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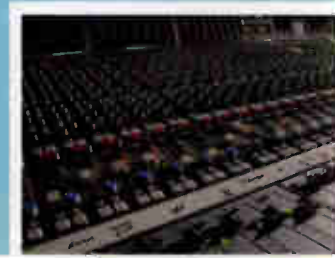
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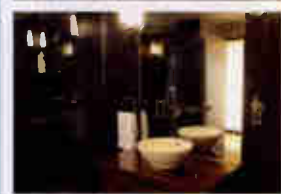
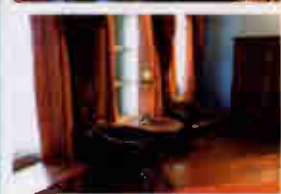
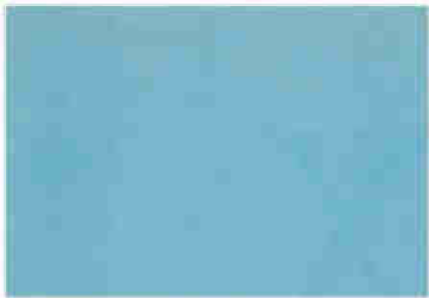
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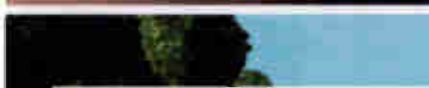
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# MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

August 2005, VOLUME 29, NUMBER 9

## features

### 32 Surround Mixing

Surround projects are finally getting their due—specific award categories, both for the Grammys and the annual TEC Awards. This issue also brings the TEC Awards Voter's Guide, so we thought it would be appropriate to spotlight each of the surround nominees. Go behind the scenes with Neil Dorfsman and Mick Guzauski (Eric Clapton's *Crossroads Guitar Festival*), Fred Maher and Nathaniel Kunkel (Crystal Method's *Legion of Boom*), Al Schmitt (Ray Charles' *Genius Loves Company*), Ed Cherney (Bonnie Raitt's *Nick of Time*) and Michael Bauer (Simon & Garfunkel's *Old Friends Live on Stage*).

### 38 Acoustic Materials

With increasing high-quality, portable pro audio gear, more engineers are finding themselves moving out of the commercial studio and into their homes. Just as finding the best arsenal of gear is key to a successful workplace, controlling and optimizing your space's acoustics must be a priority to create an accurate acoustic surrounding.

### 45 In-Ear Monitors

Your parents may have told you to never stick things in your ear. They also said if you cross your eyes for too long, they'll stay that way. For many musicians, taking the plunge to in-ear monitoring rather than relying on wedges can be a difficult one. *Mix's* sound reinforcement editor, Mark Frink, shares tips from a monitor engineer's perspective to make a seamless transition. Also, we round up a complete list of current monitoring systems (ear buds or hardware models, or a combination) on the market.

### 75 2005 TEC Awards Voter's Guide

This year's ceremony, to be held October 8, 2005, in New York City, will see music/writer/composer David Byrne take home the Les Paul Award and producer Arif Mardin inducted into the TEC Hall of Fame. Check out the guide to this year's nominated people and products—and then fill out your ballot!



**On the Cover:** The exclusive Sonoma Mountain Studio Estate, featuring a Neve 8048 console and PMC monitoring, was designed by owner Bill Zabitt and acoustician Art Kelm. **Photo:** Vince Valdez. **Inset Photo:** Steve Jennings.

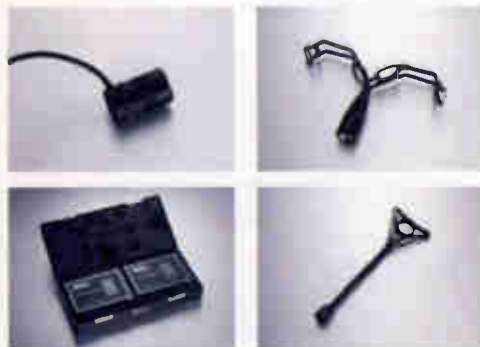


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Mix  
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# The Pro in your Tools

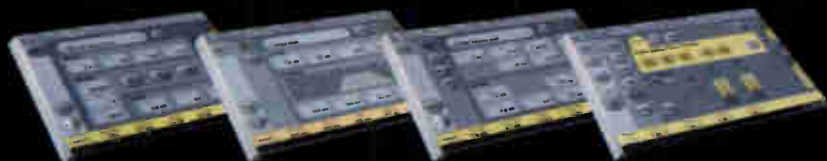


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## TEC Comes of Age

Certain milestones stand out as rites of passage, such as getting a driver's license at 16 or turning 18 and registering to vote. At 21, you've earned the exalted right to warm a barstool and order a beer. For those of us who can actually remember that far back, it's hard to believe that the TEC Awards turn 21 this year.

Today seems light-years removed from those pre-1985 days, when DAWs were non-existent, MIDI was a radical new idea and a 128KB Mac (with a built-in floppy drive and a 9-inch monochrome screen) would set you back \$2,500. However, one thing that didn't change was the concept of the TEC Awards. Recognizing technical excellence and creativity in pro audio's products, people, projects and facilities—while raising funds for worthwhile causes such as hearing research/awareness and audio education—was a good idea back then and it's even more valid in 2005.

However, times have changed and TEC has evolved with it. The original awards included some way-too-broad categories such as Recording Technology and Sound Reinforcement Technology. Thankfully, both of these later became multiple, more specialized categories so a mic wouldn't compete against a console. Meanwhile, awards such as Session Musician were dropped, while categories reflecting new technologies—i.e., workstations, digital converters and signal processing plug-ins—were added. Another change was moving from the "popularity contest" approach of selecting engineers or producers of the year and instead choosing from specific projects that reflect excellence and awarding each member from this team effort.

More recently, the Mix Foundation created a TECnology Hall of Fame to spotlight the long and rich history of the audio industry. The inductees span 125 years of professional sound, from Edison's first cylinder recorder to Yamaha's breakthrough O2R digital console. Audio has an important legacy of pioneers such as Emile Berliner, Lee De Forest, Harry Nyquist, Alan Blumlein and Ray Dolby, without whom the pro industry—and the world in general—would be a completely different landscape. Among the 15 honorees added this year are innovators Edwin Armstrong (his 1913 regenerative feedback circuit made amplifiers possible), Georg Neumann (phantom power), George Massenburg (parametric equalizer), Roger Linn (sampled programmable drum machine) and Dave Smith (MIDI). These are all names everyone in audio should know, but rarely get the recognition they deserve.

Yet technology is only part of the equation. Great special effects can't save a bad movie script any more than a 96-input console and high-end mic won't change a weak performance and a bad song into a hit.

Creativity is—and has always been—the most important link in the production process. And so with the voting for the TEC Awards, we celebrate technical excellence and creativity in all aspects of our industry. We'd like to invite Mix subscribers who received a ballot with their issues this month to help select pro audio's best. Take a few minutes to vote and make your voice heard.

George Petersen  
Editorial Director

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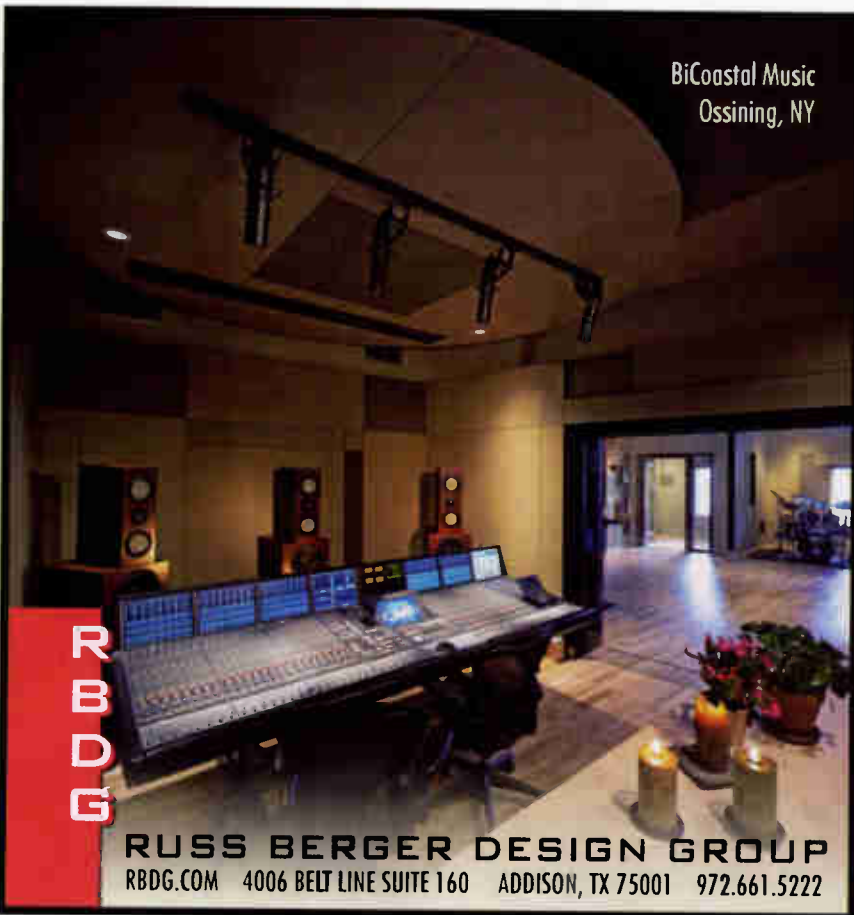
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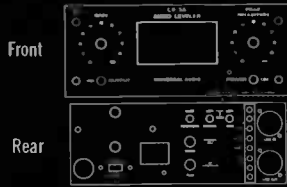
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# Letters to Mix



## LEARNING FROM THE MASTERS

Nice work on the "quality" series in *Mix* [May 2005]: great commentary, great writing. As someone who gave up on the music recording business after 15 years of trying to break through—because of all the reasons you guys spelled out in the articles—I have hope for the industry.

Don't cry for me; I'm much happier these days writing music for TV and film. The problem is this: Generally, these articles are preaching to the choir. Most of your readers probably agree with the stance portrayed. We need to spread the word into the marketplace to the end-user and to all those engineers and producers who invented themselves instead of learning from the masters of the trade. We need to encourage bands to work with recording and mastering engineers who studied and assisted with experienced masters. Pro Tools in the bedroom or in front of an old Neve: A great engineer can make it work.

We need to encourage listeners to experience the benefits of full-resolution recordings. It's easy these days: Hook up your MP3 player and CD player and flip back and forth. They will come to the right conclusion.

Your article was a great start. Now all of us who know better and can tell the difference should go out and spread the word.

Aaron Keane

## PROFESSIONAL, NOT PROFANE

I am a recording studio owner and I was a bit surprised to notice fully spelled-out swear words in *Mix* magazine editorial [Blair Jackson's "Quality in the Age of Good Enough," May 2005]. At the studio, we frequently teach student musicians, and they are fully aware that certain language is not acceptable in an educational or business situation. Yes, we creative types do let loose a blue streak sometimes, but not in front of clients or

students. I think it detracts from an editorial when four-letter words are spelled out. It's also hard to refer a student to otherwise good editorial when it contains phrases like "shitty-sounding cassette."

Colin Mendez Morris  
ArsMusica Concerts

## AFTER ALL, IT WAS THE '80S

I am writing to add a different slant to some of Robert Battaglia's letter ["Feedback," May 2005] regarding his involvement with Wall of Voodoo's *Call of the West* album, and his disagreements with the article published in *Mix*'s "Classic Tracks" in March 2005. I would just like to correct a few of [Battaglia's] comments that [were] slightly disparaging toward myself and especially the writer of the original article, Blair Jackson. I am still puzzled as to why anyone should even "sweat it" over a song/album from 25 years ago, but I still couldn't resist the temptation that perhaps I could join in on the comic relief.

Blair Jackson contacted me after having completed interviews with Stan Ridgway and Richard Mazda, [and] was referred to me for any technical recollections. If Battaglia was involved, surely they would have also referred questions to him? I have to say that the '80s being what they were, memories are a little hazy, but I do recall recording and mixing "Mexican Radio" and then going to Frank DiLuna at [then] A&M Mastering, who mastered it as a single though we were still in the middle of recording the album.

My involvement with the project was somewhere between six to eight weeks. I first met the band in a pre-production studio in Hollywood, and from there we loaded into Hit City West studios to begin recording. Battaglia's inference that I was there only for a passing moment [before] heading back to England doesn't quite give me enough credit for the time I spent on the project. Hell, they even had me stay at the Tropicana!

I do agree with one of Battaglia's comments: that it is a shame that credits for engineers are not always accurately listed. Having suffered similar fates myself on a huge array of albums and having numerous friends in the industry with similar stories to tell, this is nothing more than part and parcel of the job. As unjust as it seems, it is something that those of us who are still around live with and accept—ask my good friends Al, Ed and Elliott.

I've lost track of the times where I have been given a credit for recording but not mixing; I've

had my name misspelled in numerous, but always amusing, ways (Boz Scaggs had me as Jeff; The Fall had me as Tony J Sutcliffe; Jess E. comes from Sheila E); I've been credited with pseudonyms ("Deaf Suitcase" stands out) and royal titles of dubious standards awarded ("Viscount Jeremy James" from a Reggie Hamilton CD, to "Lord Jeremy James" on another), [which] had me wondering [whether] they actually meant me or someone else; and the most common occurrence, the omission—the Rolling Stones and Prince's *Musicology* being the most recent.

As engineers, we live by our credits, and I certainly bear Battaglia no ill will for bringing up his case. I certainly would never try to take credit for something I hadn't done. But, after all, it's only a record; what counts is the music and whether it lives on in our memory. If it does, then it doesn't matter who did what, when or where. Just know that you had a part of it!

Jess Sutcliffe

## INPUT AND ACCOLADES FROM SKYWALKER SOUND

Wonderful to read the last issue, but especially the feature on Hank Cicalo ("Recording the Band," June 2005). I had the pleasure of assisting Hank on several sessions at Capitol many years ago. Nice to see him get some well-deserved attention. I was also very happy you featured the 5 Browns recording ("Recording Notes," June 2005) From the moment I first heard about them, I wondered how the heck anyone would record five pianos. Now I know!

A couple of corrections [to the "The Story Behind the Sound" sidebar in "Recording the Band"]: Skywalker's two pianos are a Yamaha CFIIIS and a Bluthner 9-foot concert grand (not 9-foot by 2-foot) and it was Dann Thompson who came up with the piano blanket/mic stand idea. I just benefited from the results!

One more thing: I'd like to give Judy Kirschner, one of our assistant engineers, credit for the stage drawing. Readers might be interested to know she was not even the assistant on the session!

Leslie Ann Jones

Director of music recording and scoring  
Skywalker Sound

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## A BIG MONTH FOR BIG CONSOLES SSL AND NEVE SOLD WITHIN DAYS OF EACH OTHER



From left: Solid State Logic's Antony David, Piers Plaskitt and Chris Smith

Piers Plaskitt, previously president of SSL Inc., as group commercial director, and Chris Smith as group finance director. Phil Wagner, longtime VP of sales on the West Coast, will be the new president of SSL Inc., and Don Wersheba has been promoted to VP of East Coast Sales.

Meanwhile, Misner, who says he explored the possibility of purchasing SSL, negotiated the sale of AMS Neve within a 10-day period in June. The deal includes all assets, trademarks, stock, equipment, physical plants, all orders and staff liabilities, but not the existing company. Misner says all orders will be honored, and his recent announcement that the SAE L.A. school will be a training center for SSL AWS 900 consoles will not be affected.

"First, I will be refocusing the broadcast console development and then develop a new range of Neve products," Misner said. "This is where SAE can be of great help to Neve because our students are users and when you have a pool of 36,000 students, you get to know what the market looks for. On the film side, we will still cooperate with all of our large clients to have an input into design. AMS Neve already had a new range of studio products under development, and with the new structure in place, it will allow us to bring these products to market shortly. I would expect the first new products to be released during the AES in New York.

"The main synergy between AMS Neve and SAE is that SAE will provide training for all Neve customers free of charge. Our distributor network will stay the same or be enlarged. The management team at Neve under Mark Crabtree will stay the same, with some additions and changes from within SAE."

—Tom Kenny

Rumors of the death of large-format consoles may have been a bit premature, as one week in June saw the sale of two of the most powerful engines in the recording industry of the past two decades. Solid State Logic, which had been put up for sale at the start of the year, was sold on June 15 to Peter Gabriel and David Engelke. Two days later, in a move that took most by surprise, AMS Neve was sold to Tom Misner, founder and president of the SAE Group, which includes the roughly 40 SAE Institute recording schools.

"The energy is very up around here," said Antony David, the new SSL managing director. "We know we have a lot of work on our hands, but everyone is relieved that the uncertainty is over. We ended up with the best set of investors we could have possibly hoped for. Peter has a great track record in high technology with his online distribution company. And David is extremely experienced in broadcast, having been a software and electronics engineer. "I think one of the motivations for both Peter and David was the strength of the brand, and we expect to leverage it in markets that SSL doesn't currently have a presence in. Watch this space. We are taking a major look at product strategy right now. And we're looking forward to AES in New York, where we hope to have some exciting stuff to announce." The new management team at SSL includes



Tom Misner of the SAE Group

## KUTCH JUMPS TO SONY

Formerly at Masterdisk, mastering engineer David Kutch (Rod Stewart, Cassidy, OutKast, Lil' Bow Wow, Whitney Houston, Sarah McLachlan, among many others) has joined Sony Music Studios (New York City). Prior to joining Masterdisk, Kutch worked with Herb Powers of Powers House of Sound since 1997. There, he worked on records for Biggie, Mase, Puff Daddy, Toni Braxton, Jill Scott, Missy Elliot and Will Smith.

"We are proud to have Dave join us and look forward to guiding his career as one of the best talents in the industry," said Brian McKenna, VP of audio operations and marketing at Sony Music Studios. Kutch joins Sony Music Studio's current roster of mastering engineers, including Vlado Meller, Mark Wilder, James Cruz, Vic Anesini, Darcy Proper, Joe Palmaccio, Steve Kadison and Woody Pornpitaksuk.



## AL KAHN, 1906-2005

Industry pioneer Albert "Al" Kahn passed away on June 15, 2005, at his home in Diamond Lake, Mich. Born July 9, 1906, in Iasal, Ill., Kahn had a childhood interest in electronics and was granted the first ham radio license in Illinois.

In 1927, Kahn and Lou Burroughs founded the Radio Engineering Company to install and repair radio receivers in South Bend, Ind. The company grew and evolved into a successful retail operation, but was almost completely wiped out by the Great Depression of 1929. The company regrouped by moving into audio and designed a portable P.A. system for Notre Dame football coaching legend Knute Rockne, who referred to the system as his "electric voice." Kahn and Burroughs liked the name, and Electro-Voice was officially incorporated on July 1, 1930.

Some of the groundbreaking technologies that Electro-Voice has introduced include the humbucking coil (1934), the T-45 noise-canceling microphone (1942), using alnico magnets, developing Acoustalloy synthetic plastic (non-metallic) diaphragms, the Variable-D system (1968, used in the RE20 mic), the Constant Directivity horn (1973) and the first high-output, neodymium-based N/Dym® dynamic microphones.

—George Petersen





## THE MASQUE REMAINS KILGORE RETAINS STUDIO

John Kilgore (pictured), director of Masque Sound & Recording since 1986, has purchased the studio from third-generation owners Geoff and James Shearing, renaming it John Kilgore Sound & Recording ([www.johnkilgore.com](http://www.johnkilgore.com)). With the recent introduction of Masque Entertainment division, Geoff and James Shearing will be able to focus more on Masque Entertainment.



"This studio is one of the gems of the New York City recording scene," Kilgore said. "When the opportunity arose to carry on the tradition under my own banner, I couldn't let it pass. The recent closings of some of New York's best-known studios have, in a bittersweet way, increased the opportunities for the facilities that remain."

### ON THE MOVE

**Who:** Michael Warren, CEO of new company MW Audio (Marina Del Rey, Calif., [www.MWAudio.com](http://www.MWAudio.com))



**Main responsibilities:** managing pro sales team and dealing with day-to-day operations.

**Previous Lives**

- 1999-2001, Sam Ash Professional West Coast director
- 1996-1999, Hollywood Guitar Center technology manager

**The most important goal I would like to accomplish in the next five years is...** expand MW Audio as the leading pro audio sales and install company in California.

**The moment I knew I was in the right profession was when...**major celebrities would come to me for advice and my brand of personal service.

