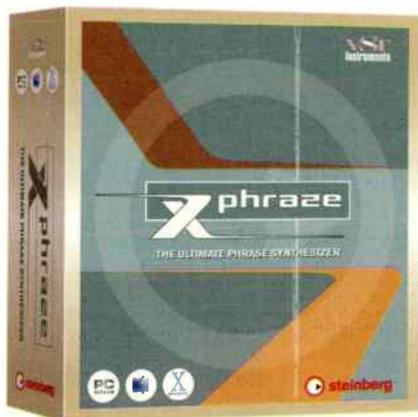
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MOTU MachFive

Quickly create soundbanks

Objective: Drag multiple samples to tap the power of automatically generated keymaps.

Background: Keymaps can be a pain to create. Unfortunately, this is one of the primary things you want to do with a sampler. Fortunately, MachFive makes this process simple.

Step by Step: You're just a few steps away from creating banks of useful sounds very quickly.



- 1 Open MachFive in your audio application. Click the New Soundbank button, then the New Preset button.
- 2 Locate the samples on your hard drive that you wish to import.
- 3 Drag the selected samples into the MachFive window. MachFive will copy the samples and perform file management for you. You may even delete the original files from your hard drive after import if you like.
- 4 MachFive will ask you how to treat the samples. In this example, we want to lay out the samples chromatically.
- 5 Alternatively, you can create velocity-switched sample stacks by dragging samples onto a specific key.
- 6 Select the Velocity Switched option, and MachFive will create equal-sized velocity zones based on the number of samples you are importing.

tips

- Drum samples can be found in abundance on the Internet. Look for single-hit samples of popular drum machines and drag these into MachFive all at once.
- A velocity-switched sample can be applied to a single key or an entire range. Drag the samples into the "drag samples here" area instead of a single key to accomplish this.
- Samples can be dragged from virtually anywhere, not just from the Finder. For example, in Digital Performer, you can drag samples from the Soundbites window, the Tracks Overview, and the Sequence Editor.

