

# MIX<sup>®</sup>

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

## Modern Mixing Dilemmas

ENGINEERS ON  
NEW PROBLEMS,  
NEW SOLUTIONS

## The Incredible Shrinking Rig

DOWNSIZING WITH DIGITAL AT FOH

STOP! LOOK! LISTEN!

## An A-to-Z Guide of Powered Monitors



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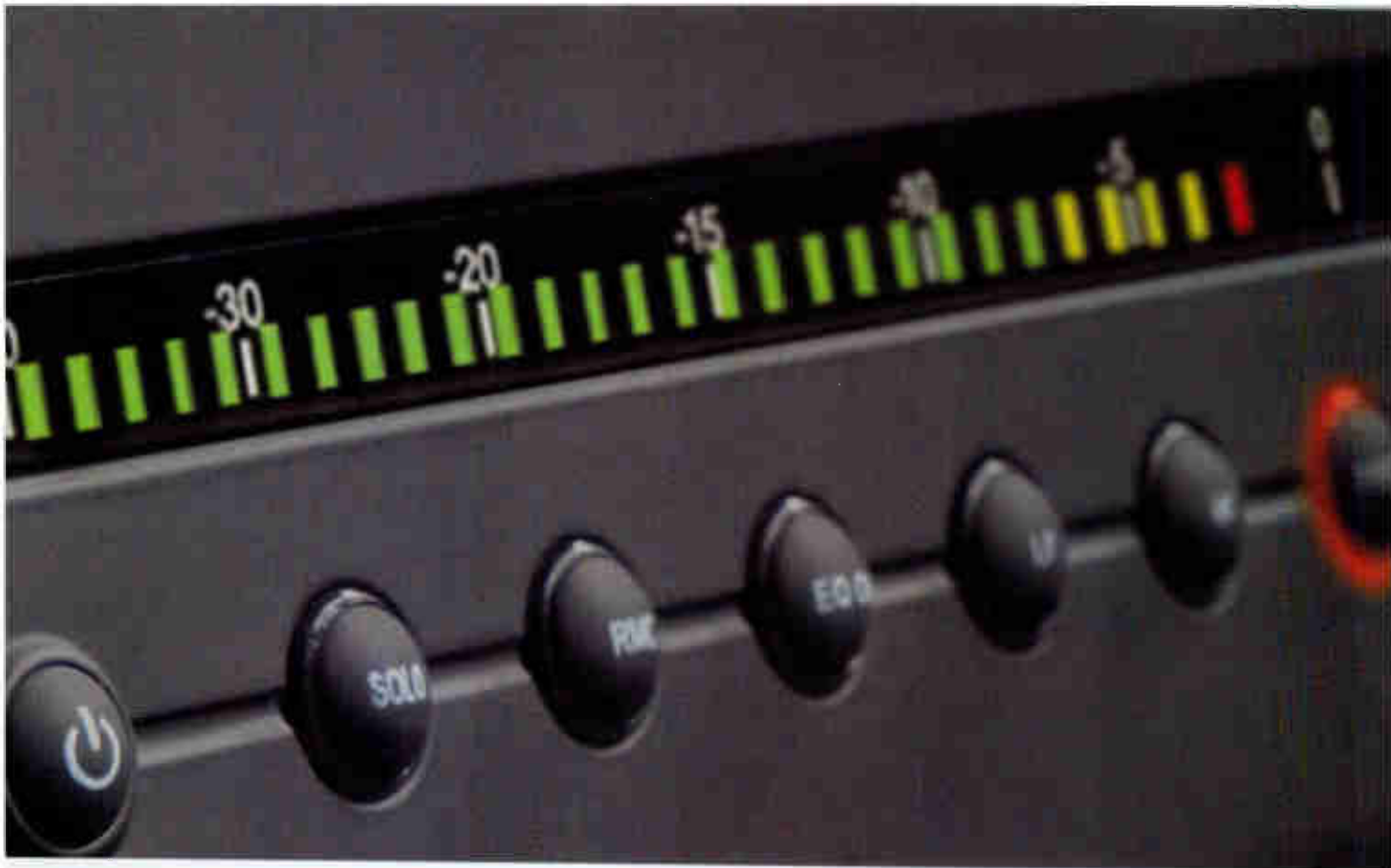
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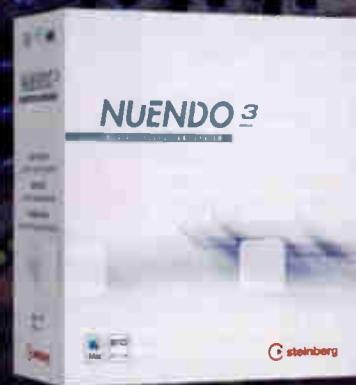
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# MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

February 2006, VOLUME 30, NUMBER 2



**On the Cover:** The Studio at the Palms, the newest addition to George Maloof's entertainment empire, offers full-scale production capabilities for those wishing to combine work and pleasure at this renowned Las Vegas resort destination. **Photo:** Steve Spatafore. **Inset Photo:** Courtesy New Line Cinema.



## features

### 34 Modern Mixing Dilemmas

Things aren't the way they once were before in the mixing world. Previously, format compatibility plagued mix engineers. Today, we're finding mislabeled (or not even labeled!) files, as Jimmy Douglass explains; or Joe Chiccarelli's work on home studio-based projects; or Jack Joseph Puig's "problem" with the seemingly unlimited bandwidth of digital media; or multiple formats, as in the case with Rafa Sardina's latest film score and Paul Klingberg's work on the Farm Aid 20th Anniversary concert.

### 39 The Speaker Takes the Stand

Taking the guesswork out of pairing the correct amp to a speaker, active monitors have been flooding the pro audio field, making it a challenge to find the right pair. *Mix* examines basic features and specs you should consider before opening up your pocketbook, as well as current models that are ready for the picking.

### 48 The Incredible Shrinking Rig

Engineers are creatures of habit. They like to use certain consoles, certain effects, certain mics, certain techniques. Now, throw in the immediacy inherent in a live environment, and you can see why many sound reinforcement mixers rely on their tried-and-true gear. They know it works. But in today's lean economy, the sound reinforcement world is also finding ways to maximize the efficiency of touring in a downscaled environment, with the help of digital consoles.

### 52 Listening to *The New World*

He doesn't make a lot of movies, but when he does, filmmakers take notice. Director Terrence Malick has enlisted supervising sound editor/re-recording mixer Skip Lievsay and crew, working on the new Digidesign ICON at Warner Bros. Post-Production Facilities, to bring the period sounds and atmospheres of early 17th-century America to the big screen.

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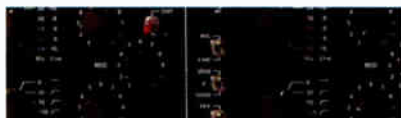


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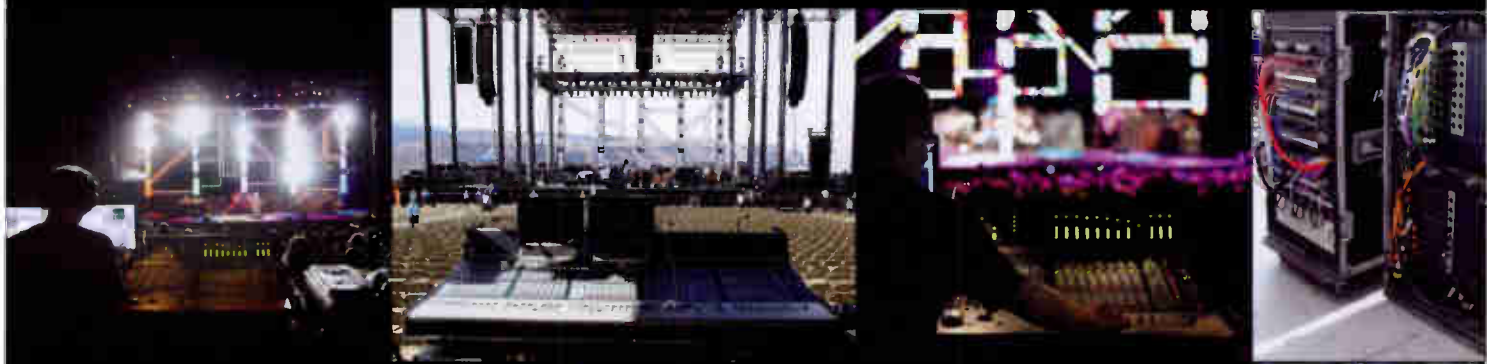
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### **Robbitt Scoville**

(Six-time TEC Award winner and engineer for Tom Petty & the Heartbreakers, Matchbox Twenty, Rush, Def Leppard)



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## Ear School

As an industry, we work with pretty complex stuff. And once we think we know it all, some breakthrough arrives and the learning process starts all over again. So we read; we study; we attend tradeshow, seminars and clinics; and we surf through Web pages, newsgroups and blogs seeking some insight that will give our creations that extra edge. It's gear, gear, gear. Unfortunately, our ears form the one essential link in the audio chain that doesn't come with an owner's manual.

Every engineer learns basic session etiquette—i.e., don't overload digital inputs, don't unplug a phantom-powered condenser mic—but basic listening caveats are often ignored. Besides listening for audio anomalies such as ticks, pops, hiss, rumble, oscillations, cancellations, comb filtering and all forms of distortion, the well-eared engineer should be able to identify instrument aberrations ranging from rattling hardware and snare buzz to noise from valves, frets and drum/guitar/piano pedals. Once the latter has been WD-40'd or duct-taped into submission, the engineer's attention can then turn to listening for performance glitches: intonation, tuning, tempo, poor mic technique or whatever.

The glamour disappears once "take 54" is uttered through the talkback mic, but before you get to that point, take a breather: Let your performer chill out and give your ears a break from the very real problem of ear fatigue. One sure sign of ear fatigue is when you begin losing the ability to concentrate or when you can't hear subtle changes, such as a minor equalization tweak on a soloed track.

Before deciding on mic choice or placement, take a moment in the recording room and actually listen to the source. Even something as predictable as the Fender Twin Reverb/Shure SM57 combo sounds completely different at floor level (where the mic is) than to a listener standing next to the amp. The same goes for players: Guitarists often pump too much treble into amp feeds simply because they're listening five or six feet off-axis.

The listening situation is more complex in the control room, where decisions are based on accuracy of the monitoring environment. Bad monitors will sound bad anywhere, but even the best monitors can (and will be) affected by room placement and poor acoustics—even in the near-field.

There are plenty of good monitors available (the newest are profiled in this issue). However, when auditioning monitors, the key is to find those that are accurate and appropriate to your listening space. As an extension of your hearing system, monitors must provide a true sonic reflection of the input signal, rather than hype and flattery. Sorting out the difference between the two is no easy task, but the quest for great monitors is worthwhile.

A fresh, rested set of trained ears, combined with an accurate listening system, is the first—and perhaps most important step—in creating audio magic. But along the way, try keeping playback levels in check and give your ears a break once in a while. Hearing is priceless.

George Petersen  
Editorial Director

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## Letters to Mix



### THE "HERE AND NOW"

I was delighted to see the mini-feature on Luther Vandross' hit "Here and Now" [November 2005 "Classic Tracks"]. However, having recorded the original song demo, I have a correction to submit.

Terry Steele brought his song "Here and Now" to Theta Sound Studio in 1985 (then in Los Feliz/Los Angeles, now in Burbank, Calif.) to record. Terry had done other projects with us and he was certainly a gifted writer, singer and pianist. At that time, there was no other writer on this song except for Terry.

I had him track the piano on our Yamaha C5 Conservatory Grand (equipped with the Forte MIDI mod) and layered the MIDI stream to one of our DX7s for the Rhodes sound. The combination of acoustic/Rhodes sound was popular at the time with top producers and was the only backing track on this recording. Terry then sang the lead vocals and arranged the backing vocals. I mixed the song, and when it was finished, we knew it was great! It only took about four years for it to find its way to Luther!

When I saw the writer's credit for Luther's version, I was surprised. With the exception of the newly added bridge, Terry had penned the entire tune! As [Nat Adderley Jr.] says in your article, it's true, regarding that demo, [that], "None of us could believe how good it sounded! And I'm not talking about the song itself; the arrangement was nearly all there."

I just thought I'd set the record straight.

*Randy Tobin*

*Owner/engineer/producer*

*Theta Sound Studio*

### REMEMBERING AN OLD FRIEND

I know Denny [Purcell, 1951-2002] left us awhile back, but I have been reminiscing lately about some times with him and I thought it was worth sharing.

I was a keyboard sideman in Nashville working any gig I could get back in 1979. I landed a tour with Gail Davies. Denny was road-managing (in addition to his mastering gig at Woodland Studios) and picked me up at the airport one day. I had been reading *The New Yorker* on the flight and clipped one of those insane captioned single-frame comics called "Some buncha ducks." I have always had a pretty twisted sense of humor, and I didn't know what to expect by sharing it with Denny—mainly because we had only met a couple times up until then.

Denny surprised me by laughing harder at it than I did. Later, he proceeded to start a duck collection, which, as I understand it, grew to pretty lavish proportions during the years. People would find ducks from everywhere and give them to him as gifts. I am truly honored to be at the root of this tradition.

*John F. Salem*

*Senior account executive, KAKE TV*

*Wichita, Kan.*

### AN OPEN LETTER TO MUSIC SOFTWARE COMPANIES

After having made the transition to a completely "virtual" studio within the last year, I find myself spending a ridiculous amount of time dealing with software updates, upgrades, registrations, etc., and as a result, it feels like I spend more time getting ready to make music than actually making music. There are two major areas in which software companies could make all of our lives a little easier: registration/copy protection and staying current (version updates).

Here's a real-life example. Among dozens of other products, I own Native Instruments' Komplete bundle and most of East West's line, all of which use Native Instruments' playback engines. For every one of those plug-ins, I've had to go to their Website before I could even install anything to make sure I have the most recent version. (Install discs are rarely up-to-date.) However, just try finding an obvious Updates link on their homepage—it's a small text link halfway down the page. Then, of course, you have to log in and then you get something about protected updates vs. unprotected updates, and so on. Why all the hassle? If you don't own the software, what good is a "protected" update going to do?

Here's an easy approach: A plug-in window should have its version number plainly visible somewhere, maybe in a corner. You shouldn't have to click on some "magic spot"

or go digging for it. There should be a button (or at least a menu item) that says, "Check for updates." Clicking on this should connect to the company's Website and look for a more recent version and download it automatically if available. I own several computers in my studio, and I also administer several computers for some of my clients. Now multiply the headache of staying up-to-date with each computer I have to deal with, and it becomes a full-time job.

As for copy protection, it's been addressed before, yet companies still punish legitimate users by using time-consuming, inconvenient or just plain bizarre methods while pirates still find ways to use the software for free. I know that companies need to protect their products, but for the sake of our time and sanity, try to find a balance between the need to protect and the need to be transparent.

*Jim Daneker*

*Music production and programming*

*Thompson Station, Tenn.*

### ANCIENT, BUT STILL TICKING

In Eddie Ciletti's "Avoiding a Blue Holiday Anytime" ["Tech's Files," December 2005], he claims that "the PC is a legacy system while Apple's periodic upgrades make older systems obsolete..." and revels in the fact that he is a "legacy dude, hanging on to hardware of all kinds and laughing at the ability to run 20-year-old DOS programs under Win2K and XP."

I'm as tired of the Apple vs. PC debate as the next guy, but I feel a need to get the facts straight. I've been using the Mac Rolodex program Quickfile several times a day since 1986. It runs perfectly on both my ancient Mac Plus and my dual-boot system OS X computer that I use to process .WAV files. My primary database program, Record Holder, which I purchased in 1989, does the same. Apple's Apple Talk allows me to transfer files back and forth easily from my oldest 1980s Macs to my newest Macs.

However, I still enjoyed Eddie's article and fully agree with his advice about the importance of backup and "defensive computing."

*Ryan Thomson*

*Captain Fiddle Music*

*Newmarket, N.H.*

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## RIGHT TRACK/SOUND ON SOUND RENOVATE AND REBUILD



Dave Amlen, Sound on Sound



Right Track's Simon Andrews

The new union of Right Track/Sound on Sound (New York City) has been marked by the renovation of Studio C at the 168 West 48th St. location and the total rebuilding of one of the production rooms, now renamed D1, at 509 West 38th St.

Studio C has undergone a cosmetic facelift and has been outfitted with Sound on Sound's 72-input SSL 9000 J Series console. The main monitor system now includes an Augspurger array, with additional outboard equipment from Sound on Sound's collection.

"The goal is to offer an environment similar to what our clients had at Sound on Sound so they can seamlessly segue to the 48th Street location," said Sound on Sound general manager Chris Bubacz. "Studio C gives us more space than we had at Sound on Sound, and the revamped room sounds spectacular. We've improved on a good thing, and the proof is in the bookings: Two of our largest clients, Ray Bardani and David Bendeth, have block-booked Studio C since it opened on October 27."

The transformation of the production room at the 38th Street location, designed by Larry Swist, required the complete gutting and rebuilding of the space. It was modeled

after Sound on Sound's Studio D, a Digidesign Pro Tools room for recording and overdubs, also designed by Swist.

The redesign will better isolate D1 from the second production room, which is scheduled for a similar build-out in 2006. Equipment in the production rooms will be expanded to include a Pro Tools|HD4 Accel system with a 24-channel D-Command control surface, and an array of keyboards and outboard gear.

## CONCORD BUYS TELARC NEW ENTITY FOCUSES ON INDIE, ADULT MUSIC

Cleveland-based Telarc and its subsidiaries (including Heads Up Intl., which was bought by Telarc in 2000) have been purchased by Concord Records, which includes Peak, Playboy Jazz, Stretch, Concord Picante and Fantasy Records (which was acquired late in 2004). The merged companies will be called Concord Music Group ([www.concordmusicgroup.com](http://www.concordmusicgroup.com)).

Telarc became the first label to commercially use digital recording in 1978 and, in 1983, was one of the first to launch CDs in a joint effort with Sony Corp. Both Telarc and Heads Up have a number of recordings in high-definition and SACD formats. According to Telarc president Bob Woods, "Glen Barros [president/CEO of the Concord Music Group] and I have known each other for some time and I respect the creative indie mentality our companies share, which allows us to respond quickly to the constant change and abundant opportunities in our industry. We'll be a larger entity, but we won't move slowly."

## TELARC VISITS AVATAR

Avatar's (New York City, [www.avatarstudios.net](http://www.avatarstudios.net)) Studio C recently hosted Telarc recording artist Hiromi Uehara (left) recording a piano duet with Akiko Yano. Sushi Kosugi produced and James Farber engineered, assisted by Brian Montgomery.



## TERRY DIANE BECKER BOYLE 1950-2005



Terry Diane Becker Boyle, a recording engineer who worked with artists such as Bonnie Raitt, Jackson Browne, Paul Kelly, Kansas and Taj Mahal (for which she won a Grammy in 2000), died at her home in Marina Del Rey, Calif., on December 19, 2005.

Boyle was an associate professor of music production and engineering at Berklee College of Music (Boston) and became the assistant director of special programs for Berklee upon her relocation to Los Angeles in 2003.

In lieu of flowers, donations may be made to Sound Art (11110 Ohio Ave., Ste. #109, Los Angeles, CA 90025; 310/479-2676; [www.soundartla.org](http://www.soundartla.org)) or the Ted Mann Family Resource Center, 200 UCLA Medical Plaza, Ste. 502, Los Angeles, CA 90095.

# MUSIC AT YOUR FINGERTIPS



*Too many monitors for Creative Group's Troy Kreuger?*

Audio has taken on a huge role at New York City's Creative Group ([www.creativegroup.tv](http://www.creativegroup.tv))—not bad for a studio originally founded purely as a video post facility. For example, the company has introduced its new Instant Access Music Database, designed by mixer/sound designer Troy Kreuger.

"The impetus for Instant Access Music Database was the desire to provide clients with the ability to instantly search music at their convenience," said Kreuger. "Today's post-production environment is demanding greater productivity from producers and the creative personnel. Audio suites that used to be booked for eight-hour sessions are now being booked for two-hour sessions, which means that the productivity has to go through the roof, which this database allows us to do. Producers can

log on, audition and download any of the 500,000 CD-quality tracks that are currently available in the library and then have them incorporated in their mix.

"Creative Group is somewhat known for having this music database," Kreuger continued. "Some clients come here in part to be able to use the database while they're in video rooms; they're multitasking. Again, productivity is the key term here, and to our clients, it provides a huge service. You can't get this anywhere else. Why? Because I built it here and it's one of a kind."

—David Weiss

## ON THE MOVE

**Who:** Stefan Gubi, president of AKG Acoustics

**Main responsibilities:** expanding AKG's position as a leading manufacturer of premium mics and headphones by building on our technical leadership.

**Previous lives:** I spent more than 15 years in the telecommunication industry, mainly with various divisions of Ericsson in positions of leadership. I was recruited to AKG from a CEO position with an Austrian publishing house.

**My favorite thing about this industry is...** it is full of so many diverse people from exciting backgrounds, yet we all share a fascination with the language of music. I have found that it's vitally important in the pro audio industry to be a good listener and to seriously take the advice and feedback I get from our customers.

**The one thing in my office most like my personality is...** a picture of my little daughter. In many ways, we share very similar strengths, and I really like the way she manages to get what she wants.

**Currently in my CD changer:** Billy Joel's *Greatest Hits*.

**When I'm not in the office, you can find me...** during the winter, skiing with my family in the Austrian Alps. In the summer, cycling or hiking with friends or family.



# TEC AWARDS UPDATE 2006 SITE ANNOUNCED, CALL FOR ENTRIES

The Mix Foundation for Excellence in Audio has announced that the 22nd Annual Technical Excellence & Creativity Awards will be held Saturday, October 7, 2006, at the Hilton San Francisco. For ticket or sponsorship information, contact Karen Dunn at 925/939-6149 or [Karen@tecawards.org](mailto:Karen@tecawards.org).

The TEC Awards nominating panel is now accepting product nominations for the 22nd Annual TEC Awards. To be eligible, products must have been released and in commercial use during the period from April 1, 2005, to March 31, 2006.

Categories are Ancillary Equipment, Digital Converters, Mic Preamplifier Technology, Microphone Technology/Sound Reinforcement, Microphone Technology/Studio, Wireless Technology, Sound Reinforcement Loudspeaker Technology, Studio Monitor Technology, Musical Instrument Technology, Signal Processing Technology (Hardware), Signal Processing Technology (Software), Recording Devices, Workstation Technology, Sound Reinforcement Console Technology, Small Format Console Technology

and Large Format Console Technology.

Companies that wish to nominate products should send complete product name and qualifying category, date first commercially available (proof of shipment may be required; beta test sites do not qualify), and a contact name and telephone number.

For Outstanding Studio Design Project, entries must be new studios or rooms, or major renovations completed and in use during the eligibility year of April 1, 2005, to March 31, 2006. Those wishing to nominate studios should send the studio name and location, date completed and name/phone number of the architect(s) or studio designer(s), the acoustician(s) and the studio owner(s).

All entries must be returned by Saturday, February 26, 2005. Send all information to TEC Awards, 1547 Palos Verdes Mall #294, Walnut Creek, CA 94597; fax 925/939-4022;

[Karen@tecawards.org](mailto:Karen@tecawards.org). Forms can also be downloaded from [www.mixfoundation.org](http://www.mixfoundation.org).



## TONIC GOES FULL CIRCLE

Tonic ([www.tonic.tv](http://www.tonic.tv)) has opened Tonic Downtown, located within Full Circle Post ([www.fullcirclepost.com](http://www.fullcirclepost.com)) in New York City. The new location will introduce Full Circle Post clients to Tonic's capabilities in original scoring, sound design and mixing.

Tonic Downtown features a stereo and 5.1 Pro Tools|HD mix room, as well as a stellar staff that includes Emmy Award-winning composers Peter Fish (pictured) and A.J. "Andy" Gundell, sound designer Jun Mizumachi and mixers Bill Cavanaugh, Doug Johnson, Anthony Erice and Juan Aceves.

"Having Tonic onsite is an important addition to Full Circle Post," said Scott Doniger, president of Full Circle Post. "Now, our clients have a complete solution for top-tier mixing, music and sound design available to them, all under one roof."



## INDUSTRY NEWS



Martin Kloiber

Most recently Euphonix's (Palo Alto, CA) CTO, **Martin Kloiber** is now the company's new CEO. Euphonix also promoted **Mike Franklin** to VP of broadcast sales for the Americas...Taking on the same CEO title at Prism Sound (Cambridge, UK)

is **Ian Crichton**. The company also appointed **Juke Box Ltd.** (St. Denis, France) as its exclusive French distributor...Handling consultation on and installation of MW Audio's (Marina Del Rey, CA) studio systems is general manager **Jimmy Church**...Solid State Logic (Oxford, UK) announcements: **George Horton** has been promoted to sales manager for the U.S. Western region, Mexico and South America, and will be based out of the company's L.A. offices; **Phill Scholes** moves from the company's New York office to the L.A. office to replace Horton as Los Angeles service manager; **Jim Motley** has been appointed partnership manager for the XLogic range of products; **Filip Saelen** expands the product marketing department as software product manager; and **Jon Jannaway** is the company's new marketing manager...New regional sales manager at **Shure** (Niles, IL) is **Jim Schanz**, covering the Mid-Atlantic, Ohio Valley, upstate New York and upper Midwest regions...**Biamp's** (Beaverton, OR) new regional sales managers are **Todd Bergum** and **Michael DeFreece**...New distribution deals: **Inter-M Americas** (Chester, PA) named **Metro Tek** (Highland Park, NJ) for the New York City metro areas and Northern New Jersey; **Audio-Technica** (Stow, OH) selected **MI7** (Malmö, Sweden) as its distribution partner for Belgium; and **Symetrix** (Mountlake Terrace, WA) named **Pacific Coast Visions** (Denver) for the Rocky Mountain region.

## ABOUT THAT TIME FOR AN UPDATE



In celebration of its tenth anniversary, Cotton Hill Studios (Albany, N.Y.) completed an overall system upgrade with the help of Professional Audio Design, which provided a Pro Tools|HD3 Accel system, a Trident 80C analog console and an Aviom Pro16 Monitor Mixing System. The console features numerous custom PAD modifications

"We decided that the best scenario for us was to have

some type of a large-format analog console, along with a digital recording system," said Ray Rettig, president and owner of Cotton Hill Studios. "Among other modifications, PAO created a card that is inserted into the back of the console to take the audio signal from the Trident 80C and output it to the Aviom gear and the other digital equipment."

The card, created by PAD senior technician Coleman Rogers, turns four channels of unbalanced audio into balanced audio, and four channels of balanced audio into unbalanced. Six of these level-adjustable cards were installed as fully balanced pre-fader inserts in the monitor section. The first 16 channels of these tape monitor insert sends are normaled directly into the Aviom headphone system. One of these conversion cards is also installed in the master section, balancing the mix and control room outputs, and unbalancing the stereo tape returns. In addition, PAO director of technical services, Brandon McHale, designed and installed a 4-output, silent-switching speaker selector.

## NEVE SPEAKS TO CRAS STUDENTS

Rupert Neve recently visited the Conservatory of Recording Arts & Sciences (Tempe, Ariz.) to give a lecture on audio to roughly 400 students and faculty. Neve and Kevin Burgin (from Rupert Neve Designs) talked about the history of audio design and how the role of the large-format console is changing with respect to more OAW-based productions.

Neve brought his Portico 5012 Duo Mic Preamp for students and instructors to sample in the audio classroom environment. It is part of a growing group of products that allow the user to create a completely modular console.



Kevin Burgin (left) and Mr. Rupert Neve

# Aurora from Lynx. Converting the way you think about Converters.



A year ago, Lynx Studio Technology introduced the Aurora 16 and Aurora 8 mastering quality AD/DA converters. Now we're changing how the industry thinks about high-end converters, receiving a TEC award nomination along the way.

Aurora's innovations are many: Sixteen channels of 24-bit, 192 kHz analog to digital *and* digital to analog conversion in a single rack space; Seamless remote control using the industry-standard Lynx AES16 interface, MIDI, IR equipped laptop or Pocket PC; and an LSlot expansion port that offers many I/O options, including ADAT, LynxTWO, LynxL22 (available now) along with other popular and ground-breaking formats on the way.

All of these features are intended to support just one thing – the sound.

The question we hear most often is "So how does Aurora sound compared to A, B, C, D...?" The best ears in the music industry have made the comparison, putting Aurora through its paces alongside converters costing two to three times Aurora's price. Aurora has even been compared to reference converters in the \$10,000+ price range – converters costing fifty times more per channel than Aurora. The results? Let's just say many of these golden ears now own and use Aurora. You can read their comments in the chatrooms.

Our customers describe Aurora using terms like "open", "transparent", "clear", "excellent imaging" to name a few. But these opinions don't tell **you** how Aurora sounds. The only way to find out is to listen to an Aurora 16 or Aurora 8 converter for yourself. Contact an Aurora retailer for a demo and your own ears will tell you just how Aurora converts what you think about converters.

For more information about Aurora and a list of stocking retailers, visit the Aurora website at [www.lynxaurora.com](http://www.lynxaurora.com).

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#### The New World

Take a visual tour through Terrence Malick's latest release, *The New World*, with these extra pics.



#### "The Incredible Shrinking Rig"

Want to know more about the engineers *Mix* spoke to and digital boards they are using? Get more information about the tours these FOH engineers have worked, and check out the latest boards released in 2005.



#### "All Access": Brian Setzer Orchestra

Scroll through the gallery taken at Brian Setzer Orchestra's gig at the Luther Burbank Center (Santa Rosa, Calif.). Also, read additional information on the tour's audio gear.



#### "Producer's Desk": Narada Michael Walden

Read more information—straight from the *Mix* archives and available at [mixonline.com](http://mixonline.com) for the first time—about super-producer Narada Michael Walden, including his first "Producer's Desk" back in January 1983.

## NOTES FROM THE NET

### FEEL THE URGE?

MTV Networks and Microsoft have teamed up to offer the music channel's first foray into the online digital music service—URGE—which will launch sometime this year. URGE will be integrated into the upcoming version of Microsoft Windows Media player, and will offer more than 2 million songs from major labels and thousands from indies, as well as exclusive MTV Networks programming.

"We live to connect artists and fans in the most imaginative ways possible," said Van Toffler, MTV Networks' music group president. "With our new service, we will be able to satisfy music lovers' urges for all things music. In many ways, URGE will serve as a 'psychic concierge,' introducing fans to new artists and helping them to develop a deeper connection to old favorites."

In other "if you like this, then you like this" news, Google has added a music search feature that will provide its users with music information, including artists, albums, song titles, links to music reviews and places to purchase music. According to a company representative, "In analyzing our traffic, we found that a huge number of users conduct music-related searches. To better meet this need, we developed this feature to put users in touch with the information they're looking for faster with a user interface specifically designed for music."

## GRANT LIVING LIVE ON THE TOP FLOOR

New York City-based The Penthouse, a newly formed sound design, recording and mixing facility, occupies the entire top floor at 240 Madison Ave., which is already home to mad.house, a post-production facility. Sound engineer John Grant (pictured), who has taken residence at The Penthouse, is working on a Pro Tools|HD system with Control|24 console, monitoring via KRK V4 and Genelec 1032, Audio-Technica mics, a Sony DAT and much more.

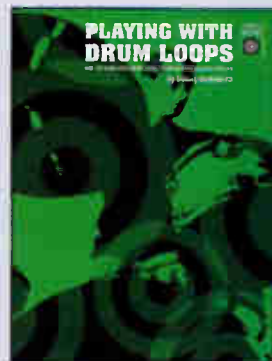
"The Penthouse is by far the most unique mix room that I have ever had the privilege of mixing in," enthused Grant. "From the working marble fireplace to the double doors that open up onto the private roof deck, The Penthouse provides a welcome break from the usual 'studio' feel that most mix rooms have."



## BOOKSHELF

*Music Supervision: The Complete Guide to Selecting Music for Movies, TV, Games & New Media*, written by Ramsay Adams, David Hnatiuk and *Mix*'s New York editor, David Weiss, explores sound design, and features project-form templates and interviews with leading industry figures, including Adam Schlesinger (singer/songwriter for Fountains of Wayne), Jason Bentley (music supervisor for *The Matrix*), Budd Carr (music supervisor for Oliver Stone's films), Chuck Doud (music supervisor for Sony's videogames division), Doug Wood (president of Omni Music) and many others. Schirmer Trade Books, \$17.95.

Carl Fischer Music has released *Playing With Drum Loops: How to Work With Drum Loops, Samples and Backing Tracks*, which is not only geared for drummers, but also helps DJs and electronica creators add intricate layers to their sound and technique. Instruction is provided by Donny Greundler (Chris Murphy, Shuffle Kings, etc.), with additional examples and ideas provided on two accompanying CDs. \$29.95, at [www.carlfischer.com](http://www.carlfischer.com).





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## Studio at The Palms

By Sarah Jones

Vegas does entertainment, and it does it big: It has Celine. It has Elton. Hell, it has three Cirque du Soleil shows. It has Picassos and poolside drinks at noon, dinner and dancing at 4 a.m. But it never had a world-class recording studio—until now.

The Studio at the Palms is the latest extension of entertainment mogul George Maloof's resort empire, which has risen to renown as home to *Real World Las Vegas*, *Celebrity Poker Showdown* and the hippest party scene in town. And although Maloof is famous for building big business around amusement (he is also part owner of the Sacramento Kings), make no mistake—this studio is the real deal. Maloof and partner Larry Rudolph tapped the talents of noted designer Francis Manzella to plan and build an 8,000-square-foot, state-of-the-art facility, and hired 24-year studio veteran (and former *Avatar* and Hit Factory manager) Zoe Thrall to run the studio,

The facility features a 1,000-square-foot tracking room, SSL and Neve consoles, remote rigs for recording anywhere in the hotel and tielines to luxury suites, including a nearby 10,000-square-foot basketball-themed suite—complete with court and locker room. Because Vegas attracts more leading entertainers today than before—for both work and fun—Malooof's timing couldn't be better.

### THE STORY BEHIND THE STUDIO

The idea for the studio came together three years ago, when Larry Rudolph (Britney Spears' manager at the time) proposed the idea to Malooof's brother. George Malooof went for the idea immediately. "I just thought it would be perfect for the identity for the property and what was happening in Las Vegas, in terms of music and entertainment," he says. Rudolph connected with Manzella, and a week later, Manzella was on a plane to Las Vegas to meet with Malooof, who was in the early stages of constructing a 40-story luxury tower.

Because the studio was integrated into the tower plans, the project timeline was on a grand scale. "Normally we

would be in, designed and built somewhere around 12 months on a project of this size," says Manzella. "So to be coming up on three years, that's a long involvement for my company. And the reason is it was a very small part of a much larger project. When you're building a 40-story tower, the fact that you're building two recording studios on the third floor is relatively insignificant in the big picture."

"We were given a certain amount of space to do the whole thing, and two rooms made sense," says Rudolph, who wanted a big tracking space to record live music—a request that ended up falling serendipitously into place with another top-secret tower project. "We've got 20-something clear feet from slab to slab; it's a pretty big tall, clear space," says Manzella. "Of course, what I didn't know at the time is that they were planning a basketball suite down at the other end [of the third floor] and they would need that height down there. I thought I was asking for the moon."

The huge suite presented more unexpected opportunities for the studio. "They had told me about the Hardwood suite, but I thought it was on the 35th floor with the other luxury suites," says Thrall. "It wasn't until I actually came here and saw it was on the same floor as the studio. I flipped out! I said, 'You have got to be kidding. We are running lines over there.'"

The elegant studio reflects the fresh design and soothing materials appearing throughout the modern hotel. "I tried to use the architecture and the vibe of The Palms as the inspiration for the studio," says Manzella. "The curved, tiered ceiling elements, the metal and the material choices—a lot of that comes from our interpretation of what we saw downstairs, making that work in a contemporary, cool kind of design way."

Engineer Tony Maserati, a longtime



PHOTO: STEVE SPANOFF

Palms owner George Maloof with studio director Zoe Thrall

associate and good friend of both Thrall and Manzella, came out from New York for the studio's inaugural session with Paris Hilton. "I've been working with Fran Manzella since he was chief engineer at Skyline in Manhattan," says Maserati. "Because Fran's an engineer, he thinks like an engineer all the time—that's one of his greatest attributes as a designer. He's always thinking about where in the room people could move, which is something I do as an engineer all the time." Manzella adds: "That affects everything: where you put the doors, where you put the window, where you put the microphone panel."

Two control rooms and three iso booths surround the tracking room. Functionally and acoustically, the control rooms are nearly identical. "There's a lot to be said for using a common design for the primary rooms," says Manzella. "I tried to make the mix room a bit more classic with the wood floor and slightly warmer materials, and the tracking room be a bit more modern and a bit more edgy." Rudolph wanted to base both control rooms around large-format analog consoles: Studio Y features an SSL XL 9080 K Series and Studio X offers a 72-input Neve VRP. Main monitors in both rooms are custom Griffin surround packages (supplied by Manzella and Griffin Audio partner Lars Tofastrud); various near-



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Thrall spec'd the rest of the gear: The two rooms offer similar collections of classic and modern outboard gear, from racks of Neve and API preamp/EQ modules to effects from Universal Audio, GML, Avalon, Manley, dbx and Lexicon. As Rudolph notes, Harman is a major studio partner: "We have a deal with them where we get the newest equipment that they have—in some cases prototypes—to try out; we have amazing access to all of their equipment." (In turn, the facility offers unique capabilities for corporate situations, such as the ability to transport tricked-out cars into the tracking room for audio demonstrations.)

Thrall points out that while the studio offers multiple DAW options such as Pro Tools|HD3 and Apple Logic rigs, they've made a commitment to analog recording, offering Studer A 827s and Ampex ATR-102s. Concerning the analog/digital debate, Thrall says, "It's not a statement that one's better or worse than the other. It's simply about choices." A full complement of top-shelf mics and instruments round out the gear list.

#### THINK BIG, GO GLOBAL

Maloof didn't become a billionaire by thinking small. This studio exists to attract talent from all over the world: the Australian rock band on a U.S. tour stop, the New York pop star landing in town for a few shows and a working vacation. And the city's proximity to L.A.—a 40-minute flight or a five-hour cruise through the desert—makes it an enticing option. Engineer Kevin Shirley, who relocated from New York to Malibu, Calif., and is looking forward to a long-term relationship with the Studio at the Palms, notes that it's as easy for him to fly to Vegas as it is to drive across town. "I can drive for an hour or I can fly for an hour," he explains. "And when you've got a band and they're all staying in the hotel, and you can get some amazing rates, it doesn't pay me to put them up in a hotel in L.A. or to fly them somewhere. It's not brain surgery at the end of the day."

Shirley, whose working relationship with Thrall dates back to 1998, when he recorded Aerosmith at Avatar, has months of sessions blocked out at the studio and is even toying with the idea of offering master classes there. He adds that with any studio, quality staff makes all the difference. "All these guys are great; I've worked with all of them," he says, "and they've got Zoe, who is



PHOTO: FRANCIS MANZELLA

Studio Y is based around an SSL 9080 console and a custom surround monitor package from Griffin.

just unbelievable. If you have to make a record and you need someone on your side, she's the one to have." When Thrall came onboard as director, she recruited some former Hit Factory employees—including chief tech Brent Spear and manager Samara Goldhecht—as well as local talent. "If you're going to build a facility like this—and being as service-oriented as George is—it has to extend to the studio, as well. And the only way that's going to happen is with experienced assistants," she emphasizes, dashing the hopes of any would-be interns.

#### EXTENDING THE PALMS

Although the studio operates independently as an element of The Palms empire, it benefits from everything from shared facilities to the wildly successful Palms marketing machine. "George trusts us to do what we know," says Thrall. "It's still treated like its own business."

"At the same time, there are peripheral benefits to other businesses—the hotel, the [Maloof Music] record label, et cetera," adds Rudolph. A big part of Maloof's winning formula is his commitment to the community. "It's very important to George, and it makes me happy that it's important to George, because I felt the same way in New York, working with the unknowns," says Thrall.

This move is not entirely altruistic; in today's recording climate, the "next big thing" might come out of anywhere, and Vegas is ripe with musical talent and potential (The Killers are notable exports), so supporting the local community makes sense in a lot of ways.

This combination of local talent and international headliners, along with the evolving image of Las Vegas as a grown-up vacation destination, has elevated the

city's entertainment value. "This isn't your mom and dad's Las Vegas," says Manzella. "This isn't Eydie Gorme. This is Celine Dion, Elton John, the Rolling Stones. These are the people who are rolling through town. It's very mature and cool rock and pop entertainers—some of which are choosing to spend extended amounts of time there."

With such an incredible talent pool and more entertainment facilities in the works, is a "Live From the Palms" empire in the future? "We've master-planned our whole property to create an entertainment destination, which will obviously include the recording studio and a new concert venue that I truly believe will be the most spectacular in the country for that size," says Maloof of the 2,400-seat hall under construction. "There'll be opportunities from a usage perspective for the concert venue to connect with the recording studio. So there are a lot of synergies, and we're just real excited about the whole idea of creating this one-stop shop."

Las Vegas appears to be on the threshold of becoming a major producer—not just consumer—of world-class entertainment, and The Palms is poised to be a big part of that. "First of all, I think there's demand here for a new studio—and a first-class studio," says Maloof. "Secondly, I think the major labels will look at this as an opportunity, other than New York or Atlanta or Miami or L.A., as a true alternative for their artists. I really believe that Las Vegas is just right on the explosion of more venues, more music, more opportunities for bands to actually be exposed. I think it's important to have a facility like ours that will be part of that whole kind of experience." ■

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# Life, Love

## And the Pursuit of More of It

This is a test. Life is like...

1. A box of chocolate laxatives
2. A box of chocolate-colored C4
3. A box of chocolate-covered Neumann U47 diaphragms
4. A bowl of cherries
5. A bowl of cherry bombs
6. A bowl-a-thon
7. Forty-two
8. Bits to the bar

The correct answer is all of the above. And, well, none of the above. Life is never, ever what you expect. It may be what you want, it may be what you feared most, it may be a giant playground to you. But whatever it is, soon it will change. A lot.

The one thing that life *isn't* is fair. The concept of fair has caused so many so much pain since sentient life began. Now I'm not saying that life is bad, I'm just saying that if one actually attempts to rely on the fairness of it, they will be severely disappointed and hurt.

And by life I don't mean just us. I mean Emperor penguins, cows, stray cats and any anything else that wants to be alive.

But let's get back to us. Each of us, in going through life, leaves a giant swath across the face of this planet. Every single thing you do adds a color or texture to that swath. The bones of all you have killed, as well as the broken hearts of those you have crushed are in there. As are your lies and truths.