**Currently in my CD changer:** Steely Dan *The Royal Scam*, Little Feat *Waiting for Columbus* and John Mayer *Any Given Thursday*

**When I'm not working, you'll find me...**On the cell phone at a client's studio or on the tennis court at the Ritz Carlton, Marina Del Rey (Calif.).

## DOCUMENT ROOM OPENS

Fusing vibe and atmosphere alongside top-quality recording gear, Malibu, Calif.'s Document Room ([www.documentroom.com](http://www.documentroom.com)) hopes to provide an alternative space for artists wanting to escape a commercial studio environment. Or, as studio owner/producer J.T. Meskiel said, "Where your long days of endless guitar overdubs can easily be combined with swimming, surfing and relaxation."

The studio boasts a Neve 8068 MK-I board (modified and refurbished by Fred Hill), which offers its own history: The console was originally commissioned at Family Sound Recordings in Paris, where AC/DC recorded "For Those About to Rock"; it was later purchased by Herbie



*Puddle of Mudd recently finished pre-production for their forthcoming album at Document Room.*



## TEC AWARDS SPONSORS LINE UP

As of July, more than 30 of the pro audio and technology industry's leading companies have signed on as sponsors of the 21st Annual Technical Excellence & Creativity Awards, to be held October 8, 2005, at the New York Marriott Marquis. AMD is once again sponsoring the Technical Awards and Gibson Guitar Corp. will sponsor the Les Paul Award.

These companies are joined by Platinum sponsors Harman Pro Group, American Music and Sound (Allen&Heath, Focusrite), Digidesign, MOTU, The Producers and Engineers Wing of the Recording Academy and Shure. Numerous Gold, Silver and Bronze sponsors have also joined as supporters. A complete list of sponsors and nominee descriptions appears on page 75. For sponsorship information, contact Eric Geer at 414/967-0104 or [eg@wi.rr.com](mailto:eg@wi.rr.com).

For information, visit [www.mixfoundation.org](http://www.mixfoundation.org).

Hancock and shipped to San Francisco. Other gear of note includes Pro Tools|HD, Digi 002, Champagne 4WC mains (supplemented with ADAM, Mackie, KRK and M-Audio models) and a fine selection of outboard gear, plug-ins and mics.

Other recent projects at the studio include an album for Chloe Lattanzis, Olivia Newton John's daughter. Production on that release was handled by Jarred Rogers.

# A D.I.Y. ACOUSTIC PROJECT



Rather than bringing in a general contractor to work out the construction and final implementation of Dan and Renae Peters' new Citywalk Studios (Branson, Mo.), Mark Owen, the studio's executive producer, relied on his previous construction experience to do the job himself. To build out the 16x28-foot recording room (below, right), a control room of roughly the same size (left) and a 10x10-foot iso booth, Owen purchased construction and acoustic products from Auralex and worked with Magic Audio, a design firm based in Orlando.

Auralex provided U-Boat floor floaters, SheetBlok sound barrier, mineral-fiber

acoustic insulation and RC-8-resilient channel. All three rooms use U-Boats to float the floors, and no room is physically connected to the others by any solid material. The walls are decoupled from the floors by two layers of SheetBlok. An exterior layer of sheetrock with the seams caulked surrounds the outside of each room and acts as a backing layer for the mineral-fiber insulation. A framework layer of Auralex RC-8 channel decouples the inner-wall sandwich (3/8-inch sheetrock, SheetBlok, 3/8-inch sheetrock) from the rest of the structure and provides an additional inch of dead air space.

Owen then brought in Auralex ELiTE Series acoustical products to tune the room and give it a polished, professional look. "I have to say that the room sounds amazing," Owen said. "Auralex gave us outstanding support. During the eight months we spent putting the facility together, we talked to them about once a week, and they had all the right answers to the questions we threw their way."

All of the gear is housed in desks and racks custom-built by Sound Construction and Supply (Nashville).



## INDUSTRY NEWS



*Lisa Blackwood*

Martin Kloiber has been appointed chairman of the Board of Directors and CTO for Euphonix (Palo Alto, CA)...New managing director for EVI Audio (Straubing, Germany) is Lutz Berneke...Now one month into his new position, Ken Blecher is TC Electronic's (Westlake Village, CA) director of sales for the live, install and broadcast markets...Richard Jankovich has been promoted to DeWolfe Music (NYC) executive VP...New VP of operations at Media City Sound (Studio City, CA) is Lisa Blackwood...Working for Cerwin-Vega and KRK (Chatsworth, CA) is Timothy Dorwart, VP of sales and marketing. In other VP of sales and marketing news, Dave Keller fills that role for Furman Sound (Petaluma, CA)...New management changes at Guitar Center (Agoura Hills, CA): Dave Angress, executive VP of international development and proprietary brands, and Jay Wanamaker, executive VP/general merchandise manager...Rupert Neve Designs (Wimberley, TX) appointed Josh Thomas, VP of sales and strategic alliances...Klipsch (Indianapolis) hired Adam Leicht, director of manufacturing engineering, and promoted Lee Brooks to engineering product designer...PAD (Rockland, MA) announces Brandon McHale, technical director, and Craig Kutteroff, mid-Atlantic sales rep...Dallas-based Stephen Arnold Music has hired Michael Finnegan in the newly created position of head of new business...Replacing Jim Mack is Rick McClendon, Tascam's (Montebello, CA) new division manager...New distribution deals: L-Acoustics (Oxnard, CA) is represented in Latin America by BYZ Intl. (Weston, FL); Aviom (West Chester, PA) appointed Konsbud Audio (Poland), Media Tech (Slovakia, Czech Republic), Amber Sound (UK), Mister Master (Austria) and AudioPole (France); and Symetrix (Mountlake Terrace, WA) named M-PRO BeNeLux (Mechelen, Belgium) for Belgium and Luxembourg.

# SOUTHERN DIRTY RAP INVADES JOI STUDIOS HOSTS PETEY PABLO

A 2004 Grammy nominee and Jive Records artist, Petey Pablo worked on new material at Atlanta's JOI Studios with producer/engineers Joey P. (www.JoeyP.com) and Dale "RamBro" Ramsey (www.RamBro.com). Pablo sang through MXL V69 and V6 mics, running through a Toft ATC-2. The producing duo tracked straight into Pro Tools or SONAR 2, with an MPC 2000XL, Korg Triton or Cakewalk Project5 providing synth and drum sounds.



*From left: Petey Pablo (talking on his cell phone), Joey P. and Dale "RamBro" Ramsey. The duo have also worked with Ludacris, Justin Timberlake and Jay-Z, among others.*



# Royer SF-24

## Phantom Powered Stereo Ribbon Microphone

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- **Designed** to be beautifully musical.
- **Hand-built** in the U.S.A. to last a lifetime.
- **Praised** by everyone...

### Piano

"The SF-24 is very clean, articulate, transparent and warm, and captures an extremely natural piano sound. Several people involved in the [Spiderman 2 scoring] sessions—including the composers and orchestrators—were quite impressed. I kept getting comments like, 'What do you have on the piano? It sounds great!'" **Bobby Fernandez** (Scoring Engineer - Million Dollar Baby, Robots, Spiderman 2, Ray Charles)

### Ambiance

"I find the SF-24 delivers a really pleasing sound quality as an ambiance mic." **Al Schmitt** (Engineer - Diana Krall, Ray Charles, George Benson, Barbra Streisand)

### Drums

"If you're in a studio and you don't see an SF-24 up on the drums, it's not my session. The amazing stereo image and realism of that mic helps me capture the power and nuance of great drummers. Besides, it just sounds so damn awesome!" **Ross Hogarth** (Engineer/Producer - Melissa Etheridge, John Fogerty, Keb Mo, Coal Chamber)

### Ensemble

"The Royer shined when used on an ensemble consisting of three trombones, french horn, tuba, two soprano saxophones and a trumpet." (Kevin Becka - Mix)

### Acoustic Guitar

"The SF-24 pleasantly blew me away on Leo Kottke's acoustic guitar and voice. It brought out the pure sound of the guitar, with all of the harmonics and none of the clanky, metallic fret sounds I have to work around with condensers. It's the real way to record an acoustic guitar, and it's extremely compatible with my DSD recording system." **Paul Dugre** (Engineer/Producer - Leo Kottke, Tracy Chapman, Bad Religion)

### The Verdict

"[The SF-24 is] one of the most versatile mics I've ever used. The SF-24 came through with flying colors on almost every situation thrown in its direction—a rarity, indeed. For any seeker of scintillating sound, the SF-24 is a true find." (Mix - September 2004)

"Almost anything you put in front of the SF-24 will be reproduced smoothly, naturally, with virtually no distortion. It is one beautiful-sounding microphone, and has convinced me that the main thing wrong with a lot of digital recordings is the distorted signal we are recording in the first place. When the signal source comes from a superb microphone like this one, even a lowly 16-bit DAT recorder can sound pretty impressive." (Recording Magazine - November 2004)



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SF-24

# ONE-STOP AUDIO SHOP KEVORKIAN MASTERING OPENS IN AVATAR

New York City-based Avatar Studios has opened its Kevorkian mastering facility with mastering engineer Fred Kevorkian (Ryan Adams, the White Stripes, Iggy Pop, Dave Matthews Band, etc.) onboard. Located on the third floor, the new facility offers Avatar clients the option of tracking, mixing and mastering their projects under one roof.

The 300-square-foot room was constructed from a design originally conceived by Sam Berkow of SIA Acoustics and further enhanced and refined by Roy Hendrickson, Avatar's chief engineer. Membrane absorbers were incorporated into the walls of the room, and RPG Skyline diffusers are used on the rear and side walls of the room. Randy Merrill, from Avatar's technical staff, worked with Kevorkian to acoustically fine-tune the room and helped put the finishing touches to the equipment install (Muth transfer console, Sontec EQ, and Weiss and Z Systems processing units).

Kevorkian Mastering is available now for bookings. For more information, please contact Kevorkian at 917/406-9147.



PHOTO: JOHN ABBOT

# INDUSTRY EVENT HSR/NY CELEBRATES 30 IN STYLE

What does it take to last 30 years in New York City's fiercely competitive commercial music/post scene? Howard Schwartz Recording ([www.hsrny.com](http://www.hsrny.com)) held a party in early June to commemorate its three decades in business and divulged one of those secrets to survival by example: Have a lot of friends. The event was well attended, as hsr/ny's expansive midtown facilities were jammed with a who's who of well-wishers from the composing, mixing, audio engineering, advertising, TV and film communities.

Beyond food, drinks and a great DJ, there were plenty of technical achievements on display. Highlights included access to all studios, including veteran mixer George Meyer's sound design room loaded with goodies ranging from an SSL board to a 5.1 setup. Along with the cocktails, Meyer and his colleagues also offered up free pointers for creating high-speed sound design to picture.

—David Weiss



PHOTO: DAVID WEISS

# CORRECTION

In the June 2005 "L.A. Grapevine," it was incorrectly reported that Flying Faders systems are out of manufacture. In fact, Martinsound ([www.martinsound.com](http://www.martinsound.com); 800/582-3555) in Alhambra, Calif., currently manufactures Flying Faders (pictured) and has recently delivered systems to the Finn Brothers, Blackbird Studios, Light the Fire Media and the Foo Fighters. According to Doug Osborne, Martinsound Inc. director of sales & marketing, "Although the Hewlett Packard Viper Real-Time Co-Processor used in FF systems is out of production, limited quantities are available at Martinsound. In addition, Flying Faders II, which eliminates the need for the Viper card and other hard-to-find components, is currently in the late stage of development."

Mix regrets the error.



# PROG ROCK RETURNS

Progressive rocker Danny Brill recently recorded drum tracks for his first solo CD at BiCoastal Music (Ossining, N.Y., [www.bicoastalmusic.com](http://www.bicoastalmusic.com)). "I chose BiCoastal to do drum tracks and orchestral percussion because of [the studio's] phenomenal live room," said Brill. "I am really ecstatic about the sound we got in that room! My engineer, who has been engineering in major facilities for over 20 years, said it was as good a live room as he has seen. Their state-of-the-art all-digital SSL [C200] board didn't hurt either."



Danny Brill (center) with engineer Wayne Warnecke (left) and drummer Mike Sciotto





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World Radio History



## Sonoma Mountain Studio Estate

By Tom Kenny

**R**emember high-end, no-compromise recording? Lockouts? Immersive album projects that might include, besides an old Neve, Telefunks, Neumanns, Avalons and the like, a concierge? Now, do you also remember residential recording, from a time when places like Caribou Ranch and Bearsville were known throughout the industry for environments that promoted relaxed recording? Bill Zabit does, and he's betting that more than a few producer/artists do also.

Way up on Sonoma Mountain, in some of the most beautiful country in the U.S., Zabit has built Sonoma Mountain Studio Estate, a Zabit/Art Kelm-designed intimate one-room masterpiece, with five-star accommodations across the road. And lest you think Zabit is banking on Madonna or the Rolling Stones to come knocking and pay for all this, he's also teamed up with S.F./L.A. studio veteran Scott Church in Sonoma Mountain Entertainment, which focuses on artist development and promises a "new model" for the recording industry.

"Everybody realizes that something new has to happen in the industry," Zabit says. "We want to be the model that others follow, and it's already happening. The company was set up to create this venue, this studio estate that would be scalable in different areas, eventually leveraging it into a network: a vineyard estate, a mountain estate, an island estate. Then there's the self-serving side, the entertainment company, where we find artists and produce them—there's so much talent out there. We're also building a catalog of material from a publishing perspective, beginning with the album I recorded with longtime music partner Joe Ripp."

Zabit is not some naïve recording industry wannabe. He paid his dues playing bass and singing in bands for 20 years, beginning in his native Wisconsin and later touring the country and eventually getting interest from Geffen. He left all that to start an integrated marketing firm, where he specialized in communications, production, promotion, direction, advertising—a bit of everything. He was named one of *Inc.* magazine's "fastest growing companies," then sold it all in the late '90s to pursue his lifelong dream of finding talent and owning the means of production.

Zabit scouted for locations and hooked up with equipment broker Sonic Circus in Boston



PHOTO: STEVE JENNINGS

*From left: producer/engineer Scott Church, artist Jonathan Diina, producer David Kershenbaum and owner/producer Bill Zabit.*

to purchase an old Neve 8048. That company turned him on to Kelm, an L.A. expatriate designer/engineer living in Sonoma County.

"I wanted to create an intimate venue that was different than going into Big Studio A, B, C, through Z," Zabit recalls of his first meetings with Kelm. "A personal studio for one artist at a time that was comfortable. Art gave me a lot of freedom to design the interior, then he did the acoustics—hard wall, soft wall. I was able to be creative with the cherry wall, what Scott calls the 'money wall' [pictured on the cover], how it's leaning and faceted. I also wanted to take advantage of the height and still have structural integrity, so I came up with these two cathedral peaks of African mahogany. There are a lot of different woods in there that have different reflective values. It turned out to be acoustically magical, largely thanks to Art's brilliance."

While construction commenced, Zabit went after a piano, buying a 7.5-foot Grotrian concert grand from musician/store owner Mark Robertson, who turned him on to engineer Scott Church.

Church, a self-taught music business/legal type with a penchant for old-school recording methods and heartfelt singer/songwriters, had worked all around S.F. and L.A. from the early '70s through the late '80s. He took a hiatus to promote concerts and set up a film distribution company in Russia, but recording stayed in his blood.

"I kept recording for fun," Church says. "I'm addicted. When Bill contacted me, I knew I didn't want to get involved with another rich guy because I've been involved with many and they get bored fast. [Laughs] But Bill was a standout. I didn't want to be simply a staff engineer again. So the main attraction was that he wanted to build a production company. He had started it; it wasn't just talk."

The first act signed was a young singer/musician from Buffalo, N.Y., named Jonathan Diina, soon followed by Vancouver-based international singer/songwriter Melanie Dekker. While producing tracks for Dekker, Zabit and Church received a call from producer David Kershenbaum, who had been hipped to them by Tom Menrath of GC Pro. Kershenbaum flew up, heard Dekker and signed on as co-producer (with Zabit and Church) for Dekker's upcoming album on SME. A very good start.

The skills Zabit learned consulting to the Fortune 500 (and the Clinton White House), along with Church's forays into other areas of the entertainment world, are skills that they plan to apply to a music industry in desperate need of reinvention.

"I always say to Scott, 'Look at everything as an asset,'" Zabit says. "Everything we know, how we think and what we have should be leveraged into new opportunities in the new world of the music industry."

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# Bikes, Harps and Yo-Yos

## Teaching Engineers and Artists to Talk to Each Other

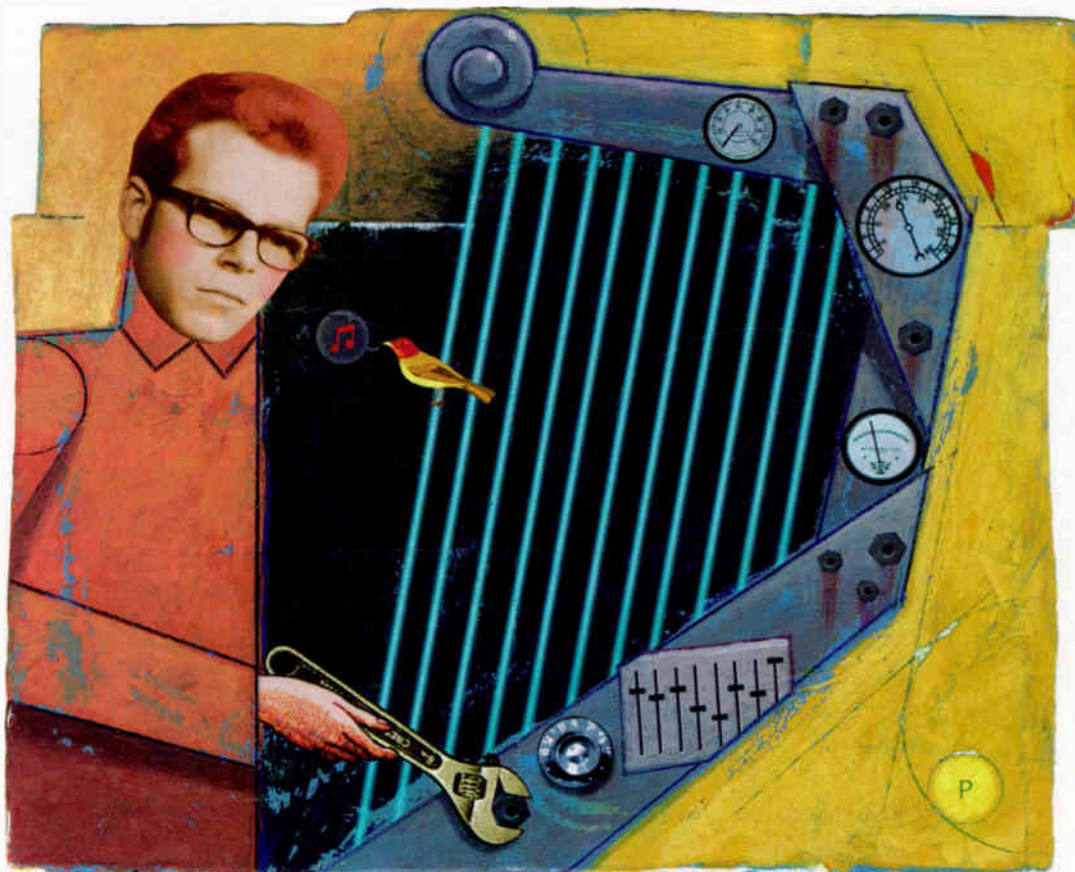


ILLUSTRATION: PETER BENNETT

One of the hottest fields in the research world is Computer/Human Interfacing (CHI), which has several other names, such as Tangible Interfaces, Human Factors, Design Psychology and probably many more. A mixture of psychology, physiology, industrial engineering and computer science, CHI tackles how humans interact with machines to make those interactions more efficient, more productive, less fatiguing and, from the humans' standpoint, richer. In other words, make tools that do something useful, are fun and/or rewarding to use and can be used for a long time.

Because there are so many disparate disciplines in this field, schools don't have an easy time figuring out how to teach it. Getting the students from all these areas to meet on common ground is a problem. For example, in the school where I teach, a relatively small liberal arts-oriented college, there is a strong engineering program, but engineers and arts and humanities students rarely cross paths and almost never collaborate.

But almost every student is into music, regardless what he or she is studying. So a few years ago, the engineering faculty decided to face the challenge of how to get their

students to work with others, and the answer was to create courses around music technology and not what most schools consider music technology: computer composition and sound manipulation. (I already teach that.) In this program, the students would build musical instruments.