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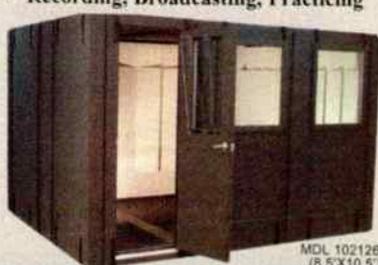
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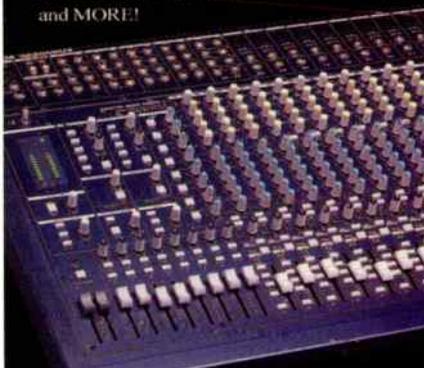
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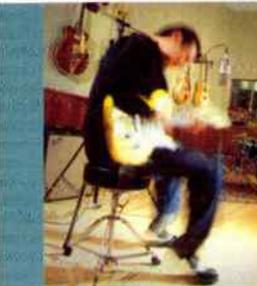
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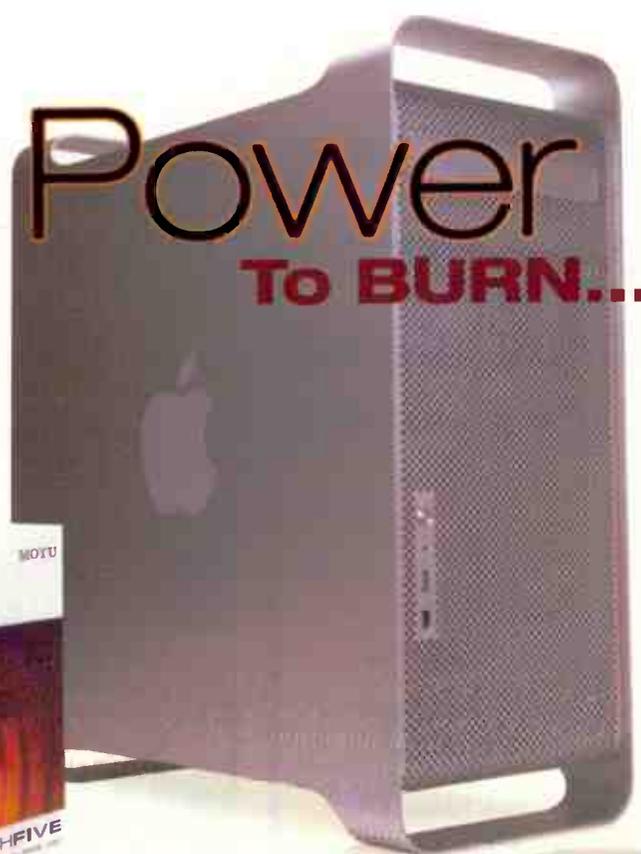
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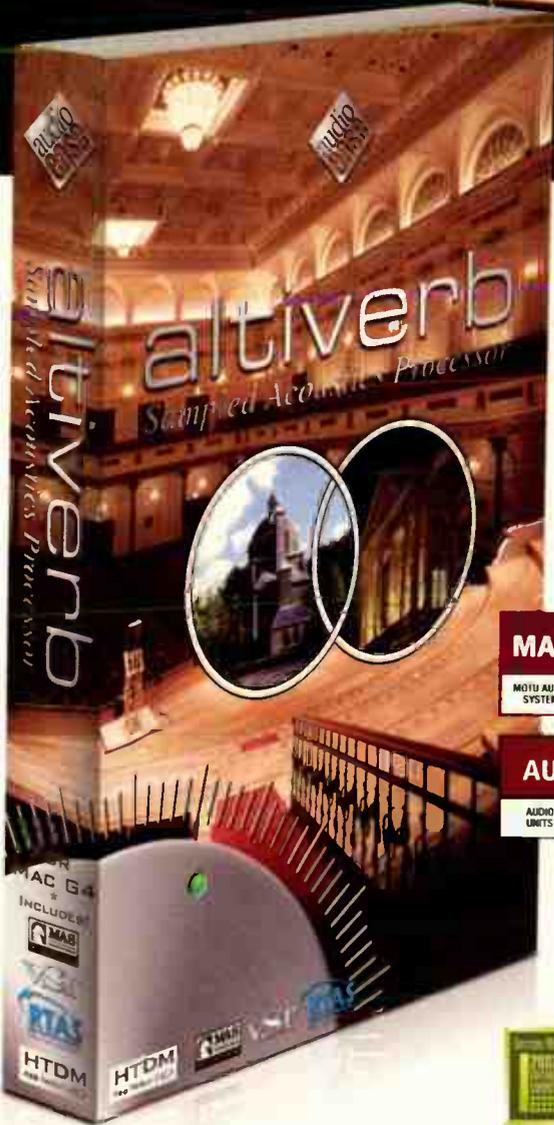
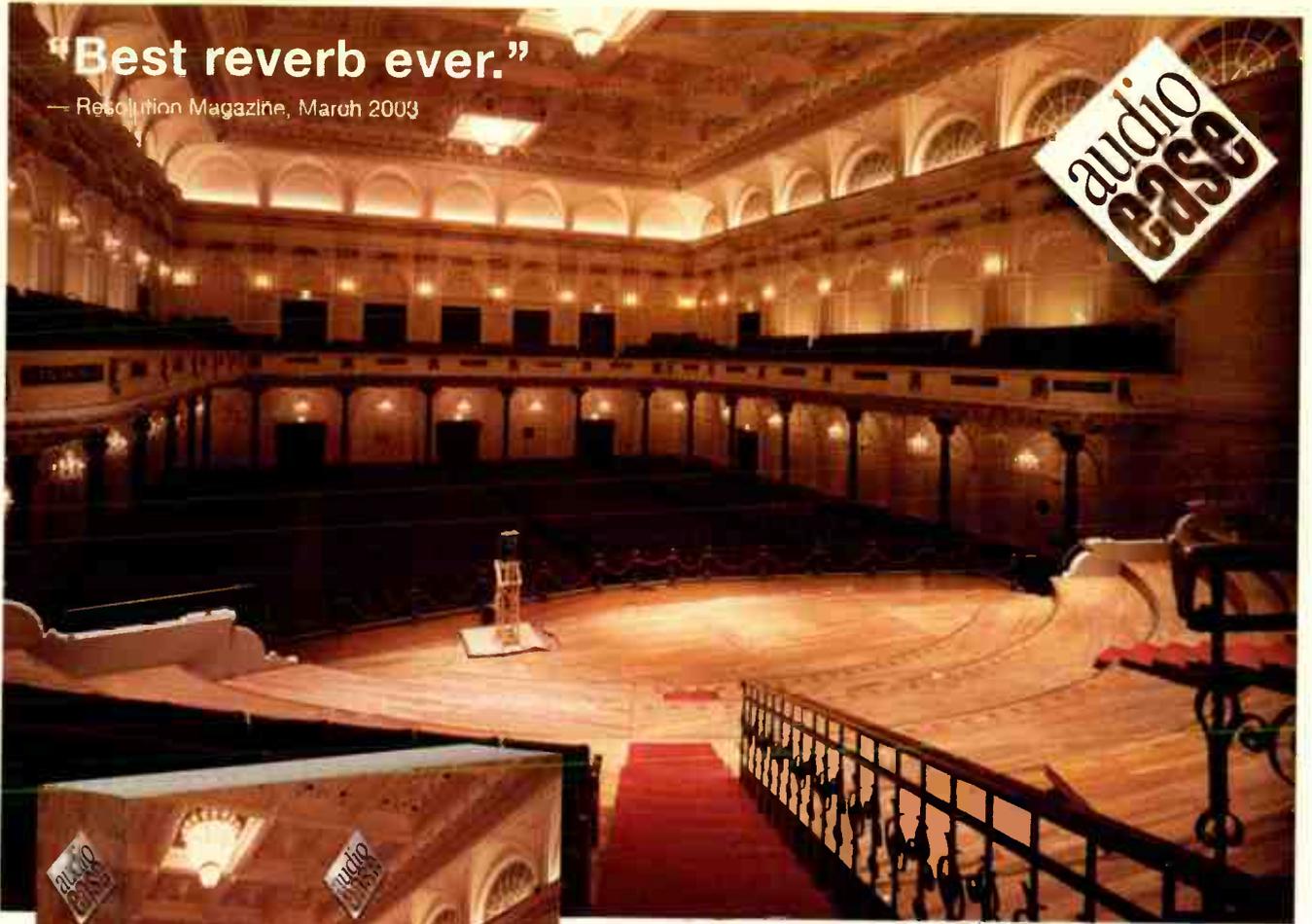
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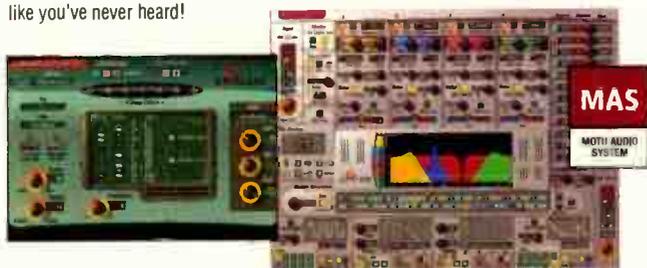