And though this swath has a beginning, it has no real side boundaries. People who know you tell stories to others, who in turn re-tell the more interesting ones again and again. With each telling, your swath, your literal mark on this planet, grows wider. Those stories then become part of another's swath, and so on. And even as this is happening, each person's life, each swath, is being woven into the fabric of what we call life. Many swaths will loop back and reconnect. Many will become so changed that they are unrecognizable by you even if they run by your side for a year at a time. Some end. Suddenly and unfairly, leaving a tear in the fabric where one can look down and see the very depths of reality itself—rarely a pleasant experience.

If, perchance, what you have done with your life has brought happiness or relief to others, their swaths will close the gap, healing the tear with images and celebrations of who you were. You will live on in the words and deeds of others.

But, were you a flaming asshole, you would live on in the memories of others, as well—as a flaming asshole. The more harsh may rejoice at your demise, the more enlightened merely bathe in relief.

### SO WHAT DOES THIS HAVE TO DO WITH YOU?

Well, if you are dead and reading this, not really so much. But if you are alive, perhaps a good bit more than you think.

Absolutely any analogy can be used for gauging what you are, who you are and how you have impacted the Earth. Let's use recording studios.

If you happen to own a commercial studio, big or small, find an hour or two of downtime and go through the place.

Go back to your "museum." Find that first microphone, reverb or effects box. Listen to some of your very first recordings. If you have remodeled, look at pictures of the place before. What did it take to get your place started? What does it take to keep it alive now? Do you enjoy it, or do you feel too trapped to start over as a genetic scientist or solo folk singer?

What have you maintained well, what have you let slide? What floods, riots, lightning strikes, break-ins or gunfire have you survived?

What do your clients think of you? What do you think of them? Are you sued a lot, do you sue a lot? What would the big studio across town say about you? Why?

Who have you cheated, who has cheated you? Who have you stepped on, and would you do it again if the reward were large enough? Who has trashed you? Did you kill them for it?

What manically important activity of your youth has been reduced to a few pictures in a drawer somewhere? Surfing, motorcycles, drugs, addictive sex, skiing, \$400,000 cars? What skills have been unused for decades?

### ALL YOU WILL EVER BE

In the end, all you will ever be are the memories of those who have been touched by your actions, by your swath.

If you are curious about who you are and want to find out before you die, a deep, deep reach into your past reveals it to all but the most hopelessly self-centered.

Though material possessions are by far the most valueless things we hold on to, they do tell you who you are—and perhaps even more importantly, who you were.

Who you are *now* compared to who you were five, 10 or 20 years ago is the real game.

Life is never what you expect. It is more fragile than anything you could imagine until you watch a few end.

But we, as recording engineers, musicians and producers, have the chance to bring a small chunk of happiness to literally millions of lives. What an amazing opportunity. I mean, what would your life or that of anybody you know be like without music?

Ah, but then it comes back to fairness. Where is the fair-

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ness for the deaf? Or in looking like Sandra Bernhard? See? No fairness in life.

Some of you may be content in simply using life and not contributing. But my bet is that the vast majority of *Mix* readers actually care about the quality of their work, their lives and the lives of others. (Those of you serving three consecutive life sentences for murder and are tracking in their cells on little Pro Tools systems, the joke's on me.)

So, given the spectrum of vocations on this planet, it is amazing that you, being a part of our industry, are directly contributing to the happiness of others.

Garbage men don't. We are only relieved

when they come. Garage mechanics don't make anyone happy; in fact, the usual result of exposure to one of these is anger, a feeling of violation and all meals thereafter financially restricted to Taco Bell. And the car starts doing it again after 31 days.

Factory workers. They may or may not be contributing to the general public's happiness in some small way, but that is swamped by the Corporation. I loved the Ford commercials where the workers were interviewed on the assembly line and bragged about improving quality by 40 percent. Damn! How freakin' *bad* does a car have to be so that there is room to improve it by 40 percent?

And how pissed were all the Ford owners who had just bought the year before?

And though I leave the third world unmentioned as each of us must find our own peace with that, virtually everyone in the first world has access to music. And *you* make that music.

It's fair to say that one would bring more joy to humanity as the genetic engineer who beat cancer, diabetes, AIDS or Alzheimer's disease. Or some hyper-geek in Austin who comes up with an unlimited energy source that is so cheap that the raping of the Earth and the pollution that go with it end due to lack of profitability. We could go on for pages, and each of us has our own loss that puts one of these dreams at the top of our personal lists. But we are not quite there yet, it seems.

Given the state of civilization, paramedics, firemen, doctors, nurses and cops bring the most relief to the most acute. And at the other end, millions and millions of faceless people work endlessly to keep the first world running and go, almost without exception, unrecognized.

When you drive down the old clogged freeway at 5:30, what gives you a tiny spark of pleasure? Knowing what it took to build that once mammoth but now pitiful strip of parking lot, or when your favorite tune comes on the radio or iPod?

Yes, music is mandatory and you make it. You are making a difference, making others happy. You are very, very freakin' lucky. The swath of your life is broad and powerful. Yet it is tightly woven with the swath of the man that shoveled the asphalt that you will drive on today. Hell, he might have been listening to some of your work while he was doing it.

We are all the same. We have our fears, our battles, our pride. We have our music.

Each of us will die, and in turn be remembered by others.

We in our industry are lucky. Even if we are broke, we are doing what we love. Most only work and come home to fall into bed.

I know a lot of you personally, others by working with you and still others by reputation. And we as a group certainly cover the whole range, from angel to asshole.

As a regular guy who just took stock of his entire life, I offer you the same experience. Find out who you are and decide if that's who you really want to be.

Ten years ago I first did this, and decided that what I was not in fact what I wanted to be. I worked hard since then, and now I am pretty close. Just in time. ■

*SSC is obviously feeling a little retrospective this month. It happens.*

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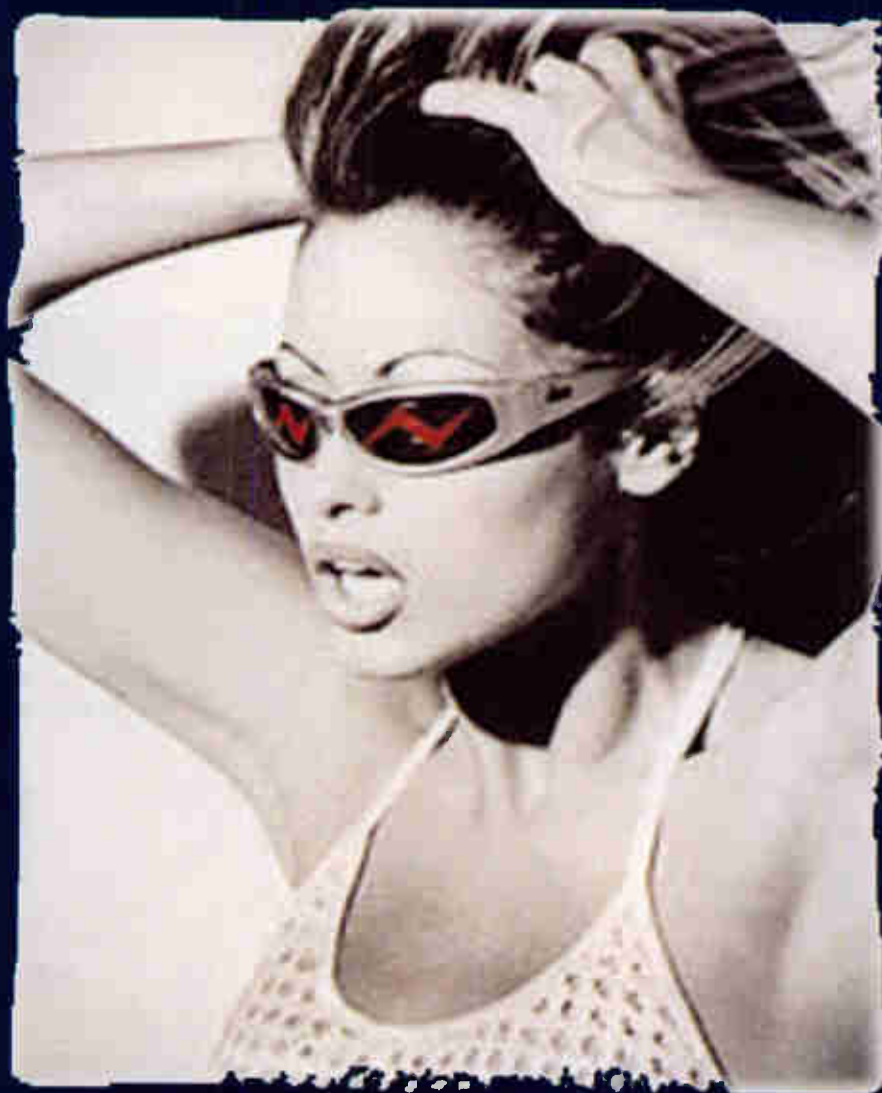
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# Marketing to Myself

## The Promise of the Web, the Reality of the Business

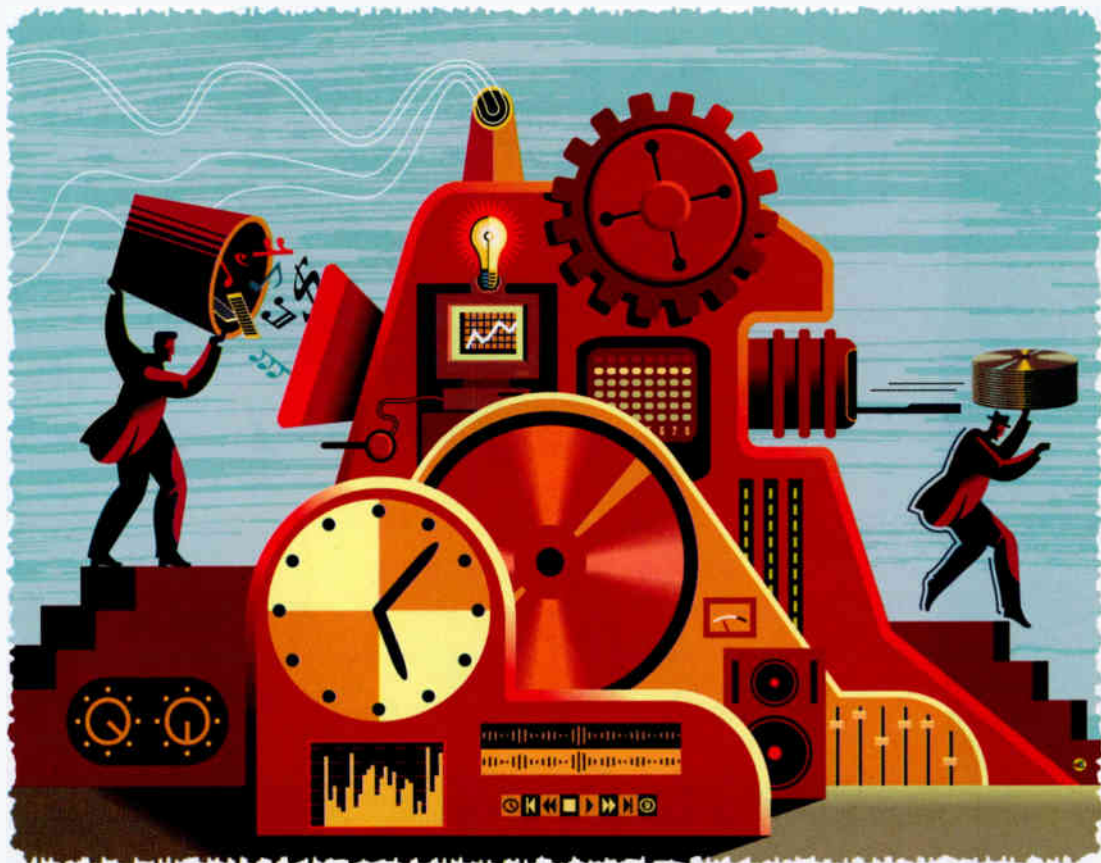


ILLUSTRATION: DAVE EMBER

Whatever happened to the democratization of music production? Wasn't that supposed to be here by now? And wasn't it supposed to be a good thing? Wasn't every musician going to be able to make records in his or her home, and weren't all of the giant record companies going to come crashing down in the wake of the home studio revolution and the Internet explosion?

In fact, some of it did happen the way we thought it would, but some of it didn't. I have a home studio, and I couldn't live without it. But the record companies are still out there, strong as ever. And you know something? I'm glad they are. We need them. But we need them to do a much better job than they're doing because the alternative could actually turn out to be worse.

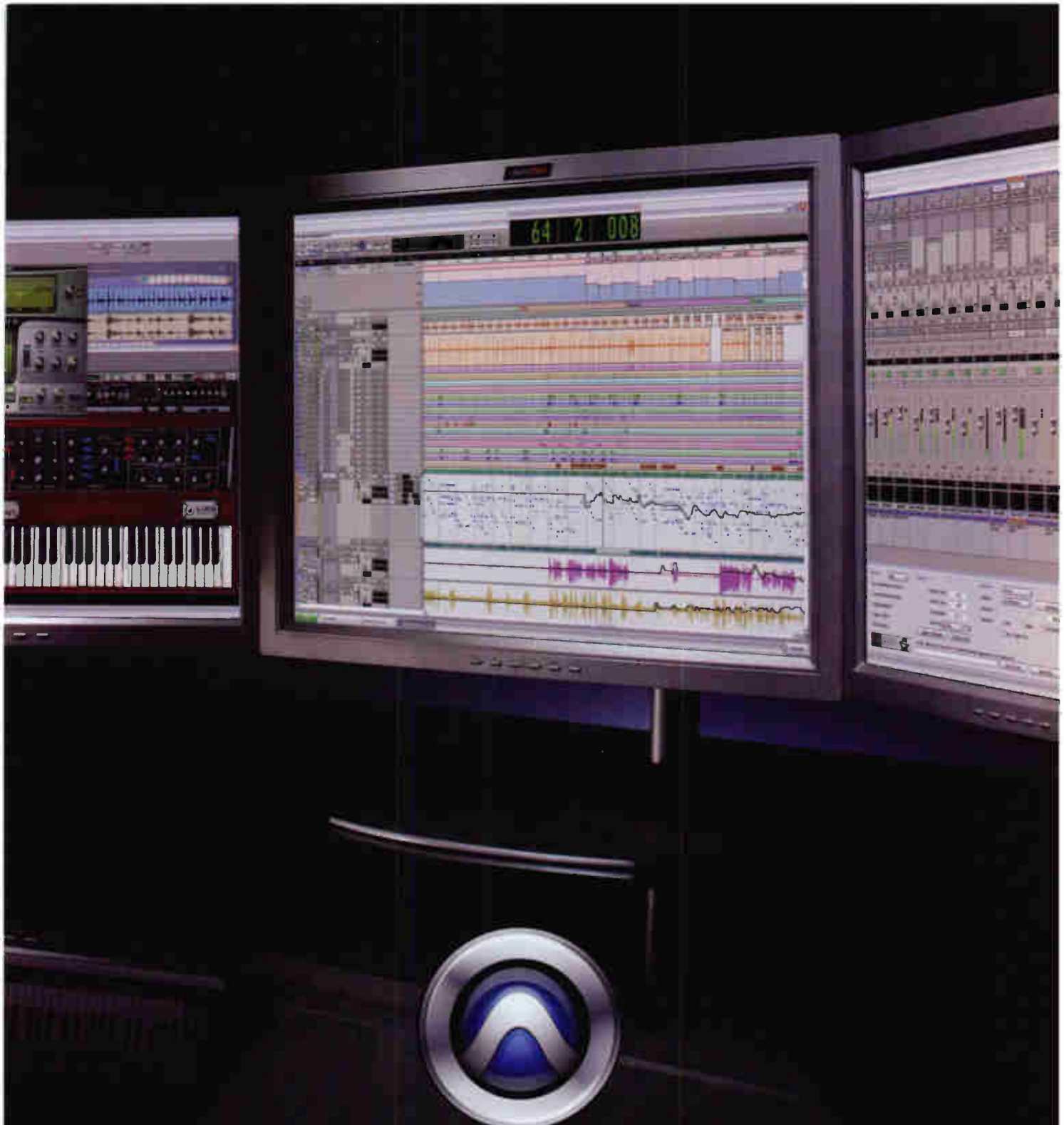
Back in the 1980s, we all knew this would happen. We were going to be able to frolic in the musical playrooms of our dreams, with minimal financial investment and no restrictions on what we could do or how long we wanted to take to do it.

Then in the '90s, thanks to the World Wide Web, we would be able to funnel our creations directly to a waiting

audience, who would enthusiastically embrace the new models for seeking out and buying music, thus eliminating the greedy chain of middlemen consuming every crumb of the economic pie. There was to be a renaissance of creativity, in which millions of artistic flowers would bloom and all of us cultivating those flowers would be justly compensated.

Well, here we are in the mid-Aughts, and it's awards season. The Grammys, the Oscars and all of the others are going to the same movie studios, the same record companies and even the same old artists. Has downloading, the technology that was going to change everything, actually done so? Well, it made the record labels paranoid beyond belief, but this year's blockbuster acts aren't much different from last year's: The first million-downloaded song was by the not-exactly-underground Gwen Stefani. How about the other new media opening up paths for new talent? For example, Cingular signed an agreement with an artist that lets the company's cell phone customers hear her next releases (in all the hi-fi glory that medium delivers) before they hit the stores—pretty cool, if you like that sort of thing, and with definite revolutionary potential. Whom





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did they sign? Gwen Stefani. Meet the new boss, same as the old boss.

The music-making part has worked out pretty much the way it was supposed to. Any kid with a laptop has access to tools that would have cost as much as a house 20 years ago. The studio business has tilted sharply toward the low end. Remote trucks have been replaced by PowerBooks and MOTU Travelers strapped onto the monitor board's direct outs. High-end studios are being used less to make records and more to score films and videogames. Mid-level commercial studios have all but disappeared as their customers squirrel

themselves away in personal and project rooms.

It's the other part that we're still waiting for. And we may be waiting a long time. True, there are people who are making some money selling music on the Internet or through genuinely independent distribution channels such as Broadjam and CD Baby. But mass-marketing is still in the hands of, well, the mass-marketers. And they don't show any signs of letting go.

At the same time, the record industry was supposed to be eaten up by small-fries, and experts were predicting that traditional mass media, like *The New York Times* and

the major TV networks, were going to die and be replaced by personalized sources of entertainment and information that would organically grow out of audience needs and desires, using the Web as the medium.

To some extent, this has happened. There are some terrific new ways to get information. I subscribe to several online news services that give me important political stories that my local paper ignores and business news that's too specialized even for *The Wall Street Journal*, to say nothing of *USA Today*. When it comes to things like books, movies and music, recommendation lists on Amazon, user reviews on the Internet Movie Database and playlists like those on musicstrands.com and the iTunes store are helping people decide what to buy or see or listen to.

But it takes a lot more than a few recommendations on a Website to sway a significant number of people and bring a book, movie or CD into mass consciousness. It's still up to the old media to do that. They haven't gone away. I still read *The Boston Globe*. *The Times* (which not long ago bought *The Globe*) is still very powerful, even if readership, especially among young people, is down, and ABC is still responsible for getting the news to millions of Americans (even if they once tried to get David Letterman to replace Ted Koppel). *Rolling Stone* is doing better than ever, and even *Time* and *Newsweek* are gaining influence in the entertainment world.

Much of what we think of as new voices are merely extensions of the old: Comedy Central, for all its attitude and appeal to the younger generation, is owned by the people who own CBS. Spike TV, the Cartoon Network and almost all of your favorite "alternative" cable channels are owned by Viacom, Time Warner or NBC/Universal. Even the Sundance Channel is only partly owned by the Sundance Institute; the rest of it is in the hands of two media giants. *Wired* magazine, where a lot of these predictions were first uttered, didn't take long to morph into a techie version of *Vanity Fair*—not surprising, as both magazines are now part of the same publishing empire, Condé Nast, whose other properties include *The New Yorker*.

And for the record industry, as we can see on the awards shows and the *Billboard* charts (whose Dutch parent company also owns *Hollywood Reporter* and AC Nielsen) and hear on the radio, music that's really popular (and thus makes real money) comes from only a few sources. And the number of those sources continues to shrink. Who could have predicted even 10 years ago that RCA and Columbia—once bitter arch-rivals in everything from which opera singers sang

—CONTINUED ON PAGE 138

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# Modern Mixing

CHANGING TIMES CALL FOR

By Blair Jackson

It's a given that nearly every aspect of the world of audio production is constantly in flux, shaped by the latest formats and equipment in vogue at any particular moment. If you revisit our articles on "current issues in mixing" from seven or eight years ago, you would read a lot about format compatibility. At the time, many mixers were dealing with projects that combined 2-inch multitrack (analog or digital, and in many cases both), either ADAT or DA-88 MDM tapes and perhaps some sort of hard disk source, as well; had to love the editing capabilities of those systems, even if they didn't always sound so good. The outboard gear that was used to "warm up" the digital tapes was different from what might be needed for tracks recorded to analog tape, precisely because that medium was already warm. And the MDM tracks often sounded thin next to the 2-inch ones.

But that way of working is so last century. When I reach hot New York-based R&B mixer Jimmy Douglass (Aaliyah, Missy Elliot, Jay Z, *The Game*, Jamie Foxx) on his cell phone as he's cruising around Manhattan, I mention the format compatibility issue and he just laughs. "Not even

an issue. Get over it, man!" and he laughs again. "Earlier on, a few years ago, it was a nightmare; it was like the Wild West because everybody had different formats, nobody thought about what was going to happen later [in the mix] and everyone was doing all kinds of wild shit. Now, the conformity level has gotten to the point where, for instance, you can take something from Logic and put it into Pro Tools because they know how to save it as .WAV files so you can import it easily—all that kind of stuff. Most of the compatibility issues have disappeared."

Okay, so what is a mixing issue for you these days? Douglass doesn't hesitate: "One thing that's really bad and also really common is getting all these [hard disk] files that are not labeled in any way. I had the biggest nightmare awhile ago with this guy who was doing his album over the course of about a year-and-a-half and I didn't realize he was doing it at home. When I told him, 'Give me all the .WAV files,' he did, but he didn't label anything, and he must've had around 60 tracks of stuff. I don't know if he didn't have an assistant or just hadn't bothered, but it was bad. These songs were like eight minutes

long each and they were all in real time, so it's not like I could find a chorus and say, 'Oh, that's going to happen every time.' Instead, every time it would come around, something different would happen, so I had to actually listen to every single one, and I didn't know what was on every track because they weren't labeled. It's not like putting a tape up in a studio and knowing roughly how things are going to be organized, track-wise.

"On the first song I worked on," he continues, "I had to go through all these unlabeled background parts, too—and he didn't double or triple the backgrounds; he had different parts. So he'd have about 15 parts and I didn't know what any of them were, and I had to listen to every single one to get a blend and so forth. So I called him back, and said, 'Listen, on all the rest of these songs, send me a 2-track blend. Same thing with the horns.' He must've had about 30 tracks—bones, trumpets, the whole gamut—and they weren't doubling their parts; they were all playing different parts, different notes every time. As .WAVs, they weren't blended at all; it was all just raw data, so to blend them was a nightmare. I said, 'I can't actually do the



# Dilemmas

NEW WAYS OF WORKING

ILLUSTRATION: LAURA WILLIAMS

stuff unless you blend them and send me your 2-track blend.' So once that was together and everything got sorted out, then it became a regular mixing project." What's the moral of the story, Jimmy? "Help your mixer out, man!" and he laughs again.

A few days later, I mention that anecdote to L.A. producer/engineer Joe Chiccarelli (Frank Zappa, Elton John, Beck, U2, All American Rejects, Pink Martini) as he drives from the San Francisco airport to a session at Soundworks studio downtown. "Oh," he says gravely. "Unlabeled. That happens to me every other week. That's the new world order. The days of a well-labeled track sheet are long gone. Now, you take two or three hours out of a mix just to find out what's in there.

"One of my other pet peeves," he adds, "is that people treat digital like it's this incredible, indestructible medium because 'digital files don't change!' People fly files all around the world and convert them to MP3 and then convert them back. They copy things from drive to drive assuming there's no degradation whatsoever, but there is. I can't even generalize about the kinds of things that can turn up, whether it's drop-outs or clock issues. But little things are happening. So I always

make a point to go back to the original drive and work off the original file if possible. It can't hurt."

But the main issue Chiccarelli wants to discuss is a different aspect of the home studio revolution and how it affects his job as a mixer: "I think the art of recording vocals is at an all-time low," he says. "It's wonderful that everybody gets to do it at home and gets to take their time and make sure the performance is great. Unfortunately, what you get from being in a great-sounding studio with really good gear and being able to fine-tune your compression settings, et cetera, is often lacking in these projects. People recording at home often don't have access to good microphones or good preamps, or they're inexperienced with using a compressor, so they either use it improperly or maybe they're frightened and won't use it at all. Or they record the vocals in a bedroom that has some sonic issues. When you're in an environment where you have all the proper tools and you can trust the monitoring, you definitely make better decisions. Often, when I get tracks to mix that were recorded in someone's home, I end up spending a lot of time repairing things that weren't done right or making up for inaccuracies in the

home monitoring environment. People get fooled when they buy these cheap studio monitors that are on the hype-y side. They can't hear that what they've done is thin."

So what can you do about that, Joe? "One thing I do a lot is put the vocal on multiple channels of the console, whether it's on a regular console or in the box [DAW]. I'll mult the vocals to a number of channels and I might compress it differently for the chorus of the song than I would for the verse. I might add a short kind of modulated delay to give a double-track effect in the choruses to help the vocal in the chorus, and maybe I'll put a long delay in the bridge. It depends on the music, of course, but sometimes I'll add distortion to the vocal. I'll find the vocal is a little bland and lacks personality, so I might overload a mic preamp to add a little excitement. A lot of times, I'll use the Thermionic Culture Vulture, which is the most beautiful-sounding distortion box I've ever heard. I use it on vocals a lot to make a vocal cut through a mix; poke through the track."

And how about those tracks that come in already overloaded with distortion? "The odd fix for a vocal that's over-compressed," he offers, "is if you compress it some more

## Modern Mixing Dilemmas

with the proper kind of distortion, you can get back some of the dynamics. I know that sounds bizarre, but if you fiddle with the attack and release, you can make it have a bit more shape. Almost any issue can be addressed, but the more repair work you have to do on a mix, the less time you maybe have to be creative."

Over in the depths of L.A.'s Ocean Way Recording, under the soft glow of colored lights, producer/engineer/mixer extraordinaire Jack Joseph Puig (Black Crowes, Hole, No Doubt, Verve Pipe, Goo Goo Dolls, John Mayer) sits in his exotic tricked-out studio room, racking his brain to think of some mixing issue he's had to deal with. Confident, maybe even a little brash, Puig rarely runs into problems—he's a master of his recording and mixing environment. But he calls back a couple of days later and relates this tale, which goes to the heart of the modern "problem" of the seemingly unlimited bandwidth of digital media.

"I mixed a record where they had processed a lot of the guitars with synthesizer modules," he says. "The record had originally been sent to a prestigious mixer and he spent four days trying to mix some of the songs, but after that time, he wasn't happy with how it sounded; nobody was happy. No matter what they did, they couldn't get the record to feel right. A&R flew down to work on it with the mixer and they had the same problem: 'We don't know what it is, but something's not right. No matter what we do, the core is always collapsing.' The sounds got weird and the meters would do strange things, like they'd stick as if they were broken.

"So at that point, the mixer and A&R person quit trying to make it work and the parties involved decided to solicit my services. So I put it up in my room and I started working on it, and I was like, 'Damn,

this thing is weird! Something's not right here.' So I flipped it from the [Yamaha] NS-10s to the Tannoys, and the Tannoys started fibrillating as if the whole track had tremolo on it. On any other speaker you couldn't hear it. So I realized, 'Oh my gosh, there's some subsonic shit somewhere on this, and what these people are experiencing with their systems that might not be as great as the resolute system that I'm on is their systems are collapsing, but mine's trying to play it.' Mine can play 1 Hz, where some systems can't go down that low. The producer's a low-end freak and likes to use synthesizers—manipulating square waves and sine waves—for extra low end, but you end up with a lot of subsonic energy, and if you have that over a multiple number of tracks and you're not careful, what ends up happening is you get this buildup and it starts to sound really weird.

"The band told me they blew up something like 25 pairs of NS-10s during the project, and I'm thinking, 'Guys, the NS-10s are trying to tell you something!' So I realized that this subsonic energy was freaking out all the compressors, and I became very creative in my choice of filtering to not destroy the sonic quality of what they had recorded but to correct the sonic energy that was freaking out the compressors. So I was filtering at 20 Hz, 5 Hz, 10 Hz, 1 Hz on different channels, trying to get to where the issues were. So I did that and—boom—the whole thing began to clean up. It took awhile, but I figured it out and basically fixed it."

Grammy-winning engineer/producer Rafa Sardina, Spanish by birth but a longtime L.A. transplant, has a sturdy track record with many Latin and Anglo projects (Macy Gray, Luis Miguel, Angie Stone, Alejandro Sanz), as well as, from time to time, music-for-film projects. Working with files from different film composers, "You get all sorts of formats, especially Logic Audio; there seems to be a migration to that in this community of composers," he says. "A lot still use Digital Performer,



**Jimmy Douglass:**  
"One thing that's really bad is getting all these [hard disk] files that are not labeled in any way."

and a couple of times I've had people sending me stuff from Cubase. It can be time-consuming importing into Pro Tools, but it isn't hard."

Sardina says that on a recent film score for *Madea's Family Reunion*, "We had to work on a few different locations simultaneously and the one technical advance that made it possible was the use of the Internet to send and receive files among all the people involved in the project. Regardless of the advances, the one thing that really shocks me is the fact of being at my own studio, After Hours in Los Angeles, mixing all of the music and not seeing anyone else involved during the process: Every decision, comment or change was transmitted over the Internet. I recorded the score in New Orleans, and two days later, I was already mixing at my studio. The orchestral work was self-explanatory, but the other half of the cues in the movie were so diverse that I had to use my gut and sense of the atmosphere the scenes were going for. There were full-band pieces, percussion cues and anything else imaginable. I nailed most of them, and the ones I didn't, I got an e-mail with the revision notes! I was missing that human interaction."

Paul Klingberg, another L.A. engineer and mixer (Earth, Wind & Fire; Jonathan Butler; Don Grusin; Loreena McKennitt) was faced with a similar issue when it came time for him to mix the Farm Aid 20th Anniversary concert for the In-Demand network last Thanksgiving. "It was a huge project," he says. "It was an all-day event, and I think there were 15 artists, including Willie Nelson, who was kind of the mayor of that whole thing; there were also Dave Matthews, John Mellencamp, Neil Young, Kenny Chesney, John Mayer, Los Lonely Boys and some lesser-known artists. Each did a set, and we ended up



**Jack Joseph Puig:**  
"I realized that this subsonic energy was freaking out the compressors."

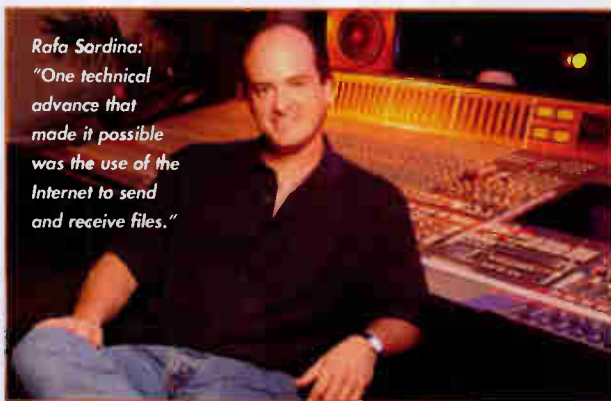
PHOTO: DAVID GOGGIN

with 12 hours of recorded material. We had two trucks doing the recording: Biff Dawes from Westwood One and Timothy Powell from Metro Mobile in Chicago.

"It's one thing to mix a concert and deal with one artist: You talk to them, maybe swap CDs. But this was 15 artists, and all the major artists wanted to hear the mixes. There weren't any fixes because there was live video, too, of course, but there were some edits and they wanted to hear those. So what I ended up doing is something I've been doing for a while. I created 10 or 12 individual Websites where I could take

whatever the final video was and marry it with the stereo mix. Then the artists or whoever could go onto the Website, hear what I was doing and give me immediate feedback. I'd make some fixes and immediately update the Website with the changes. That wouldn't work for the surround mixes, however; for those I created DVDs."

Klingberg says that he constructed the Websites through a very simple feature available through Macintosh called DotMac. "It allows you to have a standard e-mail account," he notes. "but you also can get up to a Gig of Website space. It's worked out so well for me. I do this with every artist I work with now—I immediately create a Website, not just to listen or view something, but also for file transfers. I think I've had up to 20 Websites going at a time. The audio assets are MP4, which sounds really, really good to me. The only drawback is that Windows users have to have the XP version of QuickTime installed, but I'm finding most people have that."



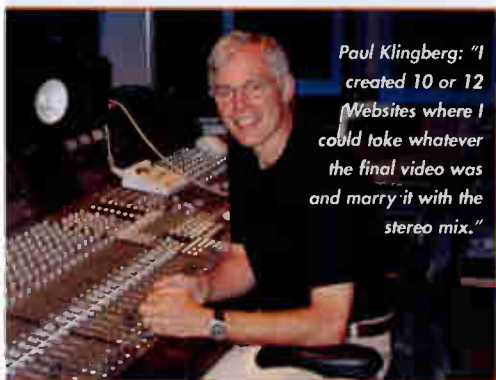
**Rafa Sardina:**  
"One technical advance that made it possible was the use of the Internet to send and receive files."

PHOTO: V.C. BOGHOSIAN

The engineer came away from this latest experience thinking a lot about "the expanding role of the tools we use and the knowledge that audio people need to know now," Klingberg says. "It's much more than SMPTE sync issues between audio and video; now it's knowing software like Final Cut Pro and QuickTime Pro and Photoshop and DVD Studio Pro. I gave all of those a full workout on this project and that definitely seems to be the way things are headed." ■

*Blair Jackson is senior editor of Mix.*

**Paul Klingberg:** "I created 10 or 12 Websites where I could take whatever the final video was and marry it with the stereo mix."



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# The Speaker Takes the Stand

THE MIX GUIDE TO NEW ACTIVE STUDIO MONITORS

By Michael Cooper

Several years ago, active monitors were new in town, raising eyebrows at trade shows where passive designs still ruled. How things have changed! Today, there are far more active models than passive ones on the market, and most pro audio speaker manufacturers make at least one active monitor.

There is good reason for this turn of events. Active monitors take the guesswork out of pairing the correct amplifiers to speakers. An amplifier's power capabilities and impedances can have a profound impact on a monitor's performance—including frequency response, maximum SPL, efficiency and distortion—so a well-designed, all-in-one package can often deliver superior results. Monitors that are bi- or tri-amplified take this benefit to the next level by dedicating a separate amplifier to each driver or amplifier(s) to each band (high, mid and low) separated by crossovers.

If there's a downside to active monitors, it's that the tidal wave of current models makes it difficult to find the one most appropriate for your needs. And while the incorporation of DSP, networking capabilities and/or traditional equalization facilities advances the performance of many current models, these extra features also further complicate the task of choosing the best setup for your studio. The following primer and accompanying chart (on pages 40 and 41) should help you narrow your search. To keep the size of the chart manageable, we've limited our coverage to active near- and mid-field models that were first announced at or since the October 2004 AES convention.

Recent exciting developments are advancing the state of the art for active monitors. But before we explore these pioneering efforts, let's examine some of the basic features and specs that one should consider when shopping for new monitors. You might want to bear in mind that much of the following discussion applies equally to passive monitors.



Tannoy Reveal 8D



Quested S7



Roland DM-20



NHPro M-60Xd



Genelec 8020A



Dynaudio BM5A

# The Speakers, at a Glance

PRODUCT (WEBSITE)	PRICE PER PAIR	DIMENSIONS (HxWxD, INCHES)	WEIGHT EACH (POUNDS)	MAGNETIC SHIELDING?	PORTED OR SEALED?	DRIVERS (HF/MF/LF) (INCHES)	AMPLIFIERS (WATTS; HI, MID & LO DRIVERS)
ADAM Audio S4VA MK II ( <a href="http://www.adam-audio.com">www.adam-audio.com</a> )	\$8,250	25.6x13.8x15	75	optional	ported	ribbon/5/12	250/250/500
Alesis M1 Active 520 ( <a href="http://www.alesis.com">www.alesis.com</a> )	\$499	11x6.5x8	13	yes	ported	1/na/5	n/a
Alto M3A ( <a href="http://www.altoproaudio.com">www.altoproaudio.com</a> )	\$318	8.53x5.65x6	7.94	yes	sealed	1/na/2x3	15/na/30
Behringer MS40 ( <a href="http://www.behringer.com">www.behringer.com</a> )	\$160	11x6.8x9.625	10.78 (R), 7.04 (L)	yes	ported	2.5/na/4.75	20
Behringer MS20	\$130	9.4x6x7.375	8.14 (R), 4.51 (L)	yes	ported	2.5/na/3.63	10
Dynaudio Acoustics BM5A ( <a href="http://www.dynaudio-acoustics.com">www.dynaudio-acoustics.com</a> )	\$1,250	12.5x7.3x12.5	19.2	yes	ported	1.1/na/6.9	50/na/50
EMES Kobalt ( <a href="http://www.emes.de">www.emes.de</a> )	\$799	10.75x6.75x10	12.5	yes	ported	1/na/5	70/na/70
E-mu Systems PM5 Precision Monitor ( <a href="http://www.emu.com">www.emu.com</a> )	\$500	11.5x6.9x9.7	14.3	yes	ported	1/na/5	40/na/40
Energy Pro E-7A (dist. by Bryston, <a href="http://www.bryston.ca">www.bryston.ca</a> )	\$1,295	14x9x10	24	yes	ported	1/na/6.5	50/na/75
Energy Pro E-9A	\$1,895	16x10x11	29	yes	ported	1/na/8	50/na/100
Event Electronics ALP5 ( <a href="http://www.event1.com">www.event1.com</a> )	\$430	10.5x7.5x9	11.95	yes	ported	1/na/5.25	30/na/50
Event Electronics ASP6	\$1,299	13.625x10.75x10	25	yes	ported	1/na/6.5	80/na/200
Fostex NX-6A ( <a href="http://www.fostexinternational.com">www.fostexinternational.com</a> )	\$1,598	13.8x9.1x13.2	28.66	yes	ported	0.79/na/6.5	40/na/60
Genelec 8020A ( <a href="http://www.genelecusa.com">www.genelecusa.com</a> )	\$860	9.5x6x5.75	8.1	yes	ported	0.75/na/4	20/na/20
JBL Professional LSR4326P ( <a href="http://www.jblpro.com">www.jblpro.com</a> )	\$1,399	15.25x9.3x10.3	28.5	yes	ported	1/na/6	70/na/150
JBL Professional LSR4328P	\$1,699	17.25x10.5x10.6	32.5	yes	ported	1/na/8	70/na/150
Klein + Hummel M 51 ( <a href="http://www.klein-hummel.com">www.klein-hummel.com</a> )	\$1,654	6.8x4.7x4.6	5.7	yes	sealed	3	25
Klein + Hummel M 51 D	\$2,300	6.8x4.7x4.6	6.2	yes	sealed	3	25
Lipinski Sound L-707 ( <a href="http://www.lipinkisound.com">www.lipinkisound.com</a> )	\$4,590	23.6x9.4x12.4	41	yes	sealed	1/na/2x7	300/na/300
M-Audio Studiophile BX8a ( <a href="http://www.m-audio.com">www.m-audio.com</a> )	\$600	12x10x15	26.4	yes	ported	1/na/8	60/na/70
M-Audio EX 66	\$1,399	19x8.25x9.5	24.65	yes	ported	1/na/2x6	100/na/100
Miller & Kreisel MPS-1611P ( <a href="http://www.mkprofessional.com">www.mkprofessional.com</a> )	\$2,398	12.625x8.375x12.125	20	yes	ported	1/na/6.5	50/na/100
Nady Systems SM-250A ( <a href="http://www.nady.com">www.nady.com</a> )	\$290	13.4x8.3x10.4	18.5	yes	ported	1/na/6.5	50/na/50
Nady Systems SM-300A	\$400	n/a	n/a	n/a	n/a	n/a	100/na/140
NHTPro M-20 ( <a href="http://www.nhtpro.com">www.nhtpro.com</a> )	\$2,000	14x8x9.4	20	yes	n/a	1/na/6.5	250/channel
NHTPro M-60Xd	\$5,000	15x13x10	18.2	n/a	n/a	n/a	150/na/150
NHTPro M-80Xd	TBA	10x22.5x14	38	n/a	n/a	1/2x2/2x8	4x 150W/channel
Quested S6 ( <a href="http://www.quested.com">www.quested.com</a> )	\$1,390	11.23x6.7x9.46	16.09	yes	sealed	1.125/na/5	>45/na/>65
Quested S7	\$1,990	13.67x9.61x11.9	25.84	yes	ported	1.125/na/6.5	>70/na/>120
Quested S8	\$2,990	11.82x16.94x14.58	42	no	ported	1.125/na/8	>150/na/>220
Roland DM-10 Digital Studio Micro Monitor ( <a href="http://www.rolandus.com">www.rolandus.com</a> )	\$160	6x7x9	7	yes	ported	n/a	20
Roland DM-20 Digital Studio Micro Monitor	\$290	6x10x11	9	yes	ported	n/a	40
Roland CM-30 Cube Monitor	\$249	8x9x10	12.38	yes	ported	1.5/na/6.5	30
Samson Rubicon R5a ( <a href="http://www.samson-tech.com">www.samson-tech.com</a> )	\$329	13.22x7.9x8.54	15.9	yes	ported	2 ribbon/na/5.25	25/na/50
Samson Rubicon R6a	\$429	13.23x9.25x9.8	20.4	yes	ported	2 ribbon/na/6.5	25/na/75
SLS Audio PS8R ( <a href="http://www.slsloudspeakers.com">www.slsloudspeakers.com</a> )	\$3,140	19x10.5x12.37	46.5	n/a	yes	ribbon/na/8	50/na/270
Tascam VL-X5 ( <a href="http://www.tascam.com">www.tascam.com</a> )	\$399	11.45x7.79x11.41	15.43	yes	ported	1/na/5.25	30/na/60
Tascam VL-S21	\$129	8.9x5.5x2.4	1.3	n/a	sealed	NXT planar (flat) type	5
Tannoy Precision 6D ( <a href="http://www.tannoy.co">www.tannoy.co</a> )	\$1,718	14x8.625x17.875	28.6	yes	ported	1/na/6	35/na/75
Tannoy Precision 8D	\$2,058	17.375x10.75x14.625	39.6	yes	ported	1/na/8	60/na/120
Tannoy Reveal 5A	\$798	11.75x7.25x12	17.15	yes	ported	1/na/5	20/na/40
Tannoy Reveal 66D	\$1,598	9.063x20.75x13.063	38	yes	ported	1/na/6	50/na/100
Tannoy Reveal 6D	\$1,258	13.375x8.25x15	17.15	yes	ported	1/na/6	35/na/75
Tannoy Reveal 8D	\$1,598	16.75x10.313x14.313	35.2	yes	ported	1/na/8	60/na/120
Yamaha HS50M ( <a href="http://www.yamaha.com">www.yamaha.com</a> )	\$500	10.56x6.5x8.75	12.8	yes	ported	0.75/na/5	25/na/45
Yamaha HS80M	\$900	15.37x9.85x13.1	24.9	yes	ported	1/na/8	45/na/75
Yorkville Sound YSM2P ( <a href="http://www.yorkville.com">www.yorkville.com</a> )	\$318	11.5x7.6x10.5	12	yes	ported	1/na/5.25	14/na/32