The first course was called Musical Instrument Engineering and it's strictly acoustic. Students build flutes, guitars, zithers and bagpipes, and do research that requires them to measure various environmental effects on things such as trumpets and piano actions. But the course still drew students primarily from Mechanical Engineering. To enlarge the pool and make the course attractive to more students, they decided to create a course called Electronic Musical Instrument Design.

Because I'm pretty much the only faculty member who knows a lot about electronic music (I told you it was a small school), they asked me to write the course curriculum and teach it. I've created a lot of college courses, but, at first, this one felt quite a bit beyond me. I'm not a mechanical engineer, most of my electronics knowledge is self-taught and although I've played a lot of instruments, I've never built any. Nevertheless, I took heart in a friend of mine's



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(also a part-time professor) maxim: "The first time you teach a course, it owns you. The second time, it's a draw. The third time, you own it."

I've just finished teaching the course for the third time and I think I've got a handle on it. I can say it's become one of the most rewarding enterprises I've undertaken in my teaching career despite—or because of—the fact that it's an insane amount of work. Better yet, the students concur: Many of them tell me they've never put so much time into a course and they've never had so much fun.

The premise behind Electronic Musical Instrument Design (EMID) is straightforward: Students design and build working models of musical instruments that use electronics to produce and control the sound. The course is listed in the Music and Mechanical Engineering departments' catalogs. But because the college doesn't have an Audio Technology program, the number of students who can handle every aspect of the course is somewhere between few and none. Think about it: You need to know how to make objects of wood, metal or plastic that people can push, pull, swing or hang on; how to put sensors on them to measure what you're doing; how to translate the sensor data into something a computer can understand; how

to communicate it to a synthesizer of some kind; and how to set up the synthesizer to make meaningful sounds out of the data.

When students sign up for the class, I poll them on their backgrounds to make

**Electronic tinkering is the  
most poorly represented skill,  
perhaps because  
electrical engineering  
is taught largely using  
computer models.**

sure all of the different skill sets needed to undertake the projects are present. I ask them if they play an instrument, if they've ever worked with MIDI and synthesis, how they are at designing and building small electronic circuits, how their wood and metal shop skills are and what they know about acoustics and object-oriented computer programming. If a student doesn't have some experience in at least two of these

areas, he or she doesn't make the cut.

The result is we end up with a wide cross section of majors. Mechanical engineers form the largest group, although by no means the majority, and just about everyone plays an instrument or at least has some DJ chops. I've had several music majors; other students have been electrical engineers, chemical engineers, computer scientists, business or economics majors, art history majors and even a few from the School of the Museum of Fine Arts in Boston, with whom we have a cross-registration agreement.

Midway through the semester, I divide the students into teams, arranged so that each group has all of the skills needed to complete the projects. Interestingly, electronic tinkering is the most poorly represented skill, perhaps because electrical engineering these days is taught largely using computer models and hands-on circuit construction isn't as prevalent. Fortunately, my teaching assistant this semester—a graduate student in electrical engineering—had a lust for designing clever circuits using standard op amps and other components and threw himself into the task of supporting the other students.

Before we start building anything, the students get some technical and historical

—CONTINUED ON PAGE 156

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# Surrounded AND Ready

By Blair Jackson

It's about time surround recordings started getting a little respect—i.e., awards recognition. The medium has developed into a very special art form, and though there are many problems to be worked out (format, budgets, promotion), surround is here to stay. This is the first year that the Grammys and the TEC Awards have a category honoring surround production. We thought it would be fun to speak with the mixers from each of the five projects nominated for this year's TEC Award. We should note, though, that the actual awards will be given to the mixer(s), mastering engineer, producer(s), mixing facility and mastering facility. That's a lot of trophies—but well-deserved!

## BONNIE RAITT: *NICK OF TIME*

Surround mix by Ed Cherney

Bonnie Raitt's Grammy-winning album from 1989 was a natural choice to get the surround treatment, but Ed Cherney, who recorded and mixed the original, says, "At first, I really didn't want to do it. I mean, I was glad that EMI called me to do it because you don't always get to do the surround [mix] for albums you worked on. In this age of Pro Tools and everyone recording at home, I'm getting a lot of things that just aren't that great to mix—there's no dimensionality—but when I put up

a Neve VR at the Record Plant; for the surround mix, he worked on the same kind of console, but at Capitol's Studio C.

As is usually the case with surround albums that fans know and love, Cherney decided not to mess too much with success. "I wanted it to be like an extension of the original album," he says. "There are no gimmicks or anything; no radical turns. It's not effects-laden, with things panning across on a joystick. But there was a lot of room to spread it out, and I think it spread out in a very musical way that also makes sense." Cherney says he put "some ambience, guitars and few other things" in the rear speakers, "but it wasn't like I was sending things that discretely back there. It's still fairly front-loaded, but with more depth in the room and more space around everything."

Inevitably, the question of the center speaker arises. Cherney chuckles, and then remarks, "The center speaker is your friend. When I first started, the first few 5.1 [releases] I did, I was a little apprehensive about using the center speaker. That was after talking to Alan Parsons and some other people. But lately, I've been using it more and finding that it gives me a wider sweet spot. The vocal is good there, but I don't want to leave the artist out there bare where you can isolate the vocal like that, so I've been building a mini-rhythm mix in the center speaker—it supports the vocal but isn't loud enough that it takes away from the spread. There's a preponderance of bass and kick drum and snare, maybe a rhythm guitar—it helps the groove."

As for effects and ambience, he thus far has eschewed the popular multichannel units, noting, "I still build stereo pairs—front/left, front/right, left/rear, right/rear—and build an ambience that way. I'll even build some ambience between right/front and right/surround. I've been using reverb more discretely than one send and five returns."

Asked about Raitt's reaction to the surround mix, Cherney reveals that, incredibly, the singer/guitarist had never heard a 5.1 mix before he sent a version to her at a San Francisco studio. "She didn't really even like the idea: 'It was great, why do we have to do it again?' I said, 'Well, it's a new technology and it gives people a new context to hear your music. Trust me, I'm not going to mess with the intent,'" he says. "But that first time she heard it, she didn't like it. I don't know, maybe it wasn't set up right. But she had some comments and I went back and did a few things, and the next time she heard it was at Capitol and it knocked her socks off. She immediately wanted to go in and do her whole catalog in 5.1!"



PHOTO: EDWARD COLEVER



Ed Cherney mixed both versions of *Nick of Time*.

the multitrack [of *Nick of Time*] and played it, I really loved the way it filled the speakers, so I got real excited." Cherney originally mixed the album on



# TEC Awards Nominees Showcase Different Approaches

## CRYSTAL METHOD: LEGION OF BOOM

Surround mix by Fred Maher and Nathaniel Kunkel

Led by Ken Jordan and Scott Kirkland, Crystal Method have solid credentials in the rave/techno/electronic world, where they have been dancefloor favorites for a number of years. *Legion of Boom* is their third full-length album, and though it was self-produced and mixed, for the surround mix, they brought in Nathaniel Kunkel—who's had great success mixing a number of decidedly more mainstream projects in past few years—and newcomer to 5.1 mixing Fred Maher, who ended up doing the bulk of the album. Maher, the one-time programmer for cult favorites Scritti Politti, as well as a drummer (for Lou Reed and others), producer (Matthew Sweet, Lloyd Cole, 10,000 Maniacs, et al.) and digital editor, says he's "bounced a lot between electronic music and live performance" and managed to convince DTS—for whom he consults—and Crystal Method's managers and label to let him work on a surround mix for the group. "I was really interested in getting some electronic music in surround; there's not that much in the genre out there," he says.

Maher says that Kunkel's 5.1 mix of the duo's single "Born Too Slow" provided the novice "with a jumping-off point. I learned a lot from hearing what he was doing. It was pretty challenging because with this kind of music, there's no 'proscenium'—the instrumentation is more unconventional than that. It's very wide open and a little tricky because they work with a lot of loops. There are almost no multitrack drums, so the core groove in some of their songs might comprise four or five loops layered on top of each other—some might be good-sounding stereo and others have kind of a crunchy mono vibe; there's a lot to juggle."

Maher did the bulk of his work at his L.A.-area home studio using a Nuendo system and JBL speakers as his primary tools. The first challenge was importing the band's original Digital Performer tracks into Nuendo. "It was a nightmare," he says. "They had sent me the Digital Performer sessions, but they had zillions of plugins and I couldn't find an OS 9 TDM system with that version of Digital Performer. When they were on the road, I had to go over to their studio with somebody from their management company, and I spent about six days there just rendering tracks one by one."

Once the materials were in order, Maher found plenty of room for creative mixing. And though he says he put lots of music in the rears and opted to have quite a bit of movement in the mix, "I found that once I got the core groove going, I tended to favor the front of the room anyway." With Jordan and Kirkland on the



PHOTO: MARTIN STOHL

Fred Maher contemplates surround electronic music.

road during much of the process, Maher made reference mixes to send to the musicians, "and they were trying to play them in hi-fi shops," he says with a laugh. "Then I took my Nuendo rig over to the DTS mastering room [in Agoura Hills, Calif.] and I spent a few days with them, doing some tweaks and final touches. I think it came out really well."

## RAY CHARLES: GENIUS LOVES COMPANY

Surround mix by Al Schmitt

Multi-Grammy-winning engineer Al Schmitt was a couple of weeks into mixing Ray Charles' final album, *Genius Loves Company*, when Concord Records decided to spring for a 5.1 mix of the project. "That can make things a little more complicated," Schmitt says during a break from mixing an Anita Baker Christmas album, one of *five* discs the in-demand engineer was working on in June. "What we do now is plan ahead and always make sure we have the configuration to do the surround without changing the board too much [from the stereo mix], because you don't want to have to start from scratch if you suddenly have to do the surround. So we keep the extra buses open and so forth."

Schmitt did the stereo and surround mixes in Capitol's Studio C on the Neve VR, working exclusively with 96k Pro Tools sessions. "Since it was a duets album," he comments, "what I did for the 5.1 was pan Ray between the left speaker and the center speaker so it sounds like he's coming off-center, and then I took the other artist and panned them the opposite: the right going into the center. I also brought them forward a little bit so it sounds like they're onstage next to one another. That helped a lot and gave us more room to work with other things in the mix."

When it came to deciding on what to put in the rear speakers, Schmitt says, "When I first started doing surround mixes, I was very concerned about putting things in the back, so I'd put ambient back there; if it was a live thing, I'd put the audience back there. I still do that with live projects. But now I'm not as shy about putting other things in the back because people want to hear something there, so I'll put percussion, or on a small date, like a Diana Krall record, I'll put a guitar back there—mostly, but not discretely. I've had woodwinds back there and some orchestra." On the Charles mix, however, his approach to the orchestra was, "If you put your arms straight out to your sides, it was that kind



## Surrounded AND Ready

showed up for a number of mix sessions and made suggestions, especially about the vocal blends. "I was mixing the stereo and the surround simultaneously," Brauer says. "I'd start off in surround, get it feeling really good and then close it back down so I was just listening to my fold-down. When Paul and Artie would be in, I'd mix in stereo. Once they okayed the mix, I'd go back into the surround and see if there was anything else I needed there. A lot of the stuff that might be going into the back [of the surround mix], I might have that down 5 or 6 dB in the stereo mix, so I could do whatever I wanted in the back and it wouldn't make the front too reverb-y or anything."

### ERIC CLAPTON & FRIENDS: CROSSROADS GUITAR FESTIVAL

Surround mix by Neil Dorfsman and Mick Guzauski

This multistage festival held in Texas in July of 2004 brought together blues, rock and jazz guitar giants—including host Eric Clapton, Buddy Guy, B.B. King, Jeff Beck, Pat Metheny, Steve Vai, Joe Walsh, James Taylor, Sonny Landreth, Neal Schon and many others—and a who's who of top recording engineers, including the aforementioned

Cherney, Maher and McAllister, plus David Hewitt, producer Simon Climie and recording team leader Elliot Scheiner.

Surround mixes were split by Mick Guzauski and Neil Dorfsman. Guzauski, who has mixed all of Clapton's projects during the past few years, mixed his tracks (plus songs by Carlos Santana, King, J.J. Cale and a few others) at his Barking Doctor studio in Mt. Kisco, N.Y., while Dorfsman handled the other songs at the now-defunct Hit Factory in New York City.

The music was recorded into Nuendo (with 3348 backup); original audio sources ranged from material captured by the remote trucks to direct feeds from the P.A. consoles on the smaller stages. Guzauski imported the Nuendo files into Pro Tools and went through a Sony OXFR-3 board into another Pro Tools system for 5.1 and stereo mixing. "Usually I don't do simultaneous 5.1 and stereo mixing," he says, "but in this case, there was so much music and so little time to do it [about a week]." Guzauski watched videos of the event to reference venue size and stage setup. "Being outdoors," he says, "there was very little ambience; you could hear some slap off some buildings, but it was pretty dry. That's how it would sound outdoors,



The Crossroads festival was mixed in stereo and surround.

but you can't have that in the final product. It has to sound like there's a little excitement, something coming back at you, so I used some reverb and delays."

Guzauski panned various sections of the audience across four speakers (left, right and surrounds) and used the center channel sparingly. "Center's always a little bit confusing for me because I like a phantom center," he says. "I use it to add a little bit of punch to kick, snare and bass, and focus the lead vocal. I don't like to go too nuts with the center speaker because there are so many playback systems where the center channel is different, usually a little smaller than the left and right speaker. You don't know what you'll really get if you rely on the center speaker for much full-range information."

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## Catalyst Recording's Acoustic Evolution

### YEARS OF FINE-TUNING NORTH CAROLINA STUDIO

Rob Tavaglione owns and operates Catalyst Recording, a busy music studio located several minutes south of downtown Charlotte, N.C. Building Catalyst in the 1,000-square-foot, half-subterranean basement of a 1960s brick ranch home has proven to be money well spent for Tavaglione. Since 1994, Tavaglione has hosted a steady stream of local and regional musicians, keeping his self-designed residential facility teeming with a hip and varied client base, while letting him take advantage of an abundance of equipment and experience gained during his lengthy tenure as a local musician and engineer.

Creating a great-sounding and affordable facility was an early challenge for Tavaglione. He already possessed the necessary gear and studio know-how, so having a suitable working environment was the final

seem dry, but the fears we face while trying to deal with our acoustic issues can be a 'hot button' issue."

The acoustic issues Tavaglione faced during his studio's 11-year acoustic evolution may ring familiar with other D.I.Y. studio owner/designers. "With basement studios, low-frequency waves don't pass through your walls and to the outside world; it's all contained," he explains. "Because of that, I had a number of standing waves. I was also getting diminished frequencies from nodes where waves were canceling each other out and there was a lot of early reflections because of the cinderblock walls and cement foundation. The space was quite reflective, and I was getting a lack of definition in imaging. Things were kind of blurry."

Tavaglione insists that addressing problems via acoustic analysis, treatment and materials research, and experimentation led to clear acoustic solutions. "I used sine waves, swept them across the spectrum and found my problem areas, particularly with issues of bass," he says. "I found a buildup at about 80 Hz—which is pretty common—and another around 50 Hz. I also found that there was a cancellation up into a higher bass frequency around 110 Hz."

After repositioning his subwoofer to a central position (in front of the mix position) and crossing it over at 80 Hz (to decrease directionality), Tavaglione employed a variety of surface treat-



Rob Tavaglione spent 11 years upgrading Catalyst's environment.



Catalyst Recording features a variety of surface treatments.

step to launch his own business.

"Acoustic treatment is an emotional and very important topic for many of us," Tavaglione says. "On the surface, the subject of acoustic treatment materials may

ments to address acoustic discrepancies. "On the walls, I used a 4-inch-thick absorbent foams—2-foot by 4-foot—and covered them with tapestries for a softer look," he continues. "That cleaned up the early reflections nicely, helping with imaging clarity. For my bass issues, I used some of the corner-mounted foam bass traps in the control and isolation rooms. Those cleared up bottom-end muddiness in the iso room."

Other solutions included foam monitor isolators and a custom console cover. "In today's automated environment, where so much is done in the computer, I don't need to touch the console all the time during mixes anymore," says Tavaglione. "The cover's absorbent cloth reduces some of the high and high/mid frequencies coming off the console, which really cleared up my imaging."

Tavaglione says that a facility's acoustic treatment is often a journey rather than a destination, but one that should always produce a sonic improvement. "I don't think that it's ever going to end for me," he admits. "I'll just keep on tweaking and improving."

—Strother Bullins



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For many touring artists, making the switch to an in-ear monitoring system or in-ears alone—rather than relying on wedges—can be daunting. Fears such as hearing damage, costs and not hearing oneself enough have shadowed an open discussion between bandmembers and their sound engineers on taking the leap to using in-ears. *Mix's* sound reinforcement editor Mark Frink (k.d. lang's longtime monitor engineer) offers advice on making the switch and the proper use of in-ears. And for those in the market, we offer a chart (page 46) on currently available in-ear products. —Eds.



# Making THE Wedgeless Transition

In-ear monitors replace a wedge-based system's speakers and amplifiers with a small rack of electronics. Benefits include improved, consistent sound quality for the performers and the audience, decreased vocal and hearing fatigue, the ability to comfortably perform more shows and, for many, possibly extending a vocalist's career by years. Side benefits include improved communication among the band, a reduced need for soundchecks and a ready-made, low-volume rehearsal rig.

Many bands starting out don't have the funds to do it right and are looking for shortcuts. Placing a transducer in the ear can be dangerous and is not to be taken lightly. With careful planning, even those on a budget can enjoy good results, but the greatest returns require a significant investment and a competent operator to at least get it going, if not to mix every night. The first step is to get an audiologist to establish a baseline with a hearing test.

Drummers take to in-ears the best, as do many keyboard players. Singers and horn players love the isolation it provides from stage wash. Guitar players have the hardest time because they're used to having a sweet spot that they can step into and it's a whole new way of listening. Patience and careful planning are needed. The first step is to have an open, frank discussion between all bandmembers about cost and benefits, and it's up to the sound engineer to be the ambassador for this new technology.

Short of having a dedicated monitor engineer to mix IEMs, there are a few shortcuts. Take the front-of-house mix and add a little "more me" for each performer using subgroups and matrix outs. A console with individual pre/post selection offers the most flexibility. This works the best when you have your own full-featured FOH desk; trying this approach with a different desk *du jour* on each tour stop can be painful and time-consuming.

Also, put a dedicated console onstage and make one bandmember make all adjustments. This onstage console needs to get a split

of all critical inputs. Not all drum channels may be needed, but on most rackmount mixers, once you add all of the vocals and other instruments to kick, snare and hat, you've only got a few channels remaining for reverb and talkback.

Another engineer-less method is to use personal mixing stations. Early versions were made from multiple splits of individual inputs or subgroups ("stems") of signals going to individual miniature mixers onstage, a concept borrowed from Broadway pit bands and cue systems in recording studios. These often still rely on a technician to supervise and set up the system and a dedicated console.

## TWO TIMES TWO

The really cheap way to make the switch is by using consumer dynamic ear buds (much less than \$100), which are often included with less-expensive systems, sometimes with ineffective, generic mold-like fittings that don't provide isolation and, in the presence of any stage wash, have to be turned up. This can cause eventual hearing damage.