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Antares Auto-Tune™ 3 and Filter™

Two new MAS plug-ins for DP4 — a classic and something new

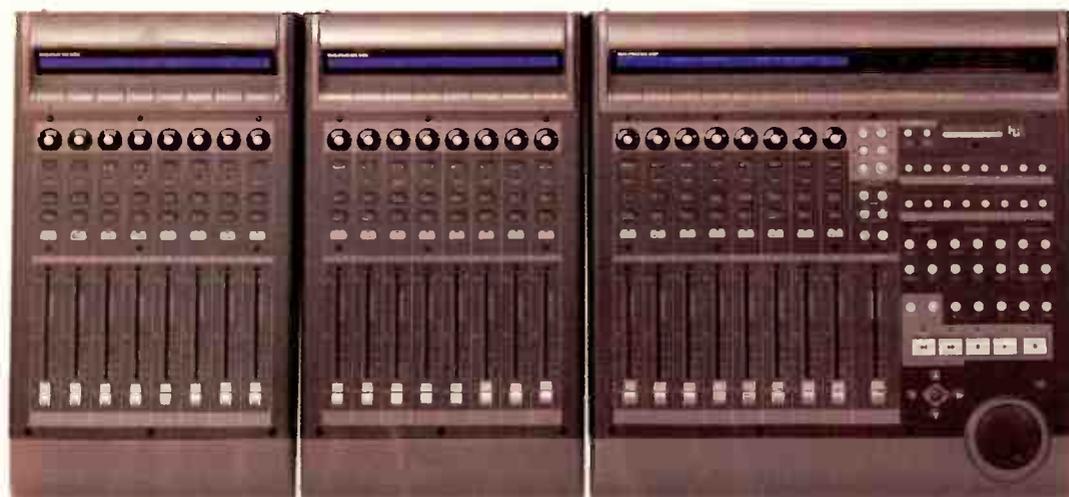
Antares brings two essential plug-ins to your DP4 mix. The legendary Auto-Tune is the "Holy Grail" of pitch correction. The all-new Filter™ plug-in delivers filter effects like you've never heard!



Mackie Control Universal & Extender

Automated hands-on control for the DP4 studio

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. Mackie Control delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MOTU Digital Performer engineering team. Mackie Control brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on Digital Performer itself.



Native Instruments B4

This virtual instrument classic is now available for DP4 as an AU

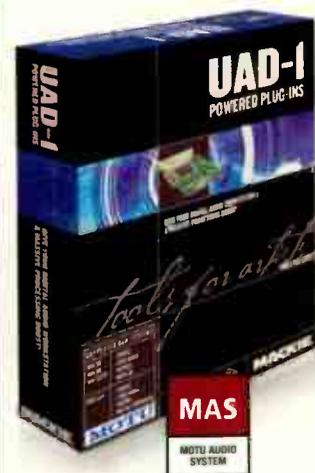
The B4 is another classic keyboard from the 20th century which Native Instruments brings into the studio and onto the stage of the 21st century. The B4 is a complete virtual tonewheel organ, capable of reproducing in authentic detail the sound of the legendary B3 organ and rotating speaker cabinet, including tube amplification and distortion. Beneath the attractive, photo-realistic vintage-looking graphics operates an up-to-date audio engine, with perfect sound and lots of options for fine-tuning, all with full MIDI automation. This instrument is a must-have for every DP4 studio. Includes a full set of 91 tonewheels, photo-realistic graphics in the original look, full MIDI automation and many options for easily fine-tuning the sound.



Mackie UAD-1 Powered Plug-ins

Accelerated effects processing for DP4

Install a UAD-1 card in your Mac and then run dozens of sophisticated effects plug-ins inside Digital Performer without bringing your Mac to its knees. What's the secret? UAD-1 is a custom DSP-equipped PCI card. It's like adding an extra \$20,000 worth of effects gear to the dozens of native plug-ins included with DP. UAD-1 ships with a growing list of powered plug-ins, including Nigel, a complete palette of guitar tones combined with every effect a guitarist could ever need. Authentic vintage sounds include the Pultec Program EQ, a stunningly realistic recreation, and the 1176LN Limiting Amplifier and Teletronix LA-2A Leveling Amplifier, two more analog classics reborn inside Digital Performer. Apply liberally with host CPU cycles to burn.



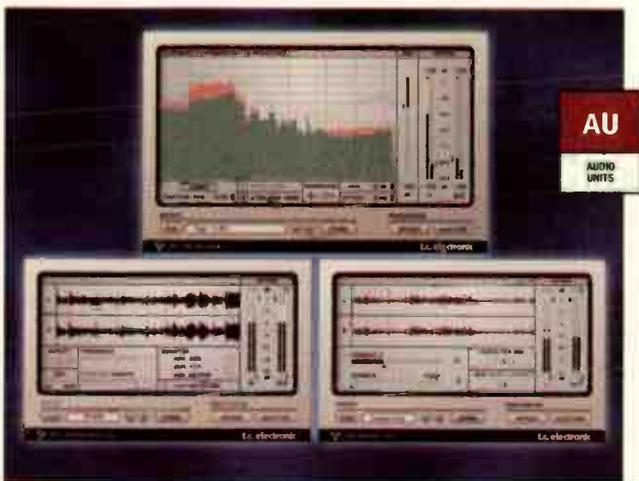
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TC Electronic Restoration Suite