MAX SPL (DB)	FREQUENCY RESPONSE (HZ)	HF FILTERS?	LF FILTERS?	ANALOG INS	DIGITAL INS	SUBWOOFER INCLUDED?	ADDITIONAL NOTES
115	28-35k, ±3 dB	yes	yes	Bal. XLR	none	no	Tweeter uses A.R.T. (Accelerated Ribbon Technology) ribbon.
90	56-20k	yes	yes	¼ TRS	none	no	Hi, mid and low-frequency switches tailor response.
104	50-13k, -10dB	yes	yes	XLR/TRS combo	none	optional	Switch optimizes for near- or far-field setup.
n/a	50-25k	yes	yes	1/8" TRS, (2) RCA	Toslink, RCA (both S/PDIF)	no	Features ¼ TRS headphone output with auto-mute loudspeaker function.
n/a	65-25k	yes	yes	1/8" TRS, (2) RCA	Toslink, RCA (both S/PDIF)	no	Features ¼ TRS headphone output with auto-mute loudspeaker function.
>115	50-21k, ±3 dB	yes	yes	XLR	none	optional	Large-diam., ultra-light aluminum voice coils enhance dynamic range.
112	64-20k, ±3 dB	yes	yes	XLR	none	optional	Silicon rails on bottom decouple monitor from mounting surface.
103	67-20k, ±2/5 dB	yes	yes	XLR/¼ TRS combo, RCA	none	optional	Discrete Class-A input, MOSFET output, active cross. and overload prot.
101	42-25k, ±1.5 dB	yes	yes	XLR/TRS combo jack	AES/EBU, S/PDIF	optional	Tracking alerts about compromising subsonic material.
106	36-25k, ±1.5 dB	yes	yes	XLR/TRS combo jack	AES/EBU, S/PDIF	optional	Tracking alerts about compromising subsonic material.
>105	53-19k, ±3 dB	no	no	XLR, bal./unbal. TRS, RCA	none	optional	Crossover @ 2.6 kHz incorporates time/phase alignment circuitry.
>109	40-20k, ±3 dB	yes	yes	XLR, bal./unbal. TRS	none	optional	Dual-port design. Switchable 80Hz HPF aids in surround setup.
104	55-38k	yes	yes	XLR, ¼ TS phone	none	no	Low-frequency unit features unique Hyper Radial diaphragm.
95	68-20k, ±2.5 dB	yes	yes	XLR In/Thru	none	optional	Minimum Diffraction Enclosure for high performance/small footprint.
118	55-20k, ±1.5 dB	yes	yes	Bal. XLR and ¼	AES/EBU, S/PDIF	optional	Includes calibration mic, wireless remote, software and USB cable.
118	50-20k, ±1.5 dB	yes	yes	Bal. XLR and ¼	AES/EBU, S/PDIF	optional	Includes calibration mic, wireless remote, software and USB cable.
100	100-20k, ±5 dB	no	no	XLR	none	no	Can be powered by 12V battery, facilitating mobile use.
100	100-20k, ±5 dB	no	no	XLR	XLR (AES/EBU), BNC (S/PDIF)	no	Can be powered by 12-14V battery. Switchable analog or digital XLR in.
93	31-40k, ±3 dB	yes	no	binding posts	none	optional	Optional stands (\$2,395/each) reduce 2nd/3rd-harmonic distortion.
n/a	40-22k, ±3 dB	no	no	XLR, bal./unbal. ¼	none	no	Protection: RFI, output current limiting, over-temp., subsonic content.
115	37-22k	yes	yes	XLR, bal./unbal. TRS	AES/EBU, S/PDIF	no	Both analog inputs can be used simultaneously.
n/a	35-22k, ±3 dB	no	yes	XLR/¼ TRS combo, RCA	none	optional	Converted to sealed-cabinet design with removable bass port plug.
n/a	35-20k	no	no	XLR, bal./unbal. ¼ TRS	none	no	Vertically aligned. 1.5-inch-thick, radiused front baffle.
90	35-20k	no	no	XLR, bal./unbal 1/4" TRS	none	no	Monitor not yet in production at the time of this writing; details TBA.
117	45-20k, ±2 dB	n/a	n/a	XLR, TRS	none	optional	Outboard amp adjusts for boundary/distance proximity, input sensitivity.
n/a	55-20k, ±0.5 dB	n/a	n/a	XLR	n/a	included in price	Outboard amp. DSP improves dispersion and off-axis response.
>120	35-25k	n/a	n/a	XLR	n/a	optional	4 amps/channel in 1 outboard unit. Same proprietary DSP as above.
116	75-22k, ±2 dB	yes	yes	XLR/¼ TRS combo	none	optional	Optional SB10 subwoofer extends bass response to 20 Hz.
119	65-22k, ±2 dB	yes	yes	XLR/¼ TRS combo	none	optional	See notes on SB10 sub above.
122	50-20k, ±2 dB	yes	yes	XLR/¼ TRS combo	none	optional	See notes on SB10 sub above.
n/a	45-35k	yes	yes	stereo "mini," RCA	Optical, co-ax	no	Front panel stereo headphone jack enables silent monitoring.
n/a	50-22k	yes	yes	¼, RCA	Optical, co-ax	no	Front panel stereo headphone jack enables silent monitoring.
n/a	n/a	yes	yes	XLR, (2) RCA, stereo mini-phone	none	no	Five inputs per monitor sum multiple mic, line and instrument sources.
n/a	58-27k, ±3 dB	yes	yes	¼ TRS, RCA	none	optional	Price cited is MAP. 4-position high-frequency level control.
n/a	57-27k, ±3 dB	yes	yes	XLR, ¼ TRS, RCA	none	optional	Price cited is MAP. 4-position high-frequency level control.
117	44-30k	no	yes	Bal. XLR	none	no	HF waveguide can rotate 90 degrees for horiz. or vertical orientation.
103	45-22k, ±3 dB	yes	yes	XLR/¼ TRS combo	none	no	Acoustic Space Control allows placement against a wall or in a corner.
n/a	50-20k	no	no	RCA	none	included in price	Entry-level system includes flat-panel satellites and 15W sub.
110	59-51k, ±3 dB	yes	yes	XLR/¼ TRS combo	RCA (S/PDIF)	optional	DIPs optimize for far-field/close-field/placement against walls/in corners
113	44-51k, ±3 dB	yes	yes	XLR/¼ TRS combo	RCA (S/PDIF)	optional	DIPs optimize for far-field/close-field/placement against walls/in corners
103	65-30k, ±3 dB	no	no	XLR/¼ TRS combo	none	optional	Cabinet face features On/Mute/Energy-Saver switch.
111	55-51k, ±3 dB	yes	yes	XLR/¼ TRS combo	RCA (S/PDIF)	optional	DIPs optimize for far-field/close-field/placement against walls/in corners
109	60-51k, ±3 dB	yes	yes	XLR/¼ TRS combo	RCA (S/PDIF)	optional	DIPs optimize for far-field/close-field/placement against walls/in corners
112	45-51k, ±3 dB	yes	yes	XLR/¼ TRS combo	RCA (S/PDIF)	optional	DIPs optimize for far-field/close-field/placement against walls/in corners
n/a	55-20k, -10 dB	yes	yes	XLR, bal. phone	none	optional	Filters (Mid EQ, Room Control, low- and high-freq.) tailor response.
n/a	42-20k, -10 dB	yes	yes	XLR, bal. phone	none	optional	Filters (Mid EQ, Room Control, low- and high-freq.) tailor response.
113	70-19k, ±3 dB	no	no	XLR, ¼ TRS	none	optional	Uses electronically active crossover network tuned for each driver.

## The Speaker Takes the Stand

### A SENSE OF PLACE

Consider any ergonomic limitations that your studio imposes on your monitoring setup before you buy. For example, if you plan to mount your monitors on top of your console meter bridge or on existing stands, then make sure that the monitor's tweeter will be at ear level once the cabinet is in place. Some monitors are only meant for use in vertical orientation (to better align all drivers), and such a unit with a large height measurement could result in high

frequencies beaming far above your head, which is not desirable. Note the cabinet's dimensions listed in the chart, break out the tape measure and plan accordingly. Also, some models with beefy amplifiers can be quite heavy, so make sure your mounting surface can handle the weight before you buy.

Most of the newer monitor models feature magnetically shielded drivers. If you won't be placing the monitors near a CRT video monitor, magnetic media (e.g., hard drives) or sensitive equipment (such



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as tape recorders), then magnetic shielding is not necessary (but can't hurt).

All other things being equal, ported (aka bass-reflex) monitors produce more prominent and deeper bass-band reproduction compared to sealed-cabinet designs. However, the bass produced by a ported design usually sounds at least a little flabbier than that produced by a



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monitor using a sealed cabinet. The Miller & Kreisel MPS-1611P monitor (reviewed in the December 2005 issue of *Mix*) features a removable port plug that allows you to switch between ported and sealed cabinet responses.

Waveguides used to be found only on high-end models, but even entry-level monitors are sprouting these. A properly designed waveguide controls the dispersion characteristics of high and/or midrange frequencies and minimizes diffractive effects. The result is tighter



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#### I'M REALLY AMPED!

If you've got to fill a large control room with sound or need to impress rocker clients with thundering monitors while tracking, then the maximum SPL spec is an important consideration. But even if you don't want to ruin your hearing, a high-SPL capability is desirable; it's good to briefly check how your mixes sound at a fairly loud level.

A monitor's stated frequency response is usually a good indicator of whether or not a subwoofer (or additional large-format far-field monitors) will be needed to attain full-bandwidth monitoring. But a frequency response spec without stated plus-and-minus tolerances is of dubious use. In the absence of tolerances, how many decibels above or below the stated range does the response vary—3 or 300 dB?

If you'll be using your new active monitors with an existing sub, then make sure that the top end of the sub's frequency response doesn't overlap with the bottom limit of the satellites' bass response or you'll hear overly pronounced bass in that overlapping band. To eliminate the guesswork here, many manufacturers offer subwoofers that are closely matched with their near-field offerings; see the chart for more information. The inclusion of a switchable 80Hz highpass filter on a monitor can also help integrate it with a

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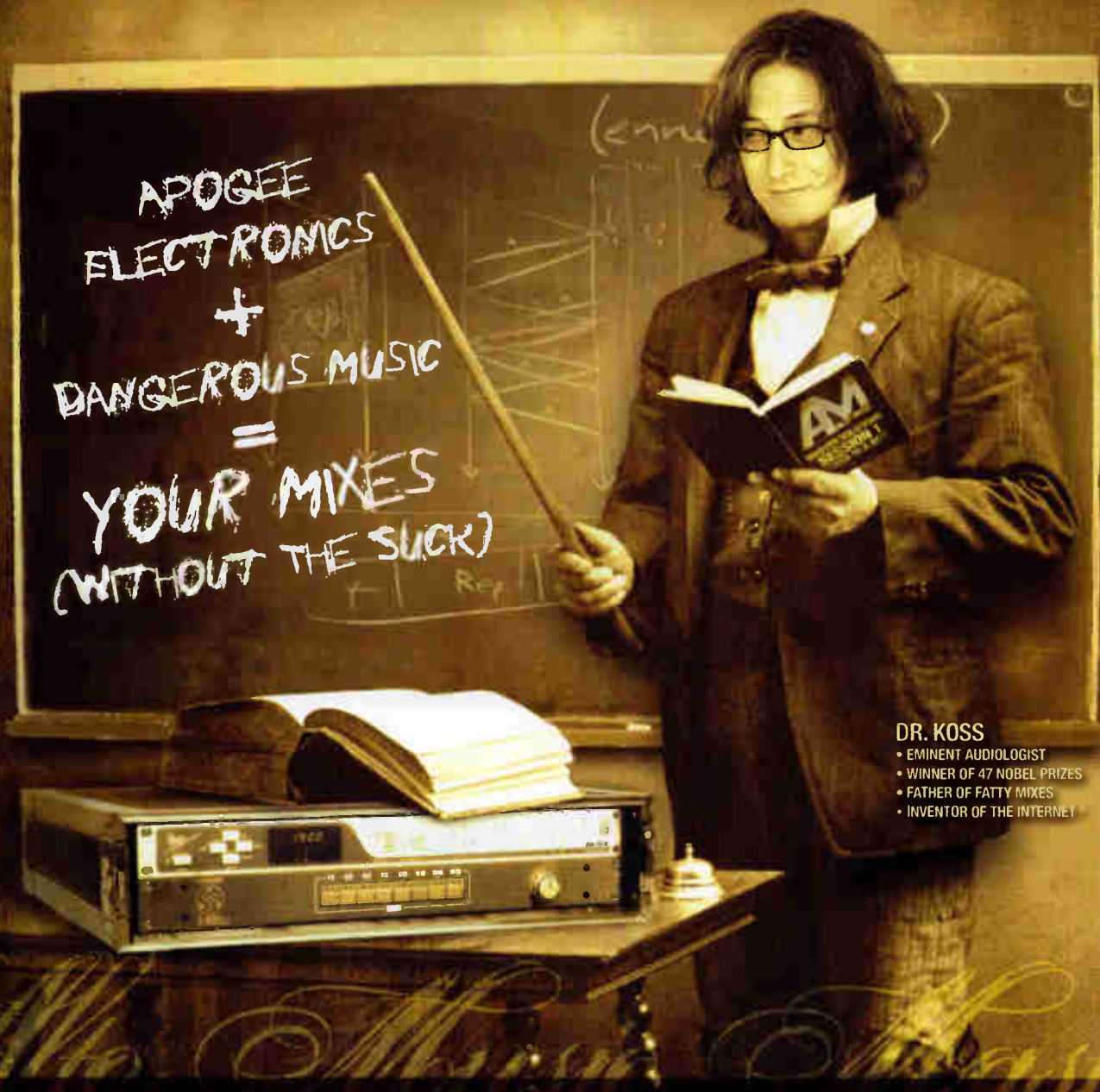


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\*Dr. Koss did not actually invent the Internet or win any Nobel prizes, and we're not too sure about that doctor status either. But he talks a good game and we like to keep him happy, so if you happen to run into him, just play along...

## The Speaker Takes the Stand

separate subwoofer, which is especially useful for surround work.

The specified high-frequency limit to a monitor's response doesn't always indicate how detailed a monitor will sound. Superior impulse response can often trump a more modestly stated frequency response, yet the former is rarely shown in product literature. This is just one example of why specs should be used as a starting point and not a deciding factor in your purchase. Also, specs provided by various manufacturers are often derived using different means, so not all specs are comparable.

Your room's volume, dimensions and acoustic damping also bear consideration.



E-mu PM5

Small rooms that have carpeting or are heavily damped with foam or Fiberglas wall panels may need a little boost in the monitors' top-octave output. Check the HF Filters column on the chart to see if a monitor you are interested in features high-frequency filters for tailoring the top end to your room's needs.

Similarly, low-frequency filters can help correct weak or boomy bass due to room tone and speaker-boundary effects (the latter exacerbated by placing monitors near walls and/or corners). Several new models offer equalization facilities that specifically adjust for speaker-boundary effects, which are sometimes unavoidable in cramped quarters. If you work in an asymmetrical room, then look for models that allow you to independently (i.e., not just globally) adjust filter controls on each monitor to adjust for speaker-boundary effects. Independent sensitivity controls are also a big plus in such situations, as well as for surround setups. JBL's LSR4300 Series

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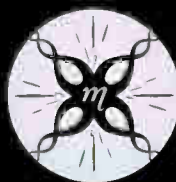
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## The Speaker Takes the Stand



monitors include a wireless remote for controlling various parameters—including volume, EQ settings, solo and mute status, and input source switching—from the mix position.

### BRAVE NEW WORLDS

For several years, KS Digital has been fitting its high-end far-field monitors with embedded DSP that corrects room modes and speaker-boundary effects, but this has required the user to send the company a recording of swept tones—taken at the mix position—and later to download customized, corrective software to the monitor's non-volatile memory—a time-consuming process. JBL has essentially made this corrective procedure a real-time, automatic process with its cutting-edge LSR4300 Series monitors.

JBL's new LSR4326P and LSR4328P



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## The Next Step...

So you've done your research and you're ready to audition monitors. Check out the following timeless listening tips, excerpted from George Petersen's "Choosing Studio Monitors," *Mix*, February 1995:

- Don't try to compare more than two pairs of monitors at once. A simple A/B test is hard enough to handle without having to attempt an A/B/C/D...test.
- Be aware that your hearing can become fatigued over time, especially if you're listening at a high volume. If you're having trouble focusing on what you're doing, it may be a hint that you need a break.
- Make sure that your listening tests include playing material at low and high volumes. A good monitor will sound consistent at all levels.
- With studio monitors, the listening environment is *everything*. If you're looking for speakers that are meant to be heard from one meter away, then you should listen to them in the near-field and preferably seated, with the speakers at ear level. This will remove most of the acoustic effects of the room so you can focus on hearing the speakers.

For more listening tips, read the entire article at [www.mixonline.com](http://www.mixonline.com).



monitors incorporate the company's RMC™ Room Mode Correction system, which uses a calibration signal and included microphone to analyze low-frequency room anomalies automatically and adjust the monitors' response to compensate accordingly. The company's Control Center Software uses a USB-equipped computer and Harman's HiQnet™ Network protocol to synchronously adjust LSR4300 Series monitors' parameters—including distance



JBL LSR4328P

compensation for surround applications, saving and loading custom EQ presets, and switching among three input sources—in a networked environment.

Not all active monitors have built-in amplifiers. New offerings from NHTPro and Lipinski use outboard amplifiers. Lipinski maintains that amps built into the back of speaker cabinets produce up to 15% second- and third-harmonic distortion. Lipinski's solution is the L-3601 Powered Stand, which contains a built-in L-301 power amplifier for the company's L-707 near/mid-field monitors.

#### ONLY THE BEGINNING

As you look for your dream monitors, remember that specs and feature sets aren't everything. Most monitors sound different when placed in different rooms. If at all possible, audition monitors in the room where you plan to use them before you buy. Happy shopping! ■

*Michael Cooper is a Mix contributing editor and owner of Michael Cooper Recording, located in beautiful Sisters, Oregon.*

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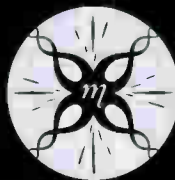
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ENGINEERS ARE CREATURES OF HABIT.

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# THE Incredible Shrinking Rig

By Sarah Benzuly

FOH ENGINEERS TAKE THE DIGITAL PLUNGE

But in today's lean recording business economy, the sound reinforcement world is also finding ways to maximize the efficiency of touring in a downscaled environment. When management says cut back, engineers must make do with smaller rigs, easing equipment-rental costs, decreasing the trucking/gas budget and, perhaps most importantly, allowing more tickets to be sold. Think about it: If you can free up even 40 seats at one gig, with profits of, say, \$20 per ticket, that's \$800 a night. Multiply that by five to six shows a week, touring for almost a full year, and you've got quite a bit of change.

Luckily, slimming down the rig is not all sacrifice. There are plenty of benefits to working with compact digital consoles, which offer a smaller footprint, onboard functionality that's equivalent to racks of gear and a streamlined user interface. *Mix* chats with a handful of front-of-house engineers who recently took the digital challenge.

### THE PLAYERS AND THEIR RIGS

Mark Newman has been an audio engineer for the past 20 years, having toured with Lucinda Williams, Neil Finn and The Wallflowers, to name a few artists. He is currently on tour with Blondie after mixing FOH with the Black Crowes for eight months last year. During the Crowes' tour, Newman, who had previously mixed on a Midas XL4, scaled down his setup by switching to a Yamaha PM5D with little outboard gear (TC Electronic D2, BSS 901 Mark II, Empirical Labs Distressor). "The timing was right for me to spend a day at Delicate Productions [Camarillo, Calif.], getting an orientation on the digital console," Newman says. "I wanted to try a digital desk."

The last time *Mix* caught up with Brian Boyt ["Soundcheck," July 2004], he was mixing FOH for Maroon 5. When we spoke with him a few months ago, Maroon 5 was in the middle of recording their next release and were planning a world tour, carrying consoles almost 100 percent of the time; previously, they had only carried a mic package. Boyt hasn't made the decision to go digital yet, "but I will probably have an A/B shootout with the analog stuff before we head out again," he says.

The Cure's FOH engineer, Craig Overbay, first used a digital console (a Yamaha PM1D) during the band's 2004 tour. The decision to go digital resulted from a conversation that Overbay had with Cure monitor engineer Ian Beveridge, who was already taking out a PM1D. Overbay says he opted to "take a jump into the deep end of the pool." He is also carrying one rack of outboard gear.



**Brian Boyt:** "I had the option to go digital, and it was a huge benefit because you could put the support acts on there."



**Craig Overbay:** "I can just save my show and move it from one place to the next and it should come up the same. At least that's the way it says in the manual!"

Evanescence FOH engineer Eddie Mapp is now touring with P.O.D., who are out in support of Staind. He is carrying a Yamaha PM5D. (He had a Midas XL4 with Evanescence.) He is using pretty much everything onboard except for two Crane Song pieces. STC8 on bass and Trakker on lead vocal. "Other than that," he says, "I'm trying to not go through any more conversion than I have to."

Brad Madix spent the last year touring with Queensryche and is now working with Fort Minor, a rap side project of Mike Shinoda (Linkin Park); they'll be out on tour at the end of this month. All he is using is a Yamaha PM5D. "I'm finding the more I get into [digital consoles]," he says, "the more I can wring out of them. I had kind of weaned myself off of one little piece of gear after another."

Robert Scovill was most recently out with Tom Petty, carrying quite a formidable rig: a 56-input Paragon PII console, five 22-space effects racks (system crossovers, computers, dynamics, EQ, effects and instrument processors) and two 14-space racks housing a 64-input Pro Tools|MIXPlus recording system. However, he has moved over to a Digidesign VENUE; he served as a development consultant for Digidesign. Regarding this switch, "I have not only replaced all of the gear with a mixing platform," Scovill says, "but I have more than doubled my inputs potential and effects processing capabilities."

### TAKING THE DIGITAL LEAP

Many engineers are finding that digital boards offer a number of cost-cutting solutions on tour. As Mapp points out, taking out a digital board reduces shipping space. "One thing that I'm seeing a lot of on mid-sized tours is management pushing for digital consoles," he says. "They're trying to sell more seats and save costs on shipping and trucks. When you can put four acts on one console [in a festival-type situation], as opposed to a minimum of two consoles, it is more cost-effective. It's less processing to carry and allows more flexibility for opening acts."

Because Maroon 5 will be carrying boards for their upcoming tour, Boyt had to come up with a smaller package that could be easily shipped around the world. "What I normally use is a Heritage 3000 and bunch of outboard gear, and it turns out to be three or four racks and a desk," he says. "Now, I am a huge fan of what I've got going on right [Drawmer gates, BSS and dbx comps, Manley VoxBox, Yamaha SPX-990s, Eventide H3000, TC Electronic delays], so changing it doesn't really make much sense to me. But for economical reasons and for sake of consistency, I think that the best bet is to use a digital console and I can carry that and one rack."

# The Incredible Shrinking Rig

Overbay's decision to go digital was mainly due to the technology: "I thought, 'Well, [The Cure] is going to be doing a tour in Europe and then a tour in the U.S. and, in theory, I don't have to take out the same console [a Yamaha PM1D]. I can just save my show and move it from one place to the next and it should come up the same. At least that's the way it says in the manual!"

"When Weezer did a club tour run," Overbay continues, "I specifically took out a Yamaha PM5D, and that worked out great, both for myself and the monitor engineer." Right after Weezer finished their club tour, they hooked up with the Foo Fighters on a double-billed tour, in which both bands and the opening act were sharing one console—a DiGiCo D5—a decision made by the engineers and not management. "And that was great," Overbay remembers. "I mean, it is a digital console; isn't that kind of the purpose of it? Everybody could just go up, load your show and away you go. And we still had a couple of racks of outboard, but not much. And if you think of a tour like that—it was an arena tour—where there would normally be two XL4s and then maybe a PM3000 for the opening act, you really start to see the benefits."

## UPS AND DOWNS OF ALL-IN-ONE

For engineers making the jump to digital, how has the new technology affected their mixing approach? The biggest issue in switching to a digital console seems simply to be a matter of wrapping their heads around using a computer screen rather than having a rack of blinking lights and knobs. However, for engineers used to the immediate access of analog, a few logistical compromises are necessary.

"I lay out the inputs differently than how I normally would on an analog desk," says Overbay, "just so they make sense to me. The PM5D is 24 in, and then you hit a button and it flips to the next 24, so a lot of times, you'll put the 24 faders that you will use the most on the first layer and then the secondary stuff on the second layer."

There is also an intuitive change to how they approach their setup. The compactness of these digital boards places all functions within an arm's reach, offering an incredible amount of flexibility in setting up a mix. According to Madix, "One thing I really like is that everything is right in front of me [on a digital board]. I realized I never had to turn or lean over and reach down and fuss with the knobs. I can always be sitting in the same position, more or less, and still have my head in the mix, as opposed to stooping down and



**Robert Scovill:** "With a digital console, I never had to leave the listening field to operate the equipment."

looking at a whole other panel and getting a handle on where all the knobs are and find out what I need to adjust. Just being able to sit there and bring up whatever dynamic or EQ or effect or whatever as opposed to taking your head out of that space."

Scovill agrees: "The most noticeable difference for me was having all the effects processing and dynamics processing liter-



**Brad Madix:** "I think we can assume at this point that digital audio will continue to improve."

ally at my fingertips. It made for some really great workflow. I never had to turn around or leave the listening field to operate a piece of equipment. It could always reside in my line of vision, so I rarely had to take my eyes off the stage. Also, the reliability factor was a big one. There was no chance of any knob getting accidentally tweaked and laying as a landmine for you once the show began."

However, some engineers cite the lack of effect options as a downside to replacing their racks of outboard.

"I'm trying to get the same dynamics, effects, compression out of what is resident in the console," Madix says. "There isn't anything on that desk that is like a Distressor simulator. But you start thinking, 'When I use a Distressor, what is it that I'm doing to the sound exactly?' as opposed to wanging the knobs out until it sounds right. I'm thinking about what I'm doing in a more quantitative way. I find it's easier to not get bogged down in all these workings of the equipment be-

cause it's right there in front of you; it's really easy to get in and out of editing something on the fly, as opposed to running around and trying to get three pieces of gear chained together to sound a certain way."

But as technology advances, digital boards are sounding better and better (improved algorithms, expanded effects options). Mapp sees this as a motivator for engineers to take the digital route. "Processing is getting so good that you don't want to go through any extra converters. The Digidesign VENUE I think is amazing because you have access to any outboard gear you wish through plug-ins. Why would you want to go somewhere else outside the console? I don't think analog consoles are ever going to go away. [But] once digital gets to the point where it becomes pretty seamless, I think we'll see a greater move toward all-digital consoles."

At the end of the day, Newman's main concern hasn't changed. "A lot of the 'pluses' to downsizing gear by going digital don't concern me," he says. "I'm not worried about how many seat kills are needed to accommodate my equipment or how much space in the truck is needed. The size of the equipment doesn't affect my mixing, but the way the console operates and sounds does. My head seemed to be buried in the computer screen too much on a digital board. If it doesn't sound good or suit my needs as an engineer, I don't want to use it."



PHOTO: STEVE JENNINGS

**Eddie Mapp:** "When you can put four acts on one console, it is more cost-effective."

## LOOKING AT A DIGITAL FUTURE

Digital consoles are becoming a fact of life in the SR world, whether it's an effect of "downsizing" a FOH rig, a result of the sound company stocking up on the latest version of each digital board or it's just a matter of engineers becoming more comfortable behind a computer screen. If you're not comfortable going digital, you may be out of a job.

"As an example," Boyt says, "I went out and worked for Rat Sound when they did the Inland Invasion tour, and they were

completely out of gear. So what they did was they got four PM5Ds and that was a lot cheaper than going out and getting outboard effects and consoles and patches. And it worked out great. I had the option to go digital, and it was a huge benefit because you could put the support acts on there."

Overbay agrees: "I would say without question [moving to a digital console] is a trend. Obviously, if a person wanted to, they could bring in a boutique analog sidecar and bus it into a digital desk. All of the audio is converted to digital eventually because it's going through digital crossovers. The idea is to convert it to digital only once. I still want a Manley VoxBox for my lead vocal and a Drawmer 1960 for my acoustic guitars. I will then use all the onboard signal processing for the rest of my inputs. In the case of the analog outboard gear, it is a comfort issue as much as anything."

"I think that we can assume at this point that digital audio will continue to improve," says Madix. "It has for the past 20 years. And I would say the same thing about reliability: It's fairly reliable now. There are a handful of stories floating out there about it all going wrong, but really, it can all go wrong on an

analog desk, too. I think that somehow in your head when something goes wrong on an analog console, it's a little easier to grasp than on a digital console; it seems that there is a ghost in the machine as opposed to, 'Well, the switch is broken.'"

You can almost see the day when engineers will no longer be carrying much equipment at all, except perhaps a favorite mic or EQ; instead, they will save their presets on a card, as digital consoles can be ordered from a local sound company or the board will be installed at the venue.

"It is very possible," Overbay concurs, "as the music industry retools itself from artists that used to sell multiple millions of records to that same artist selling a million or half-million records to promoters trying to pay the high guarantees and to management companies trying to trim the fat, some day, we will see installed in all the sheds that we tour in every summer a generic house sound and lighting rig. You do a few days of rehearsal at the first venue with your backline and 'set' and off you go. Package tours will be put together just like they are now. This may be the way of the future, mainly in purpose-built venues like sheds. Of course,

there are many issues technically and artistically to overcome, not the least of which will be consistent sound quality."

"Of course, the problem with that right now," says Madix, "is that there are five different versions and I don't have a card for each of them. I wouldn't bet that one version is going to win out over the others at this point. It's important to keep in mind that even though the desk is digital, it still has to change the audio into a digital format. And they do it in different ways; some of them are more pleasing to certain people than others."

"Now, we've done it lately where 60 or 70 percent of the shows that we do, we can have somebody bring [a digital console] in from somewhere and we walk in and pop in a card. On that note, I learned the other night that there are older versions of the system software floating around that don't like my card and I learned the new world of on-the-fly firmware upgrade. But it can be done, and we did it and it worked. And wouldn't it be nice to not have to set up your desk every day?" ■

Sarah Benzuly is Mix's managing editor.

## GT PROFILE

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# The Natural Sound of

By Tom Kenny

Terrence Malick sees and hears the world differently from most people. Perhaps it's a result of his many years walking and exploring in the natural world, from his home on the plains of Texas. Perhaps it's a result of his long silent hours indulging his passion, ornithology, where the payoff for hours of solitude is the focused, singular chirp or note, along with a fleeting glimpse, of a rare species. And maybe it's just that his is a unique approach to filmmaking in today's exaggerated media landscape.

He's made only four movies in a 30-plus-year career, and while he doesn't bring in big box office, he receives almost universal praise from critics. He's not afraid to hold the camera on a single image way longer than an audience would expect, and he's not averse to long passages without dialog or music. His approach challenges his audience, and it definitely challenges his collaborators, including the sound crew, many of whom come out of a project saying it was

a rare experience and a highlight of their working life, all the while shaking their heads wondering what just went on.

"The number one issue on this film was to have natural sound," says Skip Lievsay, supervising sound editor and lead re-recording mixer. "[Malick] was really keen on having the sound be a physical part of what coming to a new country, a totally virgin landscape, would be like. He adored the scenery and shot it with no trickery, no plate shots, no CGI. And he wanted the same from sound. It's such an interesting concept, because the sounds are quite obvious and literal in most cases—the sounds of wind, birds, water, crickets, all grounded in nature, about as fundamental as they could be. But we used them in these very weird and complex constructions, which led to a much more dramatic outcome. For the majority of the movie, we were not allowed to use abstract sounds, and the only reverb we were allowed was to make elements sound authen-



TERRENCE MALICK BRINGS  
THE AGE OF DISCOVERY  
TO THE BIG SCREEN

# 'The New World'

tic to a place. There was no reverb for effect—ever.”

*The New World* is the Captain John Smith-Pocahontas story, set in Virginia in 1607 and rolling through the first year of settlement in America, and then sailing back to England. Most of the film takes place essentially in two locations, both of which were shot very, very near the original location, which is now a national historic preserve. The authenticity that oozed out of production was carried over into post sound, from backgrounds recorded through the seasons on location to the sounds of the actual armor and weapons crafted for and used in the film. Backgrounds, in fact, became the main element of the soundtrack, functioning as score in many scenes and creating the movement and depth necessary for a two-hour 15-minute movie that is short on dialog.

“[Malick] wanted us to treat backgrounds like they were the music of nature,” says sound effects editor Erik Aadahl. “He used the metaphor of Japanese calligraphy and painting, ‘Just a few strokes, simple but bold.’ He wanted us to make wind through the trees into a character. He played us some CD tracks he loved of nature environments, which he described as ‘more sublime than Beethoven.’”

## SETTING SAIL

But before going into the backgrounds, it was important for Lievsay and crew to establish a foundation, a tone for the movie. After recording a bit of voice-over in January 2005, and a few locations and effects in March, Lievsay called in sound designer/re-recording mixer Craig Berkey, whom he had first worked with back on *Wild, Wild West* in 1999. Basic sounds and atmospheres were shipped to the picture editors in Texas, and in return, Lievsay and Berkey received a few edited scenes. Berkey went to work on the battle sequence for reel 5.

“I thought the mix would be fairly simple at that point,” Berkey says. “We had a spotting session, and we found that he wanted to keep it really simple and have depth. We had the movie there ready to watch, and we didn’t look at any of it. We just talked for hours about the concept of the sound: to be oceanic, to be simple, to have depth in the screen.”

“Craig spent a huge amount of time on the battle,” Lievsay says. “We started working on Version 2, which was probably around four hours long, with a much longer battle sequence. We experimented with all types of material and created sort of a baseline, which we brought down to show to Terry, essentially as an audition to try to help him understand how the sound would impact the movie. At the same time, it helped us figure out if we were on the right track.”

After returning with an initial positive response, and anticipating at that point an August final, on Berkey’s recommendation Lievsay brought Aadahl aboard in June. The term “oceanic” was one they were familiar with, from Malick’s work with Paul Huntsman on *The Thin Red Line*. Japanese calligraphy was another example, then “I



PHOTOS COURTESY NEW LINE

want it to sound like a marble on a rolling surface.” Aadahl recalls early terms like “mystery,” “heart opening,” “sense of the infinite,” “sloping” and “on an incline plane.”

“That sounds beautiful,” Berkey says with a laugh. “But then you’re sitting in front of a scene asking, ‘What does that really mean to me?’ You have to interpret it, become a sonic interpreter. Then you learn to trust that when he says something, you can interpret in a way that people respond to positively.”

Berkey went back to Marin County, Aadahl back to L.A., and the two started cutting like mad, with Berkey on the battle scenes and middle reels, Aadahl on the beginning and end reels. Berkey began predubbing, nearly simultaneously, in his small room with Pro Tools and a Blue Sky 5.1 monitoring system. As he finished a reel, he would ship the Pro Tools session down to Aadahl, who would conform it, make fixes and send it back. At this point, they figured out a predub layout that carried through to the print master. That simple decision to establish a grid proved to be a lifesaver when changes continually arrived and the versions began piling up. In a word, the premix, and later the final, were elastic.

## SIGHTING LAND

It’s important to state at this point that while there was a seeming luxury of time, with the mix being pushed back to November-December, there never was really enough time or money. But Lievsay knew this going in, and because he knew changes would be coming, and because he knew that the film would never really be “finished,” they would edit and mix completely virtual, from the Pro Tools edit to the final mix on a three-position Digidesign ICON

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## The Natural Sound of 'The New World'



The core crew, l to r: sound effects editor Erik Aadahl, sound designer/re-recording mixer Craig Berkey, supervising sound editor/re-recording mixer Skip Lievsay, Foley mixer Aaron Glascock, and assistant editor Joel Dougherty.

console at Warner Bros. Stage 6. No versions were ever printed; nothing was recorded until the print master.

“We went to the dub stage on Version 4 [of the picture edit], and we ended up on Version 10,” Lievsay recalls. “Five versions in five weeks. Very hard work with a crew of basically five at that point. We couldn’t have done it if we’d tried to do it in a conventional way. The only way we could have done it is within this Pro Tools format, where we could make hundreds of changes and conform the mix and not have to go in and patch everything up.”

“The virtual predubs allowed us maximum control and flexibility all the way to the print master,” adds Aadahl. “The downside was that we had to carry massive effects sessions, complete with automation, through version changes all the way through the final. We discovered early on that we couldn’t have done it any other way. Terry would ask us to slip a bird here, nudge a breath there, trim out a bed of insects so they’d start 50 feet earlier. We could do any of these moves instantly, where in the traditional way of working it would have been a significant ordeal.”

So the final mix turned into a story of backgrounds and movement and depth. This is not a story about dialog. First, there’s very little to talk about, including the voice-over. Second, Lievsay is not at all proud of the dialog track, outside of some of the group ADR, recorded by Michael Haight for both English and Native American (part being a lost Algonquin dialect). It was director’s choice, Lievsay says diplomatically, lamenting the fact

that he was not allowed reverb on any of it, including the voice-over. Nor is it a Foley story—there wasn’t enough time or money, though Lievsay’s former company, C5, with Foley walker Marko Costanzo and engineer George Lara, turned in stellar footsteps and props. And finally, it’s not a story of the music, though James Horner and supervising music editor Richard Bernstein delivered a magnificent score. The final was a story of patience, a story of backgrounds, movement, depth and...birds.

### ON THE GROUND

Backgrounds and birds essentially became the core of the soundtrack. Much of the raw material was recorded during the spring and summer, at the actual location, by Lievsay’s former partner in New York, Bruce Pross. Aadahl describes the tracks as “exquisite,” while also giving a nod to production sound mixer Jose Garcia, who provided some frogs and insect chatter from Jamestown. Aadahl

PHOTO: ERIK AADAH



Craig Berkey at the final, working on effects



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## The Natural Sound of 'The New World'

himself, along with his father, recorded water laps and oar splashes on a canoe outing at Lake Merced in the outskirts of San Francisco. He also picked up some clean wind-through-grass sounds on a quiet day atop Mt. Tamalpais in Marin County. Some of the more whistle-y elements used in the winter storm sequence were recorded using props with air blown over—a colander, a trumpet mouthpiece, a cheese grater. Aadahl says that the tastiest winds came from a vegetable steamer.

At the final, and in fact throughout cutting and predubs, Berkey set up his background groups as wind A, wind B, birds single, birds bed, insects single, insects bed, and water. A feature of the ICON allowed him to then make mix changes instantaneously on the stage. "It's called custom fader groups," Berkey explains. "Essentially, you can make any fader or group of faders not change while you're banking through other faders. Up to this point, in all controllers, when you bank through faders, everything will change. This way, I could keep all my predub masters on a set of faders and they wouldn't move unless I wanted them to, allowing me to easily bank through only individual elements."

Besides providing the ultimate in flexibility to accommodate late picture changes, this setup allowed for the creative use of BGs to create movement in the track. "Once we established a nominal sort of location tone, we could constantly weave winds and fade in and out for dramatic effect or just to keep it interesting and lively," Lievsay says. "Our whole sound palette came down to natural components, and we didn't want a monotone

sound or things that were repeating all the time. So you let one wind come down and another takes over. It can recede and come back later. Terry was adamant that things should just appear, then recede and never be heard again. We did that within reason, but at one point, the movie was two hours and 45 minutes; that's a lot of film ground to cover."

The ever-changing winds would then be punctuated with crickets or frogs or, most often, birds. Because Berkey had elements available on the board, he could quickly effect sounds to add depth within the movement. "There are scenes, for example, that might take place onshore with a ship moored out in the harbor," he says. "So we would take one dry sound in the foreground, one simple sound, and juxtapose that with the appropriate Altiverb sound in the distance. We did that with the birds quite a bit, and the idea is to focus your ear right there. But the sense of depth is lost, we found, if you go too far and try to put a lot of stuff in the distance. Just one-two, and you're out."

The other role the backgrounds played was in scene transitions, where Lievsay says they basically broke all the rules and made them up as they went along. "We were not restricted to the picture cuts and scene changes," Lievsay says. "We let BGs ebb and flow without regard to the physical



PHOTO: ERIC ANDRANE

Lievsay, background, with supervising music editor Richard Bernstein

change. Sometimes, when several scenes were played as one, we would add more complex sounds as we got toward the cut and continue to change the sounds as we got into the new scene. We experimented with every scene change. Sometimes, it worked better to play up the 'oceanic' concept. And other times we got into this 'rude' idea, which was essentially the hacked together Avid tracks. Oftentimes, we would go from a field to water, so we went for a rude transition."

The final lasted five weeks, in which time they went through five versions. As soon as they would finish the last reel, they would start all over again. It was a relatively long, drawn-out schedule, which proved misleading for the amount of work and changes. Yes, they were nervous that by never recording even stems, they were risking catastrophe, but Lievsay gives credit to his crew and to

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Warner Bros. for having extremely tight, fool-proof data management. He also gives credit to Malick for fostering a very collaborative environment.

"It was a great long parade of sounds and ideas," Lievsay concludes. "It was incredibly challenging and very interesting and very dif-

ficult work—probably more interesting than anything I've worked on in some respects. It was so completely wide open."

Which is precisely the vision of the explorers as they sailed to *The New World*. ■

*Tom Kenny is the editor of Mix.*

## Birds Rule

Director Terrence Malick's love of birds and bird sounds is well-known, but even he had to wonder, "What would a Carolina Parrot sound like?" This was a difficult question because the species has been extinct since the 1920s. However, in 1607 Virginia, the parrot would have been one of the more colorful and noisy inhabitants of Pocahontas' world, and it was important to Malick that the sounds of *The New World* be as historically accurate as the costumes and sets.