There are two types of pro IEMs: the generic or "universal-fit" style and custom ear molds made from an impression of the user's ear that fit snugly and comfortably seal out ambient sounds. These use either dynamic drivers or balanced armature

## Wireless In-Ear Monitoring

By Mark Frink



## EARPIECES

COMPANY, WEBSITE	Model/Price	Fit	Transducer	Driver	Impedance	Sensitivity	Cable Type
AKG (www.akgusa.com)	IP1/\$113	Universal and custom	Dynamic	Single	50 Ω	>100 dB/mW @ 1 kHz	Fixed
Etymotic Research (www.etymotic.com)	ER•4 MicroPro/\$300	Universal	Balanced Armature	Single	100 Ω	90 dB/mW @ 1 kHz	Fixed
	ER•6 MicroPro/\$139	Universal	Balanced Armature	Single	48 Ω	92 dB/mW @ 1 kHz	Fixed
	ER-6 Isolator/\$149	Universal	Balanced Armature	Single	16 Ω	108 dB/mW @ 1 kHz	Fixed
Future Sonics (www.futuresonics.com)	Ear Monitors®/\$698	Custom	Dynamic MG4™	Single	34 Ω	112 dB/mW @ 1 kHz	Replaceable
	Ear Monitors® Colours Series starts at \$4,999	Custom	Dynamic MG4™	Single	34 Ω	112 dB/mW @ 1 kHz	Replaceable
	Ears™ Model EM3 /\$159, MSRP, \$99, online	Custom	Dynamic FSI™	Single	32 Ω	118 dB/mW @ 1 kHz	Fixed
Mipro (dist. by Avlex, www.avlex.com)	E8S/\$40 (also included with MI-808R)	Universal	Dynamic	Single	16 Ω	>110 dB/mW @ 1 kHz	Fixed
	E8P/\$220	Universal	Dynamic	Single	16 Ω	>116 dB/mW @ 1 kHz	Fixed
Nady (www.nady.com)	EB-3 Earbuds/\$20	Universal	Dynamic	Single	8 Ω	N/A	Fixed
	EB-4 Earbuds/\$39.95	Universal	Dynamic	Two-way	8 Ω	N/A	Fixed
Rolls (www.rolls.com)	EB77/\$50	Universal	Dynamic	Single	32 Ω	N/A	Fixed
Sennheiser (www.sennheiser.com)							
Sensaphonics (www.sensaphonics.com)	2X-S/\$750	Universal and custom	Balanced Armature	Two-way	27 Ω	109 dB/mW @ 1 kHz	Fixed
Shure (www.shure.com)	E5/\$499	Universal and custom	Balanced Armature	Two-way	110 Ω	122 dB/mW @ 1 kHz	Fixed
	E4/\$299	Universal and custom	Balanced Armature	Single	29 Ω	109 dB/mW @ 1 kHz	Fixed
	E3/\$199	Universal and custom	Balanced Armature	Single	26 Ω	115 dB/mW @ 1 kHz	Fixed
	E2/\$109	Universal	Dynamic	Single	16 Ω	105 dB/mW @ 1 kHz	Fixed
Trantec (www.trantec.com)							
Ultimate Ears (www.ultimateears.com)	UE-Hybrid/\$800	Custom	Balanced Armature	Two-way	25 Ω	119 dB/mW @ 1 kHz	Removable
	UE-5 Ambient/\$800	Custom	Balanced Armature	Two-way	21 Ω	119 dB/mW @ 1 kHz	Removable
	UE-10 Pro/\$850	Custom	Balanced Armature	Three-way	17.5 Ω	124 dB/mW @ 1 kHz	Removable
	UE-5 Pro/\$700	Custom	Balanced Armature	Two-way	21 Ω	119 dB/mW @ 1 kHz	Removable
	Super.fi PRO/\$249.99	Universal	Balanced Armature	Two-way	21 Ω	119 dB/mW @ 1 kHz	Removable
	Super.fi EB/\$199.99	Universal	Balanced Armature	Two-way	11 Ω	119 dB/mW @ 1 kHz	Removable
Westone (www.westone.com/music)	UM1/\$149	Universal	Balanced Armature	Single	25 Ω	114 dB/mW @ 1 kHz	Fixed
	UM2/\$450	Universal	Balanced Armature	Two-way	27 Ω	119 dB/mW @ 1 kHz	Fixed
	ES1/\$375	Custom	Balanced Armature	Single	25 Ω	114 dB/mW @ 1 kHz	Removable
	ES2/\$650	Custom	Balanced Armature	Two-way	27 Ω	119 dB/mW @ 1 kHz	Removable
	ES3/\$800	Custom	Balanced Armature	Three-way	25 Ω	124 dB/mW @ 1 kHz	Removable

## HARDWARE

Receiver Model/Price	Frequency Range	Frequency Select	Mode	Battery Life	EQ	Limiter	Transmitter Model/Price	Max. Operable Units	RF Output	Case	Headphone Output	Input
SST1/\$1,300	766-805 MHz & 944-949 MHz	Tunable	Mono or Stereo	12 hours	N/A	Yes	SST1/\$1,993	20 plus	50 mW	Half-rack	Yes	
MI-808R/\$720	621-690 MHz	Tunable, 16 frequency agility	Mono or Stereo	AA, 8 hours	No	Yes	MI-808T/\$670	16	50/100 mW	Half-rack	Yes	¼-inch/XLR
E03 R/\$49.95	72-76 MHz	Fixed	Mono	9V, 17-20 hours	No	Yes	E03 T/\$159.95	3	50 mW	Half-rack	Yes	¼-inch
PEM-500 R/\$109.95	695-865 MHz	Tunable	Stereo	9V, 6 hours	No	Yes	PEM 500 T/\$269.95	8	50 mW	Half-rack	Yes	XLR and ¼-inch
WPM61r/\$200 with transmitter	216-217 MHz	Fixed	Mono	9V, 4-6 hours	No	Yes	WPM61t/\$200 with receiver	4	10 mW	Non-rack	No	⅛-inch
EK300-IEM-G2/System, \$1,800; receiver only, \$990	518-550 MHz, 630-662 MHz, 740-772 MHz	Fixed	Stereo Dual Mono	AA, 4-6 hours	No	Yes	SR300-G2/\$800 (transmitter only)	20 plus	20 mW	Half-rack	Yes	XLR
P7R Bodypack/\$1,220	722-865 MHz	Tunable	Stereo	9V, 4-6 hours	HF shelf	Yes	P7T/\$1,326	16	100 mW	Half-rack	Yes	¼-inch/XLR
P6R Bodypack/\$689.52	682-862 MHz	Tunable	Stereo	9V, 4-6 hours	HF shelf	Yes	P6T/\$795.60	10	100 mW	Half-rack	Yes	¼-inch/XLR
P2R Bodypack/\$378	518-865 MHz	Tunable	Mono	9V, 4-6 hours	HF shelf	Yes	P2T/\$418	4	30 mW	Half-rack	No	¼-inch/XLR Combo
S4000/£180	790-865 MHz	Tunable	Stereo	9V, 8 hours	No	Yes	S4000/£240	N/A	N/A	Half-rack	No	¼-inch/XLR
S5000/£599	790-865 MHz	Tunable	Stereo/ Dual Mono	8 hours	5-band	Yes	S5000/£1,099	14	10 dBm	Half-rack	Yes	¼-inch/XLR



# Making the Wedgeless Transition

transducers (sometimes incorrectly called ribbon drivers). High-end molds often employ dual drivers to provide a fuller response.

The universal-fit transducers are less expensive and don't require a custom fitting, though custom-molded tips can be made. These rely on either replaceable foam tips or silicone to seal them into the ear. Those with small ear canals will have trouble with some models. They're also more annoying to put in and take out, and less comfortable than custom molds.

Experienced users are getting custom molds for the entire band. They cost more, but it is worth it in the long run. As a pro monitor engineer, I have sets by Firehouse, Future Sonics, Sensaphonics and Ultimate Ears that still work fine after many years. It's important that the engineer and the performers all have the same model so that everyone has an even basis for comparison.

Before putting IEMs in the band's ears, monitor engineers should try them on themselves. Bring molds, buds or even headphones to gigs and practice on a spare aux bus to get a feel for what individual inputs sound like and then practice building a mix. A good pair of closed headphones

on a long cable onto the stage during soundcheck can let musicians try it before they've spent any money.

Warning: Everyone tries the "one in/one out" approach at some point. This leads to monitoring at higher levels and is more likely to lead to hearing fatigue and, eventually, hearing damage. Use both ears.

## MAKE ME TWO WITH EVERYTHING

A professional IEM engineer provides much more than the usual wedge-based engineer, which is why they often earn as much as the FOH engineer—they're worth it. Instead of creating a set-it-and-forget-it wedge mix with mostly "me" inputs, an IEM engineer will essentially make a full-on mix; bumps for solos and rides for dynamics are desirable over a static mix. Bands must allow time for the engineer to build the mix, especially while breaking in a new console.

Make sure you have a "European soundcheck" song, which starts with a beat on kick and snare and slowly adds one player at a time, giving monitor and FOH mixers time to get a sound. Carrying your own console is the only way to avoid this daily chore.

With stereo IEM mixes, panning makes

it easier to hear each input and allows listening at lower levels. Panning a centered input to one side in a mix can make a bigger difference than a 6dB fader move.

All things being equal, a hardwired mix always sounds better, but money saved by not going wireless is often spent on thumpers or shakers, especially for drummers and bass players who want the frequencies below 100 Hz that are missed in most IEM transducers. Driven off a separate aux send, these need an amp and sometimes a crossover or a little EQ, and are either attached to the drum stool or, for standing players, mounted to a metal floor plate. An alternative is putting a subwoofer beside the player; sometimes just using the woofers in the sidfills or drum mix can work for this.

Outboard gear for IEMs comprises compressors, gates, reverbs and EQ, and is more like a remote broadcast than mixing monitors. Dynamic range must be carefully managed and being isolated from the room means that everything is carefully placed in the mix, including effects and ambient mics. A natural hall reverb makes vocals sound better and easier to hear; drums also benefit from a second separate reverb. Guitars and keys are often wet enough, but

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# Making the Wedgeless Transition

horns and background singers often need their dedicated reverbs. Inserting a reverb on the entire mix is not a recipe for success. A smaller band can make do with a single unit that is split "dual mono," with one side for vocals and the other for drums.

## EQ AND COMPRESSION

Sound companies, house rigs and festivals often have a rack of graphics available to insert on each monitor mix and some monitor consoles have output EQ, as well. Choose only four frequencies to fix so that, on days when you've got 4-band parametric output EQ instead of graphs, you can still get where you want to go.

Most IEMs start rolling off at 100 Hz; boosting here helps any mix sound better at lower levels. Most rooms and stages have too much 400 Hz (it leaks into the mics) and cutting it helps moderate-level mixes sound better. Three kHz is where many IEMs are strongest; a small cut can reduce harshness. Most IEMs start rolling off at 10 kHz, which is compounded by the fact that the response of wireless systems tends to fall off here. This is why many systems have an HF boost control. Alternatively,

cutting 5 kHz can make 10 kHz stand out.

With many inputs going into each mix, it's important to manage dynamics, especially with wireless, as they quickly start sounding bad when their meters hit the red. Turn up the master for quiet songs and then turn down again for the loud ones. Use a compressor across the mix. Early brickwall limiters were heralded as an important safety feature to prevent hearing damage, but performers are more likely to hurt themselves just by turning up the belt pack too loud.

Individual channel compression is more useful when used in the same manner as limiters, with higher thresholds and higher compression ratios to keep each input from pushing the entire mix into the red. To manage dynamics and tone when going from loud to soft, use a multiband compressor on the mix bus. Rather than simple compression or EQ, multiband compression can be used to increase subjective loudness while reducing hearing fatigue.

## MICS AND ACCESSORIES

If you're not carrying your own console,

carrying your own mics is necessary for consistency. Re-creating a custom stereo mix for each performer is hard enough without introducing a different set of mics every night.

Guitarists are the hardest bandmembers to please. Even a stereo mic pair won't give the sound enough dimension to be real and you get comb-filtering. Try using a Red Box DI: a post-amplifier direct box with EQ that mimics the speaker's response and provides tube warmth and the effect pedals. Pan the mic to one side and the Red Box to the other to create a stereo sound with dimension. Alternatively, mike the back of an open-back combo amp and invert the polarity. Pan them wide, and the sound goes through the brain.

In the end, IEM engineers are usually RF engineers. Trips to major cities can be the RF highway to hell. And what successful entertainer won't play there eventually? Have all of your wireless tricks on hand: good co-ax cable, directional antennas, combiners and a scanner. ■

*Mark Frink is Mix's sound reinforcement editor.*

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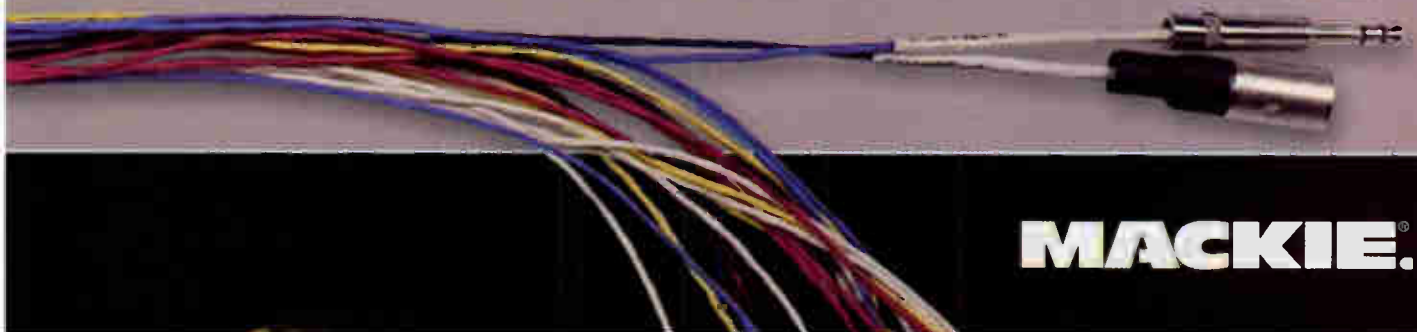


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# Steve Hodge

## Finding His Own Niche After Years With Jam and Lewis

**A**lthough Steve Hodge earned his legend status as the sonic architect behind the edgy grooves and trendsetting styles of R&B producers Jimmy Jam and Terry Lewis, his personal discography is deep, diverse and soulful, running the gamut from New Orleans roots music to rock and classic jazz.

This isn't surprising, actually. Jam and Lewis have—since 1987 and Janet Jackson's groundbreaking *Control* album—consistently produced massive hits. Well-known for having both musical creativity and brains, these guys wanted an engineer who had it all: technical chops, musical depth and heart. They found that in Hodge. He became their main man, as well as the chief engineer and design consultant for Flyte Tyme Studios, their multiroom Minneapolis facility. Together, the team proved one of the biggest hit-making machines in pop history, charting high not only with Janet Jackson, but also Michael Jackson, Rod Stewart, Sting, Boyz II Men, Mary J. Blige, Mariah Carey, New Edition and TLC, among others.

In addition to all the Platinum, Hodge has scored four Grammy nominations and one win for the 2001 Best Dance Recording for Janet Jackson's "All for You." A third-degree black-belt karate aficionado who also flies planes (full size and radio-controlled models), golfs and fishes, Hodge lives in Minneapolis. A changing industry forced Jam and Lewis to move to Los Angeles, and the Minneapolis Flyte Tyme facility closed in 2004, but Hodge chose to remain in Minnesota.

We caught up with him at his current home base studio, IPR (the Institute for Production and Recording). He'd just returned from Nashville and was mixing indie fave Tonic Sol-Fa's latest release, finishing up production on a new album for alt/pop group Soul Asylum and producing tracks for hard-core punkers Rise or Rust, melodic metalists Stajia and 13-year-old alternative artist-to-be Adrienne for Hodge's new endeavor, Steve Hodge Productions ([www.stevhodgeproductions.com](http://www.stevhodgeproductions.com)).

*Let's do the background. How did you become an engineer?*

I was a drama major at UC Santa Barbara; one summer, I needed a job. My uncles, Ralph and Val Valentin, were both recording engineers. Val was chief engineer for MGM Records in New York. When the label moved to L.A., he built a brand-new studio for it. I got a job on the construction crew.

*That's a different take on learning the business from the ground up.*

I highly recommend it! You definitely learn it all. Once construction was done, I just stayed on. It was strictly



PHOTO: NASHIA HODGE

apprenticeship: learning the craft on the job, starting as a runner. There was a great staff: Ed Greene, who's done so many major live broadcasts; Val, who won Grammys with Ella Fitzgerald and Humberto Gatica. MGM owned the Verve label, so we spent a lot of time making tape copies of some of the greatest jazz recordings ever done.

The other great thing—which is difficult for people starting out today to find—is that we recorded everything that made a noise. MGM was signing all the Vegas acts of the day—from Sammy Davis to Steve [Lawrence] and Eydie [Gorme]—so we got to work with classic arrangers and composers like Nelson Riddle, Don Costa and Lalo Schiffrin, to name a few—an amazing education.

Eventually, I met a kid who'd talked his father into building a studio in his hometown of Bogalusa, Louisiana. I went out and ran it for him, and recorded a lot of seminal Southern rock and blues artists like Professor Longhair, Clifton Chenier and Gatemouth Brown. I also did two records with the Wild Magnolias that became cult classics. I'm actually working on a remix project of that now.

*What happened when you moved back to L.A.?*

I had to start all over as an assistant at a mix room on Wilshire that Westlake Audio had opened to demo their



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equipment. Then I began working at Westlake on Beverly with Dick Griffey and Don Cornelius and started Soul Train Records, which became Solar Records. I mixed most of the material released on that label for quite a while with [producer] Leon Sylvers. We had a string of pop/R&B hits with Shalamar, Lakeside, The Whispers, Klymaxx—a lot of the stuff that keeps coming around now in samples!

We began mixing at the original Larabee, and that's where I met Jimmy and Terry, who were in [the Prince-produced group] The Time. I was working with the S.O.S. Band, and Jimmy and Terry were hired to do a couple of songs for them. That became the album *On the Rise*. The single "Just Be Good to Me" became a big hit. As a matter of fact, we were mixing that song the day they were fired from The Time! [Eds. note: *On a break from touring with The Time, who were opening for Prince, Jam and Lewis left town to work with the S.O.S. Band. Stranded by a blizzard, they missed a show and were fired by Prince.*]

You get to the place where  
you can remain objective  
over the same piece of  
music for a very long time.  
I've always been able to  
appreciate a song on an  
emotional level until  
basically forever, or until I'm  
really, really, really sick of it!

*I've heard that you set Jimmy and Terry up to do their own recording while you mixed in another room.*

They hated having to rely on anybody else. When the mood hit, they just wanted to go in and record. It removed the extra hassle of communicating to another person and allowed them to concentrate on the music.

*At Flyte Tyme, you had a cutting-edge console. How did that affect your work?*

The Harrison Series 10 was the first analog console with a digital control surface and full dynamic automation of all parameters. Long before anybody imagined Pro Tools, it gave us the ability to do complex mixes with very little cross-patching, which en-



Steve Hodge at IPR's ICON, where he's worked with Soul Asylum, Tonic Sal-Fa and many other artists.

abled us to switch songs in 10 minutes or so. Because of how busy we were—doing more than one project at a time—that was a necessity. Also, it allowed us to start mixing the songs as soon as the basic tracks and beginning vocal were done.

*Which meant you always knew where you really were in the song's development.*

When you add something, it always affects what's already there. So we built the mixes that way. It also made it simpler to keep that elusive rough mix within sight as we were doing the projects.

*What else was different about how you worked?*

It was in the heyday of sequencing and synthesized recording, but what Jimmy and Terry never did, which surprised people—especially a lot of remixers when we sent the tracks out to them—was they never sequenced. Now they do because they often work with other programmers, but when they played everything themselves...

*They'd just hit Start on the drum machine.*

Jimmy would come up with a drum pattern. He'd hit Start and, as we were recording, he'd loop it manually and play the fills manually on the pad. It was pretty amazing to see. Everybody was sequencing then, except for us—and Prince—which is where I think they picked it up.

*Did that make a difference musically?*

Yes. A lot of music was getting really stiff, because in those days, drum machines didn't have any compensation for feel. Flyte Tyme's tracks had a little extra edge simply because everything wasn't all preplanned. It flowed in an organic fashion with a live feel, even though it wasn't necessarily from organic players.

Something else we did was we had a

percussion room set up in the vocal booth attached to the mix room. At the very end of mixing, Jimmy and Terry would go into the percussion room and bang on a bunch of percussion stuff and cymbals—"pings and zings," we called it—so there was a little live something over the top of the tracks. That helped keep it fresh.

*You're used to dealing with all kinds of vocals, from large numbers of backgrounds with complicated harmonies to Janet's delicate voice juxtaposed with giant industrial tracks.*

I had a couple of really good vocal producers over the years. Leon Sylvers, for example, had something interesting happening in the vocals in just about every bar: Lots of layered stuff, lots of answering backgrounds and parts going at the same time. I had to find sonic niches for all of it to fit in. It's very much the old masking principle that arrangers used: You can't have a big horn line over a sweet vocal moment in the arrangement. From an engineering standpoint, it's finding room, both spatially and in timbre and EQ, so each part can live together.

*You don't just mute parts to make room.*

If the producer envisions a lot of parts working together, it's my job to find a way to make it happen. Something has to sit in the background so something else can come to the front. You have to use panning, EQ and reverb effects to move things around spatially.

Something that works for me is to mix with the vocals deep in the tracks and let them work their way to the front as the mixes go on. Of course, I've been fortunate enough to work with producers who enjoyed hearing the vocals work inside the context of the track! We'd wait for the A&R



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happen, an intellectual process has to take place. I'll keep tweaking until the song makes me feel like I want it to make me feel.