Ground-breaking audio restoration plug-ins for DP4

TC Electronic revolutionizes audio restoration with the new Restoration Suite for the PowerCore platform. Powerful, fast and easy to use, this bundle of hi-end restoration plug-ins provides descrambling, denoising and declicking for the most critical applications in audio restoration. The descrambling algorithm, based on a collaboration between TC Electronic and Noveltech from Finland, employs a breakthrough first-to-market technology and delivers incredible results. Both the Denoiser and Declicker plug-ins are based on TC's many years of experience in the field of restoration, now with extended functionality. Restoration Suite is one of the first hybrid plug-ins, utilizing CPU and PowerCore DSP processing at the same time to combine the best of both worlds for optimal sound quality and best real-time results.



Glyph Technologies GT 308

Ultimate backup and storage for your MOTU desktop system

The Glyph Technologies GT 308 is the perfect all-in-one storage and backup solution for the MOTU desktop studio. A 3U rack-mount eight-bay enclosure, the GT 308 comes with up to six hot-swappable GT Key FireWire drives, perfect as target drives for multitrack audio recording, storing your MachFive soundbank folder or temporary archiving of your DP4 projects. The right-hand expansion bays offer options of AIT backup, SCSI hot-swap receivers, DVD-R/RW and/or CD-R/RW. Like other GT Series solutions, the GT 308 features QuietMetal™ for ultra-quiet performance and Glyph's Integrity™ FireWire hot-swap technology to ensure the best reliability and performance. Included with the GT 308 is the GT 051, a tabletop hot-swap enclosure that makes content more portable and expansion easy.



BIAS Peak 4 — 4 Is More

The ultimate waveform editing companion for DP4 and MachFive

Burns redbook CD's directly. Reads/writes MP3, MP4(AAC™), 24 bit WAVE & more. Batch process dozens or even thousands of files. Ultra fast waveform editing now even faster. Launch directly from DP4. Unlimited undo/redo with graphic edit histories. Unique DSP and looping tools like the stunning new sample based ImpulseVerb™, Change Duration envelope, Harmonic Rotate, Bit Usage graph, Grid Markers from Tempo, plus Repair Clicks, Loop Tuner™, Loop Surfer™, Guess Tempo™, Duplicate, and more. Improved Region Cross-fade Editor and new Content Drawer. Hot swap real-time effects using Peak's included Vbox™ SE VST matrix. Supports Audio Units and Core Audio. Optimized for Mac OS X, multi-processors, and the Altivec G4 Velocity Engine. Includes new Squeeze™ pro compressor/limiter, Freq™ EQ, and more.



ADAM Audio P11A Studio Monitors

Two-way shielded active monitors for your MOTU studio

With groundbreaking innovation in electro/acoustic transducers, no-compromise design, superior materials and the same A.R.T. (Accelerated Ribbon Technology) folded ribbon tweeter found in all ADAM monitors, ADAM's P11A two-way shielded active monitors deliver your mix with astonishing clarity. Connect a pair to the main outs of your MOTU 828mkII FireWire audio interface — or any MOTU I/O — to hear your mixes with unique imaging and outstanding transient response at a very attractive price point. Europe's "Keyboards" magazine held a studio monitor shootout between no less than 25 professional monitor systems, and the ADAM P11A's came out at the top of the heap. One listen, and you'll be hooked, too!