Therefore, the production contacted the Macaulay Library at Cornell University's Lab of Ornithology, which houses the largest collection of animal sounds in the world, with more than 160,000 recordings, including 67% of the world's birds.

Greg Budney of Cornell took on the challenge of finding a Carolina Parrot stand-in. Although no recordings of the parrot exist, based on body size and beak shape, Budney determined that the Aratinga Parrot song would be a good approximation.

In the end, the Library provided cues for roughly 75 species of birds, frogs, insects and mammals that were appropriate for the story's time and place. Those sounds were then wrangled by effects editor Erik Aadahl, who says: "In the first hour of meeting Terry, he listed about 20 bird calls that he wanted us to use. One of his best friends is an ornithologist, and he wanted every bird call and frog croak to be accurate for time of day, season and habitat. For the love story, he especially liked antiphonal singers, pairs of birds that sing and respond to each other, like wrens, titmice and cardinals. His favorite call is the hermit thrush.

"I made a spreadsheet organized by the time of day, season and habitat—Lawn & Field, Shrub/Scrub, Upland Forest, Forest Wetland, Emergent Wetland and Wetland Shrub—to make sure no balls were dropped. I then had the complete list of birds fact-checked by the picture department's resident naturalist, Carey Russell. On the stage, Terry would ask, 'Hang on, what species is that?' and we could confidently reply, 'Oh, that's a summer tanager.'

"My first week on the film, I bought Dr. Alan Feduccia's *Birds of Colonial Williamsburg* to get an idea of species and their habits. I contacted the Los Angeles Natural History Museum's department of ornithology. Ken Campbell and Kimball Garrett helped with lots of technical questions, like how bird dialects change over time and what species existed in 1607 Virginia but not now. The vocalizations of most 'non-passerines,' shorebirds for example, would not change over time, where oscine songbirds might adapt their dialects by meeting other birds of the region. The major difference in birds from then to now is the extinction of the Passenger Pigeon and the Carolina Parrot.

"As a funny aside, Garrett was pleasantly surprised that a movie was striving for such accuracy. He mentioned his frustration when hearing a Tundra-dwelling Willow Ptarmigan calling in the South America jungle scene that opens *Raiders of the Lost Ark* and the Cactus Wrens of the Southwest appearing in scenes just about everywhere around the world.

"In 2002, the ornithology world was rocked with the rediscovery of a species previously thought extinct: the Ivory-Billed Woodpecker. All scientists had to go on was a dirty recording from Arkansas. There was a lot of debate over whether or not the actual bird had reappeared, and the debate wasn't settled until August of 2005 when another recording was made and finally confirmed. Terry asked that we put the Ivory-Billed woodpecker strum off in the distance when the film went to end credits as a nod to the birding world."

All in all, about 100 bird species are represented in the final film.

## Beinhorn Says



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### Michael Beinhorn

(Producer - Soundgarden, Marilyn Manson, Red Hot Chili Peppers, Ozzy Osbourne)



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# Narada Michael Walden

## Grammy-Winning Producer/Artist Honors His Roots

I caught up with producer/drummer/songwriter Narada Michael Walden days after a holiday party put on by the Recording Academy's San Francisco Chapter. It was held at the swanky Sir Francis Drake Hotel in Union Square, and all the department stores nearby had their windows decked with bright lights and Christmas displays. Just past the downtown area's giant holiday tree (to use the more PC term), Walden passed a street-person banging a set of tin drums. He stopped and watched the man play. After he finished his piece, the man looked up, wide-eyed, and said, "Are you Narada?" "Yes, I am," he answered, and proceeded to join the man for a short, tinny jam. The point of me telling this story is to "never forget the man on the street. That could have been me," Walden says, and emphasizes gratitude for a charmed career born out of years playing dingy nightclubs around the Northeast.

His path took a very different direction from the one traveled by the man on the corner, beginning with an invitation into John McLaughlin's Mahavishnu Orchestra in the early 1970s, replacing monster drummer Billy Cobham. From there, he played on and wrote a large portion of Jeff Beck's landmark *Wired* album, which led to even more work as a first-call studio and live drummer, providing a solid foundation for artists such as Weather Report, Patti LaBelle, Chick Corea, Teena Marie, Starship, Hall & Oates and Mariah Carey, among others.

In addition to playing on other artists' albums, he launched a solo career with Atlantic Records in the late 1970s. His third album, *Awakening*, reached Number 15 on *Billboard's* R&B charts in 1979; its follow-up, *The Dance of Life*, climbed to Number 9, propelled by the Top 10 single, "I Shoulda Loved Ya."

He kept drumming even as he moved into producing, often playing drums and/or keyboards on albums such as Stacy Lattisaw's *Let Me Be Your Angel* (his first production credit) and recordings for artists such as Angela Bofill, Patti Austin, Phyllis Hyman, Margie Joseph, Sister Sledge, Kenny G. and Whitney Houston (from her 1985 self-titled release up through *The Bodyguard* soundtrack and the 1988 Olympic theme song, "One Moment in Time"). He co-wrote Aretha Franklin's "Freeway of Love" on the album *Who's Zoomin' Who*, which he produced and which gave him his first Grammy for Best Rhythm & Blues Song in 1985.

Recent writing and/or production credits include songs for Carey ("Vision of Love"), Stevie Wonder, Elton John, George Michael, The Temptations, Wynonna Judd and Nas, among others. Since 1985, he's brought a lot of these acts to his Tarpan Studios in San Rafael, Calif., a mid-sized SSL room now open to outside clients after 20 years as his private workplace.



On that rainy afternoon, post-holiday party, Walden spoke openly about his cosmic beginnings with Mahavishnu Orchestra, his work with Ray Charles for the recent *Genius & Friends* release (eight years in the making) and just a few of the myriad high points in between.

### *Tell me about your auspicious beginnings with John McLaughlin and Mahavishnu Orchestra.*

It's all mystical. I was living in Connecticut with a band called the New McGuire Sisters when [Mahavishnu Orchestra's] *Birds of Fire* came out with Billy Cobham, Jan Hammer, Jerry Goodman on violin and Rick Laird on bass. It was really magical music, unlike anything the world had ever heard, because it combined Eastern Indian motif, melody and time signatures with jazz chordings. I went to their show in Hartford [Conn.], and when I walked into the back of the theater and looked way down the aisle, there was a big white spotlight on John McLaughlin, on Mahavishnu. He had a double-neck guitar and was rocking back and forth; he and Billy Cobham were going at it. They'd play full-out, and then they'd stop on a dime. And they'd play full-out again in this odd meter, and neither one would give away what the downbeat was—like an inside trick they'd play with each other—and then they'd stop again. I'd never seen anything like it. You could hear a pin drop.

After the concert was over, I waited [backstage], and when [McLaughlin] came into the room, I said, "I'm Michael Walden and I play drums, and whatever it is that you're doing that helps you do what I saw you do tonight, I want to learn. I want to know." And he said, "Oh, it's partly due to my meditation." I said, "I know about your teacher [Sri Chinmoy]; I read about him on your albums."

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He said, "I'm going to see him at six this morning, and I will tell him I met you." I thought, "My God! It's already 1:30 in the morning in Hartford and the guru is in Queens [N.Y.], which is like two or three hours away, and he's going to see him at six in the morning, after that concert that I just saw?!"

And I thought to myself, "I'm really not ready for this. This is much more intense than I ever thought it could be."

I think that Mahavishnu called me into his life because he wanted someone to be on the same spiritual path with him. And while I was not the world's greatest drummer—Billy Cobham was the world's greatest drummer—I was the world's greatest lover of Mahavishnu—who could play the drums! [Laughs]

**But you must have been plenty good enough—be invited you into his group.**

We became friends first. The first time we played together, he came to my farm. I went to an outdoor [Mahavishnu Orchestra] concert at Tanglewood Preserve, not far from where I was living. Afterward, I went to this cabin where the band was hanging out, and Mahavishnu says, "How far do you live from here?" I said, "Oh, I don't know—two, maybe three hours." He said, "Let's go to your place."

So we packed up my station wagon with his brand-new double-necked guitar that he had just used at that concert for the first time. I drove and he went to sleep! When we arrived three hours later, I said [to my bandmates], "You're not going to believe who's in the car. Mahavishnu's here!" They said, "Oh, come on, forget about it," and he walks in the door! They were shocked and stunned and speechless. He was hungry, so we made him broccoli and cheese and cornbread and whatever and we talked all night. The next day we played together for the first time with Ralph Armstrong on bass, Sandy Torano on guitar, Billy McCoy from Detroit and myself on drums. John sat on a high chair next to me, and we started playing this really fast groove [he illustrates with drum sound effects] and then each person would solo.

When he played, he looked straight at me. I could hear all this commotion out of the amplifier, like a zillion and one notes flying at you, but his face was expressionless. No face at all. That freaked me out. So I closed my eyes. When I closed my eyes, I



At *The Automatt* (San Francisco) with Sister Sledge, 1980: engineer Ken Kessie (L) and producer Narada Michael Walden

PHOTO: KAZ TAUBIA PHOTOGRAPHY

with somebody..."], the tracks and the sound are the spirit of Mahavishnu Orchestra. In everything I do, I put the spirit. Even if it's a lazy ballad, it's still got the spirit.

**How did you make the transition from performing to producing?**

I never stopped performing. But I made more time to go into the studio. Quincy Jones told me, "Being a musician is one thing, but to make a living in the music business, do everything you can do." I understood what he was telling me. Don't *only* be a drummer. If you can produce something, write something, whatever else your talents are, do them.

And I knew I had the talent to do other things. I wrote songs; that was a natural thing for me.

And I love singing, so I could help other singers get good performances. And I never stopped playing live. When I had my own hits, like "I Shoulda Loved Ya," I got to open for Patti LaBelle, and that's a whole other audience—a black audience—and you had to be, like, really down with them to get them off their feet. I learned that technique.

So in the studio, I knew how to put together the tracks. The tracks had to appeal to the ghetto. As Quincy Jones put it, you got to have "an outhouse bottom with a penthouse view." Meaning, you've got to have that skank on the bottom, but the top's got to be glorious and melodic. If you can get that combination, it's pretty irresistible.

**Do you think you have a special knack for dealing with female artists?**

Yes. My mom had me when she was 19, and she had all these sisters. Aunt Mary was the queen of rock 'n' roll, Vickie and Valerie taught me jazz and sophisticated chord changes and my grandmother always had music playing in her house. The first time I heard Little Richard was at her house, and she'd have Ray Charles or Dinah Washington playing—good music. So from having all these women in my life, I learned how to be sensitive to women. Women are really super-sensitive. And when you go into a recording studio, it's like 10-times-fold! You've got to really be on your P and Q! Because you can say one thing and kill the vibe. So I learned that you've got to be encouraging. It's not just hearing if something is sharp or flat.

Also, what helped me and our team is doing the preparation work. For example, for every song I've ever done, I've always

could lock onto it and go crazy, so I learned there's a power in closing your eyes. After that, he said, "I like it up here! I want to get a house up here! And the bass player, he's good, too." So we made a big impression.

Around December of '73, I got a phone call from Puerto Rico from Mahavishnu, and he said, "I just spoke to the guru and I'm going to make a change in Mahavishnu Orchestra and I would like to know if you would consider joining and bring your bass player, Ralph Armstrong, and we'll put together a new group. I'll use Jean-Luc Ponty on violin and maybe Miranda, the girl that's in your current band, on keyboards." I said, "Of course!" He said, "Okay. When I come back in January, I'll come to where your drums are and I'll teach you how to play with me in seven, nine, 11, 13, 17 and how to improvise in those odd meters."

I was also working at a restaurant called Mario's Place as a bus boy. I often say I went from being a bus boy to joining Mahavishnu Orchestra and, in April of '74, to working with The Beatles' producer, George Martin, in London's AIR Studios with the London Symphony with Michael Tilson Thomas conducting, Geoff Emerick engineering and Mike Gibbs orchestrating [for the *Apocalypse* album]. From that restaurant, I went to the very top. That's why I always encourage people that there is no one way to make it, but that you have to be strong in your faith. We have to conquer our fears every day.

**How much of the Mahavishnu experience seeps into your productions?**

It's all one. Even when I'm doing a pop song [sings Houston's "Oh, I want to dance with somebody/I want to feel the heat



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## PRODUCER'S DESK

gotten someone to come in and do a demo vocal. Even for Aretha Franklin. I'll get someone who sounds like Aretha to sing it. So at least I worked out how the song should be sung. And then she gets a copy of that and learns it, and she'll know what she wants to change about it. I learned from Aretha one important thing: She can do all these incredible flips and imaginative things that you can't even fathom. But if you want her to do it again, more to the melody, the only way you can get her to do that is say that you want a "straight reading." And then she would do a version for you singing a song more to the melody. Not entirely, now, but enough. Without knowing that word, I wouldn't know how to get it out of her because she'd be like, "No, that's how I hear it." And she would be right. And if I thought something was a little bit off, she'd say, "No, that's just how I feel it." And I would live with it for a few days and she would be right. The Queen is always right.

My mother and family gave me the sensitivity to know that and to get along with people. To bring a feeling of calm to the studio so the people behind that microphone can sing something that will live for hopefully hundreds of years.



Stacy Lattisaw and Narada Michael Walden

*I understand that Aretha didn't want to initially record "Who's Zoomin' Who."*

That's right. It was one of the first things I wrote for Aretha; myself and Preston Glass. Aretha gave me the idea over a telephone call. I asked her, "Do you go out at night? What do you do?" because we hadn't really met each other. She said, "Oh, sometimes I go out, go to a club, then I see somebody I like, and he sees me and I see him. It's like who's zoomin' who?" And I thought, "Wow, that's cool. As soon as he thinks he's got me, the fish jumps off the hook." And then she laughed. So that became the

song I wrote with Preston Glass. I sent it to Clive Davis and the Queen, and I think Clive had to talk her into doing it. It was the first recording she had done since her father passed away a few years earlier, so she was just getting back in the studio. And it was so beautiful just to be there—at United Sound in Detroit—with her. The first two things we recorded were "Until You Say You Love Me" and "Who's Zoomin' Who." Then, later, Preston said to me, "Why don't you take that song you have for your record, 'Freeway of Love,' [co-written with Jeffrey Cohen] and make it for her?" And I did. It was my first Platinum, Aretha's first million-seller and my first Grammy.

*Were you also working in San Francisco?*

I cut "Freeway of Love" at The Automatt [in S.F.] the same week as "How Will I Know?" for Whitney Houston. We did a lot of recording at The Automatt at that time, and also did some recording at The Plant in Sausalito, [Calif.], and in 1985, we also started moving into Tarpan Studios. The first things we recorded at Tarpan were Jermaine Stewart [sings "We don't have to take our clothes off/To have a good time, oh no..."] and Clarence Clemons' "You're a Friend of Mine" with Jackson Browne, and then Kenny G's *Duotones*.

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*Tell me about working with Ray Charles. You two worked together eight years ago for Genius & Friends.*

I was close with Ray right up until his passing. Because the album didn't come out for so long, we would get together and just listen to it and he would give me his ideas. The project I did with him was songs he approved. What you're hearing now is done because the estate wanted to bring in Phil Ramone, who is great, to do some additional work and some remixing. But because of the politics, they had to change some of the artists. They took off a few great singers that Ray wanted, like Brandy, and replaced them with a couple other singers.

*Was he difficult to work with?*

He didn't want to change his vocals. He'd say things like, "What is it about 'no' you don't understand?" One time I sang him note for note this piece called "Frenzy" that he wrote, and he says, "I wrote all the parts by hand for those horns." And when he said that, he became a giant to me all over again. Because if you hear this piece of music, it's like Charlie Parker—that fast, that clean. It's just brilliant. And the man's blind! So he truly is a genius. And he was kind to me.

Early on, I said, "Okay, I heard you like

that song 'Brick House.' Well, there's a few different things we can do. We can make a whole new version of 'Brick House' or we can do a trick like what P. Diddy is doing, where you sample the groove and make a

As Quincy Jones put it,  
you got to have "an  
outhouse bottom with  
a penthouse view."

Meaning, you've got to have  
that skank on the bottom,  
but the top's got to be  
glorious and melodic.

hot track out of that groove and then on top you put a whole different song so it's got new life." And he says, "Narada, I know we haven't worked together before, and I don't really know you and you don't really

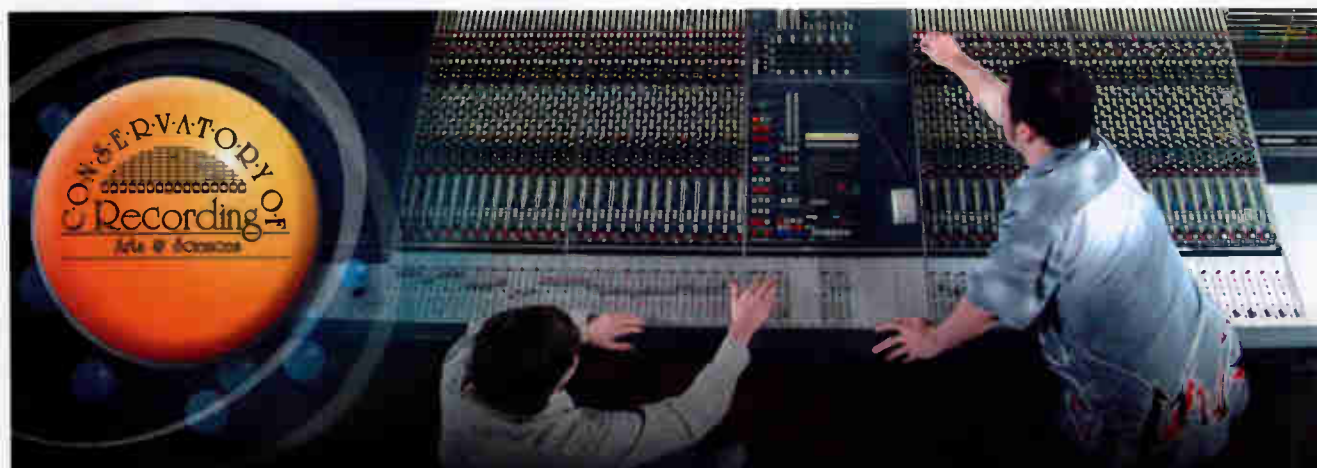
know me, but I think that's the most f\*\*\*ed up thing I ever heard! Would Beethoven do some shit like that? Would Bach do some shit like that? Would Rachmaninoff do some shit like that?" I said, "Well, no Ray, that's a whole other time." "Well, that's what I'm saying. Now use your creative imagination and give me some funk." Yes, sir!

*Where did you record?*

The tracks were done at Tarpan Studios and Ray's vocals were done at his studio with him only. I was never there. He'd send tracks back to me, I'd compile it and we'd put it together and mix it, and add the other vocals onto it: The choir in L.A., I had Brandy in New York—a bunch of people all over the place.

*What are you up to now?*

I'm making a new Narada album. It's a rock/funk springtime/summer fun and deep ballads type of thing where I can get back to my career as an artist, which I miss terribly. I'm really having a good time getting back into my own heart and my own emotions and expressing how I feel and what I want to say. As a producer, you have to always put the hat on for what's best for the artist. But when you're the artist, you got to think about what God's saying in your own heart. ■



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## Nickel Creek



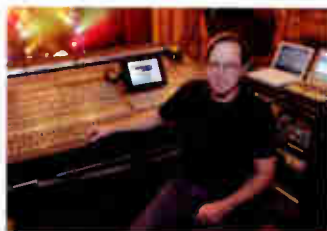
### Text and Photos by Steve Jennings

Currently sweeping through the U.S., Nickel Creek (Sean Watkins, guitar/mandolin/vocals; Sara Watkins, fiddle/vocals; and Chris Thile, guitar/banjo/vocals) are touring in support of their latest album, *Why Should the Fire Die?* *Mix* caught up with the band when they brought their fusion of bluegrass, celtic, jazz and country to San Francisco's Warfield Theater in mid-December.

According to front-of-house engineer Phil Crumrine, the tour is carrying all production except FOH speakers, amps and drive rack; consoles (Yamaha PM5D-RH, FOH; Midas H3000, monitors) are rented from Clair Bros. The band is on Sennheiser 300 IEM G2 in-ear transmitters and Ultimate Ears UE-10 ear molds.

"As for my rack gear," Crumrine says, "the only analog outboard gear is a Summit DCL-200 stereo tube compressor for the main mix and a Line 6 DL-4 pedal. Everything else is connected digitally: Alesis HD-24 hard disk recorder, HBB CDR-830 CD burner and M-Audio Audiophile USB interface for Smaart Live. Vocal mics are Neumann KMS 105s. Most of the vocal songs have three-part harmonies, and the band works the mics to blend the vocals in their in-ear monitors.

"Nickel Creek has everything I want from a band: incredible musicianship, strong vocal harmonies, great songwriting, unbelievable dynamics. They rehearse constantly and are obsessed with being in tune. It's a challenge to get a big sound without a drummer, but it's definitely worth the effort."



Front-of-house engineer Phil Crumrine

## FixIt

### Brian Bavido

Monitor engineer Brian Bavido has been out with Dashboard Confessional, Ari Garfunkel, Lisa Loeb, Richard Marx and "100 other bands that you've never heard of."



Latency in digital consoles, in regards to inserting analog equipment, is still a problem that's overlooked by many engineers. As much as we like to stay in our digital "dream world," there are certain artists that simply require you to use many of the old standbys in the analog domain. Front-of-house engineers don't often hear the latency issues in the P.A., but when you're mixing in-ears, the phase issues caused by the delay are incredibly detrimental to the artist's mix. An example of this would be an outboard compressor inserted on the lead singer's vocal mic via D/A and A/D converters. This throws not only his voice but also all the bleed from the band slightly out of time/phase with the rest of the signal in their mix. To solve this issue on certain boards, simply use an external preamp into the desired compressor and return the signal to the board's insert return. This bypasses the D/A conversion point where most of your latency occurs.

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## News



New music venue Radio City (Dublin, Ireland) has taken delivery of a Midas Legend console, a Midas Venice 240 console and Klark-Teknik processing. Pictured: Radio City's FOH engineer, Andy Colbert

Oklahoma City-based Miller Pro Audio has purchased five Soundcraft GB4 consoles, which are being used on the company's smaller productions and for rental use in Central Southern U.S.... Allen & Heath ML5000 boards have been installed in two churches: House of Hope Worship (Chicago) took delivery of an 80-channel version (supplied and installed by Audio Analysts in Colorado Springs, Colo.); and Amtech Pro Audio supplied a 48-channel board at Real Life Community Church (Portage, Ind.)...Everly Brothers' front-of-house engineer Dave Wooster is using an XTA DP428 audio management system to drive his rig; it's performing functions such as EQ'ing the Martin Audio W8Ls, W8LCs and W8Cs, and acting as a matrix. Gear for the tour was supplied by Capital Sound...P.A. and events production company Electrocraft (Mumbai, India) recently performed a "thorough" road-testing of its new Midas Heritage 3000 board: Mumbai had suffered the heaviest monsoon on record, whereby the company's premises were flooded, resulting in the H3000 being submerged by the flood waters. However, all was not lost: One of Electrocraft's service engineers gave the console a thorough cleaning using industrial-grade alcohol. After a thorough drying out, it worked perfectly on power-up and was put back into service.

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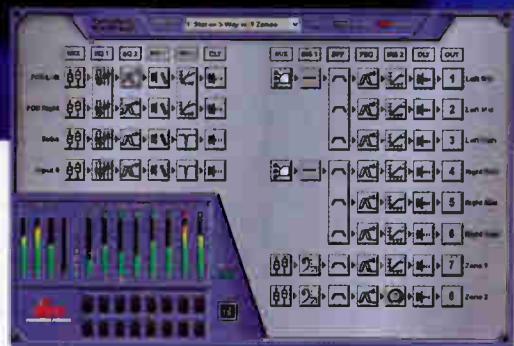
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## Recent Install

The Maxwell C. King Center for the Performing Arts (Melbourne, Fla.; [www.kingcenter.com](http://www.kingcenter.com)) has reopened following major renovations totaling \$1.3 million to improve the sight lines and concert sound system at the main theater, including installing four Lake Contour digital speaker processors and two Lake Mesa Quad EQ digital matrix processors, as well as a JBL VerTec system. The six Lake Technology processors, which were supplied along with a wireless touch pad and access point, control multiple zones of loudspeakers at the 2,000-seat performing arts hall. ASR ProSound were the sound consultants for the project.

One Lake Mesa Quad EQ provides individual control of the upper four and lower two cabinets in the main left/right line array. "That way, I have the flexibility to turn the bottom boxes up and down if I need to or turn them off," says Rance Caldwell (pictured), technical supervisor and the house's main FOH mixer. "Those boxes point downward into the orchestra pit, so I turn them off when we have an orchestral event."

The second Lake Mesa Quad EQ handles processing for four onstage monitor mixes. The four Lake Contour processors control the high and low boxes in the center cluster, balcony fill, frontfill speakers positioned along the downstage lip, deck fill (speakers covering side areas in the lower seating area), and the main and deckfill sub systems.

ASR ProSound had previous experience with Lake equipment improving existing sound systems. "We did a similar project at the Florida Theatre in Jacksonville," Holton recalls. "They were all set to buy a new P.A. I said, 'Give me \$30,000 and let me put in a new drive system.' We put in a new Contour/Mesa system—and they kept the P.A.!"

## Now Playing

### Nada Surf

FOH Engineer/Console: Jacob Feinberg-Pyne/house-provided (Midas or Soundcraft preferred)  
 P.A./Amps: house-provided (V-DOSC, VerTec)  
 Monitors: house-provided (Audio Analysts, Clair Bros., L-Acoustics, d&B, EAW preferred)  
 Outboard Gear: BSS DPR-901II, Empirical Labs Distressor  
 Microphones: Audix OM6, OM7  
 Additional Crew: systems tech Marcus Douglas

### David Gray

Sound Company: Skan (UK/Europe), Eighth Day Sound (U.S.)  
 FOH Engineer/Console: Mark Jones/Yamaha PM5D  
 Monitor Engineer/Console: Jon Ormesher/Yamaha PM5D  
 P.A./Amps: V-DOSC, dV-DOSC/Lab Gruppen, L-Acoustics  
 Monitors: d&b, in-ears  
 Outboard Gear: Focusrite Producer Packs, Eventide H3000  
 Microphones: Shure Beta 91, 57A, 58A; Audio-Technica 4050; Beyers 201

### Ten Tenors

Sound Company: Soundart  
 FOH Engineer/Console: Shaun Mclean/Midas Heritage 1000  
 P.A.: Electro-Voice X-Line Very Compact line array  
 Monitors: in-ears  
 Microphones: Sennheiser  
 Additional Crew: system tech Trevor Wallace



PHOTO: EMILY WILSON



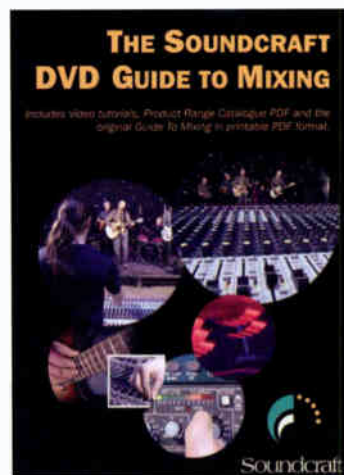
## Learn How to Mix From a DVD

Based on a 40-page instructional booklet initially produced by Soundcraft in the '90s, *The Soundcraft DVD Guide to Mixing* DVD (\$17.99) provides a comprehensive walkthrough of how to properly set up and operate an analog mixing console for live sound reinforcement use.

The engineering advice is offered in an interactive package that is broken down into informative chapters with visual demonstrations. In addition, the disc features the original *Guide to Mixing* booklet, a broad glossary of audio terms and a Soundcraft product catalog (all three in Adobe PDF form).

According to Soundcraft channel marketing specialist Andrew Shanks, "We created the DVD to offer basic live engineering advice in an interactive package. Our original printed guide has long been a useful educational tool, and our new DVD version now makes that information even more accessible and illustrative."

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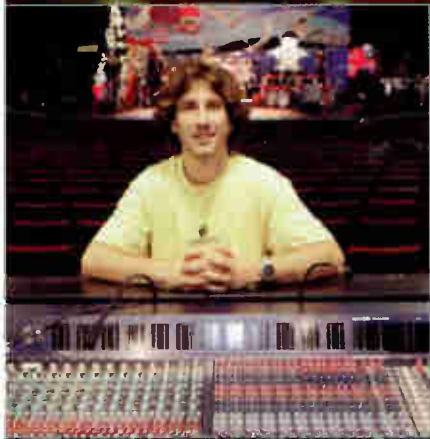
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# The Brian Setzer Orchestra

Photos and text by Steve Jennings

The Brian Setzer Orchestra rocked the Luther Burbank Center in Santa Rosa, Calif., as part of their fourth annual Christmas Extravaganza tour. Setzer and band had the sold-out crowd dancing to songs from their latest release, *Dig That Crazy Christmas*, and other tunes in their rockabilly/big band repertoire when *Mix* caught the show in late December.



Front-of-house engineer Jon Ostrin uses a Yamaha PM5000, using all 44 mono inputs and all eight stereo inputs. "Of the 32 aux outputs, I'm only using a few for effects sends," Ostrin says. "It gives the opportunity to accommodate acts with multiple stereo in-ear mixes. Mixing 18 musicians on 44 inputs is obviously a challenge, but the experience of mixing this band has made me a much better engineer and given me a new respect for this type of music. After years of mixing such artists as Toto, Sammy Hagar, Van Halen and many others, I get the opportunity to take a whole different approach.

"To close-mike the 13 individual horns, a drum kit that needs an overall room sound, an upright slap bass, Brian's signature guitar sound, vocals and then create a final live mix that is truly just one full natural

sound is a lot more fun than work."

Ostrin is carrying a few pieces of outboard gear, including a TC Electronic 2290 and M5000, Eventide H3000 and a Lexicon PCM70. "I use eight channels of Drawmer DS201 noise gates for the drums, although you'd barely know the mics are gated at all due to Bernie Dresel's dynamic style," Ostrin adds. "But the most important piece of gear I carry is a Lake Mesa unit for system EQ.

"With this act, I like to concentrate on mixing the show rather than chasing inputs all over the stage, and the band is so consistent and tight that they allow me to focus on hitting every single little nuance and solos throughout the night. It requires a lot of focus from song to song—not in effects changes, but in keeping with the dynamics and giving the audience an amazing sound experience."





Setzer sings through a Shure SM58, while his guitar amps take a Shure SM57 and KSM 27.



Bass player John "Spaz" Hatton has a stand-up double bass, two pick-ups (one for note and one for slap), a stereo instrument cable from the bass into a rack module on the bass head, and balance adjustment for note and slap. Note and slap signals then go into two separate Countryman DIs.



Bernie Dresel's kit is miked with Shure B52As (bass drum), SM57 (snare), KSM 109 (hi-hat, ride), SM98s (toms) and KSM 32s (overhead). For the cocktail kit (top), miking is a Beyer M88TG on bass drum mounted internally and a Sennheiser E604 on snare and toms.



Monitor engineer Tim Engwoll mixes on a Midas Heritage 3000, citing features such as the clean, warm mic preamps, lots of headroom and tight, accurate EQs. His rack contains 12 channels of QSC PL 236A amps driving Clair Bros. 12am monitor wedges; six channels of Crown I-T 6000s driving three-way stereo Schubert Steradian trapezoid sidefill cabinets; and 12 channels of BSS FCS960 graphic equalizers for wedge and sidefill mixes.

For background vocalists The Vixens, Shure Beta 57As are employed. "They work well for [The Vixens'] soft vocals over the loud orchestra," Engwoll says. "For the horns, I use Shure wireless SM58s and Beta 98s. They provide good low end

for a small mic and they are mountable, allowing the band to swing their horns and go crazy. For flutes and clarinets, I use the AKG C430—a small mic with a crisp sound and pickup pattern that works for us.

"I really dig what a dynamic audio challenge this band provides. The various instruments allow for various miking techniques and creativity. With sounds from soft flutes to slammin' bass to Brian's rippin' guitar, there can be a lot going on. This band can really wail, making it a pleasure to mix. At the same time, my approach, like the music, is straight-ahead. With 18 people onstage needing to hear themselves, paying attention to detail is big."



# Kanye West

## R&B AND HIP HOP HEAT UP THE STAGE

By Ray Ellis

**H**e's been hailed as no less than the savior of the music business by *Time* magazine, and with chart-toppers such as "Gold Digger," which features Academy Award-winner Jamie Foxx, Kanye West has certainly achieved superstar status and accrued an enormous fan base. So it's no surprise that his AKG- and Verizon-sponsored Touch the Sky tour—in support of his *Late Registration* album—is one of the largest road shows of 2005 and a very tough ticket to come by. But those lucky enough to get in the doors are rewarded with a high-energy show complete with thumping beats, soulful strings and crisp vocals. *Mix* caught up with the masterminds behind this well-crafted, artistically blended musical Picasso—front-of-house engineer Phil Strong and monitor engineer John Clark—at New York City's Madison Square Garden in early November.

Strong is mixing on a Digidesign VENUE console, which he has set up to receive 64 channels, although he only uses about 50. He tracks each show to Pro Tools via a Mac G4 PowerBook and 7,200 rpm FireWire G-Technology hard drive. He uses these recordings to go over the songs and mixes with West and the rest of musicians on a nightly basis.

PHOTOS: GORDON MACK



Monitor engineer John Clark  
enjoying the show





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"[The artists and musicians] critique themselves," says Strong, who also fancies TC Electronic D-Twos for delay and an Eventide Eclipse for occasional pitch bends on West's vocals. "It's important to take time to work on your show every day. We all talk about the show and certain music parts. Kanye is really cool; he makes suggestions and communicates, which helps us a lot."

The biggest element of any hip hop show is always the vocals' clarity and intelligibility. West sings and raps into an AKG WMS 4000 Series microphone, and with vocals as the primary instrument, Strong builds his mix around them. His main sonic weapon then becomes a Summit Audio TLA-50.

"I got the TLA-50s when I was working with Common two years ago, and I've been very happy with them," says Strong, who purchased four of the tube-leveling amplifiers and uses them on the DJ [A-Trak] and all of the vocalists. "I wanted something that was transparent, that worked without coloring the sound. The Summit unit allowed me to have the vocals pop through, where they are fat and clear, but still in control. That's what I needed: a little more color control to help place things in the mix."

"The [AKG WMS 4000] is really cool because you don't lose the low end when Kanye cups it with his hand," says Clark. "Kanye hits it hard, but not too hard—not to where it overloads."

In addition to the main vocals, Strong blends two cellos, four violins, a harp, percussion (congas, ride, crash, hi-hat), a Roland VK8, a Korg MS-2000, a Motif 8ES, an MPC 3000 (kick, snare, snaps, claps), a DJ, a Fender Rhodes 73 Suitcase and two backup singers. As far as the strings are concerned, West only tours with a harpist and a lead violinist; the other three violinists and two cellists are hired guns in each city, who are trained daily.

"The strings are all miked with AKG C 411s, except for the harp and lead violin, which are on Fishman pickups, and the percussion has AKG 391s," says Clark, who is usually a front-of-house engineer, having worked with the likes of Ray Charles, Jay-Z and Ludacris. "The AKGs give us a consistent sound from venue to venue, which is really important when you have different instruments and musicians on every stop of the tour."

## VISUAL CUES

On many tours, engineers, techs and musicians are able to communicate their audio needs to one another during the show by way of maybe a subtle nod, a facial expres-

sion, a secret handshake, etc. But what if the engineers had to make adjustments on the fly without being able to see the musicians, and vice versa? Well, Strong and Clark had to quickly figure it out because they can't see the performers onstage.

"The musicians are in these 8-foot-by-8-foot boxes with kind of a 70-percent screen on them, and they are covered on all four sides with lights inside of the boxes," says Strong, who has also worked with Jurassic 5 and the Black Eyed Peas. "You can only see them if they light up from the inside. Sometimes there are video projections on the boxes, so you don't see the whole show and you are totally relying on your ears. I use headphones more on this tour than I ever have because I can't see exactly what they are playing. I've never had to mix blind like that. They'll start off visible, then the lighting changes and they can't see each other either. They are playing strictly off of trust and vibe."

"I've got three techs [Rock, Marcus and Chainey] that are my eyes and ears out there," concurs Clark, who is using a Yamaha PM5D-RH console with recallable head amps from the floor. "I've never been in a situation like this where no one can see each other. So we have our radios and I've got those guys running around. We've got it down now, but that first week was a real challenge."

It also helps to work with a first-rate DJ, which they have in A-Trak, a Canadian-born turntable monster who is a five-time World Champion. Clark sends the DJ feed via the Record Out output to his percussionist's headphones so the music never stops when A-Trak drops the drums out. This way, the percussionist can stay in time and be on cue when the drums return. "It's really kind of a silly feature that we found a neat way to take advantage of," jokes Strong, who also uses Serato's Scratch LIVE on the Serato-endorsed DJ.

## MAINTAINING EQUAL COVERAGE

For monitors, West isn't using in-ears. Instead, Clark has him on eight L-Acoustics 115XT HiQ wedges downstage. In addition, he is using eight (four on each side) L-Acoustics ARCS for the sidefills, with four (two per side) Martin WSX subs underneath.

"With this configuration, I'm really able to get the SPL and hi-fi that Kanye wants," continues Clark. "That's my Number One thing when monitoring. I do a lot of live mixing in the sidefills, and with the addition of the orchestra, percussion and keyboards, there is a lot more going on onstage."

Upstage, Clark has four mixes and a



Front-of-house engineer Phil Strong shows off his rack of goodies.

series of in-ear mixes. "The two background singers are on Shure PSM 700 in-ears," explains Clark, who works through Phoenix-based Genesis Productions, which provided the rig. "And I have two channels on the principle string players, which are the lead violin and harpist. The rest of the musicians are on proprietary FR-12 wedges that Genesis purchased from Audio Analysts. I've got a pair of those in the percussionist's box, a pair on the keyboard side and one for A-Trak, who is centerstage."

For the tour, Martin Audio provided new prototype 120-degree boxes for the bottom of the rig to improve frontline coverage, helping to disperse the audio for the first four rows of the show. The whole show sports 40 Martin W8L Wavefront line array boxes complemented by 30 Martin WSX subs.

"The Martins are great," Strong says. "One of the requirements going into this rig was to have something that was hi-fi, and the Martins represented that for us. It sounds really good with the factory settings, and I don't have to do a lot to the boxes to get them to stand out. Plus, I'm using SIA Software's SmaartLive, which helps. During the show, I run one side off the reference for the room and the other side on solo, so I can solo any channel and it will give me a representation of what it's doing on the screen. So if I want to see one instrument, it feeds right to my screen and that helps me EQ during the show."

And what is it like to work with a megastar like West?

"Working with Kanye, from my standpoint, has been great," Strong concludes. "He knows how to hold the mic really well and how to keep it at just the right angle. Plus, he believes in working with the best people, so he listens to the input you give him." ■

*Ray Ellis is a writer covering the pro audio industry.*



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# Tritech Light and Sound

## Where Customer Service Is Key

New York City, Los Angeles, Miami, San Francisco—in each of these major cities, you would expect to find at least a few dozen sound reinforcement companies supplying crew and gear for major club tours, corporate events, summer festivals and the like. But you'll also find the same class-act companies in smaller cities. In Middletown, Ohio, John Hutton's Tritech Light and Sound (<http://tritechlightandsound.com>) offers a diverse range of services and has become quite a force in this growing area.

"Diversity in production helps," Hutton says. "You know, everybody's a sound man! [Laughs] With the advent of powered speakers and corporate music stores that sell entry-level 'pro audio,' you have to work your niche and strive for excellent customer service from the time you deliver to the time you strike. I offer sound reinforcement, lighting systems, speaker re-coning, some on-site analysis and repair of church sound systems, contract installation on system light or sound and a local recording studio that also has band rehearsal space for rent with an innovative good-tenant program that can earn hands studio time or rent credits. I also do Red Book mastering for some local bands."

On the SR front, Tritech has garnered a satisfied customer base with such annual events as the Cincinnati Blues Festival, the New Year's Festival in nearby Columbus and the Jerry Lewis MDA telethon. In addition, Tritech has supplied for such major acts as Iron Butterfly, 50 Cent and Dave Chappelle, and for ongoing customers with regular live sound needs such as Ohio's Miami University.

"I try not to turn down any type of work," Hutton says. "At times, if it is more than what I can do, I always tell the customer up front that I might have to 'source that for you.' That way, the customer has an increased trust in your ethics and timetables on gigs. From clubs to college and church events, and even promoters that do local shows at parks and fairgrounds for special-interest groups, I try to fulfill them all, as long as it looks like customer service will not be compromised."

And Hutton maintains these satisfied customers with a huge stock of pro gear, including a JBL front-loaded P.A., which "is a proprietary company box designed in the early '80s," he explains. "It's an active two-way, but has a passive highpass between the 15s that helps eliminate comb filtering at about 300 cycles. To complement this are 10 front-loaded 2-18 trap subs, all powered by Crest." Also available are 18 Sound Physics Labs TD1s and 12 Bass Tech 7 ServoDrive cabs. From rap and R&B (Twista's performance in Chicago in early October) to Béla Fleck Acoustic Trio (in mid-September) and Latin (Inti-Illimani, early November), Hutton says that the SPL system performs with excellent



*John Hutton at the M3000, working the 2005 Cincinnati Blues Festival*

unity summation and image correlation. Powering the SPL system are Crest 10004s and 8001s. Boards offered are Yamaha M3000s for both house and monitors; for more intimate gigs, Tritech can supply smaller Yamaha and Studiomaster consoles.

But beyond these choice pieces of gear, Hutton takes pride in his large selection of trucks. "Early on, I realized that trucking was a significant cost [for clients]," Hutton explains. "I regularly maintain five trucks that I use to provide timely delivery schedules to my customers."

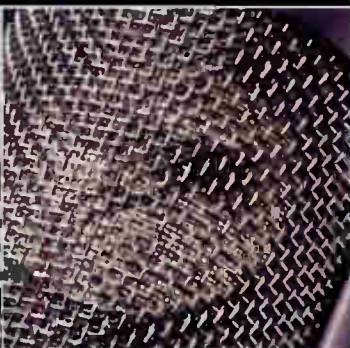
With all of the work coming in and equipment to maintain, one would think that Hutton has a large staff of engineers and service techs. However, his staff changes every year, with some employees coming back for certain gigs. "Each year in the spring, I get calls from student grads from trade schools who would like to give [this type of work] a try," Hutton says. "Usually, two will be enough to get things going, and then as the season progresses, I just call on a list of part-timers who might be freelancing with other companies."