*But as a professional mixer, you also have to be detached to see both the big sonic picture and the little details. How do you do that and still keep in touch with emotions?*

Most people have the same reaction the first time they sit in on a professional session: How the hell do you listen to those same eight bars over and over? But eventually, you get to the place where you can remain objective over the same piece of music for a very long time. I've always been able to appreciate a song on an emotional level until basically forever, or until I'm really, really, really sick of it! [Laughs]

*You have a new home base at IPR, but after years of working in just one studio, you're also traveling a lot to different studios. What's that like?*

Tom Tucker and Lance Sabin at IPR have been great; they've put together a Pro Tools room for me with an ICON console and provided me with a great assistant, Colt Leeb. But I'm also going from room to room for different projects. In a way, that's part of the fun for a mixing engineer: finding a way to work around different systems and to get the sound you want in different



Steve Hodge and Bill Evans (background) at Evans' studio, Studio in the Country (Bogalusa, La.), circa 1973. Hodge is working at the Auditrionics console, the forerunner to the Harrison line.

circumstances. You have to develop a different set of ears and become objective in a hurry. I bring my own monitors, and I bring a lot of music with me to listen to. I'm constantly A/B'ing to things in a similar genre that I like. We all do that. I've been in places

and heard my stuff playing in the room next door and vice versa—where I've been playing the music of the guy next door!



Maureen Droney is Mix's L.A. editor.



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AURORA



# John Alagia

## Working Alongside Dave Matthews, John Mayer, Liz Phair and More

**A**t The Village in Los Angeles, John Alagia and engineer Brian Scheuble sit at the console tracking the new Liz Phair album. Not one to just camp out between two speakers, Alagia also sits at the B3 overdubbing some tasty organ licks and occasionally hoisting a bass or guitar. Checking out Alagia's credits, you'll find him listed as a producer/engineer/mixer/musician, and the artists he has influenced include Dave Matthews, John Mayer, Jason Mraz, Simon & Garfunkel, Lifehouse, Ben Folds Five, O.A.R. and Rachael Yamagata, among many others.

A resident of Maryland's Chesapeake Bay region, Alagia is tall, affable, modest, polite and—judging from the steady string of successful work he has produced during the past decade-and-a-half—one of the more musically gifted people working today. Some may call him a Renaissance man, but Alagia would most likely blush profusely if introduced as such, so we decided to have a fireside chat and see what makes the man tick.

### *First, where were you born, raised and educated?*

I was born in Louisville, Kentucky, and lived there until I was 18, when I left to study at Georgetown University in Washington, D.C. I graduated in 1986 with a degree in English Literature, but I was playing music throughout my school years. I was supposed to become a lawyer, but that didn't work out. I played rock 'n' roll at night, and made demos playing keyboards, guitars and drums. I had a TEAC 4-track recorder, and then moved up to a Tascam 8-track with dbx Noise Reduction. I didn't really have any training as an engineer, except for a seminar at Omega Studios in Rockville, Maryland. I learned mostly from being in studios and watching folks that had experience. Bob Dawson at Bias Studios, outside of Washington, D.C., taught me quite a bit.

### *When you were a kid, did you have music in the house?*

Yes, and I was the youngest of five kids. My brothers and sisters had lots of 45s and LPs. One of the first songs I can remember is "Winchester Cathedral," and music on the *Ed Sullivan Show*, Looney Tunes and Henry Mancini's "Theme From Pink Panther." I was the only one who wasn't forced to take musical lessons, but I did study piano and guitar a little bit. I learned to play mostly by ear, and I took a semester at the Berklee College of Music to study theory.

### *How did you get from college to the minor leagues?*

When I was a senior in college, I met an incoming freshman named Doug Derryberry. He was the first musical genius I ever met—plays almost every instrument, he sings, he writes—and we still work together today. We got together in college and formed a partnership called Derryberry and Alagia. We played up and down the East



PHOTO: MR. BONZAI

Coast in colleges and clubs, and we made three records. His knowledge of music was so broad and he opened up my ears to all types of interesting music. We made our own acoustic-based folk/rock/pop records. We took a lot of time learning how to get things to tape and experimenting by ourselves recording our own material. I got to engineering just out of necessity to get the sounds I wanted.

During our journeys on the road, we found ourselves working alongside other bands in the same towns on that circuit. That's how we met Ben Folds and Dave Matthews. I met Dave back in 1992, and it was just serendipitous the way it worked out. I had taken a local band, Kevin Johnson and The Linemen, down to record at Ardent Studios in Memphis and had five days to make a record with them. Dave Matthews had been at Ardent a few months prior to our sessions. Ross Hoffman, who was Dave's agent at the time, called up Ardent and said they were looking for someone to work with him in the mid-Atlantic area. The folks at Ardent mentioned me and the work I was doing.

Just around that time, I had been at a bar in Washington, D.C., and had heard the Dave Matthews Band playing, with an audience of about 75 people. I couldn't believe what I was seeing and was wondering how the hell you could capture that sound on tape. They were the best thing I had ever seen live. I told everyone I knew that this band would have a greater impact on music than anything we had seen in a long, long time—right up there with U2, The Beatles.

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The very next day, I got a call from Dave's agent about my recommendation from the folks at Ardent.

I started going down to Charlottesville and Richmond, Virginia, every Tuesday and Wednesday to the clubs Trax and The Floodzone and recorded their shows. It was just live recording, but if it sounded good, we were thinking of releasing it as just a snapshot of the band. At that time, Dave was just interested in refining his sound. They were also doing some recording at Flat Five studio in Salem, Virginia. So they brought me into the studio to help finish up some of those recordings. I was unhealthily obsessed. I pulled back my performance schedule and put my guitar aside after hearing what Dave was doing. I became focused more in the studio and much less on the road. Every once in a while, Dave would come up to my house and record some new ideas, which he would then take back to the band.

Slowly, we decided to do an official live record with a couple of studio tracks and that became *Remember Two Things*, their first record. It was in June 1993 that Dave asked if I would like to help produce that record. Between July 1992 and November 1993, we had this informal recording process. I bought some of the first ADATs in June that year, traveled with the band and recorded live shows through the summer. Then we did some overdubs, some vocals and guitars. I wasn't thinking so much about the possible commercial success as I was about how important and how wonderful this music was. I was pretty shy around those guys and was humbled by the mightiness of their music.

I spent months on end with Dave at his house in Virginia, helping with the pre-production for *Crash* and *Before These Crowded Streets*. We'd sit around with a couple of guitars and he'd be pouring out all these little musical ideas that would eventually become some of his biggest hits like "Crash," "Too Much," "Crush," "Stay" and so on. I feel mighty lucky to know him and to have worked with him. He taught me quite a bit.

**What a great way to get your career in gear. Are you using those same recording/producing techniques now?**

You learn from every experience and I have come into contact with so many amazing producers and engineers since then. I've learned a lot from working here with Brian Scheuble on Liz Phair's album at The Village.

**Are you recording to tape?**

No, we're recording straight to Pro Tools. I brought out my RADAR recorder from my studio back home just to A/B. I'm using Apogee 8016 converters, recording at 96k. Brian is setting up all mics, and I may dabble

a bit with the EQ and compression. I've worked a lot since 1997 with an engineer named Jeff Juliano—we almost morphed into one brain for the recording process. I worked more on the music side and he concentrated on the engineering, but it became a dual effort between us.

**Is there a difference between these two engineers' approaches?**

Mic selection, for one. Brian is using [Neumann] 67s and 87s for overheads, and I have mostly used [AKG] 414s in the past with Jeff.

Brian uses compression differently, and for EQ, he likes to dial up the midrange, whereas Jeff would tend to dial it out. But you can't get too hung up in the details—you've just got to listen and decide what sounds good at the time you are working.

**You recorded Liz and the band live in a big room. Is that your favorite way to record?**

I think you get better performances with more people playing in a close environment. I think it's best not to overthink the overdubbing process. It's such a mystery

You can't get too hung up in the details—you've just got to listen and decide what sounds good at the time you are working.

to me how records end up becoming what they become. I'm not a guy who has a grand vision beforehand, like it's got to be exactly 112 beats per minute. I like to put everyone in the room at the same time and then listen to the drummer: 112 might sound like 115 or 120. You've just gotta try it out. Hopefully, everyone's checked their ego at the door.

**How would you compare producing live recordings with studio productions?**

Live is more a job of organizing the recording event and overseeing it. From a production point of view, it's more of a surgical effort and the correcting of things. In a studio environment, you try to bring together the best team for the job. I try to make it as comfortable as possible for those who are recording.

**How did Liz find you?**



John Alagia (l) works on a take with Liz Phair at The Village

I met Liz a few years ago at South by Southwest after finishing John Mayer's first record. She told me how much she loved it. Then she heard my work with Jason Mraz and Rachael Yamagata, and she liked those albums, too. I really liked her as an artist, and I got a call last December to see if I could get together with her and talk about her recording. I flew out one morning to L.A. from Baltimore, had breakfast and then flew back home. We talked about the concept and we agreed on all points.

I gravitate toward the strong songwriters and do my best to help them communicate to the listener. I have a lot of respect for Liz—she's really individualistic and has her own distinct way.

**Did she play ideas or demos for you?**

Yes, she sent me some demos that were really great. The more I do this job, the more I am amazed at how good the demos are these days. In many cases, they could be the masters—depending on the labels and the politics, of course. She came into the studio with the same guys she had on the demos, and they did a great job. I think I was brought in because I could bring some objectivity because it's difficult to produce your own record.

I've produced my own work and I wish I could have had someone come in with a new and objective view. When we were making the Derryberry and Alagia records, we made an ungodly number of mistakes, and I wish they had never been recorded. Someone should have been kicking our asses to make it better and told us some of the lyrics were a bit dodgy.

**You also play on Liz's album. I liked your B3 overdub, especially the way you stopped yourself in the middle of a take three or four times until you had what was working. What else?**



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I play some guitar, but I don't want to step on anyone's toes. I don't need to play on the records, but if I have something that might fill a gap, I will throw it in. I don't want to have my stamp on a record; I want to help the artist get their essence recorded well. The music producer is like a film director—you are a motivator and, hopefully, a big picture person, and you most of all want the artist to feel comfortable to yield the best results.

I learned a lot from Steve Lillywhite. After listening to a record I had just produced, he told me, "John, this is just such a beautiful, squeaky-clean record. There isn't one mistake." I asked what he meant, and he replied, "Well, not one of your records has mistakes." I got upset with that, and there was a point 12 years ago where I was trying to make everything fit right inside the lines. What he said hit me hard. It's easy these days working in Pro Tools to just put that waveform up on the grid and make it perfect. It's a phase you go through, but there is no such thing as perfection in the real world. I don't want to be a detective producer looking for each and every error; I just like to record the track as if it was going straight to a tape machine.

**Did you work with John Mayer on "Daughters"?**

No, he did that all on his own right after we



From left: Guitarist Dino Meneghin, John Alagia and engineer Brian Scheuble working on Phair's album

finished his album. He was actually down in New Zealand and wrote it in his hotel room. He played me his demo and it was flawless; a perfect little tune.

**How did you first meet John?**

I met him through Courtney Hard and Sue Devine at ASCAP. I was paying a visit in New York and they had John on the phone. Courtney told me that he played great guitar. I heard a demo, and not only was he a monster guitar player, but he could write beautiful

songs. We started a friendship over the phone and I flew down to help him record a live gig in Atlanta a few months later. We started talking about making a record and we drew up the list of songs. I got him a drummer—he had a bass player—and we just jumped into Loho Recording in New York City. We did the basics in eight days and then finished it up at my studio in Maryland. *Room for Squares* was done top-to-bottom in 28 days. We also did some more mixes with Jack Joseph Puig

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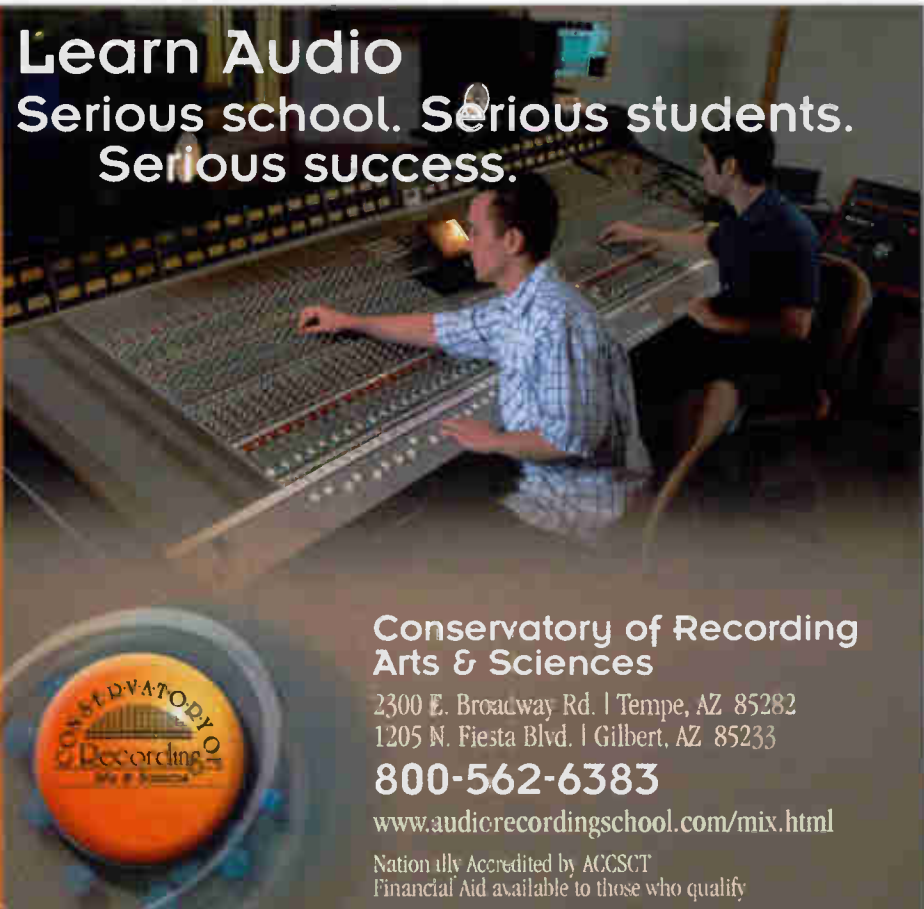
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**Any other studios you like to work at?**

It's been great working at The Village—great gear and really nice people. I love The Magic Shop in New York City. I like working with John Alschiller at his Chiller Sound studio. And I love my little studio in Maryland.

**Do you have any favorite microphones?**

I just bought an old Neumann 269 that I like a lot. I cut most male vocals through a Shure SM7 through a [Neve] 1073 mic pre. I also have a pair of Neve 33102s, which I love. I usually hit it with a Tube-Tech LCA-2B stereo [compressor] and then sometimes the Dis-tressor. That's pretty much the vocal chain.

**What kind of console do you have at your home studio?**

I don't have a console; I have ProControl and an API 16-channel summing amp, which acts like a console. Oh, I forgot to mention the Universal Audio 610 preamps. Great pre-amp. I love all their products. I like the Focusrite ISA-215, a great surgical EQ and a great preamp. I guess I am a gearhead, but I really love instruments more than gear. I've got lots of toys, but not to the degree of [producer/musician] Jon Brion. I saw him perform last Friday night at Largo [L.A.]—he makes me dizzy with inspiration.

**Speaking of inspiration, who did you look**

**up to in your formative years?**

George Martin and Phil Ramone are the two that first come to mind.

**How did you get to work with Herbie Hancock and Paul Simon last week?**

I worked with Art Garfunkel on a Paul Simon track about a year-and-a-half ago. It was going to be on [Simon's] *Hearts and Bones*, but Paul didn't feel like it quite made it. Paul thought I did a good job on it and invited me up to his house to listen to his new material he was working on with Brian Eno. I really don't know how I ended up on the Herbie session, but was secretly hoping that Paul had something to do with it. Ends up that I've worked with a few other artists who share Herbie's manager, so I went over to meet him at his house and ended up spending hours and hours with him, just listening to music and talking. We talked about technology and music, and he is such a fine man.

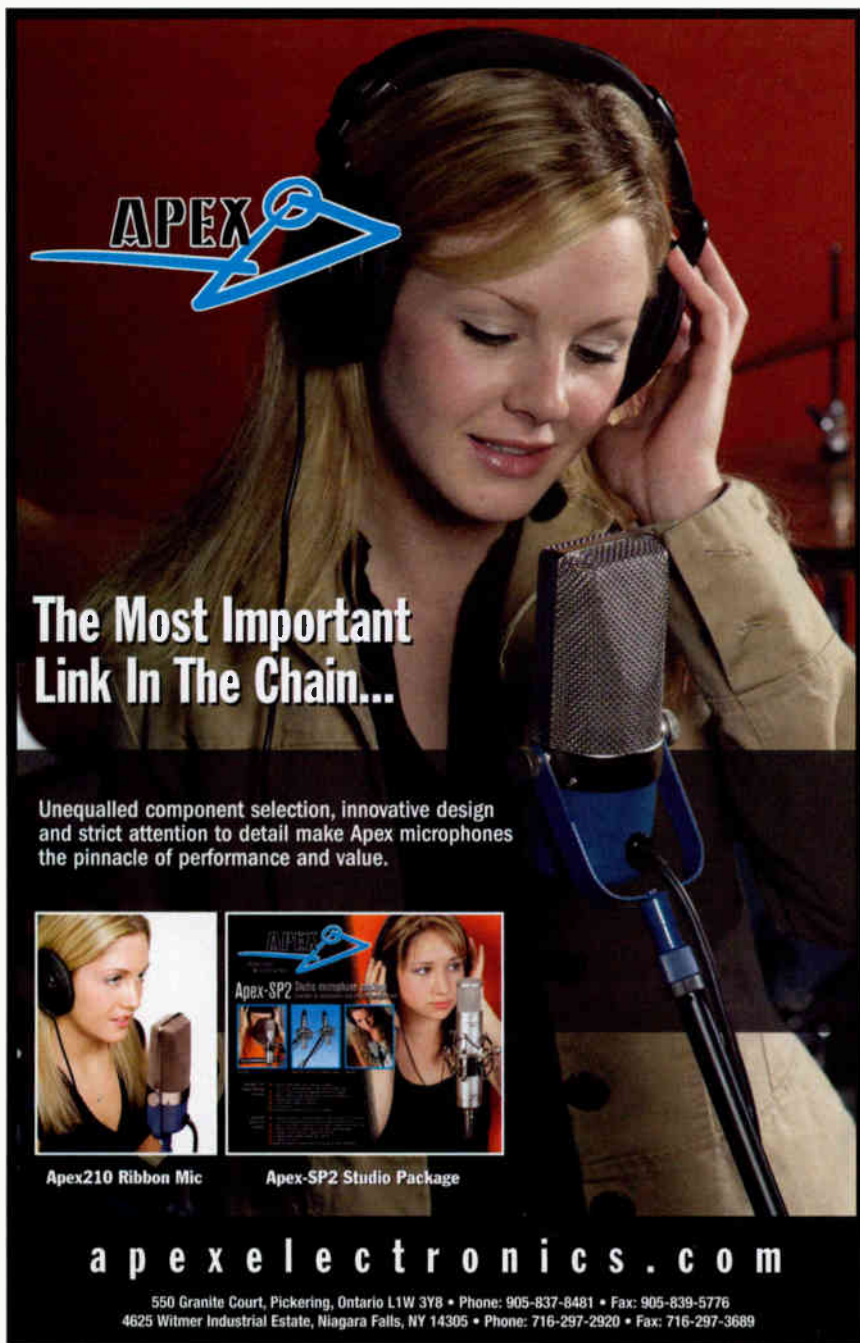
The track we did is for Herbie's record, and because he's touring and such a busy man, he asked me if I would produce it. We had a concept, and we were working on the charts in the hotel the night before we went into the studio. Paul came in a day early and he had some ideas. I could hardly believe it: Here I was playing Paul's guitar part with him singing, and Herbie on piano, Pino Palladino on bass, Steve Jordan on a champagne kit, and Jamey Haddad and Cyro Battista on percussion. It was a great little group of folks to have in the studio at the same time. Paul was talking about how a musician making music is similar to a preacher who is giving a sermon. Those few days in the studio were a remarkable time for me.

**What is your responsibility as a producer?**

To create a team of people that will achieve the best results for the artist. You've got to have mutual respect with the people you work with. Music is a wonderful mystery, and the making of it, the process, should never be taken too seriously. Focus and have a good time at it.