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Room with a VU

by Mitch Gallagher

STUDIO NAME: AGC Audio

LOCATION: Pownal, VT

CONTACT: <http://agcaudio.tripod.com>

KEY CREW: Art Coons, owner/chief engineer

CONSOLE: DDA DMR-12, Mackie HUI

RECORDERS: Otari MTR-90 24-track with Dolby SR, MX-5050 8-track with dbx 911; MCI JH-110A full-track, Nakamichi MR-1, TASCAM 112mkII, Sony PCM-R500

MONITORS: Tannoy 600, Mackie HR-824, Yamaha NS-10M, B&W DM-330i, Roland DS-90

AMPLIFIERS: Hafler P-3000, AVA MOSFET 150, NAD 2400 THX

OUTBOARD: Drawmer DS-201, Summit TLA-50, Rane PE-15, MQ-302S, MLM-82A, HC-6; TL Audio EQ-2011, FMR RNC, dbx Quantum, 160XT, 903, 904, 905, 166A, 1046, 1066, 274, 150X; Presonus ACP88, Valley Kepex II, Symetrix 488, WBS M462B, 466

EFFECTS: Lexicon PCM-81, LXP-5; TC Electronic M-One XL, Alesis Wedge, Roland RE-201, Aphex 104, BBE 862

MICROPHONE PREAMPS: Amek/Neve 9098, Avalon M5, U5; Groove Tubes DITTO, JoeMeek VC1Q, VC6Q, VC6; WBS M470D, dbx 586, 1086

MICROPHONES: Neumann U-87Ai, M147, KM184 [2], TLM-103; BLUE Dragonfly, Baby Bottle; AKG C414B/TLII, Solid Tube, C4000B, C3000B, C2000B, C1000S, D112; Audio-Technica AT4050, AT4047, AT2500E, ATM10A, ATM25; Beyers M-160 [2], M69 TG; Crown PZM-6D, Groove Tubes AM-51, Joe Meek JM-47, Oktava MC-012 [2], Royer R-121, Sennheiser MD-421, MD-504, e602, e604, e609; Shure Beta 58, Beta 52, SM-58, SM-57, SM-81, 556S; Rode NT-4

COMPUTER: Apple Mac G4/733 with Cinema 22 display,

Glyph hot swap drives

DAW: Digidesign Pro Tools HD2, 96 I/O [2], 882/20

STUDIO NOTES: According to Art Coons, "The studio started off as a project enterprise located in the loft on the second floor of the garage. It took probably four months to outgrow the space, which prompted the construction of a 1,500 square foot facility in a wooded section of the property. The new space has been operational for over three years. Present plans include adding a second control room, which will amount to an additional 450 square feet. A second isolation booth will be incorporated into the plans. The existing control room (Control Room A) will turn into the analog suite for 'all analog' projects and tracking drums. The new control room (Control Room B) will be the digital suite for tracking straight into Pro Tools HD, digital editing, and mastering. It will be equipped with a Digidesign Pro Control console. A Mackie HDR24/96 will be located in Control Room A for transferring analog tracks to Control Room B via ethernet. The Mackie will also serve as a digital backup for Pro Tools.

"I play rhythm guitar in the band Psycho Magnet, and we rehearse in the studio during off-hours. My clientele benefits from this due to the fact that all the band instruments are available for their use: six Les Pauls, various Fenders (Strats, Teles, Jaguar, etc.), Paul Reed Smith and Steinberger electric guitars, Ovation acoustic guitar, basses (Tobias, Fenders, Carvin, Ibanez), keyboards and modules (Yamaha, Korg, and Roland), and amplifiers by Marshall, Supro, Fender, Hartke, Music Man, and Torres Engineering, and a Theremin by Bob Moog. The studio drum kit consists of Pearl drums with Zildjian and Sabian cymbals."

HEY, EQ READERS. WANT US TO FEATURE YOUR STUDIO? SEND PICS AND INFO TO mgallagher@musicplayer.com.



Todd Thibaud Band ©Thomas.Neukirchner@t-online.de

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Introducing the 896HD



192kHz FireWire Audio Interface with CueMix DSP™

Turn your computer into a powerful 24-bit, 192kHz digital audio workstation with eight channels of pristine analog recording and playback. The 896HD gives you eight mic inputs, ADAT digital I/O and stereo AES/EBU for a total of 18 inputs and 22 outputs. Connect mics, guitars, synths — even outboard effects — and use CueMix DSP™

on-board mixing to monitor live inputs, create send/return loops to outboard gear or program a separate headphone mix. Control your entire mix with included software, then disconnect your 896HD and use it as a stand-alone mixer. The 896HD delivers plug-and-play high definition audio recording to your computer desktop.



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