"Through the years, by giving basic training in loading and unloading trucks, soldering of various types, woodworking and, yes, from time to time mixing, several past employees have moved on to work in the industry at other levels: on tours with larger companies and some in the broadcast field and boat cruises," he continues. "It is this that chirps my pride the most. At a young age, lots of them reach their goal. They always return and tell tales of horror gigs that we all chuckle at. I guess sometimes [sound reinforcement work can be] simpler at a local or regional level. You always get to come home after the gig." ■

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# New Sound Reinforcement Products

## A-LINE ACOUSTICS ARRAYABLE SUBS

A-Line Acoustics ([www.a-lineacoustics.com](http://www.a-lineacoustics.com)) offers 1,000-watt, powered arrayable subwoofers to complement its AL10 and ALA10 line array system. Designed to be flown with the company's line arrays, the ASA-115 (single-15), ASA-215 (dual-15) and ASA-118 (single-18) Sub-ARRAY™ enclosures feature the company's exclusive integrated EZAL™ rigging for fast, safe and easy setup. Each cabinet is the height of two AL10 enclosures. SubARRAY systems are powered with Bang & Olufsen ICEpower technology with onboard DSP. Made in the U.S., the SubARRAY enclosures are constructed of DuraTex-coated birch plywood with routed handles. An optional wheelboard is available for easy transport/load-in.



## UREI 1601E EFFECTS SECTION

Expanding Soundcraft's ([www.ureidj.com](http://www.ureidj.com)) UREI DJ mixer line, the new 1601E's digital effects section has a core of five effects (filter, delay, pan, cutter and flanger), but with 25 combo presets in five banks for unique chained effects, such as a combination of filter, flanger and delay. Effects can be individually assigned to each channel, with a bpm fx crossfader selecting the wet/dry blend. Two effect controls modulate key effects parameters, and there are five selectable effects speeds from 1/4 to 2/1. A separate 3-band (LF/MF/HF) isolator lets users choose which music frequencies pass through the effects section, and a bpm analysis engine automatically synchs effects to the track bpm. Also standard are six inputs, the UREI Exciter, 3-band isolator EQ, headphone EQ and adjustable channel fader curves.

## ROADBEETLE TOUR MANAGEMENT SOFTWARE

RoadBeetle ([www.roadbeetle.com](http://www.roadbeetle.com)) is an artist/tour management software package. The Web-based software helps organize a performance's scheduling, technical, labor, travel, catering and settlement data, while providing the online ability to create and send promotions and notifications. It also gives users an area in which to submit and track requests for tickets and passes for each show. Artists and crew can access the information from anywhere via the Internet. Authorized personnel can be given access to confidential information, while more general information is available to anyone else who needs it. Production managers have a detailed overview day sheet report with complete venue, hotel, travel and show schedule information as soon as they log in, and last-minute changes can be text-messaged to cell phones of all tour staff.

## TURBOSOUND TSW-218 SUB-BASS

The Turbosound ([www.turbosound.com](http://www.turbosound.com)) large-format TSW-218 (\$4,912) is a Turbo-loaded sub-bass enclosure capable of delivering very high SPLs. Designed to complement Turbosound's Aspect Series and the larger models in the QLight™ range, this double 18-inch, modular, coupling-horn enclosure offers a dramatic sensitivity increase when multiple units are coupled, with 104 dB from a single unit and eight coupled cabinets delivering up to 110 dB. Cabinets are equipped with heavy-duty nylon feet and matching locating recesses. Strap points integrated into the side handles ensure structurally secure ground-stacked arrays.



## L-ACOUSTICS POWERED COAXIAL LOUDSPEAKERS

L-Acoustics' ([www.l-acoustics.com](http://www.l-acoustics.com)) 108P and 112P powered two-way coaxial loudspeakers combine point-source technology with the convenience of self-powering and onboard DSP. The design provides wavefront coherency over the wide axisymmetric dispersion pattern and flat response, without polar lobing effects. The result is ideal for near-field monitoring, proximity fill, small to medium-sized front-of-house and wedge monitor use. The bi-amped 500/250W 108P puts a 1-inch exit compression driver on an 8-inch woofer. The 112P has a 1,000W mono bridged amp pushing a 1.4-inch exit HF driver and 12-inch woofer for high-SPL performance. ■







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World Radio History

## NEW AND OLD

Not everything that exhibits service issues is vintage. These can also crop up in more recent products. For example, the Digidesign 002 (rack and controller) had a power distribution problem that was resolved a year or so ago. If you're experiencing communication or buffer-size error messages, one possible solution is to remove the bottom cover and exercise and reseal all of the connectors. (See Figs. 1 and 2.) Assuming you feel that you can handle such routines (if you don't, then please seek qualified help), before you start, remember to unplug the unit, be fully dressed and stay out of the bathtub during this electro-aerobicising. Keep in mind that manufacturers cannot take responsibility for your carelessness.

Note: According to Digidesign's Website, any customer experiencing this failure on an 002 product (in or out of warranty) will receive a new Molex power harness at no charge. This offer is good for as long as you own your 002. If you require a new harness or would like one as a spare, contact Digidesign's tech support for a return authorization (RA) number.

A neophyte Pro Tools user, I blamed

other intermittent problems on the 002 harness issue. (I'm running Pro Tools on a Sony VAIO laptop at the school where I teach.) Having exercised and replaced harnesses on more than one 002, I chose a more extreme approach for my system: hardwiring one end of the harness directly to the power supply because that connector was under the greatest amount of stress. When that did not resolve my intermittent problems—the annoying “change the buffer size” dialog box—I began to look elsewhere and asked a lot of questions. Things are better now.

## SOFTWARE ISN'T THAT HARD

As any software hacker will testify to, mods aren't limited to hardware. But you don't have to be a master programmer to do a software mod, which might be as simple as defeating programs that can cause conflicts or erratic behavior. As an example, anti-virus software such as PC-cillin and Norton Anti-Virus can create problems with real-time software like Pro Tools LE. It's best to disable and possibly remove antiviral software from your system before running Pro Tools LE. If you're using drives that meet the minimum hard drive

requirements and experience “disk too slow” errors, then this may be the cause.

However, there's a need to have artificial intelligence built into the software for diagnostic purposes. If that requires a translation, consider that most error messages are uselessly generic. “Yes, indeed, there is a problem,” says the computer, “but I can't tell you exactly why or how to fix it.” Yet system reliability is based not only on hardware and software's ability to communicate for the intended purpose, but also on the ability to perform even when the electron goddess is unhappy.

The downside of these problems, once discovered, is that it reduces user confidence to the point where each new problem makes you wonder whether the original problem was truly resolved. I learned this many years ago when one of my modular patchbays was being installed. If I discovered one wiring error on-site, the investigation started at the patchbay, even though the problem was elsewhere. ■

*Eddie is growing his sideburns so his outside is as mod as his inside. Visit [www.tangible-technology.com](http://www.tangible-technology.com) and see the fuzz.*

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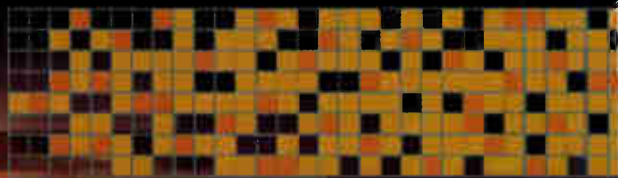
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# Tools of the Trade



## AMS NEVE MMC 300/400 CONSOLES

These two new post-production consoles from AMS Neve ([www.ams-neve.com](http://www.ams-neve.com)) both offer a new central panel and touch-sensitive controllers, giving engineers total control over monitoring, source and surround mixing. Both boards also feature eight assignable faders that can be used as group, stem, aux or master faders—or additional input channel faders. The difference between the two is that the MMC 400 is fitted with conventional channel strips while the MMC 300 offers a knob-per-function assignable channel. Both consoles are Dolby-compliant and offer Encore automation with Encore Plus as an option. Other features include automation reconfom; offline automation editing; and control of Pro Tools, Nuendo and Pyramix workstations through HUI and Oasis protocols. The consoles support high sample rates and up to 1,000 paths from a single rack. Priced per configuration.



## GIGSKINZ GSRB RACKBAGS

Crafted with durability and road-worthiness in mind, these new two, three and four-space rackbags feature a hard plywood shell covered with GigSkinz's ([www.gigskinz.com](http://www.gigskinz.com)) carbon fiber-style fabric. The bags come standard with mounting hardware, feature a big and roomy pocket to hold cables and accessories, and provide a quick-access zipped back panel for easy connections. The inside of the bag carries a plush felt lining and offers two carrying options: a nylon shoulder strap or a molded rubber top carrying handle. Prices: GSRB2, \$119; GSRB3, \$139; GSRB4, \$149.

## M-AUDIO PODCAST FACTORY

Anyone at the home level wondering how to produce a Podcast will have all of their questions answered by the Podcast Factory (\$179.95) from M-Audio ([www.m-audio.com](http://www.m-audio.com)). The bundle of products includes an audio interface with mic preamp operating up to 48k/24-bit and a dynamic microphone. The interface offers two channels, an XLR input for the microphone and a second 1/4-inch input that toggles between instrument and line-level. The box also offers a zero-latency headphone output that shares a level control with the dual RCA outputs on the back; a handy mono switch is also included. Podcast Factory includes software (Mac or PC) that allows users to create a Podcast, add sound effects and then post MP3s with RSS feeds to the Web.

It also comes with a collection of music loops in a variety of styles.

## APPLIED ACOUSTICS SYSTEMS AAS MODELING COLLECTION

This new bundle from Applied Acoustics Systems ([www.applied-acoustics.com](http://www.applied-acoustics.com)) promises to be "the ultimate solution in physically modeled software instruments." The collection includes Tassman 4, Lounge Lizard EP-2, Ultra Analog VA-1 and String Studio VS-1. Tassman 4 is able to process and synthesize by combining subtractive, additive, FM and acoustic objects. It also offers more than 1,000 patches. String Studio VS-1 is a string modeling synthesizer that re-creates guitars, basses, clavinet, ethereal pads, organic textures and otherworldly sounds. Ultra Analog VA-1 models vintage to modern analog synthesizers, and Lounge Lizard EP-2 models various electric pianos. Price: \$499; upgrade paths are available for users who already own one or two AAS products at the price of \$375 and \$249, respectively.



## CAD E70 MICROPHONE

This attractive, new front-address condenser mic from CAD ([www.cadmics.com](http://www.cadmics.com)) features a roll-off at either 75 or 100 Hz and a -10 or -20dB pad. The frequency response measures in at 20-20k Hz, and the manufacturer claims a low-noise design and exceptional sensitivity of -38 dBV (13 mV) @ 1 Pa. It will also take up to 15dB SPL, and it comes in a black-satin finish. Price: \$249.

## DIGIDESIGN PCI EXPRESS CARDS

Ready for both Apple G5s and upcoming PC computers carrying PCI Express card slots, Digidesign's ([www.digidesign.com](http://www.digidesign.com)) new PCI Express cards will take advantage of the blazing speed offered by the new information highway. Transmitting data across a series of "links" and "lanes" (each PCI Express lane is capable of 250



MB/s in each direction), the new format almost doubles the bandwidth that AGP 8x could offer. If you need more than the three slots that most computers will carry, the company is also releasing the Expansion|HD, a brand-new six-slot PCI expansion chassis that connects to the host Windows or Mac computer using either a PCI/PCI-X or PCIe expansion slot. The best news of all is that PCIe-compatible Pro Tools|HD systems are the same price as their PCI counterparts. Digidesign has expanded its hardware exchange program so that you can upgrade your Pro Tools LE or legacy Pro Tools TDM system to a Pro Tools|HD system for PCIe or PCI. There is also a crossgrade program for PCI users who want to move their Pro Tools|HD system to a host computer with PCIe slots.

#### FURMAN IT-20 II

The balanced power crowd will love Furman's ([www.furmansound.com](http://www.furmansound.com)) new IT-20 Series II (\$1,799). It supplies 20 amps of balanced AC power with more than 80 dB of common-mode noise reduction from a frequency range of 20-20k Hz. The unit includes Furman's proprietary Linear Filtering Technology (LiFT), which reduces transverse noise—making it a comprehensive noise-reduction solution.

LiFT is part of Furman's SMP+ technology, which also offers non-sacrificial surge suppression and extreme voltage protection. The IT-20 II also includes a switchable ground isolator and a laboratory-grade digital voltmeter.

#### ALIENWARE WORKSTATIONS

For those looking to build beefy audio platforms for the

road, Alienware ([www.alienware.com](http://www.alienware.com)) is now offering two new mobile base platforms featuring Intel Centrino technology. The MJ-12 m5700i (\$1,499) offers dual-SATA hard drives in RAID configurations and a 17-inch widescreen LCD with ClearView technology. The MJ-12 m5500i (\$1,049) weighs only 6 pounds and features a 15.4-inch widescreen LCD.

#### FAIRLIGHT DREAM CONSTELLATION-ANTHEM

Fairlight ([www.fairlightau.com](http://www.fairlightau.com)) brings it all together for music and post users with the latest addition to its DREAM console

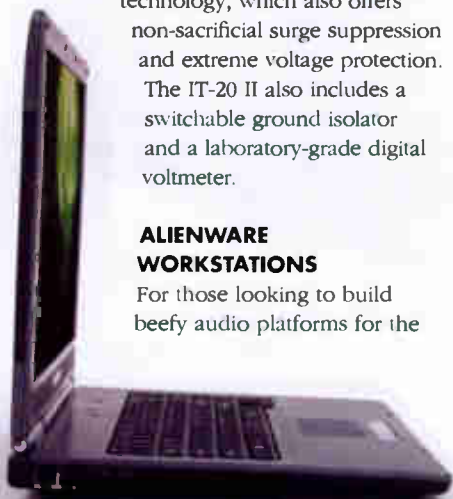
up-to-date desk, there is In-Line mode, which is available with 96 long faders and 96 short faders (192 channels in total, EQ/dynamics shared). In-Line Plus offers 72 long faders and 72 short faders (144 channels, each channel having its own EQ/dynamics). The third mode, Constellation, offers the company's industry-proven post-production technologies. Starting price: \$130,000.



series. Each fully featured channel on the ANTHEM system provides six bands of parametric EQ; a two-stage dynamics processor with gate, expander and limiter; and up to 12 auxiliary sends. Channels can be configured in any format, from mono up to 7.1. Console layout is user-configurable in one of three modes. For tracking, Split mode comprises 48 fully featured inputs with 96 fully featured monitor returns, each with an associated recording and playback track, for a total of 144 channels. For mixing or for users wanting a more

#### EVENTIDE ANTHOLOGY II

Six is your lucky number if you're purchasing the Anthology II (\$1,195) plug-ins from Eventide ([www.eventide.com](http://www.eventide.com)), a completely new bundle for TDM users comprising 15 plug-ins (six new). The newest of the group includes the EQ65 and EQ45 48-bit double-precision



vintage equalizers; the E-Channel and Ultra-Channel channel strips, both with configurable signal path; Precision Time Align, which provides the ability to align separate tracks; and Quadravox, which features four voices of diatonic Harmonizer pitch shifting. Eventide's tried-and-true plug-ins model the company's legacy hardware units and others, including the H910, H949, Instant Phaser, Instant Flanger, Omnipressor, Eventide Reverb, Octavox, H3000 Band Delays and H3000 Factory.

**TL AUDIO M4 CONSOLE**

Those looking to add some tube "essence" to their signal path will want to check out the new M4 console from TL Audio (dist. in the U.S. by Independent Audio, [www.independentaudio.com](http://www.independentaudio.com)). The console is available in 16, 24 and 32-input channel configurations, each with tube preamps, a direct track output with level control, 4-band EQ, four auxiliary sends and optional 24-bit, 48/96kHz mix output option and 24-bit, 48/96kHz ADAT interface I/O. Each channel features switchable phantom power, preamps with a gain range of +16 dB to +60 dB with a 30dB pad, mute and PFL switches with LED and a highpass filter (-3 dB @ 90 Hz). Prices: \$5,050, 16-channel; \$9,025, 24-channel; \$11,350, 32-channel.

**ROYER R-122V TUBE RIBBON MIC**

Looking tempting in its 18-carat-gold jacket, the Royer ([www.royerlabs.com](http://www.royerlabs.com)) R-122V (\$3,495) features the same large-ribbon transducer assembly found in the R-121 and R-122 active ribbon microphones. The "V" ups the R-121 ante because it offers -29 dB of output, approximately 25 dB hotter than the R-121. The R-122V's active electronics use a NOS 6AU6 vacuum tube and Royer's proprietary toroidal ribbon-matching transformer. A Jensen 8:1 ratio output transformer provides an electrically isolated, fully balanced output signal. Because of its powered output, the R-122V can



easily drive virtually any preamplifier and long cable runs (from power supply to preamp). The active circuitry provides optimum impedance to the ribbon element at all times, preventing over-damping. The R-122V employs a pure (99.99%), low-mass, 2.5-micron-thick aluminum ribbon.

**AUDIO-TECHNICA IMPORT SERIES HEADPHONES**

Previously only available in Japan, this affordable line of circumaural audiophile headphones from Audio-Technica ([www.audio-technica.com](http://www.audio-technica.com)) features the ATH-AD700 (\$249), ATH-AD500 (\$169) and ATH-AD300 (\$119) open-air dynamic headphones and the ATH-A700 (\$299) and ATH-A55 (\$179) closed-back dynamic headphones. The units offer large-aperture drivers, double air-damping system, copper-clad aluminum wire (CCAW) voice coils, a self-adjusting 3-D wing support housing, velvet or leather ear-fitting pads and high-quality titanium-alloy cable or oxygen-free copper cable with a gold-plated stereo 1/8-inch connector and 1/4-inch adapter.

Ambience Drums (\$49). Programmed for Native Instruments' Battery 1 and 2 and Kontakt 1 and 2, the kits comprise more than 1,300 24-bit samples with seven velocity layers and up to five positions on the snares. Users can mix real room ambience samples recorded with the drums via MIDI controllers, giving the ability to mix the kit from dry and intimate to big and wet. Kits include variable ambience kits, a loud rock kit and a kit recorded in an anechoic chamber, making it perfect for use with added reverbs and rooms.



**AURALEX SPACEARRAY**

In collaboration with studio designer Russ Berger, Auralex Acoustics ([www.auralex.com](http://www.auralex.com)) has released the SpaceArray (\$399). The wood-finished diffuser offers hemispherical acoustical diffusion and is based on a quasi-random series that







provides superior performance without visual patterning. Each 24x24-inch solid wood panel is strong and light and can be used in a variety of placement options. The SpaceArray is one of the first offerings in the new pArtScience product line, a family of acoustical treatments designed for exceptional performance with a custom look.

#### SONY 6 PACK PLUG-IN BUNDLE

Hot from Winter NAMM, Sony's ([www.sony.com/professional](http://www.sony.com/professional)) new plug-in bun-

dle for Pro Tools incorporates six existing products into one affordable bundle. The package features Sony's EQ, dynamics, transient modulator, inflator, reverb and limiter. Prices: \$2,695 (HD), \$1,075 (LE) and \$2,150 (upgrade

price for Oxford EQ owners).

#### TC ELECTRONIC FABRIK R, FABRIK C PLUGS

TC Electronic ([www.tcelectronic.com](http://www.tcelectronic.com)) just keeps putting out the plugs. The Fabrik R (reverb) and Fabrik C (channel strip) both feature the company's Meta Intuitive Navigation Technology (MINT), allowing users to intuitively respond to any audio material with just a few simple knobs. Below the user interface, hundreds of high-resolution parameters

are adjusted, leaving the user with simple controls to execute any creative decision. Fabrik R combines four new TC reverbs: FabrikLive, FabrikHall, FabrikPlate and FabrikClub. Fabrik C comprises a high-resolution channel EQ, de-esser and 3-band/full-band compressor. Price: \$375 each.

#### MXL 604 INSTRUMENT MIC

Based on its 603 mic, MXL's ([www.mxlms.com](http://www.mxlms.com)) 604 (\$179.95) is a front-address cardioid condenser that's targeted toward instrumental recording. The slender small-capsule mic is able to fit in tight spots and offers a -10dB pad, making it able to withstand high SPLs. The satin silver-finished mic also features a low-frequency roll-off, and ships with a mic clip, a windscreen and a wood storage box.



## Upgrades and Updates

Antares ([www.antarestech.com](http://www.antarestech.com)) is now shipping Auto-Tune 4 for Pro Tools TDM systems on Windows XP. Auto-Tune 4 TDM XP offers Windows users all of the power of the Macintosh TDM version, including compatibility with the iLok USB Smart Key. In related news, maintenance releases of Auto-Tune 4 RTAS PC and DirectX are now available to add compatibility with iLok USB Smart Key authorization...Apogee ([www.apogeedigital.com](http://www.apogeedigital.com)) is offering **firmware Version 1.72 for the X-HD card**. It resolves a timing issue in Pro Tools 7 that caused inconsistent recognition of Apogee and Digidesign interfaces during boot up. X-HD V. 1.72 is also backward-compatible with earlier versions of Pro Tools...CreamWare's ([www.creamware.com](http://www.creamware.com)) SCOPE line of DSP cards is now shipping with software V. 4.5. The software package features new plug-ins such as the "SBC" Spectral Balance Controller mastering plug-in. Upgrades are also available for current SCOPE users; see the company's Website for details...Metric Halo

([www.mhllabs.com](http://www.mhllabs.com)) has released ChannelStrip V. 2.1 for TDM and RTAS, making it compatible with Pro Tools 7 within Pro Tools 7 TDM, LE and M Powered...Cubase ([www.steinberg.net](http://www.steinberg.net)) System|4, Steinberg's integrated music production system, now includes Cubase SL 3.1 with new features and capabilities, as well as a new driver for Mac OS 10.4 Tiger...MOTU's ([www.motu.com](http://www.motu.com)) 828 mkII interface now supports high-speed USB 2, allowing connection to any compatible Mac or PC. Both 828 models are identical, except for their connection to the computer via either FireWire or USB 2...Roland ([www.rolandus.com](http://www.rolandus.com)) has released V. 3.5 for its MV-8000 Production Studio. The free upgrade features audio track and mute automation, recordable MFX control knob movements, 3-band EQ added to the audio and instrument parts, a



Pencil tool added to the Piano Roll window and a Patch Preview mode added to the Import function...In a major collaboration with Sound Devices ([www.sounddevices.com](http://www.sounddevices.com)), SoundField Ltd. now offers its SoundField B-format surround decoding on Sound Devices' 744T 4-track production audio recorder. 744T firmware revision 1.57 (and later) now offers B-format-to-stereo decoding without additional hardware. In related news, SoundField ([www.soundfieldusa.com](http://www.soundfieldusa.com)) has released a new update for the Surround Zone plug-in for Nuendo/VST (V. 1.02) for both Mac and PC platforms. ■

# Waves Q-Clone Convolution Equalizer

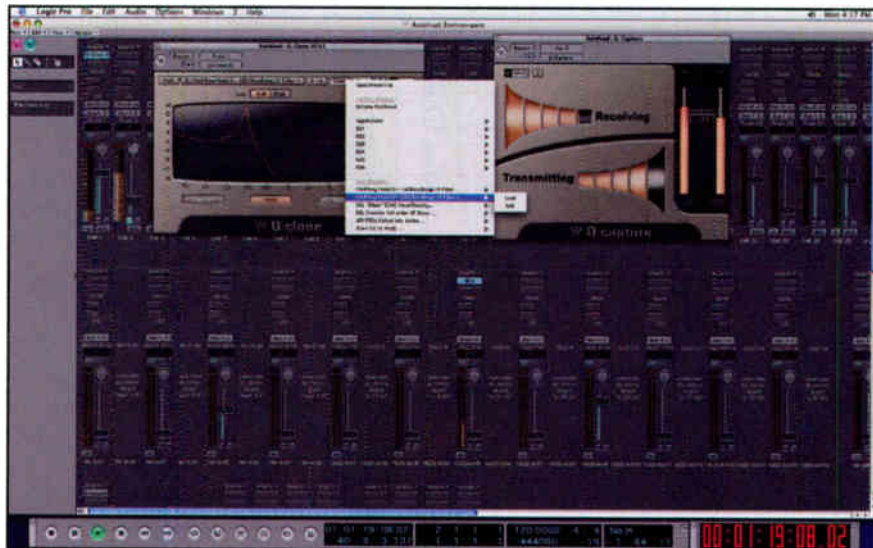
## Plug-In Channels Hardware EQs

For the DAW-based among us, Waves' Q-Clone is a brilliant new approach to plug-in EQ, allowing you to slap the sound of your favorite hardware EQ onto as many tracks as you like. We're not talking about modeling or mere simulation; the real-time convolution process lets you turn a knob on your hardware and hear its actual circuitry adjust the sound of each track as though you had racks full of that device.

### SEND AND RECEIVE

The 24-bit Q-Clone comprises two component plug-ins: Q-Capture and Q-Clone. Sending a continuous series of short-frequency sweep impulses, Q-Capture constantly samples the response of an attached hardware EQ, with each impulse essentially generating a "snapshot" of its sound that gets sent through an internal port to the Q-Clone plug-in, which you hear.

To set up Q-Clone, place Q-Capture on any available mono auxiliary channel or dedicated audio track (depending on your host) and assign its physical output to your EQ's input. In turn, set Q-Capture's input to receive the EQ's output. Once the loop is complete, Q-Capture's mode status changes from Waiting to Receiving, indicating that the setup is correct and ready to use. Put Q-Clone on any live input channel, audio track,



Waves Q-Clone test subjects included a vintage Minimoog Model D lowpass filter.

bus or aux that you want to process, and it automatically communicates with Q-Capture.

### CAPTURING THE MOMENT

When an instance of Q-Clone is first launched, it loads in Hold mode with a flat EQ response. In this mode, the plug-in is equalizing using the filter currently in sample memory and not yet actually processing using your external hardware.

Pressing the Capture mode button sets Q-Clone's ears listening; the response graph updates to reflect the frequency curve of the attached EQ, and you hear the results.

Once you've adjusted your hardware EQ to a setting that you like, you can hold it or save the convolved curve as a user preset. One important thing to note, though, is that the cloning process is a linear one. It will not replicate distortion, resonant feedback, noise, dynamics or other nonlinear properties. Although Q-Capture is a mono-only component (whether it is sampling a mono or stereo device), the Q-Clone component can be launched in mono or stereo, with a stereo instance applying the same EQ settings to both channels.

### REACHING FOR THE OUTBOARD

To put Q-Clone through its paces, I sourced two of the most distinctive-sounding desk EQs in the business: an SSL E242 and API 550a. Dialing up some familiar curves on an SSL E242 "black" EQ, I immediately appreciated the benefits of combining the tactile control of original hardware with the flexibility of software. Q-Clone replicated the characteristic sound of the filters and their phase responses.

A handy A/B button allows you to have two settings open at a time. Using the Add mode button, combine these presets or



Using HTDMs in Pro Tools; up to 25 instances run comfortably on a dual 2.5 G5 or a P4 3.6.



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tweak the curve or preset in memory using your outboard; essentially, you can mix and match pieces of EQ hardware as if they were chained together. This can be extremely useful in turning a 4-band EQ into an 8-band, for instance, or for melding favorite frequency-specific properties from multiple devices. For example, I “overwrote” the low-end portion of the E242’s curve with an API 550a module, leaving the SSL’s high end untouched. There is no limit to how many times you can add to and drastically alter a curve’s appearance. This flexibility to “build” also increases the likelihood of boosting Q-Clone to the point of clipping, so I found that the trim control just beneath the gain fader was necessary to keep levels under control on more than one occasion.

I also processed several of my beloved analog synth filters, including an early serial-number Minimoog Model D lowpass. This was a true test, I felt, of how well Q-Clone interprets cut-offs and high-slope filters. The richness was pure and unmistakably true to the Mini, picking up every ounce of resonance and contouring. I was blown away.

Unfortunately, only a single instance of Q-Capture will work at a time—you can’t have two or more hardware EQs online for editing simultaneously. It became apparent that owning two or three unique EQs sitting beside your mouse/DAW controller is ideal, with the freedom to pick and choose and apply them at length across an entire mix—in essence, emulating a large-format console sound for pennies on the dollar.

#### FREQ’N COOL

The ability to run your favorite outboard EQ on as many tracks as you like is pure genius. You can roughly squeeze 25 native or HTDM instances on a dual 2.5 G5 or a P4 3.6, though I would love to see a full TDM version to extend this number on my Pro Tools|HD3 Accel rig. Even if you don’t own a classic analog hardware EQ, I guarantee that one session with Q-Clone will inspire you to become a vintage gear junkie. I can also imagine a whole new Q-Clone user community eagerly uploading presets of their cherished outboard, making the investment even more rewarding than simply sampling your own gear. Q-Clone could become the only EQ plug-in you’ll ever need.

Price: \$1,000, native/HTDM.

Waves, 865/909-9200, [www.waves.com](http://www.waves.com). ■

*Jason Scott Alexander is a producer/remixer who develops frontier technologies for the recording industry and commercial radio.*



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World Radio History



# Tannoy Precision 8D Studio Monitors

## Active Near-Fields With SuperTweeter and Digital Input

The new Tannoy Precision line of studio monitors offers two passive and two active products. All four units are three-way and use the signature Tannoy SuperTweeter and Dual Concentric bass and high-frequency drivers. The Precision 6 and Precision 8 are nonpowered units, one offering a 6-inch bass driver and the other an 8-inch. The Precision 6D and 8D, reviewed here, are top-of-the-line monitors and carry some serious firepower.

### YOU LOOK MAH-VELOUS

The Precision 8D's fresh look is easy on the eyes. The silver 8-inch cone is set into an oblong, brushed-aluminum baffle on a granite-colored faceplate—striking. A green power switch sits next to the Tannoy logo. This logo serves as a clandestine mute switch, hidden to all but the daring souls who actually read a manual. The SuperTweeter is housed separately above the primary drivers. This device is, as Tannoy puts it, "...to correct the time or phase response at the upper end of audibility, resulting in enhanced accuracy and 'air.'" I can attest to this much: These monitors image beautifully. More on that later.

### NOTHING BUT THE SPECS

The 8D is a rear-ported, bass reflex-loaded design, using an 8-inch, dual-concentric, constant-directivity driver with a multifiber paper-pulp cone. Being rear-ported, they lack some percussion, as proven in the listening tests. Be careful when putting them against a wall; the bass can build up inaccurately. (The LF EQ DIP switches should take care of this.) Tannoy's solution for accurate phase coherency is to embed the HF driver inside the LF driver (a coaxial design). The HF driver is a 1-inch titanium dome. The SuperTweeter is a separate 1-inch titanium dome, with an extended frequency response out to 51 kHz. The 8Ds are rated at 43 to 51k Hz, reproducing high frequencies above 20 kHz that the brain can "hear" and process. These boxes get loud; 119dB maximum SPL should be plenty, even for the hardcore aficionado.

The power amplifier gives you some headroom: 120-watt RMS on the low end and 60W RMS on the top—plenty of juice in

a near-field monitoring environment. The crossover frequency is 2.2 kHz, with no spec given between the HF and SuperTweeter. Whatever flavor you're sending, a handy XLR/TRS combo connector provides a 600-ohm balanced input; no adapters are necessary. A coaxial S/PDIF input is onboard with an associated loop output to send signal to your next speaker. A corresponding switch selects which channel (left or right) you would like the 8D to reproduce. Be careful, though; your analog and digital send levels may not match. A single volume control for both the digital and analog inputs is provided with a range of +6 dB/-12 dB, reference 0 dBV (0.775V), with the digital gain trim being post-DAC. Video shielding is standard.

The back contains a bank of 20 DIP switches to equalize the speaker to account for placement in a given environment. Optimization can be preset for far/mid/near/close positions, as well as free/half/quarter/eighth acoustical spaces. The DIP switches address the LF (boost/cut between 45 to 65 Hz), low mids (cut-only shelf at 800, 400 or 200 Hz), high mids (cut/boost between 1 and 3 kHz) and a HF cut/boost shelf at 5 kHz. The manual includes good charts that cover the range of these curves, along with examples of settings for various spaces (free space, against a wall, on the console bridge, etc.). An 80Hz HPF is also available when the 8Ds are used with a subwoofer.

### BE ACTIV, GET ACTIV

Tannoy offers an optional automated acoustic measurement and calibration software package called ActivAssist. Insert the CD into your computer and follow the instructions with the included cabling and mic. A cable sends the headphone output back into the mic input on your computer. Not exactly standard operating procedure, but it is necessary for the software to internally calibrate levels and frequency response. After the calibration, the software prompts you to plug the mic into your sound card and then set the microphone



precisely 50 cm from the speaker baffle, directly on-axis. Plug the supplied 1/8-inch TRS to XLRM cable into your headphone output and then to one of the 8Ds. You are now ready to set levels with your computer preferences and ActivAssist.

Not knowing what was going to come out of the speaker, I popped in a set of linear earplugs, just in case. I'm glad I did. The initial sweep was extremely loud due to the settings of the internal G5 sound preferences. Once the levels are set via a series of software meters, you're ready to take the actual measurements.

The sweep only takes a few seconds. You then get a graph of what the speaker is doing in your room. My first measurements were taken in a "half-space" environment: The speakers were on the meter bridge with the console in the middle of the room. Click again on Optimize and you get an overlay of what will happen once you make the recommended DIP switch settings. I ran these tests again with identical results each time.

After making the recommended adjustments, I couldn't help but notice a marked decrease in bass response from the

"I have plenty of preamps that are accurate. But when I need tonality and character for digital recording, the PreSonus ADL 600 is number one in my studio arsenal. I get big, rich acoustic guitars with that distinctive, girthy tube character, but also with amazing detail and clarity. And I get full, warm drum overheads that maintain the harmonic center of the cymbals, with headroom for miles. In fact, it's so balanced, I find myself not needing EQ at all. PreSonus has come through with a great preamp that delivers all the color — without missing the details. In my book, that's big."

**Chuck Ainlay**

**Independent Producer/Engineer  
Nashville, Tennessee**

## ADL|600

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### FEATURES:

Class A dual transformer, three-tube design | +70dB gain  
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### Chuck Ainlay's credits include:

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initial "anechoic flat" settings. On checking the new settings against the EQ charts, the recommendation was for maximum decrease in the 45 to 65Hz region, a drop of 7.5 dB at 50 Hz, with the downward roll-off beginning at 150 Hz. Lo mids were unchanged. Upper mids were cut 1 dB between 1 and 3 kHz, a noted improvement. (On first listen, this area was too far forward in my listening environment.) The highs were boosted 3 dB, starting at 5 kHz and rising to 12 kHz, where it remained flat out to 51 kHz.

Honestly, I wasn't very happy with the results. The speaker sounded thin. From these adjustments, I can understand why. The top-end boost revealed some self-noise in the amplification system. Time to reconnoiter. I adjusted the LF for a 3dB boost and set the highs back to flat. I left that dip in the upper mids. For my environment, this was much better. My reference material began to sound like what I was used to hearing, but perhaps with a tad bit more of that classic Tannoy clarity in the midrange, which, on some of the company's models, is just too accentuated for my taste. Thanks to a well-thought-out EQ system, this model can adjust to your listening position, acoustic anomalies and listening preferences.

**IN MY EAR**

I must reiterate that the imaging provided by the 8D is absolutely stellar. I found the optimum distance for precise imaging to be between 3 and 4 feet across. Even at 5 feet across, on a large console, not much was lost. From the very first listen (with EQ set to anechoic flat), the 8Ds exuded that 3-D quality we mix for. Clarity in the vocal range is superb.

Tannoy cites myriad advanced techniques in these speakers' design, and they seem to be working. Definition among instruments truly puts each part in its own space. I did a mix of an alt-country act and took it to another studio. The song played out well on four different speaker systems—price points from \$150 to \$2,500 per speaker.

However, this speaker is not an end-all for all production requirements, as I feel it lacks punch in the low end. The harmonic structure of bass instrumentation is represented, but the "in your chest" percussion was lacking. The 8D would be well-served with the addition of a sub, an absolute necessity if producing any style of popular dance music. I found this lack of bottom to be true in three different control rooms. In each instance, I was pulling the

top end down, 1 to 3 kHz, and boosting the low end. [Eds. note: Since sending out this review unit, Tannoy's analysis of production samples revealed that a tweeter trim control was being set too high during manufacture, resulting in excessive treble energy. Tannoy says this problem was corrected before units were released to the public.]

One small complaint on the DIP switches: The low EQ would have benefited from +1dB increments instead of the +3dB option only. The S/PDIF input is a nice added touch, but I felt the high end to be somewhat sibilant as compared to another converter I used. Given the price range of the speakers, I expected more. However, the bottom line is that the critical midrange and imaging have been taken care of; Tannoy got the hard part right.

Tannoy Precision 8Ds list at \$2,058/pair. ActivAssist can be downloaded from the company's Website, free of charge, but you must provide a mic and the necessary cables. As a kit, it lists for \$115.

Tannoy North America, 519/745-1158, www.tannoy.tc. ■

*Bobby Frasier is a pro audio consultant and educator in Phoenix.*

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World Radio History

# Microtech Gefell M 300 Condenser Mic

## Small-Body Cardioid With Transformerless Design

**F**ounded by Georg Neumann and named after the city in Germany that is home to Neumann's manufacturing facility, the Gefell microphone company has lineage that reaches back to the birth of the condenser microphone. However—arguably because Gefell was swallowed by the Eastern bloc in the years after World War II—the company still does not share the popularity and brand recognition enjoyed by its parent company in the West.

Microtech Gefell, as the company is now called, offers a full line of condenser mics and some groundbreaking efforts such as the KEM970 line array microphone. Its latest release, the M 300 miniature cardioid condenser, has the same quality look and feel as the rest of the product line. I tested a matched stereo pair of M 300s, which ship in an attractive padded wooden box and come with a stereo bar and mic clips.

### THE M 300 REVEALED

The M 300 oozes quality right out of the box; the dark bronze finish on the mic and other parts is tough and handsome. All parts fit together with little play. In fact, when I first assembled the stereo bar, I thought there was a mismatch between the threads. In just a half-turn, I met with enough resistance that my cross-thread warning radar came to full attention. Once I got the rig together with a bit more muscle, it was easy to take apart and reassemble with much less effort. The mics fit into the clip in what looks like a Teflon ring that is machined tightly to the mic's diameter. This instilled a sense of confidence, knowing that over time, they would not loosen.

In a few tests in different positions, I found that the stereo bar could have used one more articulation to make it easier to use vertically with a boom stand. The "T" bar mounts directly to the stand with no front/back swivel, making it impossible to use with a traditional boom stand unless you're using it to position the mics directly downward, such as over a drum kit. You could use it on a stand without a boom, but then you are at the mercy of the stand's vertical height. When I used it to record an acoustic guitar, for instance, I had to forego using the stereo bar just for this reason; I couldn't get the mics low enough to use with the seated player.

I did try to turn the whole rig upside down, but once again, I was at the mercy of my boom and couldn't get the mics high enough to work for me. One very nice thing is that Gefell has included a spacer for one of the mics used on the boom so when you use them in X/Y, the capsules come together perfectly spaced, one over the other. When I configured a pair of room mics on a high, boomless vertical stand or drum overheads, I had no problems.

It's worth noting that the capsules are made of ceramic. This provides greater stability and a more consistent performance when the mics are subjected to heat, such as under stage and studio lights.

### ABLE PLAYERS

Each mic comes with an individual color frequency response chart (tested at 0 degrees and 180 degrees), with the serial number, sensitivity rating (both at 11.9 mV/Pa = 0 dB) and date of test, all signed by the technician. The mics tested were spot-on in the on-axis test, with the most differences revealed in the off-axis test. As advertised, there is a decided boost in the high end that starts rising at 2k, tops out at 10k (+4 dB) and then falls off drastically starting at 15k.

I first heard the M 300s as a spaced pair of overheads on a drum kit. This is a kit I've had much experience recording with and have used a number of different mics to do the job. My first impression was that the M 300s were too bright. I've used other mics with similar characteristics, and I break them into two categories: mics that are harshly bright and those that are smoothly bright. The Gefells fall into the latter category—the better of the two. However, this is still too bright for my taste. If this recording was going to live on analog tape, I would let the extra boost ride,



but on the Otari RADAR, the way it sounds today is exactly the way it will sound tomorrow and I wouldn't want this much high-end boost then, either. Next, I heard them as room mics on the same kit. The mics' natural high-end boost worked much better in this application, tastefully bringing out the room in the mix.

I absolutely loved the M 300s for recording acoustic guitar. They perfectly brought out the string and pick sound, making it easy to fit into the mix. They also worked very well when used to record stereo percussion, perfectly articulating a variety of toys, even at high SPL. (They will take a whopping 147 dB.)

### FALLING FOR GEFELL?

For certain applications, I'm a big fan of mics with extended top end. However, in my experience, these mics can sometimes be too bright in certain situations, and the M 300 is no exception. It seemed to me that over a drum kit, the top end was too bright. The top is smooth, but a bit *over* the top, in my estimation.

I had the same experience when they were used to record a small orchestral ensemble. However, when used as room mics while recording drums or for percussion, the M 300s ex-

celled. Also, when used to record acoustic guitar, they were stellar.

All that said, at this price (\$1,200 a pair), these mics are well worth a listen. No mic is a can-do mic for every situation, and having some specialists in the locker can take the average recording to the next level.

Dist. in North America by C-TEC, 604/942-1001, [www.cabletek.ca](http://www.cabletek.ca), [www.gefell-mics.com](http://www.gefell-mics.com). ■

*Kevin Becka is Mix's technical editor.*

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World Radio History

# PSP MasterComp and 608 MultiDelay

## Precision Multiformat, Double-Sampled Processor Plug-Ins

After only five years in business, the three-member team at PSPaudio-ware of Jozefoslaw, Poland (near Warsaw), have released a total of 19 software plug-ins. The line's universal appeal stems from the products' dependable, good sound and clever, intuitive GUIs. The software supports 44.1 to 192 kHz, and comes in HTDM, DirectX, VST, AudioUnits and RTAS formats for Mac OS 9/X and PC operating systems.

PSP also makes many of its products double-precision (64-bit floating point) and double-sampled with its proprietary Frequency Authentication Technique (FAT). For this review, I field-tested PSPaudio-ware's latest processors: PSP MasterComp and the 608 MultiDelay.

### INSTALL AND GO

I installed VST versions of both plug-ins into an AMD 4400 X2 (Dual Core) with 4 GB of RAM, overclocked at 2.5 GHz and running Nuendo 3.2. Installation went flawlessly. On my PC, set to 128 samples (3 ms) of latency, MasterComp registered about five percent of CPU and doubled when FAT was engaged. The 608 MultiDelay, fully maxed out, registered close to 20 percent

### DEUCE COMPRESSOR

MasterComp is a precision mastering compressor with a peak limiter that runs on PCs only (Mac version coming) under DirectX, VST or RTAS formats. Designed for stereo mastering processing, the plug



MasterComp is designed for stereo processing.