Ideally, a great artist and producer challenge each other and together yield great results. I respect the artists I work with, and if there is any disagreement on the creative side, I'll most likely bow to them, as their talent is what brought me to them. They are the reason we producers and engineers do what we do. No producer has the right to ever say he made an artist, at least not a great artist. Helpful, yes, but not a maker. ■


*Photographer and author Mr. Bonzai is currently working on a collection of his photos and interviews titled Faces of Music: 25 Years of Lunching With Legends. Visit [www.mrbonzai.com](http://www.mrbonzai.com) for more information.*




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## The LightViper System

LightViper is the ONLY digital fiber-optic snake system that's light enough to be a carry-on! It gives you limitless lossless splitting and routing options, built-in phantom power on every channel, 24bit/96kHz sampling, balanced/unbalanced analog and AES/EBU digital outputs on every channel and no need for DI's - ever!



LightViper is as transparent and easy to use as any snake you've ever used - plug and play - that COSTS FAR LESS than other digital snake systems. One that lets you focus on your show - not the snake.

Its 1/4" fiber optic cable can be run more than 1.25 miles with no loss and no ground loops, while standing up to tough military standards. Now, the only way you'll encounter that scenario is on a USO tour, but the point is, LightViper can handle ANYTHING that's thrown its way and still come out shining.

## The LightViper Advantage

- 32 x 8 fiber optic snake
- Cable runs over 1.25 miles with no loss
- Rugged fiber cable smaller in diameter than standard mic cable!!
- Native 24 bit / 96 kHz - 48 kHz capable
- Phantom power on every channel
- High quality Neutrik® connectors
- Optional lossless 3-way split of all 32 channels on stage end
- Simultaneous analog/AES3 digital outputs on all 32 channels
- Heavy-gauge steel construction
- Extended range and flexibility means limitless routing options
- Flat frequency response and better than 100 dB dynamic range - delivers true, crystal clear sound
- Every channel accepts balanced or unbalanced connections... No need for DI's!
- Rack mount and wall panel options available
- Perfect for Installations of all kinds (Houses of Worship, Clubs, Corporate), broadcast and for touring sound



## Lifetchangers Church • Chicago, IL Installation by Audio Analysts

"The scope of the project was to design and build a state of the art Vertec line array system with the installation of 2 projectors and screens for their video staff. The audio system was to have a three way split. One for FOH, one for a future monitor desk and one for broadcast.

"We chose Fiber-Plex because of the flexibility. We didn't know what the format would be for future broadcast or monitoring but, because of the simultaneous analog AES/EBU signal we could do what ever we wanted at a later date and be compatible with any desk they would put in. We also realized that we could save the client a substantial amount of money over copper and get much better performance.

"Buddy and the guys were great and were at our beck and call throughout the installation. They stand behind their product and gave us a guaranty on performance. Manufacturers' support is very important to us. We won't work with anyone who won't stand behind their line. Besides I like those guys.

"Right now LightViper is the only system that does what I want it to do at the price I want."

—Robert M. Langlois, Audio Analysts, Colorado Springs, CO



## The LightViper VIS-4832 Digital Snake Head

**NEW!**

The VIS-4832 Digital Snake Head is the newest member of the LightViper family. It features 16 AES3 inputs (32 audio channels) via (2) 25 pin D connectors and 4 AES3 returns (8 audio channels) via (1) 25 Pin D connector with simultaneous line level analog outputs via a second 25 pin D connector. Natively, the VIS-4832 will pass 96kHz digital data. However, by syncing the VIM-1832 (at front of house) with a 48kHz word clock, the system will pass 48kHz digital data as well.

The VIS-4832 also offers the option of two additional fiber outputs, providing lossless digital splitting of all 32 inputs for use in monitor mixes and/or broadcast or recording mixes. These optical outputs must be used in conjunction with a VIM-1032 at the tail end for each split output.

### VIS-4832 Applications:

**Mic Pre-amp snake:** Provides a perfect solution for transporting 32 channels of digital outputs of remote preamps to a digital console.

**Digital Drive Snake:** Gives you a complete 32 channel drive snake. The VIM-1832 at the tail end puts out both analog and AES3 digital signals, so you can address amps that have digital inputs and amps that have analog inputs simultaneously.

**Digital Audio Transport System:** Connecting the outputs of a digital console to the inputs of the VIS-4832 allows you to create a digital audio transport system.

Example - If you need the identical outputs of your digital console to route to stage, amp room #1 and amp room #2, you simply use the VIS-4832 on the outputs of the console and route these signals via fiber to one VIM-1832 (stage) and two VIM-1032 (one located in amp room #1, one located in amp room #2).

# Brownstone Recording

## A D.I.Y. Home Conversion That Uses Every Room

A loving home provides a good base for anything people do, but at Brownstone Recording ([www.brownstonerecordingstudio.com](http://www.brownstonerecordingstudio.com)), it's been the perfect foundation for a personal studio designed to minimize overhead and maximize productivity. Founded in the heart of Harlem by professional drummer Warren Henry to satisfy his ever-growing passion for recording, the studio takes full advantage of its location in an architectural icon—a New York City brownstone residence—to provide a compact but serious tracking experience to an appreciative clientele.

One-half of Taqa Entertainment—a joint venture between Henry and producer Barry D., who operates a sister mixing facility in Valley Stream in Long Island ([www.taqarecordsusa.com](http://www.taqarecordsusa.com))—Brownstone Recording regularly hosts jazz, R&B, hip hop and gospel clients. “We had all this space down here, but I had to bypass all the plumbing and make the space look like a studio,” Henry says of the basement facility’s 1997 startup. “I was doing a lot of MIDI, but the requests were, ‘Can we record live instruments?’ In 2002, I finally got up the nerve to put a sledgehammer in the ceiling and do the whole demolition. I’ll never do something like that myself ever, ever again! It’s a lot of work and you need a crew.”

Working in the intimate live room or any other appropriate part of the house, Henry can record his beautiful custom drum kit, vocals and anything else just fine, connecting to his Pro Tools–equipped control room via a carefully selected group of AKG, Neumann and Shure mics. Mic pre’s and outboard gear are equally select, including Avalon and Focusrite pre’s, Apogee converters, dbx compressors and Lexicon reverbs.

“My philosophy has always been that if you’re limited with your resources, try to buy the best your money can afford,” he notes. “People will buy cheap stuff and wonder why they’re buying over and over again. When I got interested in the Avalon 747, for example, I called them and said point-blank, ‘What is it about your mic pre’s?’ I studied Class-A electronics and found that the design is ultra-quiet with a ton of headroom. Then I saw that a Focusrite is designed that way and got the TwinTrak Pro, which I use as my front end for vocals and stereo overheads for drums.

“Another thing that intrigued me was the quality of optical compression. If you drive analog compression to a limiting range, it has a tendency to breathe and swoosh and give you artifacts, but when you nail optical compression, it gives you a musical sound. My dbx 163s, on the other hand, are inexpensive units, but they sound good; plus, it’s not complicated circuitry. You can run a bass guitar through it nice and fat, and it gives vocals the touch of compression that you need.”



Warren Henry's Brownstone Recording grew into a two-room facility

The brownstone’s solid construction—along with his squad of kids—gives Henry some built-in assets to play off of. “The plumbing [infrastructure] makes an unbelievable bass trap, and two corner traps provide outstanding bass imaging. I really don’t have a lot of problems with the neighbors because of the extra concrete that was poured into the floor, and when I opened the ceiling and saw 10x12-foot joists, I packed them with a ton of kids’ clothes I had, along with R13 sheets of Fiberglas.”

While Henry is no slouch at mixing, he’s more than happy to pass that task off to Barry D. once he’s captured the sounds. “Warren likes to record and I like to mix,” Barry D. explains. “I look at mixing as painting a picture. You want to make things red or blue. I say, ‘I’ve got the music, I know what it needs and I need to realize the picture I have in my head.’ It starts with a vision.”

While the Taqa partners are happy to be busy, after several years of growth in the tough New York scene, they have serious ambitions about the next level. “The nature of the business being that all the major recording facilities are going down, we would actually like to be a new up-and-coming Hit Factory,” says Barry D. “It’s a sad thing to see the studios close down. There’s so much history, and we want to be a part of the resurgence of the studios coming back. It’s a lofty goal, very much so.”

For Henry, achieving that means a relentless regimen of higher and higher learning. “As you educate yourself on various levels, you’re able to make more informed and intelligent decisions as a professional,” he concludes. “I’ve never been afraid to go up to someone and ask them, ‘How did you get that vocal sound?’ Don’t be afraid to educate yourself and ask as many questions as you can. I’m just trying to better myself and turn out big sounds in a micro-circumstance.” ■

David Weiss is Mix’s New York editor.



We proudly present the new member of the mc<sup>2</sup> family: the mc<sup>2</sup>66. It has been developed with over 30 years of experience and is equipped with the finest technology you can purchase today.

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**BROADCAST**

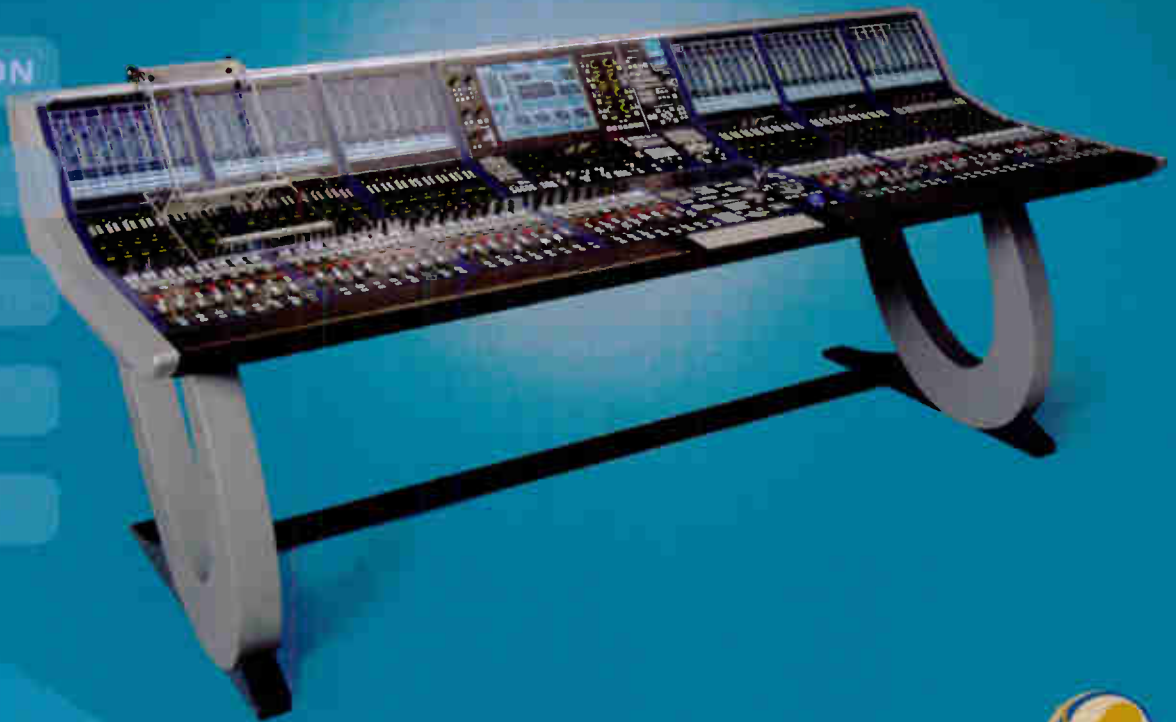
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# mc<sup>2</sup>66



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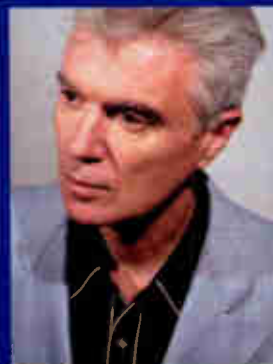
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New York City 2005

This is your chance to vote for the best professional audio products and projects of the past year. Beginning on page 78 are five pages of nominee profiles. Please take the time to read this information before voting, and then vote in the categories in which you are most knowledgeable. Your ballot must be returned no later than **August 31, 2005.**



**DAVID BYRNE**  
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**TEC Hall of Fame**





### **AMD, Inc. — Official Sponsor of the Technical Awards**

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**ALLEN&HEATH**



### **American Music and Sound —**

Allen&Heath designs and manufactures professional audio mixing consoles for an international clientele in the live sound, installed systems, nightclub and professional DJ markets. Allen&Heath is launching its first touring sound digital mixer at this year's AES show. Focusrite is an industry-leading manufacturer, designing and building professional mic pre-amplifiers, EQ, compressors and digital audio interfaces for the recording, broadcast, post and live sound/installation markets. Focusrite is launching exciting new products at the show, including those utilizing their proprietary Liquid technology. Both brands are distributed in the United States by American Music and Sound.



**digidesign**

### **Digidesign —**

Digidesign®, a division of Avid Technology, Inc., is the world's leading manufacturer of digital audio systems, including Pro Tools|HD®, Pro Tools LE™, and Pro Tools M-Powered™ systems, ICON integrated consoles, and the VENUE live sound environment. Distributed in more than 40 countries worldwide, Digidesign products provide the professional music, film, video, multimedia, radio broadcast, and live sound industries with the tools for digital recording, MIDI sequencing, editing, signal processing, surround mixing and live sound mixing.



### **Gibson Guitar Corporation — Official Sponsor of the Les Paul Award**

Gibson is known worldwide for producing classic models in every major style of fretted instrument, including acoustic and electric guitars, mandolins and banjos. Gibson's digital guitar represents the biggest advances in electric guitar design in over 70 years. Founded in 1894 in Kalamazoo, Mich., and headquartered in Nashville since 1984, Gibson Guitar Corp.'s family of brands now includes Epiphone, Dobro, Kramer, Steinberger, Tobias, Slingerland, Valley Arts, Maestro, Baldwin, Hamilton and Wurlitzer. Visit Gibson's website at [www.gibson.com](http://www.gibson.com).



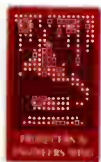
### **Harman Pro Group —**

The Harman Pro Group, headquartered in Northridge, Calif., includes AKG, BSS, Crown International, dbx, Digitech, JBL Professional, Lexicon Professional, Soundcraft and Studer, which design, manufacture and market the world's leading professional audio products for recording and broadcast, musicians, cinema, touring sound, commercial sound and contracting applications. The Harman Pro Group is a division of Harman International Industries, a leading manufacturer of high-quality, high-fidelity audio products and electronic systems for consumer, professional and OEM automotive markets.

**MIX**

### **Mix Magazine —**

As the leading magazine for the professional recording and sound production industries, *Mix* covers the entire spectrum of professional audio and music: studio recording, live sound production, sound-for-picture and multimedia, digital audio technology, facility design and construction, broadcast production, education and more. Founded in 1977, *Mix* reaches more than 48,000 professionals worldwide. *Mix* also publishes the annual AES New Products Guide, the Mix Master Directory, the MixLine series of e-newsletters, and [mixonline.com](http://mixonline.com). *Mix* is the founding sponsor of the TEC Awards.



### **The Producers & Engineers Wing —**

Currently, 6,000 professionals comprise The Producers & Engineers Wing of the Recording Academy. This organized voice for the creative and technical recording community addresses issues that affect the craft of recorded music, while ensuring its role in the development of new recording technologies and archiving and preservation initiatives. The Wing also offers regional professional development activities, including workshops, forums, panel discussions and recording technology-related events, held locally and nationally throughout the year. For more info, please visit [www.grammy.com/pe\\_wing](http://www.grammy.com/pe_wing).

**SHURE**

### **Shure Inc. —**

Founded in 1925, Shure is one of the world's leading manufacturers of microphones and audio electronics. Best known for reliable, high-performance microphones such as the legendary SM57 and SM58®, Shure is also a global leader in wireless systems, personal monitors and phono cartridges. Recent products such as the SM86 microphone, SLX and ULX wireless systems, KSM studio microphones, PSM® personal monitors, and E Series earphones confirm Shure's ongoing commitment to providing innovative products that help people produce their sound.

## Gold Sponsors



**Audio-Technica** — Established in 1962, Audio-Technica is a leading innovator in electroacoustic design, recognized for high-performance microphones, wireless systems, headphones and other audio equipment. A-T products set quality/durability and price/performance standards for live sound tours, broadcast and recording studios, and more. Product lines include the critically acclaimed 40 Series studio microphones and Artist Elite microphones and wireless systems. A global leader in its field, Audio-Technica is committed to providing superior performance and exceptional value for audio professionals worldwide.



**Ex'pression College for Digital Arts** — Ex'pression grants Bachelor's degrees in three accelerated programs: Sound Arts; Digital Visual Media and Digital Graphic Design. Its Sound Arts program offers small classes and hands-on training in recording, audio post-production, live sound, DVD authoring and more. Ex'pression's 85,000-square-foot facility boasts professional-grade studios and equipment, with 24/7 access. Students receive personalized career guidance, have the opportunity to be mentored by industry professionals and graduate in about 2½ years. Accredited College, ACCSCT.



**Electro-Voice** — Founded in 1927 as a microphone company, Electro-Voice® has grown into one of today's leading worldwide forces for the design and manufacturing of professional-quality audio products for the broadcast, recording, tour sound, installation and music industry markets.



**Fairlight** — Headquartered in Sydney, Australia, and celebrating its 30th anniversary in 2005, Fairlight was an original pioneer of digital audio in 1975 and since then has led the world in some of the most exciting and significant developments of audio and video technology. In the early to mid-'80s the Fairlight CMI powered popular music. Today Fairlight continues a development maxim of "more for less" as evidenced by the unmatched innovation and price/performance ratio exhibited in Constellation-XT.



**Guitar Center** — With more than 115 stores nationwide, Guitar Center services professional musicians and aspiring pros alike by offering the widest selection of top name products at the lowest prices in the nation. After 39 years, Guitar Center remains not only the musician's choice but the first stop for engineers, producers and recording enthusiasts.



**LOUD Technologies Inc.** — Loud Technologies is the corporate umbrella for the Mackie and EAW professional audio brands. Mackie is a leading developer of high-quality, affordable professional audio systems. Mackie products are found in professional and project recording studios, video and broadcast suites, post-production facilities, and in sound reinforcement applications. EAW is a technological and market leader in the design and manufacture of high-performance loudspeaker systems. EAW offers a diverse selection of main system, stage monitors, and subwoofer products for the portable, touring, installation, cinema, and dance club markets.



**Meyer Sound Labs** — Meyer Sound manufactures professional self-powered loudspeaker systems and associated rigging hardware, electroacoustic measurement systems, and acoustical prediction software. Looking beyond individual components to create totally integrated systems, Meyer Sound's products incorporate transducer design and fabrication, signal processing and power amplification to provide unique, innovative solutions to the challenges facing audio professionals.



**RØDE Microphones** — RØDE has built an enviable reputation as a pioneer in the development of the microphone for the modern era. RØDE set out to deliver professional studio quality microphones that were more accessible to the recording communities. Today they are acknowledged for their engineered performance, versatility and superior design. From their \$10 million, state-of-the-art facility in Sydney, RØDE continues to design and manufacture an ever-expanding range of precision microphones, changing the way musicians and engineers record their art.



**Sennheiser** — Sennheiser is the acknowledged world leader in microphone technology, RF wireless and infrared sound transmission, headphone transducer technology, and most recently, in the development of active noise-cancellation. Sennheiser distributes a variety of other pro audio lines, including: Neumann, K&H, Turbosound, HHB, Rosendahl, Australian Monitor and TRUE Systems. Our commitment to the world of audio is simple: We offer products that provide the finest combination of performance and value available anywhere, and back them up with superlative service.



**Solid State Logic** — Solid State Logic SSL has grown over 30 years to become one of professional audio's most successful high-technology enterprises. A constant innovator, the company is always introducing new consoles to its product range. Each incorporates SSL's latest generation of processing and is tailored to different applications in music, broadcast, film and post-production. SSL supports its leading-edge technology with an international network of offices, establishing an industry benchmark for customer service.



**TC Group** — TC Group consists of Tannoy, Lab.gruppen, TC Electronic, TC-Helicon and TC Applied Technologies. The Group formed in 2002 to design, produce and distribute the best engineered and most recognized and respected brands of high-performance audio products in the world. Differentiated from the competition by strong brands and a high-end profile, TC Group combines expertise with market access to capitalize on the convergence of digital and acoustic technologies in the audio industry.



**Yamaha** — Yamaha, a leading manufacturer of innovative analog and digital products offers a diverse scope of audio products for recording, post-production and broadcast, ranging from signal processors, powered and reference monitors, and digital audio workstations to digital mixers, including the TEC Award-nominated PM5D. Sound reinforcement products range from powered amplifiers, the AFC active field control system and live sound speakers, to digital mixing engines, high-end reverbs, and digital and analog consoles including the TEC Award-winning PM1D, DM2000, PM5000 and this year's nominee—the Yamaha PM5D sound reinforcement digital console.

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**L-Acoustics**

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**Trident-Oram**  
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The official eligibility year is April 1, 2004, to March 31, 2005. Please note that the Creative Awards nominees are nominated by project. In each category, the engineers, mixers, producers and production facilities will receive TEC Awards recognition. For the Studio Design Project category please check our Web page at [www.mixfoundation.org](http://www.mixfoundation.org) for project photos and description. Take time to read through each category before voting on the ballot. Please cast only one vote in each category.

## OUTSTANDING CREATIVE ACHIEVEMENT

### A. STUDIO DESIGN PROJECT

Awards go to Architect or Studio Designer, Acoustician and Studio Owner. Check the Mix Foundation Web page at [www.mixfoundation.org](http://www.mixfoundation.org) for studio photos and descriptions.

#### Jazz at Lincoln Center Studios, NYC

**Architect or Studio Designer:** Walters-Storky Design Group  
**Acousticians:** Russell Johnson, John Storky, Sam Berkow  
**Studio Owner:** Jazz at Lincoln Center

#### St. Claire Recording Company, Lexington, KY

**Architect or Studio Designer:** Pichner Schoustal International Inc  
**Acoustician:** Pichner Schoustal International Inc.  
**Studio Owner:** John Parks

#### The Barber Shop Studios, Hopatcong, NJ

**Architect or Studio Designer:** Francis Manzella Design Limited  
**Acoustician:** Francis Manzella  
**Studio Owners:** Scott Barber, Mark Salamone

#### SoundLounge: Studio Holcomb, NYC

**Architects or Studio Designers:** Sam Berkow/Barbra Moore, B. Moore Design Inc.  
**Acoustician:** Sam Berkow, SIA Acoustics  
**Studio Owners:** Peter Corbil, Peter Holcomb

#### Unit Eye, Ojai, CA

**Architect or Studio Designer:** studio bau:ton  
**Acoustician:** studio bau:ton  
**Studio Owner:** Bruce Botnick

### B. TELEVISION SOUND PRODUCTION

Awards go to the Supervising Sound Editor, Re-Recording Mixer, Production Mixer and Audio Post Facility.

#### Alias, ABC

**Supervising Sound Editor:** Tom deGorter  
**Re-Recording Mixers:** Lisle Engle, Andy DiAdarrìa  
**Production Mixers:** Douglas Axtell, Frank Menges  
**Audio Post Facility:** Buena Vista Sound, Burbank, CA

#### Cold Case, CBS

**Supervising Sound Editor:** Cindy Rabideau  
**Re-Recording Mixers:** Joe Barnett, Matt Waters  
**Production Mixer:** Mark McNabb  
**Audio Post Facility:** ToddAO West, Santa Monica, CA

#### CSI, CBS

**Supervising Sound Editor:** Mace Matisian  
**Re-Recording Mixers:** Yuri Reece, Bill Smith  
**Production Mixer:** Mick Fowler  
**Audio Post Facility:** Todd/Burbank, Burbank, CA

#### Lost, ABC

**Supervising Sound Editors:** Tom deGorter, Trevor Jolly, Marc Glassman  
**Re-Recording Mixers:** Frank Marrone, Scott Weber  
**Production Mixers:** David Barr Yaffe, C.A.S., Richard Lightstone, C.A.S., Michael Moore  
**Audio Post Facility:** Buena Vista Sound, Burbank, CA

#### 24, Fox

**Supervising Sound Editor:** William Dotson  
**Re-Recording Mixers:** Michael Olman, Kenneth Kobett  
**Production Mixer:** Bill Gocke  
**Audio Post Facilities:** Universal Studios, Universal City, Wilshire Editorial Inc., Burbank, CA

### C. FILM SOUND PRODUCTION

Awards go to the Supervising Sound Editor, Sound Designer, Re-recording Mixer, Production Mixer, Score Mixer and Audio Post Facility.

#### Ray

**Supervising Sound Editors:** Karen Baker Landers, Per Halberg  
**Sound Designer:** Scott Sanders  
**Re-Recording Mixers:** Bob Beemer, Scott Millan, Greg Orloff  
**Production Mixer:** Steve Carlamessa  
**Score Mixer:** Geoff Foster  
**Audio Post Facility:** Soundelux, Hollywood, Sony Pictures Studios, Culver City, CA

#### The Incredibles

**Supervising Sound Editor:** Michael Silvers  
**Sound Designer:** Randy Thom  
**Re-Recording Mixer:** Gary Rizza  
**Production Mixer:** Doc Kane  
**Score Mixer:** Dan Wallin  
**Audio Post Facility:** Skywalker Sound, San Rafael

#### The Aviator

**Supervising Sound Editors:** Eugene Gearty, Philip Stockton  
**Sound Designer:** Eugene Gearty  
**Re-Recording Mixer:** Tom Fleischman  
**Score Mixer:** John Kurlander  
**Audio Post Facility:** CS, Soundtrack, NYC

#### Spider-Man 2

**Supervising Sound Editor:** Paul N. J. Ottoson  
**Sound Designer:** Paul N. J. Ottoson  
**Re-Recording Mixers:** Jeffrey J. Haboush, Corey Mandel, Kevin O'Connell, Greg P. Russell  
**Production Mixer:** Joseph Geisinger  
**Score Mixer:** Dennis Sands  
**Audio Post Facility:** Sony Picture Studios, Culver City, CA

#### Lemony Snicket's A Series of Unfortunate Events

**Supervising Sound Editor:** Richard King  
**Sound Designer:** Richard King  
**Re-Recording Mixers:** Anna Behlmer, Andy Nelson  
**Production Mixer:** Pud Cusack  
**Score Mixers:** Armin Steiner, Thomas Vicari  
**Audio Post Facilities:** Warner Brothers, Burbank, Fox

### D. REMOTE PRODUCTION/RECORDING OR BROADCAST

Awards go to Remote Engineer, Production Mixer, Music Mixer and Remote Facility.

#### The 47th Annual Grammy Awards, CBS

**Production Mixers:** Ed Greene, Paul Sandweiss  
**Music Mixer:** John Harris and Jay Vicari  
**Remote Facility:** XM Productions Effanel Music, NYC

#### 77th Annual Academy Awards, ABC

**Remote Engineer:** David Hewitt  
**Production Mixer:** Ed Greene  
**Music Mixer:** Tom Vicari  
**Remote Facility:** Remote Recording, NYC

#### Crossroads Guitar Festival, WNET/Sirius Radio

**Remote Engineers:** Elliot Scheiner, Ed Cherney, Kooster McAllister, Greg Ondo  
**Music Mixers:** Mick Guzauski, Neil Dorfsman  
**Remote Facilities:** Remote Recording, NYC, Record Plant Remote, Ringwood, NJ, MTV Networks, NYC

#### SMILE, Creators at Carnegie, NPR

**Remote Engineers:** Mark Linett, David Hewitt  
**Production Mixers:** Flawn Williams, Andrea Jackson-Gewirtz, Ieszek Wojcik  
**Music Mixer:** Mark Linett  
**Remote Facility:** Remote Recording, NYC

#### Super Bowl XXXIX, Fox

**Remote Engineers:** Biff Dawes, Allan Boca, George Moshonas  
**Production Mixer:** Andrew Waterman  
**Music Mixer:** Dirk Vanoucek  
**Remote Facility:** Westwood One, Culver City, CA

### E. TOUR SOUND PRODUCTION

Award goes to Tour Company, FOH Engineer and Monitor Engineer.

#### Josh Groban

**Tour Company:** Maryland Sound, Baltimore, MD  
**FOH Engineers:** Bob Goldstein, Mickey Beck  
**Monitor Engineer:** Will Miller

#### Green Day, "American Idiot" Tour

**Tour Company:** Showco, Dallas, TX  
**FOH Engineer:** Kevin Lemoine  
**Monitor Engineer:** Beau Alexander

#### Prince, "Musicology" Tour

**Tour Company:** Eighth Day Sound, Highland Heights, OH  
**FOH Engineer:** Scottie Pakulski  
**Monitor Engineer:** Gordon Mack

#### Toby Keith "The Big Throwdown" Tour

**Tour Company:** Sound Image, Escondido, CA  
**FOH Engineer:** Dick Durham  
**Monitor Engineer:** Earl Neal

#### U2, "Vertigo" Tour

**Tour Company:** Clair Brothers, Lititz, PA  
**FOH Engineer:** Joe O'Herlity  
**Monitor Engineers:** Robbie Adams, Niall Slevin, Dave Skaff

### F. SURROUND SOUND PRODUCTION

Awards go to S.1 Mixing Engineer, Mastering Engineer, Producer, Mixing Facility, and Mastering Facility.

#### Eric Clapton "Crossroads Guitar Festival"

**S.1 Mixing Engineers:** Neil Dorfsman, Mick Guzauski  
**Mastering Engineer:** Darcy Proper  
**Producer:** John Beug  
**Mixing Facilities:** Barking Doctor Recording, Mount Kisco, NY, Hill Factory, NYC  
**Mastering Facility:** Sony Music Studios, NYC

#### Crystal Method "Legion of Boom"

**S.1 Mixing Engineers:** Fred Maher, Nathaniel Kunkel  
**Mastering Engineers:** Ric Wilson & Ignacio Monge  
**Producer:** Jeff Ivison  
**Mixing Facilities:** Busy House, LA, Studio Without Walls, LA  
**Mastering Facility:** Digisonics, Northridge, CA

#### Ray Charles "Genius Loves Company"

**S.1 Mixing Engineer:** Al Schmitt  
**Mastering Engineers:** Doug Sax, Robert Hadley  
**Producers:** John Burk, Phil Ramone, Herbert Walt  
**Mixing Facility:** Capitol Studios, Hollywood  
**Mastering Facility:** The Mastering Lab, Hollywood

#### Bonnie Raitt "Nick of Time"

**S.1 Mixing Engineer:** Ed Cherney  
**Mastering Engineer:** Doug Sax  
**Producer:** Don Was  
**Mixing Facility:** Capitol Studios C, Hollywood  
**Mastering Facility:** Das Boot, Lake Tahoe, CA

#### Simon & Garfunkel "Old Friends Live on Stage"

**S.1 Mixing Engineer:** Michael H. Brauer  
**Mastering Engineer:** Ted Jensen  
**Producers:** Paul Simon, Art Garfunkel  
**Mixing Facility:** Quad Studio, NYC  
**Mastering Facility:** Sterling Sound, NYC

### G. RECORD PRODUCTION/SINGLE OR TRACK

Award goes to Recording Engineer, Mixing Engineer, Mixing Facility, Producer, Recording Studio, Mastering Engineer and Mastering Facility.

#### "American Idiot," American Idiot, Green Day

**Recording Engineer:** Doug McKean  
**Mixing Engineer:** Chris Lord-Alge  
**Mixing Facility:** Image Recording, Hollywood  
**Producers:** Rob Cavallo, Green Day  
**Recording Studio:** Ocean Way, Hollywood  
**Mastering Engineer:** Ted Jensen  
**Mastering Facility:** Sterling Sound, NYC

#### "Drop It Like It's Hot," R&G: The Masterpiece, Snoop Dogg featuring Pharrell

**Recording Engineer:** Andrew Coleman  
**Mixing Engineer:** Phil Tan  
**Mixing Facility:** Suite E, Atlanta, GA  
**Producers:** The Neptunes  
**Recording Studio:** The Record Plant, Hollywood  
**Mastering Engineer:** Brian Gardner  
**Mastering Facility:** Bernie Grundman Mastering, Hollywood

#### "Live Like You Were Dying," Live Like You Were Dying, Tim McGraw

**Recording Engineers:** Julian King, David Bryant, Greg Lawrence  
**Mixing Engineers:** Bryon Gallimore, Tim McGraw  
**Mixing Facility:** Essential Sound





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**Producers:** Bryan Gallimore, Tim McGraw, Darren Smith  
**Recording Studio:** Allaire Studios, Shakan, NY  
**Mastering Engineer:** Hank Williams  
**Mastering Facility:** MasterMix, Nashville

**"Mr. Brightside," Hot Fuss, The Killers**

**Recording Engineer:** Jeff Saltzman  
**Mixing Engineer:** Mark Needham  
**Mixing Facility:** Cornerstone Recording Studios  
**Producers:** Jeff Saltzman, The Killers  
**Recording Studio:** The Hearse, Oakland, CA  
**Mastering Engineer:** Brian Gardner  
**Mastering Facility:** Bernie Grundman Mastering, Hollywood

**"Why Don't You & I," Artist Collection:**

**Santana, Santana featuring Chad Kroeger**  
**Recording Engineers:** Jim Gaines, Juan Christobal Losada, Bill Malino, Lester Mendez  
**Mixing Engineer:** David Thoener  
**Mixing Facility:** Right Track, NYC  
**Producer:** Lester Mendez  
**Recording Studios:** Fantasy Studios, Berkeley, Cubetam, Miami, The Gallery, Miami, Cello Studios, Hollywood  
**Mastering Engineer:** Leon Zervas  
**Mastering Facility:** Masterdisk, NYC

**H. RECORD PRODUCTION/ALBUM**

*Award goes to Recording Engineer, Mixing Engineer, Mixing Facility, Producer, Recording Studio, Mastering Engineer and Mastering Facility.*

**American Idol, Green Day**

**Recording Engineers:** Doug McKeon, Chris Dugan, Reito Preter  
**Mixing Engineer:** Chris Lord-Alge  
**Mixing Facility:** Image Recording Studios, Hollywood  
**Producers:** Ritz Cavallo, Green Day  
**Recording Studios:** Ocean Way Recording, Capitol Studios, Hollywood, Studio 880, Oakland, CA  
**Mastering Engineer:** Ted Jensen  
**Mastering Facility:** Sterling Sound, NYC

**Feels Like Home, Norah Jones**

**Recording Engineer:** Jay Newland  
**Mixing Engineer:** Jay Newland  
**Mixing Facility:** Seasound, NYC  
**Producers:** Arif Mardin, Norah Jones  
**Recording Studios:** Allaire Studios, Shakan, NY, Avatar Studios, Seasound, Seasound Sound, NYC  
**Mastering Engineer:** Gene Paul  
**Mastering Facility:** DB Plus, NYC

**Genius Loves Company, Ray Charles**

**Recording Engineers:** Terry Howard, Seth Presant, Ed Thacker  
**Mixing Engineer:** Al Schmitt  
**Mixing Facility:** Capitol Studios, Hollywood  
**Producers:** John Burk, Phil Romane, Terry Howard, Herbert Watti  
**Recording Studios:** Ocean Way Studios, Hollywood, RPM International Studio, Los Angeles  
**Mastering Engineers:** Doug Sax, Robert Hadley  
**Mastering Facility:** The Mastering Lab, Los Angeles

**Musikology, Prince**

**Recording Engineers:** L. Stuart Young, Prince  
**Mixing Engineer:** L. Stuart Young  
**Mixing Facility:** Metaworks Studios, Ontario, Canada  
**Producer:** Prince  
**Recording Studios:** Paisley Park Studios, Chanhassen, MI, Metaworks Studios, Ontario, Canada, The Hit Factory, NYC  
**Mastering Engineer:** Bernie Grundman  
**Mastering Facility:** Bernie Grundman Mastering, Hollywood

**There Will Be a Light, Ben Harper and the Blind Boys of Alabama**

**Recording Engineer:** Jim Hoyson  
**Mixing Engineer:** Jim Hoyson  
**Mixing Facility:** Capitol Studios, Hollywood  
**Producer:** Ben Harper  
**Recording Studio:** Capitol Studios, Hollywood  
**Mastering Engineer:** Stephen Marcussen  
**Mastering Facility:** Marcussen Mastering, Hollywood

## OUTSTANDING TECHNICAL ACHIEVEMENT

### A. ANCILLARY EQUIPMENT

**Aviom Monitor Mixing System:** Designed for use in live performance or in the studio, the A-161 Personal Mixer is the latest version of the original A-16. It features newly-designed higher voltage and higher current output circuitry, allowing even high impedance headphones to be driven louder and cleaner, while letting performers create custom monitor mixes tailored to their individual needs, with control over channel volume, grouping, pan, stereo spread and master volume. Cable runs of up to 500 feet are possible between devices.

**FiberPlex LightViper™ 1832 Fiber Optic Snake:** The LightViper 1832 system provides 32 sends and eight returns (including 32 mic preamps, three-position gain switch and Burr Brown A/D converters) and in addition to the primary fiber run, includes up to two additional optical splits. The system consists of a VIS-1832 "stagebox," or VM-1832 "mixer box" (providing simultaneous analog and AES3 digital outputs) and VM-1032 "mixer boxes" for the splits "tail end." The system operates at 24-bit/96k or 24-bit/48k.

**Mackie Big Knob:** This compact monitor switching, source selection and communications box is for studios that record with computer-based systems and need essential control room functions. A large, convenient volume knob provides easy access for precise level adjustments. Also available are three buttons for quick switching between three sets of studio monitors, a built-in talkback microphone, input source select for up to four different stereo sources, dual headphone outputs with an independent headphone mix bus and mono/mute/dim switches.

**PreSonus Central Station:** The Central Station studio monitoring interface for the modern digital studio features five sets of stereo inputs (three analog, two digital) for input source switching and three sets of monitor outs for auditioning audio on different sets of speakers. The Central Station also features built-in talkback mic for communication, as well as two headphone amps, mute, dim and mono. The Central Station utilizes a passive signal path for ultimate transparency and sonic performance.

**Stanton Final Scratch-2:** Final Scratch is the ultimate way for DJs to combine today's digital technology with the analog control of the past. By using Final Scratch with your existing turntables or CD player and mixer, you can control and manipulate digital audio files (.WAV, MP3, etc.) the same way you always have—using your hands to cue, mix and scratch with the exact response and feel of real vinyl.

**Sencore/TerraSonde SoundPro Audio Toolbox 3:**

The advanced level, frequency and time analysis features of the SoundPro Audio Toolbox 3 (SPATB3) enable accurate sound reinforcement system setup for distributed, live and industrial sound systems. The "SoundPro" Audio Toolbox provides acoustic analyzing and audio electrical tests, plus time delay analysis, RTA difference function, bi-directional USB audio interface, dual phantom-powered mic/line combo jacks and a variety of options.

### B. DIGITAL CONVERTER TECHNOLOGY

**Apogee Electronics Rosetta 200:** The latest addition to a new generation of 24/192 converters, Rosetta 200 is a 2-channel version of the Rosetta 800, but offers the new CODA Audio Finishing Module, MIDI support and full channel metering. Rosetta 200's CODA includes Apogee's Aptomizer, a level normalizer, sample-rate conversion and UV22HR dithering technology. An expansion card slot for Apogee's X-Series cards facilitates direct connection to Pro Tools|HD and Mix (XHD and X-Digi-Mix cards) and a direct FireWire connection.

**Lynx Studio Aurora 16:** This 16-channel, 24-bit/192 kHz AD/DA converter in a single rackspace was developed using next generation Lynx conversion technology and rock-solid digital interface circuitry. Unique to this product class, Aurora offers extensive remote control capability via Lynx AES16, Packet PC, laptop, MIDI or ISlot interface card. Lynx's proprietary Synchrolock™ clock technology provides extreme jitter reduction of up to 3000:1, allowing Aurora to output extremely clean clock output to drive the digital audio system.

**MOTU Traveler:** This portable bus-powered FireWire audio interface for Mac and Windows has 20 channels of input and 22 channels of output—expandable to 80/88 channels. It includes eight channels of 24-bit/192kHz analog I/O on balanced ¼ inch connectors including four Neutrik XLR/TRS Combo input connectors with built-in mic preamps, ADAT optical digital I/O, S/PDIF, AES/EBU, latency-free 20-input/8-bus monitoring, front-panel programming, stand-alone operation and drivers for compatibility with all major audio software titles.

**PreSonus Firepod:** The Firepod FireWire recording system includes eight high-quality PreSonus mic preamps, 10 simultaneous inputs/outputs, two instrument inputs, SPDIF and MIDI I/O, 24-bit/96k analog to digital conversion and zero latency monitoring for professional computer audio recording. Firepod is designed to work with both Windows and Mac-based computers and comes ready-to-go with Steinberg's Cubase LE 48-track 24-bit/96k audio production software.

**Prism ADA-8 XR:** The XR will take you to a whole new realm of possibilities. It utilizes the latest in converter technology, providing the ultimate in performance and flexibility. This—combined with numerous expansion cards, enhanced clock stability and sampling rates from 32kHz to 192 kHz—makes the ADA-8 XR the number one choice for your production.