The 608 MultiDelay features eight delays, each including panning, feedback and various filters.

works wonderfully for any compression task where transparent gain control is desired. However, twist the controls far enough, and you'll achieve very analog-sounding limiter/compressor effects with as much pumping and breathing as possible. Every sound from typical "radio" compaction to a smooth, clean and transparent aesthetic is possible.

The preset brick-wall peak limiter will not allow output levels to exceed 0 dBFS. Like an insurance policy, this limiter is especially useful for rough mixes when there's no time to correct overs.

The compact GUI has all the usual compressor controls: threshold, ratio, makeup gain, attack, release, peak and RMS detection/operation, and a hard/soft-knee compression selector.

### MASTERCOMP: TOOLS AKIMBO

MasterComp has many new tools for stereo mastering. The Mix control adjusts the blend of the compressed signal to that of the original. Set up a severely squashed sound and then mix back in some of the uncompressed audio. Like an old-school method of mixing those two signals on a console, this technique worked well on lead vocals and for adding attack to a snare drum track.

Auto-Makeup Gain instantly brings the output level back up very close to

where you would manually set it. I liked Link, a variable control that musically sets the amount of stereo linking action. For a wider soundfield on mixes, I used very little linking as long as the center image didn't noticeably shift due to left- or right-channel gain reduction.

MasterComp includes both highpass (1 to 16kHz) and lowpass (25 to 400Hz) variable filters, with Listen monitoring available for the compressor's sidechain. Rolling out low frequencies worked well for bass-heavy mixes to apply extra compression with less pumping.

Also, I checked the accuracy of MasterComp's RMS reading VU meter calibration against Nuendo's meter and Elemental Audio's Inspector XL Level Meter plug-in, and they all agreed.

### PSP 608: MORE, LATER

The 608 is a multidelay processor with eight delays feeding a stereo bus. A must-have processor for any sound designer, the 608 is the ultimate delay for music mixing. It offers up to eight seconds of time for each delay, along with mix level, panning, feedback and a choice of a lowpass, highpass, bandpass, shelving or peaking filter. The filter is modulated by an LFO, envelope or another delay's output.

The processor offers two modes:



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## FIELD TEST

MultiDelay, where each delay line has its own feedback, and MultiTap, where a master feedback operates on a single tap. Each delay has its own reverb with a choice of a plate or spring, both with adjustable decay. A tape-saturation simulator is based on PSP's algorithm used in its mastering processors.

The 608's GUI is dominated by a large, virtual LCD with a clever feature: Mouse over any control, and the display indicates the name of the control and its parameter value. All parameters are programmable via host or MIDI automation.

The display is divided into three sections: Multidisplay includes buttons, level meters, MIDI information and parameter readouts for supervising different elements of the 608; Tap Params lets you view and edit delay tap setup for all eight delay lines on an intuitive bar graph; and the Modulation section controls the LFO and Envelope Follower. There is also a Graph mode sub-menu that covers the LCD (except for the Mod section), showing all eight delay taps on a timeline, although you cannot adjust them on this page—too bad, I like this view.

### DELAY ACTION

I put the 608 to work providing timed delays for a syncopated guitar part. While adjusting distortion, delay times, feedbacks, filter settings and modulation schemes, my guitar part evolved from a flat, sterile and vibeless part to a funky R&B motif. Later, after more tweaking, it became a dance-floor confection and finally, after still more tweaking, it evolved into a techno trademark with radical filter sweeps and feedback howling. Along the way, I saved each iteration as a preset so I could recall them if I went over "tweaker's cliff."

### PLENTY OF BANG

As is true of all great plug-ins, there is much more to discover than I have room for here. Both PSP MasterComp and 608 MultiDelay are excellent, top-notch and valuable processors. I found the 608 daunting at first, but after reading the excellent manual, I became an expert. You can lock to session tempo and adjust delays in quarter, eighth, 16th notes, etc., use milliseconds or the large Tap pad. The MasterComp has many pro features, including extensive metering. The plugs are sold separately (MasterComp, \$249; 608, \$149) or as parts of bundles.

PSPaudioware, 48 60-196-31-73, [www.pspaudioware.com](http://www.pspaudioware.com). ■

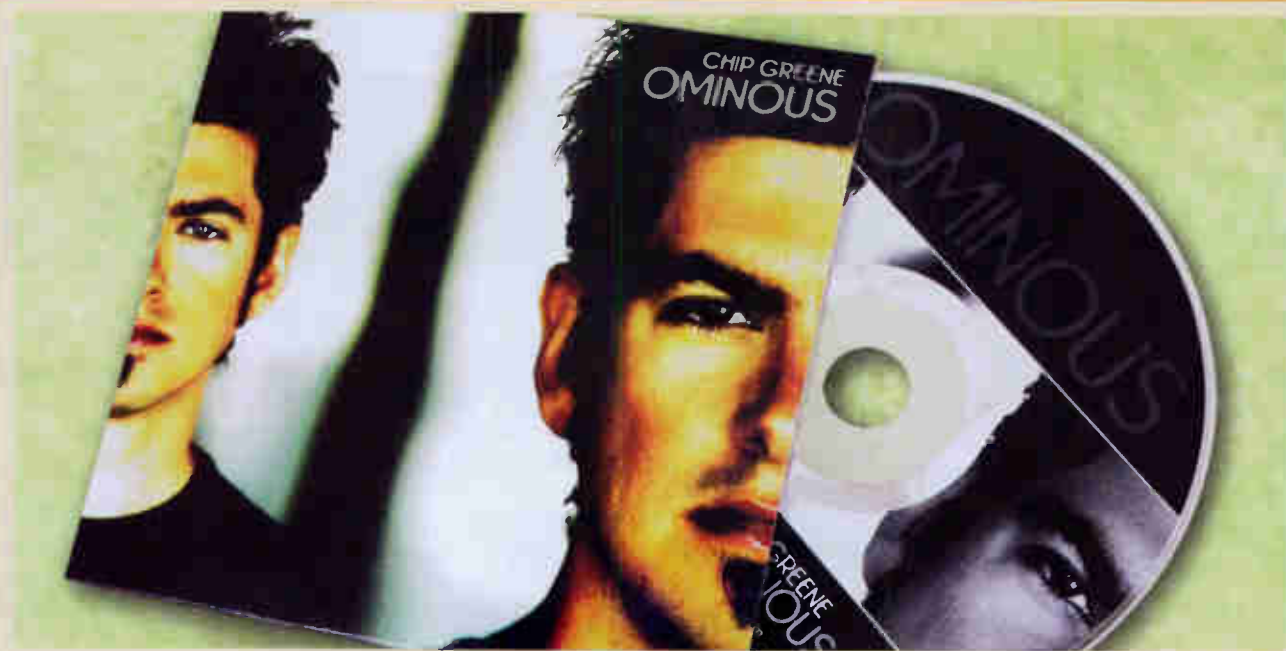
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# Thermionic Early Bird 2 Tube-Based Mic Pre

## Plenty of Clean Gain From a Hand-Built Unit

As more and more products are manufactured by computer-automated tools, it's always a breath of fresh air to review a product that has been built entirely (except for the etched circuit boards) and lovingly by hand.

Thermionic Culture's Early Bird 2, from noted designer Vic Keary's lab, has a foot firmly planted in two worlds: It's a thoroughly clean, natural-sounding outboard preamp/EQ with specs more than suitable for digital recording, yet it has a vintage analog look, feel and sound that can warm up cold and sterile recordings. Its unique push-pull all-tube circuitry (transformer ins and outs) makes no compromises on sound quality.

### FIRST IMPRESSIONS

The decidedly retro-looking front panel has plenty of useful features. Two mic or line inputs (both XLR) are available, with four toggle switches per channel: mic/line selector, 300 or 1,000-ohm termination (suggested by Neumann for FETs and sounds good with Shure SM58s), 48V phantom power on/off and an EQ in/out (active lift) switch. A five-step gain control selector works in 8dB gradations for either line or mic inputs (-24 to 16dB line).

A 3-band EQ rounds out the input stage: continuously variable low, mid and top (high) lift (boost) pots. Top is a shelving control that begins peaking at 9k when fully engaged; maximum boost is 21 dB. Mid frequencies provide a fairly broad peak of about 11 dB at 2.8 kHz. The bass (shelving) control provides 14 dB of boost at 50 Hz.

Completing the input section is another six-step control for bass cut (12 dB per octave) for flat, 30, 70, 150, 400 and 800 Hz. On the final two settings, it's more of a shelving control, working as a mid-cut control with the active bass lift control.

Two analog output meters, a pair of phase-invert switches and L/R output trim pots complete the front panel, with a big, bright green power-indicator lamp and heavy-duty toggle on/off switch. The line-



out controls are linear attenuators, operating after the electronics, so full output is available for pro level when set at max/full, or attenuated as needed for -10 systems. A pair of XLR line inputs are provided on the back, as is a standard detachable power cable socket.

### A DEEPER LOOK INSIDE

A loose collar-nut on one of the input pots gave me a reason to pop the top, and what was inside was just as amazing—and thrilling—as the sound coming out of it. You're not likely to see anything close to this kind of craftsmanship and build on another product of this type. As a reformed kit-builder, I was taken aback at the review unit's care and attention to detail. (It's been a long time since I've seen a "new" product look like this inside!)

### EFFECTIVELY CLEAN OR DIRTY

Initially, I was looking for a clean, accurate stereo preamp for a Baroque chamber ensemble recording. I ran an AKG 426 stereo mic into the Early Bird 2 and tried both preamp settings, settling on the 300-ohm position. To my ears, the sound was fuller and warmer, without being overly bright as is sometimes the case with many "hot" preamps. Although Thermionic warns of a little bit of degradation at the top end when using 300 ohms, everything sounded great, bottom to top.

Imaging was just solid and beautiful; no surprises here. On a very small ensemble, I was able to use the Early Bird 2's circuitry for an amazing amount of clean, uncolored gain—more than I'd probably ever need with this style of recording. Although it wasn't used in the final recording, I also tried a Royer SF-12 ribbon on the ensemble with different, but nonetheless great results. Plenty of gain for use with a ribbon, and with the top EQ control, I dialed in a bit

more detail, getting the best of both worlds, again choosing the 300-ohm setting.

In use with other small- and large-diaphragm condensers, the Early Bird 2 provides plenty of detail and lots of gain—more than I'm accustomed to with other so-called tube devices.

As mentioned, the separate line input makes the Early Bird 2 very useful as a tube EQ, providing some nice, warm distortion when pushed to extremes. The output trim control is placed post-electronics (similar to its previous incarnation, the Early Bird). Between these two settings, the Early Bird 2 can be overdriven to warm the coldest of tracks. Sure, it's an old trick, but I love how the Early Bird 2 handles this feature, and I found plenty of uses for this, including on a breathy, up close male vocal track that was just too transparent and wasn't going anywhere in a mix. A little crunch from the Early Bird 2 added the "pressed up and warm" sound I wanted; the vocal then sat fuller and thicker in the mix.

### DOES IT CATCH THE WORM?

The beauty of this preamp is its no-nonsense, much-needed features, flexibility and clean gain structure (all the "straight wire with gain" you'll probably ever need). On the downside, the Early Bird 2's simple yet very effective EQ has no cut features, but then again, that's not what it was designed to do. Its powerful, flexible tube design functions effortlessly, whether you're pushing it hard or just asking for a lot of clean gain. This is definitely a contender for anyone searching for that preamp that goes above and beyond the ordinary. Price: \$4,600.

Thermionic Culture ([www.thermioniculture.com](http://www.thermioniculture.com)), dist. in the U.S. by AXI, [www.axidistribution.com](http://www.axidistribution.com). ■

*Joe Hannigan runs Western Sound & Video in Philadelphia.*





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World Radio History

# Image-Line Sytrus 2 Soft Synth

## VSTi/DXi, FM-Based Instrument on Steroids

**F**M synthesis is such a versatile way to provide a wide timbral palette that many analog-style synths—hardware and software—offer a little FM (frequency modulation) on the side.

But genuine FM instruments are more unusual. Image-Line Sytrus, which was originally available only as an option for FL Studio, has now been released as a VSTi/DXi soft synth, making it a worthy competitor for players such as Ableton and Native Instruments.

### UNDER THE SKIN

Sytrus' sound engine starts with six-operator FM, programmed in a knob matrix that lets any operator (FM-speak for "oscillator") modulate any other. Individual knobs in the 9x9 matrix can be muted with a right-click for ease in programming. These knobs can't be automated, but both operator output level and modulation input level can be.

Calling Sytrus an FM synth is a gross oversimplification. Three multimode resonant filters, each with its own waveshaper, can be arranged in series or parallel, and operators can feed filters in any type of mix. Thus, Sytrus can function as three-layered, two-oscillator analog subtractive synths within a single patch, producing warm string pads you'll never hear from a Yamaha DX7.

Each operator's waveform can be custom-designed using a basic additive synthesis interface with amplitude control over each overtone. In addition, any operator can be switched to a Karplus-Strong plucked-string algorithm. Sytrus' envelope generators—more than 50 of them—can be given an unlimited number of segments and can sync to the host clock. Each envelope segment can have its own curvature. The LFOs are just as numerous, as are keyboard and velocity response mappings.

The effects page has a chorus, three delay lines and a reverb. A Unison mode, EQ and a "mouseable" X/Y modulation window deepen the feature set. There's also a comment field for adding notes on individual presets, but this didn't work well in Cubase SX3 because of Cubase's tendency to respond to QWERTY key commands. It worked in other hosts I tried.

### INTO THE SQUEEZER

I've used Sytrus 1 quite a bit in FL Studio, and I've found its sounds to be rich and appealing. Although FL Studio can operate as a VSTi or ReWire client, being able to use Sytrus as a VSTi plug-in is more convenient. However, saving and loading programs and banks is more awkward in Sytrus VSTi than in FL Studio for reasons that would be too tedious to explain. Program handling is manageable using the host's save .fxb/.fxp commands. Sytrus will load original Yamaha DX/TX programs in .syx format. Such files are readily available online, giving Sytrus a vast (though variable-quality) sound library.

Version 2.02 adds MIDI Learn for the externally controllable parameters. Even so, Sytrus is not set up as well as some synths are for real-time expressive control from a keyboard. Few of the factory patches add vibrato in response to the mod wheel, and setting up this routing is awkward. Velocity-to-amplitude response in Sytrus' original version couldn't be shut off, but thanks to the new Unlink Velocity switch, I was able to set up no-velocity organ patches and inverted-velocity crossfades. (This switch is global, unfortunately—a bug reportedly fixed in Version 2.0.6.) There's no velocity control over envelope segment times, and as I actually play the keyboard, I miss this feature.

The arpeggiator is implemented in an eccentric way. Looping envelopes are used, with each envelope breakpoint being given an arpeggiator step value (which can be previous, same or next). How to set up arpeggiating envelopes is poorly documented. The factory patches show that Sytrus can run three simultaneous arpeggios at different tempos or perform a complex octave transposition pattern in response to a simple chord on the keyboard, but it took me awhile to figure out how these effects were programmed. Fortunately, Image-Line provides arpeggiator-type envelope templates. You can also save and load your envelopes.



Sytrus' Algorithm/Route matrix (grid on right) routes operators.

Despite these problems, I used Sytrus 2 on several projects and was very pleased with the results. After launching Cubase and choosing a beat in Spectrasonics Stylus RMX, I added three instances of Sytrus: one playing a fat synth bass, another a trance lead and a third doing a Euro-dance syncopated riff that was built into the patch. The bass wasn't cutting through enough, so I edited the waveshaper curve to add a little more buzz. Then I switched to Ableton Live and used four instances of Sytrus to create a funky riff with bass, clavinet (love that plucked-string algorithm!), arpeggiated pad and lead. There are lots of automatable parameters, as well as fine sound quality and reasonable CPU usage—no complaints here.

### SYTRUS ISN'T A LEMON

There's no shortage of fine soft synths on the market, but Sytrus (\$179, or free with SL Studio XXL, a \$349 download) ranks high on my list, thanks to its extremely versatile voicing options. It's not as easy to program as some synths: Even for FM experts, the user interface takes some getting used to. But it's a great value and deserves to stand out in a crowded field.

Image-Line, 32 92-81-15-33, [www.sytrus.com](http://www.sytrus.com).

*Jim Aikin is the author of Power Tools for Synthesizer Programming (Backbeat Books). He hangs out at [www.musicwords.net](http://www.musicwords.net).*

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# Mercury M72s Studio Microphone Amplifier

## Dual-Channel Tube, Retro Take on a Classic Design

**M**ercury Recording Equipment's M72s is a faithful re-creation of the Telefunken/Siemens Kas-settenverstärker V72 tube mic/line amplifier. All of the amplifiers in the V Series were fixed-gain units, and the V72s was a rare, modified version specified for the EMI REDD 37 recording desk used by The Beatles and others at Abbey Road Studios during the 1950s and '60s. The original V72, V72s, V76 and other variants continue to be sought after for conversion into wonderful stand-alone studio mic and line amplifiers.

offers either -16 or -28 dB of attenuation.

Input impedance to the rear panel XLR is 2k-ohms or 4k-ohms when the -28dB pad is used. The unit's output impedance is 30 to 50 ohms, depending on gain, and the recommended source impedance is 200 ohms or 500 ohms minimum. Maximum output level is +22 dBu, with a frequency response of 20 to 20k Hz,  $\pm 0.5$  dB.

There are phantom power on/off and phase-flip (polarity) switches, along with a mic/DI switch that selects either the rear panel XLR mic input or a ¼-inch front

M72s' output directly into a dbx 160SL compressor without an equalizer and get a close and present sound, as well as the "air" around her voice and some of the room's tone.

I next recorded a flute (34dB gain) with a Soundelux E47C condenser mic placed 1.5 feet above the player and got a great sound without any equalization. I also did not add any EQ later on during the mix. A tube mic and tube mic preamp are just the ticket for a fat and natural flute sound!

I tried the DI input for bass guitar



### INSIDE THE LEGEND

The M72s, a 2-channel, two-rackspace mic preamp with an internal AC power supply, comes in an all-steel cabinet in the original Tele beige color, with a thick, militaristic-looking front panel. It uses custom-made transformers for the input and output paths, and another as a choke in the amplifier. Two EF86s—without hold-downs, but in ceramic, gold-pin sockets—are used for each channel. The handmade and roadworthy construction comprises first-class components firmly mounted throughout and welded chassis corners for extra rigidity.

### FRONT PANEL CONTROLS

The front panel is adorned with 3/16-inch-thick, nickel-plated strike plates that mimic the original V72s' pull handles that were used to insert modules or remove them from the audio console's frame. A large, old-fashioned toggle switch and a 1950s-style red-jeweled light are used for power on/off. Two large Bakelite control knobs labeled Gain (one for each channel) change gain in 11 3dB steps from 28 to 58 dB; gain switching in 1.5dB steps is an option that can be special-ordered. An input pad switch

panel DI jack. The JFET DI circuit has a 2-megohm input impedance. It is said to mimic Class-A tube circuit topology and provide high RF immunity. This impedance converter drives the input transformer so that you get the full benefit of the preamp's sound. Most DIs on preamps bypass the first amplifier stage or input transformer—or both. Finally, orange-colored recessed indicators show when the channels are ready for operation and change to red when phantom power is engaged.

### IN THE STUDIO

My first test was with a female vocalist singing up close to an AKG C 414 TL II with no pad, no roll-off, in cardioid pattern and 37 dB of gain on the M72s. This is by far the thickest, warmest and fattest mic sound I've heard—even compared to other tube mic preamps. My singer has a husky, dark voice, so perhaps this wasn't the perfect mic/preamp combo for her, but the sound was still amazing: present, quiet and extremely clear.

I swapped out the 414 for an AKG C 24 tube stereo mic (top capsule in cardioid and 40dB gain) and backed my singer off about a foot. I found that I could plug the

and noticed much more level and a percussive edge as compared to a Whirlwind IMP 2 transformer direct box. The DI input set to 28 dB was louder than the Whirlwind plugged into the XLR mic input with 37 dB of gain. Using the DI and advancing the gain upward (and backing the following compressor down) started to overload the M72s in the smoothest way. I liked that I could set the exact amount of breakup to taste—turn it way up and get the fuzz sound, just like on The Beatles' "Think for Yourself" from *Rubber Soul*.

### A WORTHY GAIN PARTNER

With a huge sound, an excellent built-in DI and line-level capability, the Mercury M72s is a remarkably versatile recording tool. I love the vintage tube sound in a modern unit that's free of vintage problems such as noise, scratchy pots and variable performance. Getting great sounds on all of the sources I tried was never easier!

Prices: \$3,500 (2-channel), \$1,900 (single-channel).

Mercury Recording Equipment Company, 510/581-3817, [www.mercuryrecordingequipment.com](http://www.mercuryrecordingequipment.com). ■

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# Metric Halo Labs SpectraFoo Complete

## Software-Based Multichannel Audio Measurement Tool

**S**pectraFoo Complete is Metric Halo Labs' latest audio analysis software for Mac OS X. Using Fast Fourier Transform (FFT), SpectraFoo's suite of more than 15 virtual instruments facilitates measurement of just about any audio function that you can imagine.

It's impossible to describe all of SpectraFoo's capabilities, so I'll hit the highlights. SpectraFoo Standard (\$400) and SpectraFoo Complete (\$800) offer the same features, except Complete augments a core set of instruments with a bit code meter, code matrix meter, code list meter, Transfer Function and delay finder. Common to both versions are level meter, Spectrogram, Spectragraph, Phase Torch™, Lissajous phase meter, power balance history, correlation and correlation history.

### HOOKING IT UP

Input to SpectraFoo Complete comes from the computer's built-in audio system or any Core Audio device. With an appropriate audio interface, Complete provides 24 channels of audio analysis in any combination of instruments. (I used MOTU Traveler and Digidesign 002 interfaces.) All instruments have on/off, solo and a control panel. Multiple instantiations made it easy to create a 5.1 monitoring level meter set and an 8-channel Spectragraph display. Instruments may be linked for global parameter changes, and sets of windows can be user-named, saved, recalled and assigned to key shortcuts.

### BASIC TO ADVANCED OPERATIONS

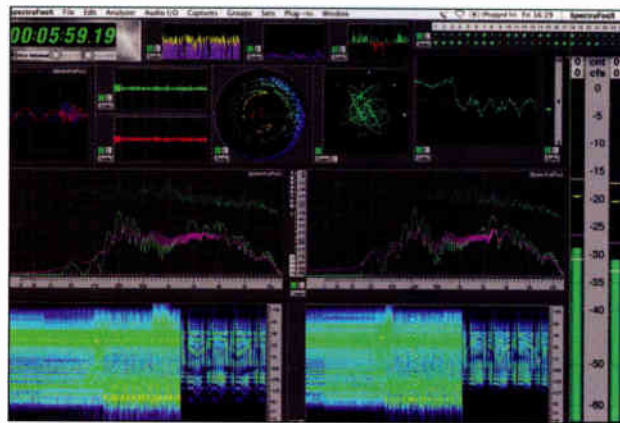
Even the most basic of Complete's instruments—the level meter—is a very useful measurement tool. When initiated, this meter displays dBfs on a horizontal scale from approximately -60 to 0, but you can customize almost every parameter. Grabbing the lower-left corner of the meter resizes it; dragging it downward and to the right changes the scale to vertical.

One of my favorite tools is the Spectragraph, a real-time display of frequency vs. amplitude, showing average, instantaneous and peak level simultaneously, with resolutions ranging from 1 to 1/24 octave, including a Continuous mode.

Complete's Phase Torch is an innovative meter that I used to compare phase relationship between a DI and a mic in a bass rig. When fed with two in-phase signals, this 'scope displays a multicolor torch tightly aligned to the vertical axis, with frequency represented by color. When a frequency range is out of phase, the torch broadens or dissipates at those frequency colors. The Phase Torch made it easy to bring a bass DI into phase alignment with a miked amp by adding a small delay (1 to 2 ms) to the DI.

Perhaps the most powerful of Complete's instruments is the Transfer Function. By routing the original signal (the source) into the left channel and an audio system's output (the response) into the right, Transfer Function calculates differences in power and phase vs. frequency. I split a vocal track, ran the signal directly into the left input and into a high-end analog EQ. The EQ output was patched to the right input of 'Foo. The Transfer Function windows showed how the input was altered by this EQ. Even when set flat, the unit attenuated certain frequencies and boosted others, no doubt contributing to the euphoric coloration of the device.

To view a P.A.'s system response in a small club, I routed pink noise into the left channel and a measurement mic into the right channel. Noise was played through the system and the Transfer Function displayed the power and phase discrepancies in the P.A. If you're paying attention, you should be wondering about the "speed of sound delay" from the P.A. to the measurement mic, which creates phase cancellation between the two signals. Transfer Function has a Delay Finder to compensate for this delay automatically. I then took a snapshot of the response and loaded it into the Transfer Function Overlay List, where I could view it and invert it to show the EQ curve needed to flatten the room.



SpectraFoo uses FFTs to measure virtually any audio function.

Complete's Signal Generator creates noise, steady and sweep tones with user-specified start and end points for frequency and amplitude. Though the manual does not specify how to assign its output, it appears that the Generator defaults to internal bus 1, which must then be assigned to an output to route the signal out of the audio interface, making for a convoluted process. I'd rather see an Output menu in the Signal Generator. The only other annoyance I encountered was with the timecode clock: I couldn't get the control panel open to set routing for the input.

### ADEPT AUDIO TOOL

I found all of Complete's instruments truly useful (though I didn't really "get" the Code List Meter). What may not be so obvious is that SpectraFoo Complete is a powerful teaching tool that should be a part of every audio education program. I used the Spectragraph to illustrate to students how applying EQ changes spectral balance without altering frequency, and I used the Phase Torch to indicate the aforementioned phase relationship of bass DI and microphone. The results were easily understood, and the students loved it. I highly recommend the 'Foo.

Metric Halo Labs, 845/223-6112, [www.mhllabs.com](http://www.mhllabs.com).

*Steve La Cerra is tour manager/FOH engineer for Blue Öyster Cult and an adjunct professor at Mercy College in White Plains, N.Y.*



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**MIX**

# Odds and Ends, High and Dry

## From Television to Gift-Giving, a Year-End Assessment

I wonder how many of you out there watch TV. More specifically, how many of you watch via over-the-air television reception? How about your mom or bro? If things move forward as planned, in about 20 months, give or take a few, all those folks are going to be staring at lovely, random snow patterns because there will be no more signal. In keeping with the planned transition to digital television, analog transmissions must cease at some point so Our Enlightened Government can auction off the spectrum to the highest bidder.

Where will that leave a significant portion of the U.S. viewing audience? Up the proverbial creek without a paddle, outta luck, high and dry. My household will be one of those. Left out of the water-cooler conversations about the latest manufactured culture. Tragic. So what will we do?

This month, I'd like to bring your attention to a slow sea change that may affect your audio artistry. If you are involved in broadcast teleproduction, then begin thinking about how you can either find another gig or attract new clients, because the middle age of broadcast TV has passed and that ol' dog is in slow decline.

Why the dire prediction? In keeping with the core theme of this column, it's those doggone computers that did it.

Once upon a time, Japan implemented a national "high-def" TV system—an analog high-def system. Not long after, the Europeans and us decided to go with a digital version as digital "is better." Because we, the American people, cannot force ourselves to adopt something that the Europeans have even touched, we went with a unique system. However, since the 1950s, when the NTSC color standard was created, the political climate has changed and the rise of lobbyists in Washington, D.C., has attenuated the Voice of the People to the point where you need a rather high-gain preamp to even pick it up.

The result is our current Federal Communications Commission-mandated digital TV standard, which is so vague as to be laughable. Our Appointed Officials' singular lack of backbone regarding standards setting has produced a morass of costly production and delivery infrastructure and overpriced consumer electronics that couldn't interoperate if they tried. Then comes the deathblow: retiring analog over-the-air service.

In February 2005, the FCC came to a "tentative conclusion not to impose a 'dual-carriage' requirement on cable operators [which would have required them to simultaneously carry broadcasters' analog and digital signals] and affirmed the Commission's prior determination that cable operators are not required to

carry more than a single digital programming stream from any particular broadcaster." Woosh, woosh...plop. That's the sound of TV watchers falling away from network viewing as they lose the ability to receive the Big 3's, er, Big 4's signal.

Okay, so urban and suburban viewers, mostly on cable, will lose some or all of their broadcast programming. No worries, there are 100 other channels.

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Then there's the rural population. They can easily afford those new \$2,000 DTV receivers needed when the analog shutdown occurs. Yeah, right—I know, the cost of DTV adapters and DTV-ready tellies will come down in time, but by that time, the people won't care anymore. Nobody will care if network TV lives or dies.

Linux, PVRs, BitTorrent, DVDs, broadband, vlogs and their slavish handmaiden, RSS feeds—all of these computer-based technologies will converge to close the gap left open by increasingly irrelevant broadcast content. I don't know about you, but the only time I listen to or watch broadcast is when I'm in the car and, dude, I don't have a TV in my car. In other words, I listen to my local NPR affiliates when driving short distances, but podcasts and my rather modest collection of lossy audio are pressed into service on long trips. That's it. This family consumes little other broadcast programming.

Now, I know I may be atypical, but not for long. As access to over-the-air signals becomes increasingly difficult or costly to receive and broadband creeps across the land, consumers will either turn to other free content or will opt for low-cost, fee-based programming that meets their needs. If and when broadcasters figure out how to compete in this increasingly hostile environment, they won't have an audience. Think AM radio.



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World Radio History

I'm curious. Though you, the *Mix* readership, are in the media business, I've found that few of you possess modern entertainment systems in your home. So I ask, how many of you are up that creek I mentioned earlier? Are you planning on buying an ATSC-compliant receiver when analog service is sacked? If your cable service didn't carry broadcast channels or if you don't have cable, then would you or your household really care that CBS or NBC or Uncle Rupert was out of reach? Would your world end without a weekly dose of *CSI*?

I'll leave you with two words: wearable computers. Whether it's a sixth-generation iPod or a Samsung/Rossignol collaboration, wearables are finally getting good. Ed Thorp and Claude Shannon's little Vegas gambling experiment of 1961 has slowly evolved through improvements in power, storage, input and display technologies and into a viable choice not for beating the house (that was banned in 1985), but for portable entertainment products of the future. Mess with a PSP next time you're in a retailer and you'll see what I mean.

\*\*\*\*\*

And now for some holiday leftovers.

If you are of a certain age, you remember Supertramp. Their music filled the airwaves all through the '70s. Some 30 years on, one of their latter-day guitarists, Carl Verheyen, is still an effortless player and staple session musician, and now he's the subject of a new AIX dual-DVD disc super-set. This release is an example of how a music DVD should be done. In brief, "...no artificial reverberation is ever added to our tracks...Miking is extensively done with stereo pairs to provide depth of image," says Mark Waldrep, maestro of AIX Media Group. "We use lots of tracks, great mics [and] mixing is handled completely in the digital domain." The result: a DVD-V and DVD-A combo with clean, unobtrusive production, more extras than you can shake a remote at and convincing audio that documents the performances. If you like guitar rock or know someone who does, this set is for you.

Next up, armor plating. Do you take your PowerBook on the road and beat the

## Oops, I Did It Again

Several times in the past, the United States has picked an inferior electronic distribution standard. First it was monochrome television, then our "Never the Same Color" service and, later, the current FCC-mandated, ill-conceived and implemented digital television system.

Well, surprise, it's happening again with terrestrial digital radio. We're getting our own HD radio system while the rest of the world, it appears, is adopting the Digital Radio Mondiale standard. The HD radio implementation came at the expense of low-power FM spectrum, and that grab for spectrum will also further degrade the already pallid analog AM radio we are now accustomed to. Stupid is as stupid does, I'd say. —OMas

crap out of it? If you want some serious protection—and none of this wimpy closed-cell foam stuff—then take a look at RadTech's ([www.radtech.us](http://www.radtech.us)) MacTruck. I know, this sucka weighs as much as the computer, but it's built like the proverbial brick house. All aluminum, but not as prissy as a Halliburton and half the price.

In the "You don't know you need it until you get one" category is Cepstral's ([www.cepstral.com](http://www.cepstral.com)) third-party voices for popular



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operating systems. I'm not talking synth voice; I'm referring to text-to-speech synths, and, no, they don't sound like Stephen Hawking anymore. If you want to convert a Project Gutenberg EText to spoken word for a long trip or you just want to give one of your secondary computers a distinctive voice should an alert arise, then give these cyberians a try. Cepstral William, derived from the vocal stylings of Cepstral's president, Kevin Lenzo, has become my default voice for all my PowerBook utterances. He's cool, distinctive, nicely priced and, most of all, intelligible.

Speaking of nice price, you've got to check out Katsura Shareware's ([www.katsurashareware.com](http://www.katsurashareware.com)) AudioTest for Mac OS. It's a great test-tone generator, with capabilities that far exceed the \$10 price. Another audio essential for your toolkit, along with AudioTest and the ever beautiful Soundhack, is Rogue Amoeba's ([www.rogueamoeba.com](http://www.rogueamoeba.com)) Audio Hijack Pro. Just throw down for it.

On to another more concrete subject: ergonomics. I know, Apple finally came out with a multi-button mouse, but, sorry, it still can't touch Contour Design's ([www.contourdesign.com](http://www.contourdesign.com)) Perfit mice. If you hold a damn mouse all day, then you owe it to your extremities to test-drive one of these little fellers. They make 'em in USB, ADB, PS2 and 9-pin serial versions!

While we're at it, let's talk keyboards. Again, if you spend all day in front of a computer, then don't put up with junk gear. Get yourself a quality keyboard—you'll never go back. For you Win kids with the PS2 thing, check out Creative Vision Technologies' ([www.cvtinc.com](http://www.cvtinc.com)) CVT Avant Stellar. For you Mac kids, check Matias Corp.'s ([www.matias.ca](http://www.matias.ca)) Tactile Pro. For you fence-sitting, cross-platform radicals, check out Datasdesk's ([www.dbz.com.au/lf/default.htm](http://www.dbz.com.au/lf/default.htm)) TrackBoard product, a combo keyboard and trackball. All these keyboards use mechanical—as opposed to membrane—switches with tactile feedback; very nice feel and more durable than throwaway keyboards.

We've all seen those two-tiered paper trays that folks use to hold and organize incoming paperwork, track sheets or other ephemera. Well, the guys at Pressure Drop (<http://pressuredropinc.com>) thought real hard about maximizing space—some might say a bit too hard—and came up with the Black Diamond PaperHub, a glossy black-on-aluminum two-tier job with built-in, powered four-port FireWire 400 and USB 2 hubs—cyber-organization for the chronically disorganized.

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For those who fret about what's on their iPod and what woes may befall those contents should said little media player fall into unfriendly hands, I submit for your inspection two utilities: Prosoft Engineering's (www.prosofteng.com) TuneTech and AlienCrypt's (www.aliencrypt.com) eponymous AlienCrypt encryption utility. Along with backing up, optimizing, repairing, undeleting and several other functions, TuneTech will "shred" songs and files, preventing subsequent recovery should someone gain access to your 'Pod. AlienCrypt provides an inexpensive, easy-to-use, drag-and-drop method of encrypting files. Hey, stuff gets lost in transit, 'nough said.

Are you one of those people who spends way too much time geeking and not enough time interacting with others of your species? Do you have some old iPods lying around, waiting to place that Craigslist ad you never seem to get around to? If you answer yes to both of these questions, then you need iPodLinux.org. Yup, Linux on your iPod, dual-bootable no less!

More seeming fluff I admit, but this is another item that adds a bit of whimsy to my day. The mad (in a good way) folks at Speck Products (www.speckproducts.com) gave me an iGuy, and this boing-y little feller has proved to be tough, non-slip and fun to have around. Granted, iGuy's not as fuzzy as the Old Navy zero-to-three-month infant sock that DJ Jonah Jone has donated to my iPod protection racket, but the iGuy's more than up to the task of protecting against the ongoing assaults that my player falls victim to.

Okay, if you think a silicone, posable iPod case is messed up, which, frankly, I don't, then you haven't seen nothin' yet. The Trader Vic's crowd now has a reason to celebrate since the folks at TikiMac (kilauea.tikimac.com) have released the hand-painted Big Tiki Drive, in sizes from 0.5 to 4 GB. Not just for storing and transporting Arthur Lyman remixes, the Big Tiki is a well-rounded USB 2 Flash drive with a built-in "aura" access light and included "Lava USB" cable. You better have your war club nearby when your second sees this bruiser because he'll want it for his own.

So that's it for now. Next time you hear from me, I'll be checking in on the Apple/Intel cabal. ■

*Oliver's been catching up on his old-media entertainment: Bruce Sterling's Holy Fire, a ripping good read, and Sigur Rós aural explorations of the finer points of analog.*

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**It's like having a secret weapon... My Gefell mics are extremely clear and transparent. They give me the definition that many other mics do not capture."**



**Alan Silverman** - Engineered 21 Grammy-nominated recordings. Credits include Chaka Khan, Norah Jones, Cheap Trick, The Kinks, Bebo Valdes, Ricky Skaggs, Bill Monroe, Art Garfunkel, Meatloaf, Keith Richards and The Producers.

**It's the ultimate compliment when a singer or musician says they've never sounded better. In particular, the sound of the UM900 is sparkling, enormous and exciting. My Gefell microphones have earned this praise time and again."**



**David Rideau** - Multi-platinum engineer/producer and three-time Grammy nominee. Clients include Sting, Jimmy Jam & Terry Lewis, TLC, Janet Jackson, Earth Wind and Fire, George Benson, Tom Scott, Al Jarreau and Kirk Franklin.

**The Gefell M930 is a wonderful sounding mic that has given me great results on acoustic piano, acoustic guitars, percussion and drum overheads. The low self noise also makes it a perfect choice in situations where wide dynamic range is an issue. I call it my elegant workhorse!"**



**Dave Bottrill** - Peter Gabriel, Deep Forest, King Crimson, Robbie Robertson, Tool, Silverchair, Tony Childs, Joni Mitchell, Trey Gunn, Youssou N'Dour, Kid Rock, Roger Eno and the "Philadelphia" soundtrack.

**"For vocals, the Gefell UM900 is warm, open and very robust. The control also makes it flexible. It works well on percussion and acoustic instruments, all the while retaining the air and presence that one expects from a large diaphragm microphone."**



# Get Real

## Real History

Since 1928, Gefell has led the world in microphone technology, starting with the world's first condenser. In 1935, the remarkable M7 capsule was introduced. That led to the legendary sound of the U47, the U49 and in 1957, the UM57 - the first ever multi-pattern microphone. Today, Gefell continues the tradition under the direction of Mr. Kühnast Jr. with the original M7 capsule featured in the UM75 and UM92.1S tube microphones.



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

## Real Quality

Quality comes with the desire to do it right. For over 75 years, Gefell has built microphones by hand in order to achieve the highest standards possible. From the precision machining of raw metal stock to the hand-stretching of each diaphragm and individual testing of each microphone in an anechoic chamber, Gefell sets a standard that is simply higher than any other.



2004 - Hand-drilling an M930 back plate

## Real Innovation

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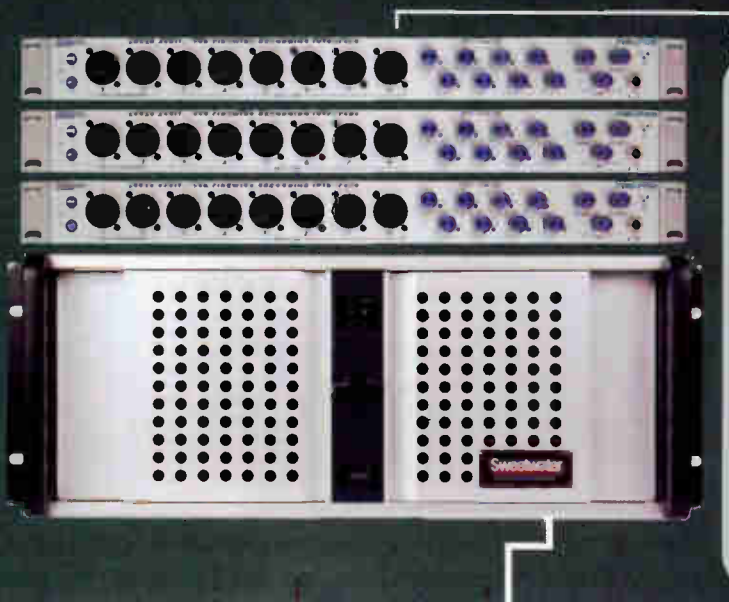
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PHOTO: SUSAN TITELMAN

## RY COODER'S "CHAVEZ RAVINE"

AN ECLECTIC L.A. STORY

By Rick Clark

Ry Cooder has made a career out of discovering and shining a light on roots and world music that was created out of the sheer love of expression—and not driven by the dollar. The honesty and magic captured in the grooves have, at times, brought traditionally noncommercial music to the masses. This was most evident with the multi-Platinum success of *Buena Vista Social Club* in 1997, the result of his trips to Cuba and developing friendships with its musical community.

Born in Los Angeles, March 15, 1947, Cooder made his first notable musical forays as a guitarist playing with Taj Mahal in Rising Sons and with Captain Beefheart & The Magic Band. In 1970, however, Cooder's self-titled Warner Bros. debut revealed an artistic vision deeply immersed in American blues and folk traditions. He has an utterly unique musical voice and guitar style that is especially clear in his slide playing.

Among the many fine solo albums Cooder put out, *Into the Purple Valley*, *Boomer's Story* and *Paradise and Lunch* are particular highlights of his earlier work. Beginning in 1980, Cooder started a lengthy career composing, producing and playing music for films, often with Jim Dickinson. Most notable are the soundtracks for *The Long Riders* and *Paris, Texas*.

Cooder's most recent solo album is called *Chávez Ravine*, named after the largely Latino neighborhood in L.A. that was razed to make way for Dodger Stadium in the late 1950s and early '60s. The story of Chávez Ravine provides Cooder with a lens through which to view many of the cultural and historical qualities he has grown to love and hate about L.A. The album is particularly a love letter to the vibrancy and rich complexities of the Latino community and its arts, as well as a powerful reminder of how the confluence of big-money private interests and dishonest political agendas can literally bulldoze the lives of poor citizens who happen to be standing in the way of "progress."

*Chávez Ravine opens up with the fantastical image of a UFO flying over L.A., checking things out and trying to catch the vibrant buzz of the music and culture of the city's Latin community. The playfulness of its appearance provides an avenue with which listeners enter into this world you've portrayed on the album.*

This is how you envision a record like this. It's not some history book. It's about people and sounds of the neighborhood, and that's a hard thing to get right.

*I noticed the flying saucer on the album's cover art looked almost like a Zoot Suit bat.*

[Laughs] Yeah. Well, that was the take of the artist who drew that picture. He thought it was funny. And it is funny, because I thought this must be some Space Vato cat who is out there by himself, and it's cold and he wants to go where the heat is—where it's groovy. He's not trying to scare anybody. Instead of *War of the Worlds*, the Space Vato actually wants to dance and party and check out these Mexican girls in the neighborhood and so forth.

—CONTINUED ON PAGE 126





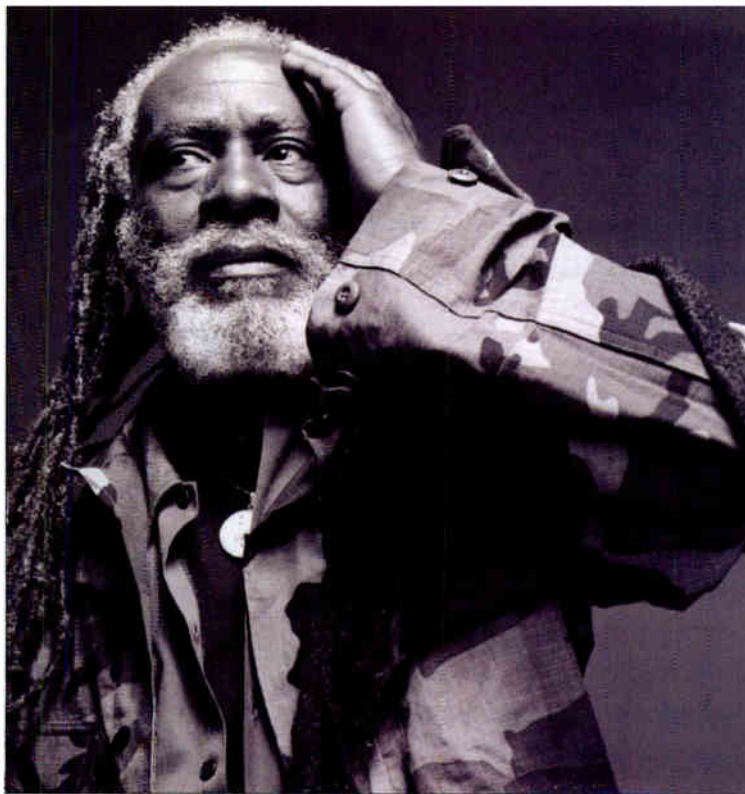
# BURNING SPEAR

CARRYING THE REGGAE TORCH

By Chris Walker

Although reggae icons Bob Marley and Peter Tosh passed away many years ago, the music and spirit they championed is still being celebrated by one of their best-known peers, Burning Spear. Winston Rodney adopted his stage name in 1969 when he started out as a duo with Rupert Willington. With Marley's encouragement, he went to Kingston's [Jamaica] Studio One and met producer Clement "Coxsone" Dodd. That set the stage for a career that really took off in the late 1970s, with such groundbreaking discs as *Marcus Garvey*, *Man in the Hills* and *Dry & Heavy*. Blending Rastafarianism, black history and other social concerns, the charismatic singer fronted a series of exciting reggae bands and enjoyed considerable success in the U.S. and Europe, as well as in Jamaica. He's been nominated for a Grammy numerous times, and in 1999, the introspective *Calling Rastafari* finally won for Best Reggae Album.

The business side of Burning Spear's career has been checkered. He's been on numerous record labels, often with disappointing results, and has at various points strived for greater autonomy. His latest move in that direction was the creation, with his wife, Sonia Rodney, of the Burning Music label in the wake of his Grammy win. His first release for the new company was the excellent 2001 set *Live at the Montreux Jazz Festival*. Two years later, his debut studio CD for the label—aptly titled *Freeman*—received a Grammy nomination. And so has Spear's latest, *Our Music*, which is widely being hailed as one of the best albums of his 40-year ca-



reer. It was designed, the singer says, to be a return to past form.

"I was thinking to go as close as possible to the '70s," he says in his thick Jamaican accent from his home in Brooklyn, N.Y., where he moved a number of years ago. "My reason for that was when you listen to [reggae] music today, nobody is carrying that kind of sound anymore. For some of us, it's our duty to achieve that original sound—don't lose it. Therefore, that sound will go down in the history of reggae music."

Work on *Our Music* began in February 2005 at the Magic Shop in New York's SoHo district. The studio's comfortable family vibe and the vintage recording equipment and instruments were exactly what Spear was looking for. He recorded the basic tracks there during a period of a couple months using his studio band: Leroy Wallace on drums, Linford Carby on guitar, Michael Hyde on keyboards and I Palmer on bass. "I have a different set of musicians for live music," Spear notes.

"We do the basics, and after that, I do percussion, call in another keyboardist for vocal dubs and two different lead guitars," he adds. "The horn section came later, and afterward, I worked with the backup vocalists and also did the lead vocals." Handling the engineering for the roots-reggae artist was Barry O'Hare, who resides in Ocho Rios, Jamaica, and does the bulk of his work there. Spear and O'Hare have been working together on various projects, including the Grammy-winning *Rastafari*, for about eight years.

O'Hare comments that Spear "will come in with a little voice recorder that has vocal demos. The musicians will vibe that and create music [around the demo]. Lyrically, they're never complete; they're just ideas, possibly with choruses, but not so much of verses. So you'll hear him singing and the guys will use their imaginations to create melodies for the verse. Then Spear will tell them how to shape everything. It's always an experience, where things come from and how they end up."

To capture their efforts, O'Hare used the Magic Shop's wonderful-sounding vintage 1970s Neve board (which was formerly owned by the BBC), recording to Pro Tools at 24/96. In addition to the board's EQs, he also used vintage Neve preamps, a Lexicon PCM-42 (which he says was great for dub effects), a Neumann 87 matched with a Tube-Tech compressor for the lead vocals, a standard drum-miking setup (D-112 on the kick, SM57 on the snare, 421s on toms) and various plug-ins ranging from a Digidesign EQ to Compressor Bank. The musicians worked six days a week, typically putting in about 10-hour days.

Commenting on creating the album's classic reggae sound, O'Hare says, "The musicians you have working on it are a big part of it. The drummer he brought in, Wallace, used to play with him in the '70s and does that type of drumming. Then, also, you don't use a lot of electronic stuff, like a synthesizer

—CONTINUED ON PAGE 129



## THE DOORS' "RIDERS ON THE STORM"

By Blair Jackson

It's been more than 10 years since we first tackled a Doors song ("The End") in "Classic Tracks" (February 1995), so it's high time we looked at another. Though it was only about five years between the recording of "The End" from The Doors' eponymous first album and "Riders on the Storm" from their final studio album, *L.A. Woman*, it felt at the time as though the band had been around forever.

The arc of The Doors' career was extreme. They went from being a popular L.A. club band—part of the new mid-'60s underground—in '66 and the first part of '67 to national superstars once their first album hit the airwaves and "Light My Fire" swept across the land. Their first three albums were massively popular (and also really good), and it wasn't long before they moved from clubs and small auditoriums to giant sports arenas. Jim Morrison did not handle his rapid ascent well—as has been chronicled in many a lurid article and book, he degenerated into a sloppy, at times belligerent drunk and drug abuser, who had no compunction about showing up onstage completely wasted, unable to perform well.

The low point came in Miami in March 1969, when, in a drunken stupor, he allegedly exposed himself onstage, leading to his arrest for "lewd and lascivious behavior," triggering a fall from grace as rapid as his rise had been. The Doors were banned in many cities, and Morrison spent much of the next year embroiled in ugly, time-consuming legal proceedings, trying desperately to stay out of jail. The group's "comeback" in 1970, with the *Morrison Hotel* album and a scaled-back tour of smaller venues, seemed to be successful on most levels, and helped erase the taint of Miami somewhat, but the fact is, Morrison was physically spent and mentally exhausted by the time the group assembled to record *L.A. Woman*.

At first, it looked as though the band would record their new album much as they had previously, with Paul Rothchild in the producer's chair, Bruce Botnick engineering and working at Sunset Sound (Hollywood). But the wheels came off almost before the train left the station. Tensions with Rothchild had been building for some time, and the producer was in no mood to record a band who clearly did not have their songs together or a lead singer who was reliable enough to cut tracks.

Rothchild told me in 1981, "Basically, things had been sliding since Miami. Jim was really not interested after about



PHOTO: EDMUNDO TESSE

the third album. He wanted to do other things. He wanted to write. Wanted to be an actor. Being lead singer of The Doors was really not his idea of a good time. It became very difficult to get him involved with the records.

"Let's put my career in perspective. I had close to 100 LPs under my belt," he continues. "I had just finished making one of the greatest albums of my career, a labor of total love by the most loving and dedicated musicians I'd ever worked with. I'm talking about Janis Joplin's *Pearl* album. That music was full of heart, the way it's supposed to be in the studio. You get 110 percent from everyone in the band and 150 percent from Janis.

"[With *L.A. Woman*,] I went into rehearsals with The Doors for about a month. They were set up in the basement of their offices on Santa Monica Boulevard, but it was a joke! They'd come straggling in. Jim wouldn't even show up half the time. There was no enthusiasm at all. They were all drugged on their own boredom. Just totally bummed out. Ray [Manzarek, keyboardist] would try to get things together. He has this great enthusiasm! I love that man! John [Densmore, drummer] was really angry about Jim's attitude, and Robby [Krieger, guitarist] sort of laughed at it, and said, 'That's Jim!'

"It wasn't just Jim, though. They'd all been lazy. They only had four or five songs that were defined enough to play as songs at that point. The most complete were 'L.A. Woman' and 'Riders on the Storm,' both of which I thought were great, great songs. My problem was I couldn't get them to play either of them decently. It was like watching an 80-year-old man trying to run the marathon. There was *nothing there*. We rehearsed and rehearsed, but it didn't get any better. Finally, I said, 'Let's go into the studio. We've got to make a record sometime.' I figured I'd be able to do it like the last few—patch together the best stuff. Ray would be a great cheerleader and we'd finally get this thing going.

"Well, we went into the studio and it was dreadful. I worked my ass off for a week, but it was still awful. I finally

turned to Bruce Botnick, and said, 'I know another producer would stick with this because it's a quarter-million dollars for the producer, but I can't do this.'

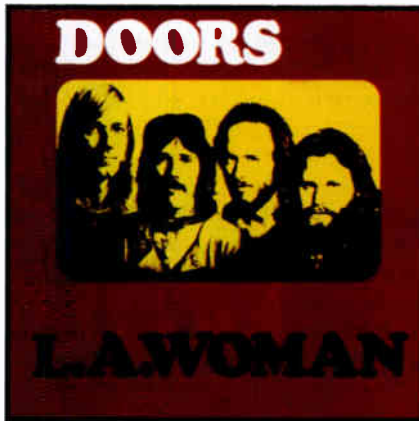
Botnick picks up the story: "Basically what happened is Paul was tired, the group was tired, and he recognized that and said, 'I can't do this anymore,' and he told me, 'I think *you* can do it.' We all went out to dinner and he laid it on the line, and he went home feeling like when you get out of school and have the whole summer ahead of you; that's how happy he felt."

Rothchild wasn't the only one who felt liberated: "When Paul removed himself, we felt the same as he did—we were out of school; we were *free*," Botnick remembers. "The guys said to me, 'What do you think we can do here?' And I said, 'You guys like your rehearsal room?' 'Yeah, we love it there!' 'Great, I'm going to get some gear and I'll set it up in [manager] Bill Siddons' office, which is upstairs, and run mic cables downstairs and we'll record there; forget going into a regular studio every day.' Well, they liked that idea a lot and three or four days later we did just that. I got a bunch of gear from Elektra Studios across the street—a [custom] console and a Scully 8-track. We kept it simple. I had the gear upstairs; the band was downstairs in their rehearsal room. The idea was there weren't any rules. The idea was to play well and capture it on tape and see what happened. They had earphones, I had speakers. Jim was set up in the bathroom because it was so crammed. He stood in the doorway and sang the whole album, using the same mic he used on tour, which I think was an Electro-Voice."

Free of their producer's intense perfectionism and verbal harangues—he had complained bitterly that their attempts at "Riders on the Storm" sounded like bad cocktail jazz—the group relaxed enough in their new recording environment to lay down the basic tracks for the entire record very quickly. "The album took us five or six days to record, like the first ones," Botnick says. "They were ready; they felt free, so they were just having fun." Rhythm guitarist Marc Benno and Elvis Presley's bassist, Jerry Scheff, were brought in to augment the band's three-piece sound, and Manzarek, in particular, went out of his way to work up some new keyboard textures, as shown by the spacey Rhodes piano line that glistens throughout "Riders on the Storm."

Botnick says of the song's origins, "I believe it was one of Jim's poems, and Jim had also come up with the melody as he had on all of his songs. With him it usually wasn't lyrics and then a melody; it all came at once.

When he wrote the initial batch of 24 songs [well before The Doors recorded their first album], he sat on the beach with Ray and sang them to him. He wasn't a musician; he just had them in his head. And 'Riders on the Storm' came together like that, too, but then, of course, the guys took it from there and heard an arrangement to go with it, and it became quite jazzy as the guys liked to do. The Doors always had one foot in the



jazz world and one in the blues world; one in the classical world and another in rock 'n' roll. They were all over the place.

"When we first recorded 'Riders on the Storm,' it was a nice, light song. But when we got into mixing it [at Poppy Studios on a Quad Eight board] is when it all came together. I was a nut for sound effects, and I said, 'I want to try something.' Elektra Records [The Doors' label] had a bunch of sound effects discs, including one with rain and thunder. I took it off a disc and put it on a stereo tape. Then I just ran the tape in the background while I was mixing because we were already maxed out on tracks. When the [effects] tape ran out, I would just back up the tape somewhere and hit Play again, and then go into record on the stereo [mixdown], and by serendipity, the thunder came where they did; nothing was planned.

"Later on [many years later] when I went to do the surround album [version], that became a complication because I didn't have the rain and thunder printed [on tracks of the original 8-track master], so I had to re-create it. I had the original stereo tape, but I wound up making surround rain and then physically cutting the thunder. I knew where they were supposed to go on the track, but I needed them to do special things in surround."

Another brilliant finishing touch on the song has been claimed by both Botnick and Densmore, "so we take credit for it together now," Botnick says with a laugh. This was

doubling Morrison's sung lead vocal with a spoken-whisper track underneath, done at Poppy during the mix sessions. "It adds this mystery to the song," Botnick says, "and then you put the rain and the thunder with it, and all of a sudden, this 'cocktail jazz' song became something else altogether."

Botnick says the mix only took about four days. "One strange thing that happened while we were mixing at Poppy, which is now Signet Sound, is there was a big, big earthquake in L.A. [the so-called San Fernando earthquake of February 9, 1971]. The control room glass at Poppy was floor to ceiling, so you'd look straight out to the studio as there wasn't even a wall there. It was spectacular, but unfortunately, with every earthquake aftershock, you had this glass wall that was 10 feet high and 30 feet long moving and swaying; it was really spooky. We'd have to leave the building between mixes."

Once the album was completed, "Jim left for Paris, and said, 'I'll see ya!'" Botnick says. Morrison went to Paris to chill out and write poetry—get back to his literary roots somewhat in the land of his idols, such as Rimbaud and Verlaine. *L.A. Woman* was released in April 1971 and was an immediate hit. "Love Her Madly" was the hit single, but FM radio jumped all over the title cut and "Riders on the Storm." But Morrison never came home. He died on July 3, 1971, in a Paris apartment under still mysterious circumstances, most likely heart failure brought on by the ingestion of various drugs mixed with alcohol. Coincidentally, the single version of "Riders on the Storm" entered the charts that very day and eventually made it to Number 14 on the pop charts.

Not surprisingly, Morrison's death led to a huge upsurge in interest in The Doors and it hasn't really dimmed much since. "Riders on the Storm" remains a staple of classic rock radio. It was the title of Densmore's 1991 autobiography and, ironically, the name of the current touring band that features Manzarek, Kreiger and former Cult lead singer Ian Astbury...after Densmore successfully sued them over the use of the name "Doors of the 21st Century."

Asked if he's surprised by the continuing endurance of "Riders on the Storm," Botnick says, "By now, I've given up being surprised by The Doors' success. I'm seeing 12-year-olds into The Doors. Their parents liked them. Some of *their* parents were into them, too. There's obviously a message there—that Jim is able to transcend the generations. I find it kind of flattering, too. It was pretty obvious at the time that what we were doing was pretty special." ■

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**RY COODER**

FROM PAGE 122

*Tell me a little bit about how some of the songs came together.*

The first song, "Poor Man's Shangri-La," was just myself, Jim Keltner and Mike Elizondo sitting down and playing; it was totally live. It wasn't mapped out. I just said, "I'm just going to sing and play and you follow. Don't stop. If I get through this, it *may* be good." Well, Keltner is used to it because we've been playing together some 30 years or so. Elizondo, being a kind of new cat for me, grabbed a hold and held on good.

For "Muy Fifi," I told my son Joachim [a percussionist], "I need some cruisin' song that feels like we're boppin' along in a real low car about 20 miles an hour. You know what that tempo goes like. I don't know what we're going to do lyrically, but I'm going to want a song like that." So that's when Joachim came up with "Muy Fifi," which he tooled from pieces of stuff from Havana.

For the lyrics [of "Muy Fifi"], Juliette [Commagere] had the idea of a mother and daughter arguing, because in those days, the Mexican home was busted wide open after the war and the girls started going out, and that was unheard of and parents started going crazy: "You can't wear your hair like that! You can't wear a dress like this. You can't go out with Smiley because he's got a knife." Little Willy G. remembered all that stuff from his childhood, and he sat down in an hour and wrote all those lyrics.

For "Soy Luz y Sombra," we had to pitch it down five whole steps so that Ersi [Arvizu] could sing it. At that point, there was concern that the harmonic structure would evaporate. But what happened was that—at five steps lower—it reconfigured in a funny way and I liked it better. It sounds really soft and open, like a Jackie DeShannon record or something like that.

When you're working this way, you have to take what comes and work with it. It's unnerving sometimes, but it's fun because you don't ever get too wrapped up in your own preconceptions. There was no way on this record I could predict what was going to happen, so I stopped trying.

Some of the people I found myself working with on this record are tremendously gifted. They're not famous or have the weight of commerce behind them—just good folks, you know, making a good record here. You would hope that would be recognized. I'd like to think that it is. There's a lot of talent out there, but it has to be organized now because it's not so easy. You're not going to wander into a record company and say, "Flip

the deal on this. I'm going to make some good old-time L.A. Mexican music. You're down for that, aren't you?" You want to talk about blank looks—eyes rolling. [Laughs]

Fortunately, Nonesuch saw that it was saying something and it fit in with them.

*The whole tragedy of '50s and '60s urban renewal expressed through the story of Chavez Ravine is one that has countless variations throughout the country. Personally, it reminds me of the gutting out of Beale Street in Memphis.*

That was dreadful. Jim Dickinson would give me the update on all this from Memphis: "They're going to tear down Beale Street and put up a theme park!" That's what they always do.

Inevitably, it comes down to bad planning, because even if you think the purpose of cities is to deliver the city to development and therefore money, they almost always end up making the wrong call because they could make more money and have more of a unified and expressive city if they would leave it. Wouldn't you rather go to the real Beale Street and spend your money—if spending money is your real objective—than the Disneyland Beale Street?

The collateral damage [of neighborhoods disappearing] is that they don't make music like they used to. You just don't hear it because they just don't do it.

I think it was [ethnomusicologist] John Lomax who said the worst thing for musicians is the promise of money because it usually means they will stop doing what they did. They will stop thinking about what they did or feeling what they did because they're almost desperate to replace those impulses with the outer menu to survive, or [they] succumb to the allure of fame, money and power. This is the hidden tragedy.

L.A. is a city of big ethnic enclaves—Mexicans, Persians, Vietnamese—and they don't play their music. They wouldn't begin to do it. They just want to do hip hop. That's it. That's the whole city now. I have to say it has happened the same down in Havana, too. Up until around 2001, you could hear the music of Cuba in Cuba—other than tourist things, of course, which I don't count. But now, you get in a taxi and that's when you find out what people are into. It's Latin hip hop. I view that as the leading edge of the onslaught of the modern consumerism, because it seems the music gets co-opted to such an extent that it's like, "Here come the shoes and the jewelry and the product lines."

*You've always paid a lot of attention to the sonics of your recordings. This is a particularly fine-sounding album.*

Oh, thank you. Rail Jon Rogut, who is a real



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good friend of mine, recorded everything. He did a great job—just beautiful—and he went through all kinds of hell doing it. We recorded at the auditorium upstairs at Village Recorders (L.A.) trying to get a dance band sound. We worked with Pro Tools. We sampled every kind of crazy thing and did pitching. The whole thing became like a crazy puzzle that barely fit together. In the end, the challenge we had was that every song was so different from one from another, it looked like it was teetering and just going to fall off a cliff.

Don Smith got it and wrestled the thing to the floor. Don saved this record. Don's got incredible resources and experience, so he knows what to do and how to make things fit and sound more unified. Well, that was the trick. Because I tell you, at one point, I thought, "If this doesn't fit together and make sense, then it's going back to the drawer and I just don't care." It wasn't as if the world or the music industry was saying, "Where's your *Chávez Ravine* record? Hurry up! We want it!" I didn't have that problem. My problem was I wanted to put it out, but I wasn't going to do it unless it felt good. Don Smith made it feel good. He really made it work in the right arena sonically and made it

I think it was John Lomax who said the worst thing for musicians is the promise of money because it usually means they will stop doing what they did. —Ry Cooder

all thick. There are all kinds of different stuff in there. He certainly made it rock.

*After so much time trying to get this right, were there any issues you encountered?*

While we were finishing up, Don turns to me and says, "You know, you're going to have a problem with this record in the manufacturing." I said, "Oh, God! What now?" He says he knows the Warners' system is to use Cinram and upload and download the music as files toward manufacturing. Every time they do this, the algorithms shift and you start to lose all this good stuff you like—such as the delays at the top where the voices are, where you've really concentrated on making them interesting and good-sounding.

So, of course, I panicked. Here I am, finally three-and-a-half to four years into this and it had to be good. I went to the Nonesuch people and said, "I'm going to show you the difference. You do your thing—that Cinram way—but I'm going to go to JVC

and cut a master off glass." So they made one, and I went with the Cinram version in one hand and the glass master version in the other, and I went out to my Toyota, which is a reasonable way to listen to this. The difference was night and day.

I said to the Nonesuch people, "I'm proud of my work and I need to know that it will go out to the world in the right way because it has no meaning otherwise. It's not linked to anything. It's not linked to touring. It's not linked to merchandizing. I don't see the back end of this in a natural-fiber clothing line or any such thing. This is it. This is the best I can do. You're going to understand that I'm not transactional on this. This is my artistic statement and I'm going to stand here and make sure that it's true." And they backed me up. We were able to persevere and get this [mastered] at JVC.

But the handwriting is on the wall and I just don't know if it's going to be possible to

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World Radio History

ever have a small victory like that again in the future. I just don't know what to think. I'm 58 now, so in my lifetime, it's come to this. I swear to you, I wouldn't do this if I thought my work had to come out sounding like pillows—like some soft-focused cloudy thing. If we're going to treat music differently—just as pure commodity rather than real human expression—then I guess it's another footnote, like the tape disappearing somewhere along the line. It's weird.

*You spent several years creating Chávez Ravine. What was the quickest album you've ever made?*

Well, the record I did with Ali Farka Toure [*Talking Timbuktu*] took three days, because that's all the time he would spend. He didn't like Hollywood or L.A., and he didn't like the U.S. at all. He was convinced there were evil spirits in the building. We were working at Western, which was then Cello, and he was convinced the place was full of evil spirits, and he may have been right. I said, "Look, man, we keep the door closed and locked. Nobody's getting in here." He said, "No, they're in the building and if somebody comes in, like a helper or somebody, to bring us something, the evil spirits will come in with them so I can't stay here very long."

We couldn't argue with Ali Farka because he's a very tough guy—a rough, insistent, dominating character. So you take three days and that's enough. We did a lot of work in those three days.

I think [the soundtrack for] *Paris, Texas* took three days, too, because that's all the time [director] Wim Wenders had. That's another example where you do what you can. I liked the idea. It's easy if your musicians are really good—like jazz players used to make an album in a day or two or three. That's no problem for them. Great players if they have an open form, can sit down and just go. When you start organizing things, then you go for a different thing and you might look for a different terrain, a different shape.

The *Chávez Ravine* project had to get done in its own time; that is all I can say. At one year, I thought I was done; I was certain I was done. Then by the end of the second year, I said, "Well, now I'm done, but it's a different record now." But then I decided, "No, I don't feel right. I like it, but I don't love it, so I'm not done yet." You just have to be open to these things. And have enough money to pay for it. Christ, it's expensive!

*There is really magic to that kind of limitation in a way sometimes.*

Absolutely! Especially if you have good, instinctive people who respond and just go.

*This is off the subject, but what records readily come to mind as being pivotal for you?*

Those Folkways collections were great. When I was a kid, it was hard to get that stuff. The only reason I heard blues was because I knew older people who were collectors and had records. When I was about 12 years old, I used to sit there every day and spend at least two hours a day playing these records and memorizing everything. That's the world that opened up for me on record.

I remember when Sam Charters did this country/blues anthology of 15 or 16 artists on Folkways. It had an insert with photographs of the artists. At the time, I hadn't really heard of any of these people at all. He had everybody on there: Robert Johnson, Blind Willie Johnson, Sleepy John Estes and others. He had great taste because he had good ears, and so he picked the best record of each person and laid it out for you.

There was nobody like those artists doing that kind of music in Santa Monica [Calif.]. It seemed very exotic and very verboten and full of all kinds of mystery. I just thought, "I cannot picture these people. I don't know who they are or where they're



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from or what it looks like.”

Eventually, I would meet some of these old guys. They'd sit there and say [he imitates an old blues artist], “Let me tell you boy...you do it like *this*.” When I wasn't able to meet someone early on—like John Lee Hooker—I discovered that I had made up a whole scenario in my head of how he was playing and later realized I had it completely wrong!

But it got me going. I made something out of that on my own, just by misreading the whole thing. Much later, when I finally saw [Hooker] and sat with him and watched him play, I thought, “Oh, my God! It's nothing like I thought at all. All these chords I thought I was hearing, all these moves I thought he was doing, is just my mind filling in.” So I thought, “Well, that's interesting.” So you end up doing certain things out of some personal fantasy level.

*It's like you read a book and your mind's eye takes some kind of ownership of that information and creates unique personalized images.*

That's right!

*You were the flying saucer landing in their world.*

[Laughs] Looking around and looking at things. But that's all I did; I didn't do anything else. I didn't play football. I didn't go to the movies; that's what I did. So that's how you learn, I guess. ■

*Rick Clark would like to thank MTSU's Courtney White for her help assembling this story.*

## BURNING SPEAR

FROM PAGE 123

or other weird sounds. Instead, it's acoustic piano, organ and everything live—no sequences. We don't cut and paste anything; even background vocals go from the start of the songs to the finish. This was definitely different from what we have done in the past, because Spear really wanted to get that feeling. So the differences are actually more musical than sonic.”

O'Hare, who's worked with many of the top names in contemporary reggae, including Ziggy Marley, did the mixing, too, using the same Neve board. He says he kept most of the instruments fairly dry, with minimal EQ'ing. He used outboard gear and plugins to approximate the “fatness” of 2-inch tape, which he loves. Spear was present for all of the mix sessions, and says, “We work closer together when we're mixing than when we're recording. I don't actually do

I was thinking to go as close as possible to the '70s. When you listen to reggae today, nobody is carrying that kind of sound anymore. For some of us, it's our duty to achieve that original sound.

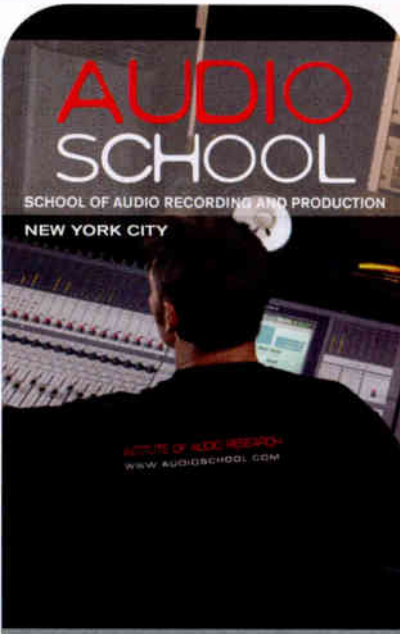
—Burning Spear

the mixing, but I know all the instruments, the arrangements, where things should go and what I want. I really love instruments, especially horns. When it comes to equipment, I like the top-of-the-line because they can help you get the sound you want. I still like tape and think it has an edge over Pro Tools. But you don't see those types of machines around much anymore, and we did *Freeman* on digital tape.”

Spear, though, didn't go totally old school for *Our Music*: The release is a 21st-century DualDisc, with a DVD on the CD's flipside. He thought embracing the new technology was a good and positive business decision, both for himself and for reggae in general. For a small, independent record label, it was a big move. As Spear puts it, “You have to come strong and different with this music.” O'Hare, on the other hand, says that it required nothing additionally of him technically; he just had to get used to a camera crew shooting while they worked.

Generally speaking, though, the production and mixing of *Our Music* went smoothly and was remarkably stress-free. “Spear went the extra mile on this album, and there's a real vibe on it,” O'Hare notes. “I remember Spear's wife calling and telling me it was going to be a great album. She said, ‘Make sure his vocals are done well, and if he gives you any problems, give me a call.’” [Laughs] O'Hare never had to make that call.

Meanwhile, the reggae star, who has already started working on material for his next album, waxes philosophical about his career path. “I've been in this business since 1969 and saw all these guys [before me] do it. They were just thinking about how to carry out a couple of dollars. But I wasn't paying attention to them. I was thinking about the show onstage and thinking about the future.” ■



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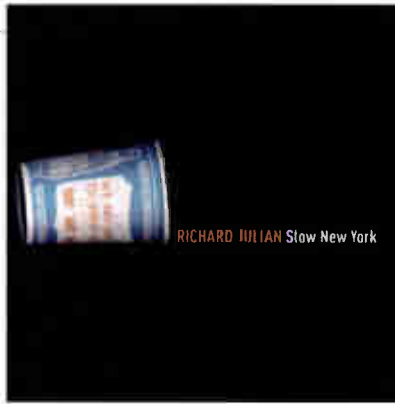
### Richard Julian

*Slow New York*  
Manhattan

This isn't New York singer/songwriter Richard Julian's first album—apparently, he's had a few out on indie labels—but it's the first I've heard by him, and I'm thrilled by the discovery! Listening to this album is like reading a really good book of short stories—each song sets up its own mood and creates its own world, musically and lyrically. There are many ruminations on the human heart, on big and little moments observed or experienced, and excursions through the songwriter's psyche that move from comic musings to dark realizations, hitting many points in between. Musically, Julian moves easily between moody folk musings and tunes that incorporate bits of blues and jazz. Comparisons are always odious, but in his poetic and wryly confessional style, I hear echoes of Loudon Wainwright III; but in terms of the overall effect of the album, it took me back to the brilliant first record by Steve Forbert. Working with an ever-shifting group of really superb musicians (especially bassists Tim Luntzel and Lee Alexander, keyboardist Dred Scott and slide guitarist Tony Scherr), Julian's own acoustic guitar work helps give the music its pulse, while his voice—warm but worldly, with a hint of rasp—conveys much without over-reaching. The project has been wonderfully recorded and mixed for an intimate, in-your-face sound; it feels like being in the same room as Julian and the musicians. And it turns out that's a very interesting and stimulating place to be.

Producer: Brad Jones (one song produced by Lee Alexander and Norah Jones). Engineers: Brad Jones, Matt Boynton and Juan Garcia. Recorded at The Magic Shop (New York City); mixed at Alex the Great (Nashville) by Brad Jones. Mastering: Gene Paul/DB Plus (New York City).

—Blair Jackson



### Herbie Hancock

*Possibilities*  
Vector/Hancock Music

What do you get when you combine Herbie Hancock with a broad range of talent, including John Mayer, Annie Lennox, Paul Simon, Joss Stone, Carlos Santana, Damien Rice, Christina Aguilera; top-notch studio players from around the globe; great songs; and a great recordings? (Wonderful) *Possibilities*. The aptly titled CD is one of the latest efforts from Starbucks' Hear Music label with Hancock Music. Standout cuts include Aguilera's take on Leon Russell's "A Song for You," Damien Rice and Lisa Hannigan's "Don't Explain," Annie Lennox's "Hush, Hush, Hush" and Mayer's "Stitched Up." The only disappointments are an uninspired "Sister Moon" and a valiant but failed effort at making Stevie Wonder's "I Just Called to Say I Love You," featuring Raul Midon, sound hip. Still, this collection is a must-have.

Producers: Hancock, Alan Mintz, Greg Philinganes, Bryce Goggins, Bob Brockman, Yaron Fuchs, Steve Jordan, Alan Alagia, Paul Simon. (For studios, go to [mixonline.com](http://mixonline.com).) —Kevin Becka



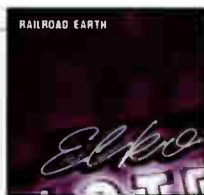
### Railroad Earth

*Elko*  
Sci Fidelity

The instrumentation is mostly that of a bluegrass band (plus drums), but Railroad Earth sounds like they've listened to as much Grateful Dead as Bill Monroe—no wonder they are the rising darlings of the jam-band scene. The sextet has been around just five years, but in that time, they have established themselves as a formidable live band, and this superb live two-CD set shows why: The group pens smart, memorable tunes; they display the sort of effortless virtuosity one expects from a modern acoustic band; but most of all, they jam with confidence and purpose—there's no aimless noodling here, but lots of unpredictable adventure. With seven of the 13 tracks clocking in at more than nine minutes, you know these guys are serious about pushing the envelope.

Producers: Railroad Earth. Recorded by Mike Partridge and Johnny Grubb. Mixed by Grubb, Todd Sheaffer and John Skehan at Chez Fur Studio. Frank Kevorkian/Avatar Studios.

—Blair Jackson



### Various Artists

*Gospel Music*  
Hyena

Is it really possible to capture the breadth and depth of gospel music in a single 18-song CD? Probably not, but this extraordinary disc comes close. It doesn't have a single weak moment, as it bops merrily through some of the greats of black gospel, old and new(ish). From the former come offerings by the Golden Jubilee Quartet, the Swan Silvertones, the Harmonizing Four and The Trumpeteers. The middle period finds Original Five Blind Boys of Alabama, Sam Cooke & The Soul Stirrers and Mahalia Jackson sounding so *fine*. And from the "modern" era, there are dependable names such as the Staple Singers, Rev. James Cleveland and Dorothy Love Coates. From intricate harmonies to full-on testifyin' shouts, this collection covers a lot of stylistic and emotional range. You'd have to be a zombie to not get a charge out of it, and even then, it might give you a pulse.

Executive producers: Lee Friedlander and Joel Dorn. Many different producers, engineers and studios, but none listed. Mastering: Gene Paul/DB Plus (New York City).

—Blair Jackson



### Clear Static

*Clear Static*  
Maverick Records

It's time to bring out your black eyeliner from the '80s (but please, not the tight black-leather pants) and get glammed out with Clear Static's self-titled debut. Harking back to the era of excess, Clear Static brings The Cure's heyday back to life. From the teasing lyrics of "Make-Up Sex" to the synthed-out lines swirling around "Near Years 1984" and "97 Lies," it's no wonder that the band landed the opening act for Duran Duran's 2005 tour—no joke. Full of spacious production thanks to producer/engineer Tommy Henriksen (Revis, Brooks Buford, Mighty Six Ninety), *Clear Static* gives a nod to its glam roots but also earns current rock cred with thundering drums, deep bass lines and irresistible vocal hooks. Just beware of the dance-rock bliss that may occur from excessive listening.

Producer/engineer: Tommy Henriksen. Mixing: Mike Shipley. Additional credits: Jeff Pilson, Tony Phillips, John Ewing Jr., Valente. Studios: Sound City and Pilsound (both in Van Nuys, Calif.), Cherokee Studios (West Hollywood), Scared Stone.

—Sarah Benzuly





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## L.A. GRAPEVINE

by Heather Johnson

In our increasingly isolated society, where people can't hear their neighbor outside of the earbuds stuffed in their ears, where hands can make a record by e-mail and an engineer can mix it from the other end of the globe, it's a nice change to hear about bands that choose to share the same space, and about young engineers who can take old-school techniques passed on by their mentors and make them compatible with today's super-advanced recording equipment.

PHOTO: SARAH SIMON



Engineer Ryan Hewitt at The Pass

In the case of engineer Ryan Hewitt, that side-by-side teaching came from some of the best recordists in the industry, starting in the Remote Recording Services truck with his father, esteemed live/broadcast engineer David Hewitt, when he was just 13 years old. A little later in life, say, after college, Hewitt learned more tricks from Elliot Scheiner, David Brauer and Jim Scott. Not a bad start.

Dozens of assisting gigs and a few choice lead engineer credits (Blink-182, John Frusciante, Alkaline Trio) later, we find Hewitt entrenched at The Pass in the middle of mixing the forthcoming

album from the Red Hot Chili Peppers, a double-disc tentatively titled *Stadium Arcadium* produced by Rick Rubin. As a mix engineer, Hewitt had some singles and indie albums under his belt, but none at such an established level as this funk-rock foursome and their renowned producer. He's using everything he's learned through the years, from splicing tape to engineer/artist psychology.

It's not his first time working with the Peppers. In 2001, Hewitt moved to L.A. to work at Cello Studios with Scott on their album *By the Way*. After that, guitarist Frusciante enlisted Scott, with Hewitt assisting him, to engineer and mix *Shadows Collide With People*. "That ended up taking longer than Jim anticipated, so he told John, 'Take Ryan in the other room and keep working, and when you're ready, I'll mix it,'" says Hewitt. "That wound up turning into two or three months of work, and we became good friends. About a year later, I recorded and mixed a series of six solo records with him on Record Collection."

During that time, Frusciante mentioned that he'd like Hewitt to record the Chili Peppers' next record, but when the time came, Rubin hired Mark Linett. But Hewitt got a call anyway. "John and I could work quickly together and had a good rapport," Hewitt says. "At the end of a 10-hour tracking day, John wanted to do more work, so they brought me in to do all the overdubs with John and [bassist] Flea. I also ended up re-cutting what are potentially the first two singles and recorded the basic tracks for a bunch of other songs."

The band recorded at Rubin's (reportedly

—CONTINUED ON PAGE 136

## NASHVILLE SKYLINE

by Rick Clark

I first bumped into Brad Vosburg years ago, when I was living in Memphis and he was a young hotshot engineer working at a number of studios around that town, like Kiva, Ardent and, particularly, Eli Ball's studio The Warehouse, which was part of a production venture through PolyGram at the time. I lost touch with Vosburg when he moved to L.A. and I relocated to Nashville. While in L.A., he worked extensively with Digidesign, primarily as a technical support specialist, technical trade show manager and product specialist. I recently found out he had moved back to this part of the country and is the owner of a studio he built, Fox Mountain Productions ([www.foxmountain.com](http://www.foxmountain.com), Brentwood).

Vosburg clearly loves the change from L.A. "I've always felt more comfortable in a studio environment producing, engineering, et cetera," he says. "It's like putting on an old pair of sneakers that just fit right. After working at Digidesign for five-plus years, I decided to come back to my roots in the South and slow it down. My wife and I became parents recently, and I wanted to raise my daughter in a different environment from Hollywood. I also decided this was a great opportunity for me to leave Digidesign, stop talking about Pro Tools and use the knowledge I had accumulated over the years. Nashville was the logical choice for me because it's got so much music diversity now and there's always a demand for someone with my skills."

Besides producing and engineering, Vosburg decided to draw upon his extensive Pro Tools experience to offer one-on-one instruction in the Nashville market. Anyone who is stumped on how to navigate something in Pro Tools or just wants a great, pro-level tutorial on that format would do well to look him up; after all, Vosburg has received certification as an Expert Operator of Digidesign's Pro Tools Audio Workstations, a level of expertise presently shared by only nine other people in the world.

"It became apparent that there were engineers here that desired a more

## NEW YORK METRO

by David Weiss

personal instruction approach, either to learn advanced techniques or basics from the beginning," says Vosburg, who teaches out of Fox Mountain. "So much more information can be covered in the same amount of time, and for high-end professionals, time is money."

In putting together Fox Mountain, Vosburg set out to create a unique environment—not just another Pro Tools mix/overdub space. He also wanted to have a good tracking room and extreme isolation between the studio and the rest of this house. "We lucked out with 12-foot ceilings in our basement, so we did a 'room within a room'—floated floors, angled windows, dead air space, multiple layers and buckets of liquid nails. One of the things I'm most proud of was my insistence upon having natural light. The designer pleaded with me to brick up the existing windows, but I found a way to keep the light by using glass blocks and laminated glass sheets."

Vosburg has also been working on a number of projects, most recently with producer James House. One artist that has Vosburg particularly excited is Loreita Lynn's granddaughter Tayla Lynn. The project is for House's Villa One label, which is being

—CONTINUED ON PAGE 136

PHOTO: BRICK CLARK



Brad Vosburg at his Fox Mountain studio, which offers a Pro Tools space, a good tracking room and extreme isolation between studios and home.



PHOTO: WIREIMAGE

Martina McBride and band at Carnegie Hall for the Grand Ole Opry's 80th birthday celebration

Striking similarities abound, but ultimately, New York City and Nashville aren't exactly thought of as two great tastes that go great together. Every once in a while, however, a fleet of cowboy boots is seen on Broadway, and when they are, musical magic is probably in the making. In November, the legendary Grand Ole Opry celebrated its 80th anniversary at—where else?—57th Street and 7th Avenue, in the equally legendary confines of Carnegie Hall.

Carnegie Hall stands as one of North America's most revered live venues since hosting its first concert in 1891, and 85,000 events later, it shouldn't be too surprising that a country show or three has crossed its stage. In fact, this show was the third visit for the Grand Ole Opry, after memorable shows in 1947 and 1961. Not surprisingly, expectations for the live recording of this event,

which featured such country stars as Trisha Yearwood, Vince Gill and Charlie Pride, were much higher than ever before, especially given the deep radio broadcasting and recording experience that the Opry's engineers have racked up in their Nashville venues: the Grand Ole Opry House and Ryman Auditorium.

"We're the longest-running live radio broadcast in history," points out Steve Gibson, musical director for the Grand Ole Opry. "We produce live radio, live TV broadcasts on Tuesday, Friday and Saturday on Great American Country [GAC] cable, we're also streamed on the Internet and simulcasting to Sirius Satellite Radio. So on any given evening, we're presenting a live concert to a 4,400-seat auditorium and then airing it across the world."

In Nashville, the considerable audio action is captured first through a Euphonix System 5 console before moving to a rig powered by Dual-Core AMD Opteron processors running Steinberg Nuendo. "We have in excess of 50 artists per week for the two-hour shows," adds Kevin Reinen, chief technical engineer for the Opry. "During that evening, there can be any number of

—CONTINUED ON PAGE 137

## HARBOURSIDE STUDIOS SWEET RECORDING ON VANCOUVER'S NORTH SHORE

The newest addition along the North Vancouver, B.C., waterfront, Harbourside Studios ([www.harboursidestudios.com](http://www.harboursidestudios.com)) has set out its shingle for music recording, stereo and surround mixing, film and TV post-production, and a variety of support services. Launched in September 2005 inside an extensively converted warehouse, the one-room facility offers a Trident DREAM Series 24 console, chosen partly "for its great analog pre's," says owner/producer Tony Rudner, who runs the studio along with manager Valerie Biggin. A Digidesign Control|24 and a Pro Tools|HD workstation also live in the control room, while iZ RADAR and Masterlink ML-9600 hard disk systems allow clients to work with either system, or some variation of the two. Visitors can also mix in surround, with monitoring provided by Dynaudio 5.1 6As, Mackie 824s and a Tascam DSM 7.1 digital surround controller, with the ubiquitous Yamaha NS10s on hand for near-fields.

With studio designer John Vrtacic providing a few pointers, Rudner and a team of builders constructed the studio from the ground up on floating floors. The mid-sized studio area contains two iso booths, one with a Yamaha G3 grand piano; with the room's 16-foot-high ceilings, the space is suitable for most tracking sessions. "Because the ceilings are so high you get the feeling of a very large studio when you record," says Rudner.

The studio itself, which has already seen activity from producer/engineer Jeff Dawson, who came in to record local artists Winston and Brendan Paris, is only one aspect of the multifaceted company. Rudner, a musician, composer and producer in his own right, also runs in-house publishing and production companies and a record label.



*Harbourside Studios owner Tony Rudner in this (Trident) DREAM studio. Inset: The tracking room*

But the best perk of all—chocolate. Harbourside Sound smartly positioned itself right next to Thomas Haas Chocolates, which means some of the world's finest handmade chocolates and other treats are just steps away. Also nearby: Spa Utopia, cozy eateries and a view of downtown Vancouver.

### BEHIND THE GLASS

## CHAS JOINS CRICKETS NEW ALBUM IN THE WORKS

Chas Hodges, the "Chas" of the British rock duo Chas & Dave, and Jerry "J.I." Allison, drummer for The Crickets, visited Ron Lynn's Merlot Sound Studio ([www.ronlynnsound.com/merlotsound.cfm](http://www.ronlynnsound.com/merlotsound.cfm)), located just outside of Nashville, to work on tracks for their forthcoming Crickets album, which features a number of special guests. The legendary Jack Clement came in to play dobro, while Lynn manned the Yamaha O2R.



*Front row: Chas Hodges and Cowboy Jack Clement. Standing: engineer Ron Lynn and Jerry "J.I." Allison*

## TRYSTAN LANE TRACKS ROCKERS ISSUE NEW EP

Pop/rock group Trystan Layne recently tracked and mixed their forthcoming self-produced EP at SugarHill Recording Studios (Houston) with engineer Josh Applebee. "Josh had a lot of great ideas while recording; without him, I'm sure that the direction of this record may have gone a different way," says lead vocalist/guitarist Avril Aspreo on their SugarHill experience. The group plans to hit the Houston club scene to promote the EP and its debut single, "Tomorrow Never Comes."



*From left: drum tech Robbie Parrish, Avril Aspreo (guitar/vocals), engineer Josh Applebee and drummer John Simmons*

## THE MASTER'S CORNER

### JANIS IAN'S NEW BLACK INDEPENDENT MASTERING



From left: Don Cobb, Janis Ian and Eric Conn

According to singer/songwriter Janis Ian, *Folk is the New Black*—at least that's the title of her new album, just mastered by Don Cobb and Eric Conn at Independent Mastering in Nashville. Ian recorded and mixed the album at Masterlink on Music Row with engineers Chad Hailey and Rob Clark, and mixed to (what else!) Masterlink.

### STARCITY IN DEMAND STUDIO POSTS WORLD CAFÉ



From left are Lily Salinas, StarCity Recording Company's director of operations; jazz legend Chick Corea; and Tom Emmi, president of Ace Entertainment.

Tom Emmi, president of Ace Entertainment and education director at Philadelphia's World Café Live, selected StarCity Recording Company (Bethlehem, Pa.) for audio acquisition, mixing and post-production of the upcoming MusicLab at World Café Live. The program will be available from iN DEMAND Networks, an aggregator and supplier of video-on-demand, pay-per-view and HDTV programming.

## TRACK SHEET

### NORTHEAST

Sound on Sound clients made their way to the studio's new home at Right Track Recording (NYC), where the two companies are now partnered. Corey Gunz tracked with producer Chucky Thompson and engineer Young Guru; Field Mob mixed with Kenji and Pat Viala; The Bosses tracked and mixed with K Boogie and Steve Bauman; Bossman mixed with Rockwilder and Viala; LL Cool J tracked and mixed with Keezo Kane and Young Guru; and Interscope/Aftermath mixed the 50 Cent movie soundtrack with Sha Money XL and Viala...Over at Avatar (NYC), Donald Harrison recorded for Nonesuch's *Katrina Benefit Album*. Joel Dorn produced, with Anthony Ruotolo engineering. Also at Avatar, Jay Newland produced an album for Nigel Kennedy; Lawrence Manchester tracked and edited music for the film *Across the Universe*; and Talking Heads held a listening party celebrating their new box set. For the Talking Heads gig, ELS Surround and Acura sponsored and drove two 5.1-equipped Acura sedans into the studio! Also, Travis came to track with producer Fran Healy and engineer Ross Petersen...Loho Studios (NYC) cranked out projects for Lindsay Lohan, in to record "I Want You to Want Me" with producer Butch Walker and engineer Russ T Cobb; Japanese rockers the Back Horn recorded their fifth album with engineers Joe Hogan and Gus Oberg...John Mayer and producer Ric Ocasek both visited The Cutting Room (NYC) for interviews with Matt Pinfield for HD Net broadcast. The interviews were filmed in Studio A. In Studio B, Carmen Electra contributed vocals to an Ultimate Hustla track, and Steve Greenwell recorded and mixed Susan Cagle's new release...At StarCity Recording Company (Bethlehem, PA), Nathan Lee Jackson and Bridges and a Bottle both tracked new



Future Disc Mastering (Los Angeles) engineer Steve Hall just finished Gerald Albright's new album, *New Beginnings*, in Studio 6. From left: producer Ron Moss, Gerald Albright and engineer Steve Hall.

albums with producers Jeff Glixman and Zack Rizvi, with engineer Carl Cadden-James.

### SOUTHERN CALIFORNIA

At the Pass Studios (L.A.), Ryan Hewitt mixed the upcoming Red Hot Chili Peppers album for producer Rick Rubin...At Chalice, Signet Sound and Westlake Studios (all L.A.), Ross Hogarth worked on tracks for Josh Groban with producer Walter A. Hogarth later



Angwish completed their new album, *All the Problems*, at Catalyst Recording (Charlotte, N.C.) with producer/engineer Rob Tavaglione. From left: drummer Paul Robinson, frontman Brian Bielonski and bassist Rachel Malmberg.

commuted to Venice to record *Oliver Black* for producer Michael Beinhorn.

### MIDWEST

Producer Obese Genius visited Boiler Room (Chicago) to master the new CD from The Dysmal with engineer Collin Jordan...Producer/engineer Jeff Taylor mixed tracks for hip hop artist Kardel at Madjef Studios (Minneapolis).

### SOUTHEAST

In addition to working on Angwish (pictured above), producer/engineer Rob Tavaglione worked on projects for Alex Mauldin and Dave Barry (aka DB) at Catalyst Recording (Charlotte, N.C.)...Edwin McCain is finishing tracks for his latest CD at the new OMG Studios (Greenville, SC) with producer Noel Golden and engineer Shawn Grove...Karian Studios (Nashville) is offering a discounted rate through February to CMA members—amenities and guest accommodations included. Call 615/230-4999 for details.

### SOUTHWEST

Vibe Committee just completed recording and mixing their album with SugarHill (Houston) senior staff engineer Steve Christensen.

### NORTHWEST

Papa Mali finished a new album at Hyde Street's (S.F.) Studio C with producer Dan Prothro. Jolie Holland worked on a live and studio album with engineer Justin Phelps. Additional work was done at Tiny Telephone (S.F.)...One Union (S.F.) engineer Joaby Deal worked on a 15-second Comcast spot featuring the Dave Matthews Band for PBS HD. The spot was designed to show the contrast between normal and HDTV...SF Soundworks (S.F.), which recently popped in a second SSL 9000J, welcomed DJ Shadow, in producing mixes for Lateef and Q-Tip with engineers Count and Rachel Allgood; Joe Chiccarelli produced and mixed projects for Burden Brothers and Animators; producer Lee Townsend teamed with mix engineer Adam Munoz for a Jonah Smith album; and PC Muñoz produced a new album for Derek Lassiter, with Allgood and Justin Lieberman handling tracking and mixing duties. ■

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haunted) Laurel Canyon mansion/studio (site of *BloodSugarSexMagik*) with Flea, Frusciante, drummer Chad Smith and lead singer Anthony Kiedis nearly elbow to elbow with each other. Amps bled into drums, drums bled into amps, and Kiedis ran through scratch vocals as they put down the basic tracks together. A Neve 8068 and Studer A800s captured the whole thing onto 2-inch tape. "The band is all about good sound, and they love working on tape," says Hewitt. "They're incredible musicians, and they're all way into '60s and '70s rock 'n' roll, where the imperfections become signature to the song. They don't necessarily believe in 'perfect.' It's all about a vibe and a feeling being created. Working on tape takes commitment!"

They went for the live feel, but stayed for months of guitar and vocal overdubs. Hewitt handled Frusciante's at both the Laurel Canyon mansion and Frusciante's home studio (which Hewitt helped him build), while engineer Andrew Scheps recorded Kiedis' vocals at the Laurel Canyon site and at Rubin's home studio.

Hewitt thought his job would end there, but he didn't get off that easy. He auditioned and won what I'm calling the "2005 Great Chili Pepper Mix-Off." "They didn't have a firm idea of who they wanted to mix the record, so they had me and four other guys do a test mix," says Hewitt. "We all mixed the same three songs, and then Rick and the band listened to them blindly without knowing who was who and picked the mixer. It was nerve wracking. When I did the test mixes, I just went for broke and did what I like to do, which is make things big, exciting, live and just rock! If you had told me five years ago I'd be mixing a Chili Peppers record, I'd have told you you're crazy. It's an amazing opportunity."

Working in The Pass' Mix Room on the automated Neve 8078A, they're wielding tape again, mixing the 38 songs they recorded to an Ampex ½-inch machine, using Pro Tools for backup and the Tonelux 1604 console for extra faders. They even edited on tape, cutting between different takes on songs that weren't one-take wonders.

So aside from maybe a little tape hiss, how's it sound? "Everyone's asking me, 'Are they bringing back the funk?'" Hewitt confides. "All I can say is, 'Yes.'"

Sad but true: Just a few days before the holidays, O'Henry Sound Studios ceased operations. For the past 13 years, the three-room facility has hosted a range of music and film projects. Of the former, guests include Macy Gray, Lyle Lovett, Charlotte Church, Los Lobos and The Wallflowers,

to name a few. But the studio's appeal as a film scoring and mixing site took hold early on, as well, with such projects as *Anchorman*, *The Passion of the Christ*, *Elf*, *13 Going on 30* and the second two *Matrix* movies passing through the doors. O'Henry had one of the more popular live rooms in L.A.—Studio A, a 50x32-foot space, paired with a sprawling, 88-input custom console with API modules and EQs and 5.1 monitor matrix, among other features. The studio had recently installed a Digidesign ICON in Studio C and outfitted all three rooms with Pro Tools|HD3. ■

Watch for further information on O'Henry in this column and on [www.mixonline.com](http://www.mixonline.com). And meet our new L.A. editor in this space next month.

## NASHVILLE SKYLINE FROM PAGE 133

distributed through RCA.

To record Lynn's vocal, Vosburg pointed out one of their favorite signal paths that best captures the magic: An Audio-Technica AT4060 and the API 512c mic pre through the classic Universal Audio 1176.

Vosburg also recently wrapped up working with an indie modern pop/rock quartet called Dime Store Thieves for their album *Got to Get in to Get Out*. "They sound a little like Coldplay, mixed with Radiohead, a dash of Tom Petty and a pinch of some otherworldly jam band," says Vosburg, who co-produced the project with the band, as well as engineered and mixed. "They have this incredible work ethic and were very focused in the studio and open to experimenting with different recording techniques. Their songs are now available on iTunes."

Another project Vosburg has recorded is the hip hop artist Versus for his upcoming spring release, *Listening Session*. "I mixed the record here at Fox Mountain using Pro Tools|HD, lots of outboard gear, [Empirical Labs] Distressors, 4-channel Transient Designer, some UA stuff, and for plugins, Waves C4 and L3," he says. "I love everything about the Distressors. Besides the 'nuke' setting for room mics, which is obvious, I just like the way they sound at less-extreme settings. They're great for a gentle vocal smoothing."

"The Transient Designer is also amazing! Back in the day, we used slow attack compression and frequency adjustments to give percussive tracks more *thwack!* With the TD4, I can dial in my attack or sustain independently of the frequency and tone. Now that I've used one, I can't imagine

mixing without it."

The Nashville Club Cubase/Nuendo users group has been meeting every fourth Thursday of the month at SAE for a little more than two years now, and at least once a year, they like to have a big event. This year, Grammy Award-winning songwriter/producer Tommy Simms and Grammy- and Dove Award-winning producer/engineer Bryan Lenox came in to track an unsigned artist whom they are developing named Nikki Leonti.

They did the 32-track session on a Dual-Core AMD Opteron system running Nuendo 3.1 at 24-bit/192k. The session also used the new Lynx Aurora 16 AD/DA converters and the AES-16, and RME AES-32 sound cards. The DAW had two Raid Zero arrays with more than a Terabyte of storage, backed up to FireWire drives.

Steve Lamm, of Cryptic Globe Recording and the host of Nashville Club Cubase/Nuendo, felt the event was a great success and was pleased with the level of participation throughout. "Dave Piechura from Vintage King brought in a lot of great high-end gear from the likes of Chandler Limited, Korby Microphones and Universal Audio," Lamm says. "Blackbird Rentals also donated a lot of excellent high-end outboard gear for the event. We also featured Seventh Circle Audio Preamps. Vince Melamed—who has played with The Eagles, Bob Dylan, Jimmy Buffet and others, and is also a very successful songwriter—led a discussion about songwriting and technology. He shared so much about how he uses technology for creativity and songwriting. Chuck Moore from SAE led a discussion on surround sound technology and mixing. Greg Ondo, who is the national product specialist for Yamaha/Steinberg, was also in attendance and talked about new Steinberg products and fielded Steinberg-oriented questions."

Lamm is also very enthusiastic about SAE and the school's support of Club Cubase/Nuendo. "SAE is an outstanding teaching facility," he says. "They have a fantastic studio with an SSL 4000G and second control room with Neve VR Series console. In addition, they have a surround mixing room and many, many other smaller rooms for a huge variety of workstations. They have a first-class teaching staff and strive to keep on top of current technology, as well as old-school knowledge so they can pass it along to their students. They have been kind enough to let us host this users group from the time we started it." ■

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different performances where you'll see five artists that cross the stage. We multitrack everything—that's 56 tracks coming off the stage—and record that into the AMD/Nuendo rig. That ends up being 300 gigs of information per week. The reason we do all this is that you never know what will cross the stage: The open platform means anything can happen during the week. It's a structured free-for-all."

For Gibson and Reinen, precisely recording the 80th anniversary concert for a 5.1 surround DVD and stereo meant balancing the freewheeling nature of the Opry with the refined, signature acoustics of Carnegie. "The Grand Ole Opry is a living, breathing live experience, and as such, we wanted to try to capture the event with historical and cultural perspective—you don't know when you'll capture a magical performance moment that will never happen again," Gibson says. "The key was to record everything to Nuendo with a view toward having it not only for archival purposes, but also a two-hour special for GAC and the option of a DVD remix.

"I had an opportunity to listen to Carnegie Hall from a number of locations, and the stage is one of liveliest stage performance venues I've ever encountered," Gibson continues. "It's good but very live. The hall itself is remarkably even, with smooth and spectacular sound even up on the rear of the fourth floor, under the top balcony. Often without reinforcement in a hall, things start to get mushy in the corner, areas get built up or there's a lack [of certain frequencies]. At any location from within Carnegie, everything remained—the detail, separation and clarity were just remarkable."

With those characteristics in mind, the Opry crew—which also included TV mixer Steve Marcantonio, general broadcast mixer King Williams and head of technical Services Jon Mire—focused first on managing the sound from the stage. "There's nothing more frustrating than having too much volume in a magnificent hall," states Gibson. "Essentially, we encounter something similar with Ryman Auditorium. I'm not comparing [Carnegie and Ryman] one-to-one, but it's an old building designed for performance before amplification was ever available, and we've found there's a learning curve for artists who play at Ryman, where they need to play at lower volumes onstage.

"Where the orchestra sits at Carnegie is an extremely live stage. It's such a fabulous building we wanted to keep the stage volume as low as possible. So instead of

being an amplified program, we urged all artists to consider their material carefully, use as many acoustic instruments as possible and eliminate electric instruments with the understanding that volume must be kept to a minimum. As a result, people didn't use much signal processing. A couple of guitarists used stomp pedals, but there were no big pedal boards. We also went without in-ear monitors, which really encouraged more of an organic event and certainly a hall experience. Everyone was very gracious. We only had two guitar amps onstage, a bass amp with a DI and small drum kit with kick, snare, two cymbals and a floor tom."

At that point, it was time to start plugging in the microphones. When all was said and done, the scheme numbered 32 stage inputs, plus nine more to cover the audience. In addition to four vocal mics (including two wireless), Opry specifications included Shure SM57s to cover the two Blackface Fender Twin amps, six Neumann BCM 104 instrument mics and an Ampeg SVT-DI for bass. Carnegie's standard audience coverage setup, including three Sennheiser shotgun mics from the stage front pointed L/C/R, plus a Schoeps mic hanging 45 feet high mid-hall and pointed straight down, was left intact.

Next, the mics were run to Carnegie's front-of-house Yamaha PM1D digital console (supplemented by a PM5D for monitors). "Very little compression was used because of the very low stage volumes," Reinen says. "They maybe had done a little EQ'ing, but no hard compression was necessary for any of the instruments other than the standard vocal compression. Reverbs were not necessary because of the brilliance of the hall."

From there, the in-house Carnegie feed was split to a Sony Oxford-equipped broadcast truck parked outside supplied by All Mobile Video (AMV, New York City). Next, a MADI split went to a secondary truck where the Opry's mobile AMD/Nuendo rig captured the performance. "We took the split directly off the console—post-EQ and dynamics—directly routed from the Oxford to the MADI stream to us, interfacing

via RME MADI cards installed from the DAW," explains Reinen. "One reason we use Nuendo is the ability to interface with MADI. You can't do that with Pro Tools, and our Euphonix System 5 console at home is completely MADI-driven, as well. So it gives us the platform and immediate connectivity that we were looking for, and the sound quality is fabulous.

"We also couldn't do what we do without the power and durability of the AMD equipment. Currently, we back up to a 300-gig FireWire drive every week. When we upgraded to the Dual-Core system at the Opry house in September, we found that the speed and reliability upgrades were pretty incredible: Some of these are 5,400

PHOTO: © 2005 GRAND OLE OPRY



Steve Gibson (left) and Kevin Reinen at the Grand Ole Opry Studio

rpm speed hard drives pulling in 56 tracks at 48k, and our Dual-Core AMD rig has knocked down the time for remix almost in half."

As you might expect from a group of seasoned engineers recording an ensemble of pro performers in one of the most highly revered halls on the continent, the audio that passed through to the hard drives that evening was as memorable as expected. "We captured exactly what we wanted to," Reinen concludes. "The room is just phenomenal, and the room miking that the Carnegie guys did allowed us to hear the nuances; every detail of everything we wanted. Today, with so much music being manufactured, the ability to take these phenomenal performers and capture it in raw form is a very powerful thing for us." ■

Got news for the Metro? E-mail david@dwords.com.

—FROM PAGE 32, *MARKETING TO MYSELF*

on their labels to which color television format would be approved by the FCC—would end up being divisions of the same company, to say nothing of being owned by a Japanese conglomerate?

These media behemoths have the marketing, the advertising, the exposure in multiple mediums and the sheer financial muscle to make the biggest splashes in the entertainment world. And, of course, that's the primary reason why they remain so influential. But the flip side of that is audiences like to be told what to like. We want people and institutions to look up to, to tell us how to behave and what to pay attention to. If a friend tells you something is cool, well, *maybe* it is. But if Warner Bros. tells you something is cool—especially if it can dress its marketing machine up as some kind of super-hip teenage online community and keep repeating it using the glitziest of music and graphics and costumes and toys and whatever—then it *must* be.

In the classroom, we want the teacher, not the other students, to tell us what we need to know. We may know some people who make us laugh sometimes, but we *always* laugh at Jon Stewart and Jay Leno. In concert, we want the artist to speak to us, and we're not interested in what those around us have to say. (Would you please shut up!?) We watch talking-heads television and listen to talk radio because we want to hear what those people are *thinking*—that is, once we get past the narcissistic impulse of trying to get our phone call on the air.

These institutions filter what comes our way, and we need them. There's just too much stuff out there for us to do it ourselves. Too many news stories, too many comedians, too many indie rock bands, too many cartoons for us to deal with, so we look to filters to help us. When we find a filter that we like, we stick with it, whether it's *Utne Reader* or Fox News. The magazine you're reading right now is a filter, and you're reading it because you approve of what we choose to present to you.

The problem with any filter, however, is how it behaves when it gets, for lack of a better term, clogged. To stretch a metaphor much too far, a clogged filter fills up with hair and other bodily wastes, refuses to let anything pass through untainted and, before long, begins to stink. And the media companies, especially the record companies, are in desperate need of a plunger or a good shot of Drano.

The clogging in the media marketing world is caused by the unimaginable sums of money that are at stake. The cost of marketing a property so that it can attract enough

attention to make money has risen to ridiculous levels, and it's a phenomenon that feeds upon itself. The result is that every marketing effort has to pay off big and fast: Movies have to make back the bulk of their nut during the first weekend and new artists' first CDs have to ship Platinum. Making a record costs far less than it did 10 or 20 years ago, but the cost of promoting records far outweighs any savings on the production end. The idea of slowly building an artist—of supporting several releases that don't initially make a big profit so that the artist has a chance to mature and build an audience—is anathema

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to companies that need to see an immediate return on every investment. When you've got that much at stake mucking up the works, very little can get through.

The son of a friend of mine is an executive at one of the major labels, and he recently got a big promotion. The label, according to my friend, has only one really big act, and so his son is desperate to find a new act that will be as big. "He tells me there's just nobody out there," my friend says. Now I agree that there is a plethora of lame bands and singers trying to be heard (and not just on *American Idol*), but I also know that there are plenty of genuinely talented and appealing musicians who would die for the chance to record for that label, and who would be able to attract a good enough following to make decent bucks for everyone. But the label doesn't want that—they want an act to appear who can, overnight, goose the balance sheet of the whole operation in one fell swoop. That's not a filter, that's a brick wall.

So is it time for the big record companies to go? A lot of people think so. Certainly, the labels themselves aren't doing much to win sympathy, what with suing college students and random Internet users, and placing nasty unremovable Trojan horses on customers'

computers. In other industries, as in the animal kingdom, this is known as "eating your young."

Now that broadband is within reach of a majority of American homes and businesses, certainly the mechanism for completely bypassing the Big Four is in place. We have other sources of information that can tell us what we want to buy. Computers that record people's buying and browsing habits are already making decisions about what other items we might want to spend money on. Just as online news services are getting better at customizing news for each reader and eliminating anything that the reader might consider disagreeable, automated recommendation algorithms in online shops can focus our choices so that we only know about things that we are considered likely to purchase—and in the case of creative products, we never learn about new authors, films or recording artists.

As screwed-up and self-defeating as the record companies are, the potential of this kind of extreme "narrowcasting" could be even worse. There's a well-done and quite frightening Flash presentation from a fictional museum some years in the future at [www.EPIC2014.com](http://www.EPIC2014.com). EPIC stands for Evolving Personalized Information Construct, a system that uses "his choices, his consumption habits, his interests, his demographics, his social network" to determine what a user should see and buy. Without active participation from respected and authoritative human-based filters, which should include the record companies' A&R departments, many people will depend more and more on these automatons to make their buying and listening decisions for them.

For some people with open minds and expansive tastes, the machines will make interesting conclusions, propose novel juxtapositions and open up new areas of exploration. But for others, whose purchasing habits are less broad, the machines will shrink their focuses even further. New acts and genres will never have a chance to get their attention. All users will be exposed to will be what the machines, in their cold logic, consider "safe" for them. The market will become even more fragmented as each user becomes his or her own filter. And the ability of music to reach out to people, to open their eyes, to change their minds, to teach them something they don't already know, to do anything at all except reinforce their own beliefs—and perhaps get them dancing—will be gone. ■

*Paul D. Lehrman is expecting his royalty check to arrive any day now from the four people who downloaded his latest musical effort.*



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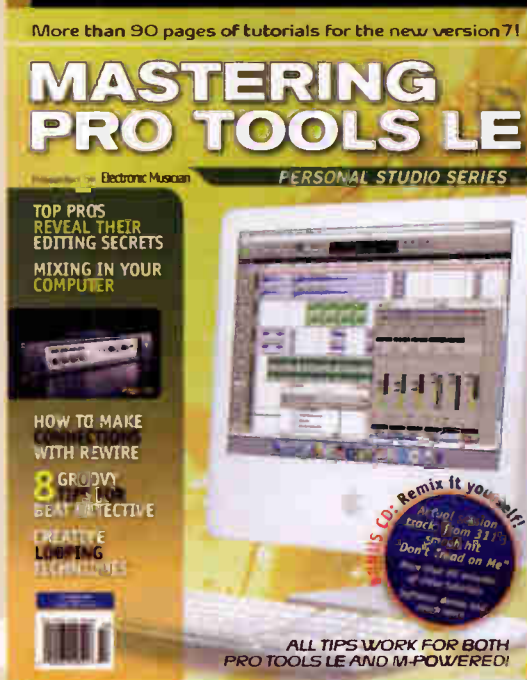
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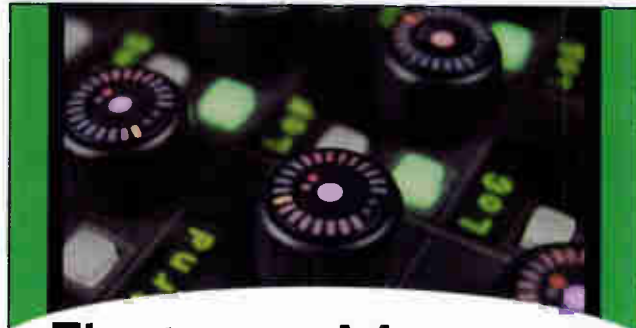
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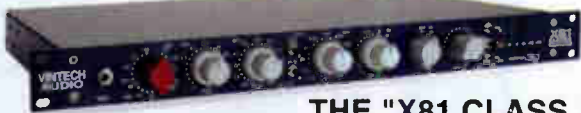
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# The Quad-Processor MOTU Studio



## Run more virtual instruments, plug-ins and disk tracks than you ever thought possible

With two dual-core processors at speeds up to 2.5GHz per core, the Apple Power Mac G5 Quad doubles the punch of its dual-processor predecessor. Do the math: Quad-core processing means four Velocity Engines and eight double-precision floating-point units for blistering performance of up to 76.6 gigaflops. What does that mean for your MOTU Digital Performer studio? Run MachFive, MX4, the Symphonic Instrument and dozens of other virtual instruments, processing plug-ins and disk tracks without even batting an eyelash. This is the wicked-fast Mac that you've always dreamed of. Blaze through your work, deliver ahead of schedule and astound your clients — because this baby really moves. Prices start at \$1999.

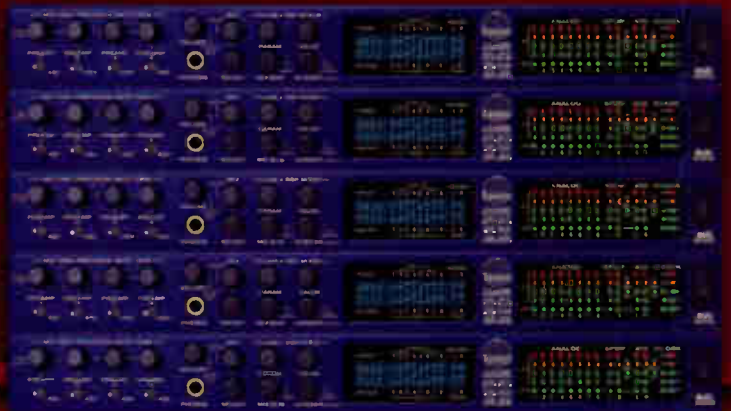
## Large capsule mic

The new RØDE NT2-A can be plugged directly into your 828mkII or Traveler FireWire interface. This professional large capsule (1" ) studio microphone incorporates three-position pick-up patterns, pad, and high pass filter switches conveniently located on the mic body. At the heart of the NT2-A is the Australian designed and manufactured HF1 dual diaphragm capsule. The frequency and transient response of this new transducer has been voiced to complement today's modern recording techniques, and yet still evoke the silky smooth character of the legendary microphones of the 50's and 60's. These features provide the flexibility and superlative audio characteristics that make the NT2-A one of the most versatile condenser mics available. The NT2-A's variable controls allow switching between Omni, Figure 8, and Cardioid polar patterns. The three position high-pass filter provides a flat response or an 80Hz and 40Hz high pass filter. The microphones Pad can be switched between 0 dB, -5dB and -10dB. The NT2-A comes in a soft pouch with an M2 stand mount.



## Stackable MOTU audio I/O

All MOTU FireWire interfaces, including the Traveler, 828mkII and 896HD, are stackable, giving you a cost-effective, expandable system that delivers stunning quality and performance. You can daisy-chain up to four MOTU interfaces to your Mac — even the sleek and portable PowerBook — and record all inputs simultaneously. For example, you could connect four Travelers directly to a PowerBook to record 64 inputs to 64 tracks simultaneously at 48kHz. If you connect four 896HDs, you can record 72 inputs to 72 tracks — all to the internal hard drive. On today's multi-processor G5's, you can expand even further with a PCI FireWire card. With four Travelers connected to the on-board FireWire bus, plus a fifth Traveler connected to the PCI FireWire card, each with 20 inputs, that's a whopping 100 inputs recorded simultaneously to 100 separate tracks. Make no mistake: a MOTU native system with multiple interfaces delivers astonishing performance and value.



# Unprecedented Native Studio Power

## Wireless transport control.

Looking for transport control of Digital Performer that goes way beyond your mouse or the extended keypad on your Mac keyboard? Try the new **Frontier Design Group TranzPort**, the world's first wireless DAW remote controller. This convenient, compact unit frees you from your conventional position, sitting in front of your Mac. Now you can control Digital Performer from anywhere in your studio. TranzPort has plug-and-play compatibility with DP, thanks to its dedicated DP control surface plug-in software. In addition to controlling all of DP's transport functions, you can also arm tracks for record, set markers, punch in/out, start loops and more using TranzPort's intuitive interface. You also get real-time feedback on signal levels, timecode position, track names and more via the backlit LCD and LED indicators. Controlling DP has never been more fun, convenient and flexible!



## Compact MIDI control.

Looking for the ultimate compact keyboard controller for your MDTU studio? The **Alesis Photon X25** Portable 25-key USB MIDI controller/audio interface delivers the revolutionary Alesis Axyz controller dome and ten 360-degree rotary knobs, giving you powerful hands-on MIDI control of your Digital Performer studio and software plug-ins. Advanced features include 24-Bit 44.1/48 kHz USB audio I/O with balanced stereo audio inputs and outputs, 25 key, velocity sensitive keyboard, full-size pitch and modulation wheels, and an LCD screen with dedicated encoder for fast and easy set-up.



## On-demand Waves DSP.

For large-scale multitrack recording systems, it is good practice to offload plug-in processing from your host computer. The **Waves APA-44M** delivers on-demand Waves processing to your MDTU native desktop studio via standard Ethernet. Open your existing Waves plug-ins as usual in Digital Performer via the new Waves Netshell™. But now you can run up to 6 Waves IR-1 Convolution reverbs at 44.1kHz at once, and save your CPU power. Need more Waves processing? Just add another APA-44M with the snap of an RJ45 Ethernet cable. It's that simple. For extreme processing needs, connect up to 8 units to your network. The APA-44M is equally at home connected to a laptop, desktop or both. Just transfer your Waves authorized iLok. You can even share a stack of APA-44M's among several computers across the Waves Netshell network. The APA-44M ushers in a new era of state-of-the-art, distributed-network Waves processing for your MOTU multitrack studio.



## 5-bay removable storage.

The **Glyph GT 205** is a 2U five-bay FireWire enclosure offering many advantages for large-scale multitrack recording, including hot-swap portability and convenience. Specifically designed for applications requiring multiple drives, it can be configured with four FireWire hot-swap GT Key drives up to 500GB each. Its expansion bay offers the option of AIT backup, a SCSI or FireWire hot-swap receiving bay, DVD-R/RW or CD-R/RW. Using Glyph's proprietary Integrity™ hot-swap technology, you can easily shuttle content to other GT Series enclosures. To keep your studio quiet, GT Keys incorporate sound-dampening composite metal technology in their frames. Includes 2-year warranty, plus overnight advance replacement warranty in the first year for GT Keys.



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# The Quad-Processor MOTU Studio

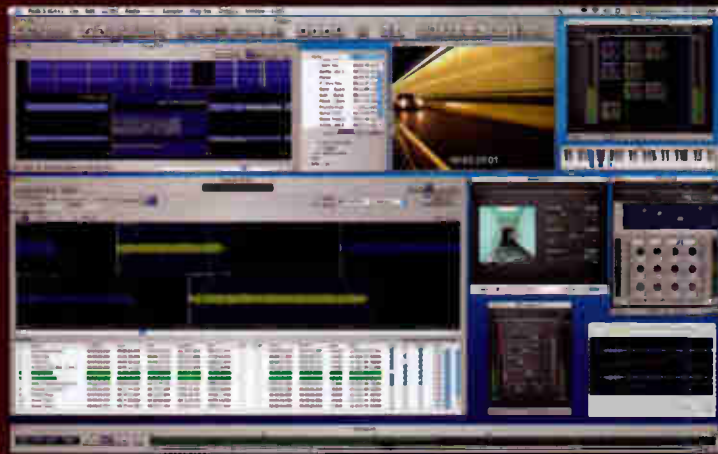
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## The control room.

The PreSonus **Central Station™** is the missing link between your MOTU recording interface, studio monitors, input sources and the artist. Featuring 5 sets of stereo inputs (3 analog and 2 digital with 192kHz D/A conversion), the Central Station allows you to switch between 3 different sets of studio monitor outputs while maintaining a purely passive signal path. The main audio path uses no amplifier stages including op amps, active IC's or chips. This eliminates coloration, noise and distortion, enabling you to hear your mixes more clearly and minimize ear fatigue. In addition, the Central Station features a complete

studio communication solution with built-in condenser talkback microphone, MUTE, DIM, two separate headphone outputs plus a cue output to enhance the creative process. A fast-acting 30 segment LED is also supplied for flawless visual metering of levels both in dBu and dBfs mode. Communicate with the artist via talkback. Send a headphone mix to the artist while listening to the main mix in the control room and more. The Central Station brings all of your inputs and outputs together to work in harmony to enhance the creative process and ease mixing and music production.



## Purified power.

To get the most out of your MOTU studio gear, you need the cleanest power possible. The negative effects of poorly supplied wall outlet AC power on your gear can be dramatic, without your ever knowing how good your gear can really sound with properly supplied power.

**Furman Sound** introduces the all-new **Power Factor Pro** with its ground-breaking Clear Tone Technology™, which actually lowers the AC line impedance supplied by your wall outlet while storing energy for peak current demands — over 45 amps of instantaneous current reserve. Additionally, Linear Filtering Technology™ (LiFT) dramatically lowers AC line noise to unprecedented levels in the critical audio frequency band. Also included are Furman's unique Series Multi-Stage Protection Plus (SMP+) surge protection and automatic Extreme Voltage Shutdown (EVS), which protect you from damaging voltage spikes or sustained voltage overload.

Equipped with the same LiFT and SMP+ features, plus EVS Extreme, the **Furman Sound IT-20 II** ultra-low noise balanced isolation power conditioner is designed for the most critical, ultra-low noise installations. Delivering an astonishing 80dB of common noise reduction from 20Hz-20kHz, you're assured the lowest possible noise floor for all the gear in your MOTU studio. The IT-20 II's toroid transformer design assures a contained magnetic field for complete isolation from sensitive studio components nearby. The ultimate in purified power.



# Unprecedented Native Studio Power



## Hands-on automated mixing.

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 Universal 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 DP itself.

## Accurate monitoring.

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## The MOTU system experts.

When it comes to putting together MOTU recording systems, nobody does it better than Sweetwater. Whether you're building a simple portable recording rig with a Traveler and an iBook or a 128-track powerhouse Digital Performer studio centered around the latest Quad Core G5, Sweetwater can help you select the perfect components for your MOTU system, from the specific MOTU audio interface model, to control surfaces and hard drives, to plug-ins and studio monitors. Even better, we can install, configure, test and ship a turnkey system straight to your door — all you'll need to do is plug in the system and start making music.

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# E-mu Emulator X Desktop Sampling System

## Synthesis and Sound Design Secrets

E-mu's Emulator X desktop system is a monster sampling synth with the kind of functional depth that can take some time to master. And although you can always simply sequence the gazillion available sounds and turn a few preset knobs, there's nothing like programming your own custom sound. Here are a few programming ideas that can really speed you along and keep your head in the music.

### TEMPLATES

E-mu implemented the idea of user settings for nearly every module, although these are sort of tucked away. Right-click in any voice-processing field, and you're prompted to select a factory template or save the current settings as a template. These are available not only for the obvious filter, envelope and LFO settings, but also for the Amplifier, Key and Tuning modes; lag and glide processors; and all effects. So save, name and organize the templates often, and your programming will go faster and faster.

Grabbing work from any professionally produced sound bank is easy. If you really like a repeating rhythmic envelope that animates the filter in a soundscape pad, then right-click and save it as a template, which you can apply to any sound in any bank in the future. The same would apply to snatching some exquisite Z-plane morphing filter that took a dedicated programmer a long time to perfect.

### MODULATION TEMPLATES

The Emulator X modulation matrix is astonishingly powerful, with lots of real-time and automated controllers that can be mapped to any and all parameters. So if you have spent time setting up complex arrays of preset cords or find effective preset cord setups in some of the synth presets in your sound library, then save and name those templates and spend time dialing in the tweaks rather than doing all that extra setup. Some of the presets in E-mu's Vintage collection use all 36 cords for incredible modulation effects—grab those, too! Also available are savable templates for the initial controller amounts, which include sends to the effects.

One step further: You can use this page

as a MIDI monitor while you manipulate the synth parameters from your sequencer. Automating voice parameters is a very organic and expressive way to play and control the sampler. You can even label the "scribble strips" to easily see what you're modulating.

### MASTER TEMPLATES

Need an instant and very different-sounding keyboard pad? Master templates combine all voice-processing settings (in the Voice Processing menu). These let you save the template of all the voice-processing parameters for a smoothly enveloped, filtered and chorused string pad that you might stumble across and apply to some custom sound. The preset cords and initial controller amounts are key to the sound of many exotic synth presets. Be sure to also store and use these templates when you're trying to repurpose found programming.

### BROWSE YOURSELF

Just as Photoshop sports a Browser window that lets you check out and compare graphics files on your hard disk or CD, Emulator X features an amazing Import Sample function that you can use in the same way. Instead of browsing a soundware CD by playing and considering each of the files separately, select Import Samples, locate the CD, shift-click as many files as you can and hit Open. There are lots of settings here, but make sure that Build Preset is checked in either Chromatic or White key mode and Import. Now you can "play" a preset full of sounds, loops or effects and get a more visceral feel for the sounds and how they work with each other.

### SAMPLE YOURSELF

The system includes an onboard recorder module with some relevant "sampler" functions. Connect a dynamic mic to your



E-mu Emulator X's main screen shows file names at a glance.

interface's input and dial up some level. Select Acquire/Chop Samples from the File menu, hit the Record button and do something for five to 10 seconds. Say OK. Now you can let the computer chop it up for you. Set a gate threshold level, a pre/post-milliseconds tolerance to avoid trimming attacks or decays, and a Hold amount to ensure a minimum sample amount. Then select Apply, which renders that recording into meaningful and playable audio events in the list below. Dialing in the threshold is tricky, but it's much easier if you zoom in vertically just enough so that you can grab and move the threshold markers themselves. This allows you to set them visually with the waveform.

Select the top region and use the down arrow and space bar to quickly audition. If the results are close, then you can manually adjust each start and end; if they're not, then adjust the parameters and apply again (discarding the first batch). This allows you and your performer to freely express yourselves during sample recording, without starting and stopping the recorder. You can then quickly save to the sampler, where an auto-build preset is available, making the whole process from recording to playing the individual sounds on the keyboard extremely fast. ■

*Gerry Bassermann is composer/producer based in the San Francisco Bay Area.*

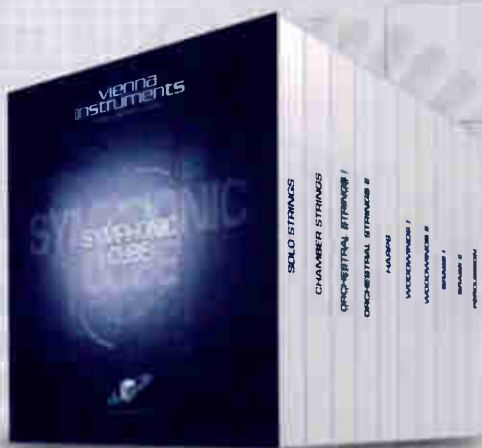
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