**RME Fireface 800:** Fireface 800, RME's powerful FireWire audio interface, features 56 channels record/playback, 192kHz sample rate, eight balanced line I/Os, four discrete balanced mic inputs, hi-Z instrument input, headphone out, MIDI I/O, 16 channels of ADAT I/O and one S/PDIF I/O. LTC and video sync optional. No other FireWire interface offers similar low latency, real-time operation. The DSP mixer offers unsurpassed flexibility, with 14 stereo submixes, monitoring and remote control.

### C. AMPLIFIER TECHNOLOGY

**Crown Commercial Audio Series:** Crown's Commercial Audio amplifiers deliver legendary Crown quality to the commercial audio industry. These high-value amps provide both 4-ohm and constant-voltage outputs (70V and 100V) for a wide range of commercial install applications. Easily configured for a range of uses such as paging, background music, security and evacuation instructions, these units bring a new level of performance to commercial sound with usable value to the installer.

**Grace m902 Headphone Amp:** The m902 reference headphone amplifier offers audiophile performance for any critical headphone monitoring application. With a full host of analog and 24-bit/192kHz digital inputs and a pair of unbalanced monitor outputs, the m902 also acts as a precision monitor controller for high-resolution workstation users and mastering facilities. Included is XFeed™, a carefully designed crossfeed circuit that simulates a loudspeaker listening environment while using headphones. An optional infrared remote control is also available.

**Hot House Four Hundred (new IOD version):** Fully differential from input to output with a global feedback and utilizing a split-dual toroidal power supply, our radical new design uses extraordinary advancements in Intelligent Output Device technology, lowering distortion in the critical mid/high frequencies more than a level of magnitude over typical designs. This approach yields immediately apparent dramatic improvements in clarity, definition and musicality, while providing previously unobtainable levels of stability and reliability resulting from the IOD's internal self-biasing and self-protecting nature.

**Klein + Hummel PRO A2000:** This high-class versatile power amp for studio and sound reinforcement applications has extremely low THD under any load conditions. Other features: a SmartLimiter with temperature control reducing output power up to 10dB as the temperature rises, preventing premature shutdown; overload limiter reducing the output level to maintain a low-distortion output even at 1.5ohm loads; efficient cooling with four three-speed-controlled fans operating in a pushpull arrangement and an energy saving low-power mode that goes into standby during no-audio/signal conditions.

**MC E45:** MC Audio's E45, rated at 2,250 w/channel into 4 ohms, is built in a 2U chassis and has a switchmode power supply that's capable of delivering high peaks without any perceptible bass "sag," offers very low distortion and is kept within its safe operating area by an "intelligent" limiter. Power is delivered over the entire audio bandwidth, making it ideal for driving high power P.A. systems including subwoofers, packing high power into a compact size.

# Break Free

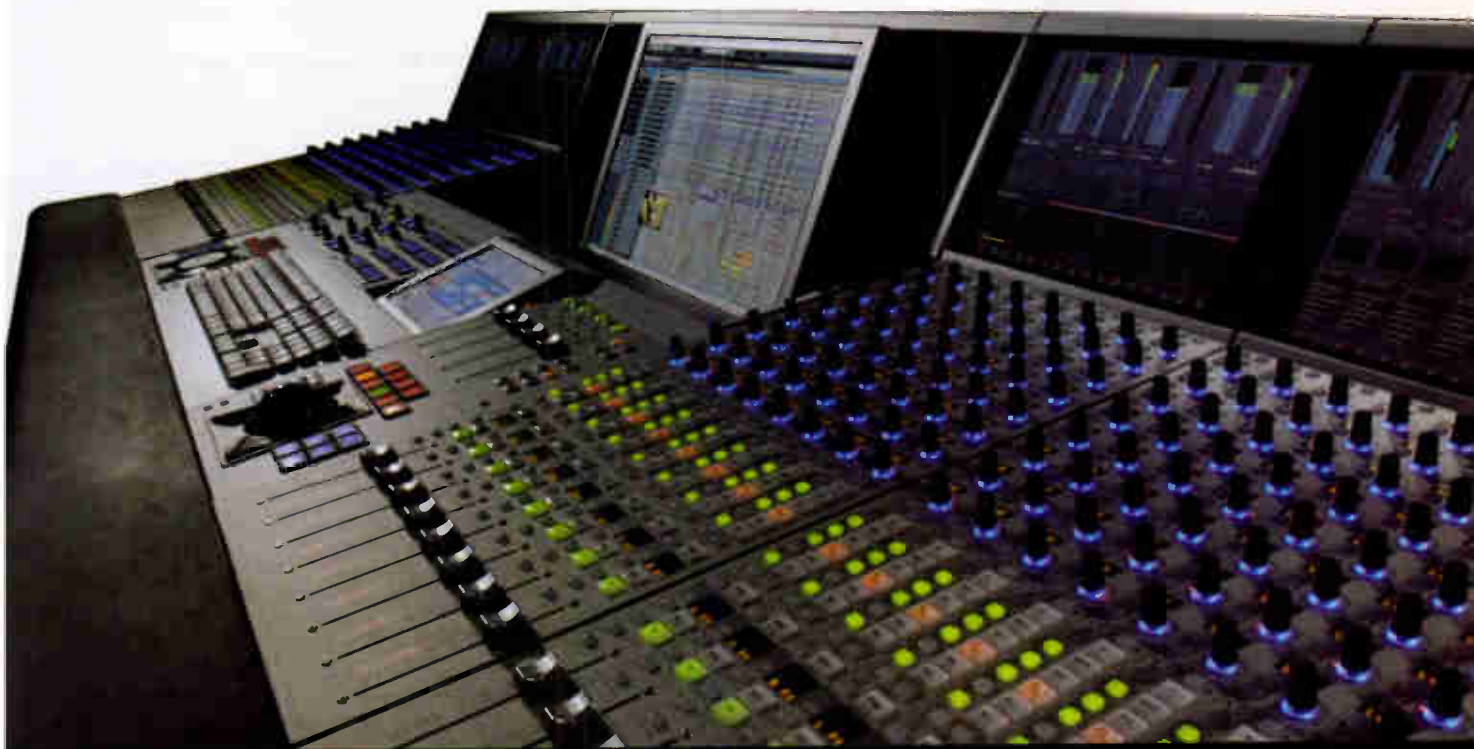
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**Peavey CS 4000:** Building on Peavey's 40-year pro audio legacy, the CS 4000 power amp is the global standard bearer for workhorse reliability. The CS 4000 benefits from some of Peavey's most significant innovations, including exclusive DDT™ compression/antialiasing protection and utilizes 14 power transistors per channel and two variable-speed cooling fans. With 4,000 watts bridged (4 ohms) and 1,350 watts per channel (4 ohms), this latest evolution of the CS Series is leaner, louder and lighter than ever.

## D. MIC PREAMPLIFIER TECHNOLOGY

**BLUE Robbie:** With no ICs and the highest-quality discrete components, this Class A discrete tube mic/instrument preamp is one of the quietest (-131 dB EIN @ 50 ohms) and most detailed (THD 0.006%) preamps around. There's no switching crossover distortion anywhere in the completely balanced audio signal path resulting in an amazing 34dB headroom before clipping! Robbie's gorgeous design and ease-of-use will make it one of the most valuable tools in your studio.

**Focusrite The Liquid Channel:** The Liquid Channel can emulate any classic mic pre and compressor in history. Combining radical new analog preamplifier technology with dynamic convolution techniques, the Liquid Channel fuses cutting-edge analog design with lightning-fast SHARC DSP. Augmented by fully digital controls and remote software, it provides the ultimate fluid vintage collection.

**GML Model 2032:** Heir to over 30 years of GML engineering expertise, the GML 2032 microphone preamplifier/parametric equalizer incorporates the proven functionality of GML's flagship B200 EQ and B300 transformerless preamp in a powerful, flexible unit. Complete with instrument input, fine gain adjustment, HPF and insert capabilities, the Model 2032 provides a compact and portable solution for high-resolution studio and remote applications. This transparent Class-A discrete design with internal supply delivers reliability, musicality and precision.

**Millennia Media HV-3C:** HV-3C offers two channels of Millennia's acclaimed HV-3 mic preamps in a rugged, single-rack-space steel case. As a successor to Millennia's HV-3B stereo mic preamp, the HV-3C adds many desirable new features, including 36 stepped gain positions, an improved power supply, a newly designed front panel and a 24-bit/192kHz analog-to-digital POWr converter digital output option. Other options are DPA 130 volt microphone inputs and an entirely DC-coupled signal path.

**Tube-Tech MMC-1A:** The MMC-1A recording channel is a fully loaded mic preamp/multiband compressor that delivers the same outstanding sonic characteristics of all Tube-Tech gear. The MMC-1A features a no-compromise Lundahl transformer-equipped mic preamp with variable input impedances, 69 dB of gain, a high impedance instrument input and a line-level input. The three-band optical compressor has been designed to provide summing of all three bands while retaining an optimally flat frequency response.

**Universal Audio LA-610:** The LA-610 brings UAs legendary vintage all-tube luxury sound into a modern channel strip format, combining the 610 mic pre/EQ/DI section and a T4 optocompressor into a single two-rack-space chassis at a groundbreaking price. The 610 tube preamp, DI and EQ is from UAs TEC Award-winning 6176 and is based on the legendary console modules developed by Bill Putnam in the '60s. Countless classics have been recorded using these preamps, noted for their musical character and warmth.

## E. MICROPHONE TECHNOLOGY/SOUND REINFORCEMENT

**Audio-Technica AT892 MicroSet:** With a capsule diameter of just 2.5 mm, Audio-Technica's AT892 MicroSet provides the ultimate in low-profile, high-performance audio. The new quality/wearability standard for micro-headset technology, this innovative omnidirectional condenser headset mic offers an ergonomic under-ear design for an ultra-secure, comfortable fit. Frequency response: 20 Hz-20 kHz. Available in terminations for A-T and other manufacturers' wireless systems, the MicroSet comes with two windscreens, two element covers, moisture guard, cable clip and case.

**Audix I-5:** The I-5 is a professional dynamic instrument mic designed for a wide variety of applications for live sound and studio performances. Characterized with a cardioid pattern and frequency response of 50 Hz to 15k Hz, the I-5 is ideal for snare, toms, percussion instruments, electric guitar amps, brass and acoustic instruments. Clear, accurate and able to handle sound

pressure levels in excess of 140 dB, the I-5 can also be utilized for speech and vocal.

**Electro-Voice RE 410:** This handheld condenser was designed for vocalists, yet has the versatility, smooth response and dynamic range to handle any application. The RE 410's crisp high-end and warm proximity effect is combined with a slight amount of "air" in the 5k to 10kHz area, enhancing the sound without adding sibilancy. Its cardioid pattern provides great rear rejection and a smooth off-axis response that's perfect for performers who tend to "wander" around the mic.

**Sennheiser e900 Series Backline Mics:** The 900 Series backline mic series was a response to the very successful 900 Series handheld microphones. All 900 Series microphones feature powerful transparent sound, are highly insensitive to handling noise and have excellent transient response and feedback rejection. Tight and uniform polar patterns, tighter manufacturing tolerances and gold XLR pins are common to the entire line. Targeted to professional musicians, P.A. rental companies and rehearsal studios, the 900 Series is optimized for all measurable parameters.

## F. MICROPHONE TECHNOLOGY/STUDIO

**AKG C414B-XLS/C414B-XLII:** AKG's "Next Generation" five-pattern C414BXL mic sets new standards for useful features, improved technical specifications and ease of use, but with their legendary sonic character unaltered. Precision-built in Vienna, Austria, the C414BXLs boast an unmatched combination of low-noise, high sensitivity, wide dynamic range, high SPL capability, incredible versatility and high value. The C414BXL is designed for accurate, beautifully detailed reproduction of all acoustic instruments; the C414BXLII's unique capsule tuning delivers smooth, yet omnipresent, vocals.

**Audio-Technica AT2020:** Audio-Technica's stringent quality/consistency standards set the AT2020 apart from other mics in its class. Its low-mass diaphragm is custom-engineered for extended frequency response and superior transient response. With rugged construction for durable performance, this condenser mic offers a wide dynamic range and handles high SPLs with ease. The AT2020 operates on 48V phantom power; its frequency response is 20 Hz to 20 kHz. The mic comes with a pivoting standmount and a protective pouch.

**Earthworks DK25/R DrumKit System:** With only three precision microphones, the Earthworks DrumKit™ System will provide a spectacular drum sound. The "recording" version (DK/25R) has two omni mics for overheads, one cardioid mic for kick drum and a KickPad™ housed in a beautiful wooden case. The "live sound" version (DK25/L) has three cardioids and a KickPad in a road-ready metal case. Also sold separately, the KickPad is a mic level processor for an instant kick drum sound.

**RØDE NT2-A:** The NT2A represents the evolution of RØDE and a revolution in recording microphone technology. No other microphone delivers the same combination of structural, electronic and acoustical engineering at anywhere near the price. The original NT2 became the microphone of choice worldwide for the home/project studio revolution, and the "tone" behind some of the most successful recordings of the last decade. The RØDE NT2-A, unequalled in features, performance and construction is destined to set the new standard.

**Royer SF-24:** Royer's SF-24 phantom-powered stereo ribbon mic offers the same sonic performance of the company's SF-12, but adds Active Series technology for impedance-matching and 14 dB greater sensitivity (-38 dB), like the SF-12, the SF-24 is a stereo coincident ribbon mic based on a Bob Sparden design with two matched "microphones" placed one above the other, each aimed 45 degrees from center.

**Telefunken R-F-T M16 MkII:** Telefunken USA now offers an affordable mic incorporating the same tube technology and craftsmanship as its pricier models. The handmade, multipattern R-F-T M16 offers high-end sonic performance and features a circa-1980, new oldstock Philips JAN 12AX7WA tube and dual gold-sputtered, 8mm center-contact capsule. The system includes a remote-controlled, a nine-polar-pattern power supply, shockmount, 25-foot cable and wooden mic box.

## G. WIRELESS TECHNOLOGY

**AKG WMS 400:** The WMS 400 is the first wireless mic system to offer setup time that is comparable to hardwired systems: In less than one minute, the WMS 400 is ready to use. An automatic frequency selection function inside the SR400 diversity receiver

scans the crowded wireless spectrum, quickly identifying interference-free channels. The transmitter's frequency is set "automatically" via an infrared data link. The Rehearsal function automatically analyzes system performance and indicates potential problems before the event.

**Audio-Technica 2000 Series:** Audio-Technica's innovative 2000 Series frequency-agile True Diversity UHF wireless delivers professional performance unheard of in its class. With this breakthrough series, Audio-Technica makes easy setup, automatic frequency scanning, True Diversity reception, user-selectable channels and other advanced features affordable as never before. For those using multiple wireless systems simultaneously, the 2000 Series offers another ease-of-use standout: Any of its 10 channels may be used together, eliminating confusing frequency groups and other frequency coordination problems.

**Lectrosonics Venue Receiver:** The Venue Receiver combines a flexible modular construction (up to six channels in one rackspace) with award-winning Digital Hybrid Wireless™ technology for pristine audio quality and rock-solid RF performance. Three different diversity modes, including SmartDiversity™, OptiBlend™ and frequency diversity, can be mixed and matched within a single VRM master unit. Computer control via RS-232 or USB allows remote programming and monitoring of all receiver functions. Compatibility modes allow use with certain analog transmitters.

**Mipro MA909:** A breakthrough in the traditional concept of designing wireless P.A. systems, the MA909 wireless mixer combines the convenience of a small P.A. system with the power of a conventional wired sound system. The system consists of the MA909 wireless receiver mixer and an interlinking transmitter that sends signals out to built-in or outboard receiver modules that connect to powered loudspeakers to eliminate the need for all interconnecting cables.

**Shure SLX Series Wireless:** The SLX Series is designed to give sound installations and working bands wireless tools that can be set up quickly and used confidently. Innovative features include automatic setup (auto frequency scan and transmitter setup), exceptional wireless clarity, patented Audio Reference Companding for crystal-clear sound beyond the limits of conventional wireless technology and legendary Shure microphones. SLX supports 20 compatible systems across multiple UHF frequency bands.

**Zaxcom StereoLine Digital Wireless:** The first broadcast-quality wireless mic that transmits two full bandwidth audio channels with one receiver and one transmitter using one 200kHz RF channel, StereoLine sounds like a hard-wired mic because Zaxcom uses 100-percent digital modulation and has eliminated the use of noise reduction, companding and emphasis/de-emphasis. Other features include encrypted transmission, digital dropout protection, transmitter remote control and no intermodulation. The unit has been designed for broadcast, theater and general film/television applications.

## H. SOUND REINFORCEMENT LOUSPEAKER TECHNOLOGY

**EAW KF850Z:** The Z Series upgrade for EAW's KF850 Virtual Array loudspeaker includes the radial phase plug developed for the KF750 to improve midrange vocal reproduction. The HF section adds a new neodymium Orbital Magnet Array compression driver and new HF horn. The "r" (road) version has a top stacking pad and a recessed bottom area to facilitate stable ground-stacking; an "f" (flyable) version is also available as is a biamp crossover kit and a dual-18 subwoofer.

**JBL Verto: VT4888DP:** The VT4888DP three-way midsize line array, the first product in JBL Professional's new self-powered DP Series, was co-developed with Harman Pro sister companies Crown and dbx. JBL DrivePack™ power modules provide robust amplification, featuring Crown's patented BCA technology and Class1 circuitry. The standard dbx input module features onboard digital signal processing technology. With optional network input modules for remote control and monitoring, the VT4888DP is a HiGnet™ compatible product.

**L-Acoustics KUDO:** KUDO is a new generation of line source array with unprecedented flexibility, embodying the paradigm shift that all sound designers have been waiting for: Revolutionary Ktower Modular Directivity and DOSC Waveguide Technology, Wavefront Sculpture Technology can now be performed in one plane while directivity is modified in the perpendicular plane; a significant evolution in L-Acoustics pioneering WST technology.

## What the pros are saying about Gefell:

**Bill VornDick** - Engineered 42 Grammy-nominated recordings and 8 Grammy winners. Artists include Alison Krauss, Bob Dylan, Chet Atkins, Bela Fleck, James Taylor, T-Eone Burnett, Mark O'Connor, Ralph Stanley and Dolly Parton.

"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, Bebe 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 Dinklage, Deep Forest, King Crimson, Robbie Robertson, Tool, Silverchair, Tony Childs, Joni Mitchell, Trey Gunn, Youssou N'Dour, Kid Rock, Roger Eno and the "Philicelphia" 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

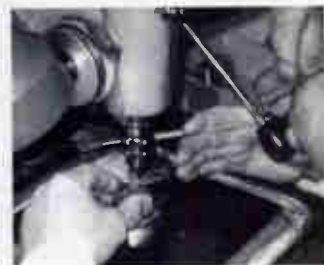
Since 1928, Gefell has led the world in microphone technology, starting with the world's first condenser. In 1935, the remarkable M7 capsule was introduced. That led to the legendary sound of the U47, the U49 and in 1957, the UM57 - the first ever multi-pattern microphone. Today, Gefell continues the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

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



## Gefell is the Real Thing



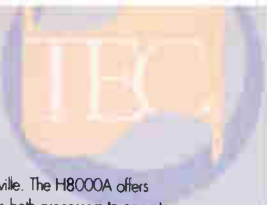
M930 matched stereo pair with SH93 X/Y bracket

[www.gefell-mics.com](http://www.gefell-mics.com)

# Gefell™

the original hand-made German microphone





**Meyer Milo 120:** A variation on the TEC Award-winning MLO highpower curvilinear loudspeaker, the self-powered MLO 120 is a compact, lightweight four-way system that provides 120 degrees of horizontal and 20 degrees of vertical coverage. The MLO 120 loudspeaker is the perfect downfill complement for standard MLO or M3D line array loudspeaker systems, or in other fill applications that can be satisfied by one or two cabinets. MLO 120 can also be used by itself to form wide coverage arrays.

**QSC ISIS WideLine:** The ISIS WideLine line array speaker system is a full-range (55 Hz to 18k Hz), wide-coverage line array. It has a three-way, selectable bi-amp/tri-amp design with selectable midrange frequency shading for more coherent pattern control and better intelligibility. It combines dual 380-watt, 10-inch, longthrow LF speakers and a 1.4-inch exit neodymium compression driver, mounted on a proprietary multiple aperture diffraction slot for wide dispersion.

**Renkus-Heinz STLA/9:** At 190 pounds, the STLA/9 is the lightest self-powered high-output line array module available. Its patented CDF-1.5 CoEtrant transducer was developed with the Isophasic Plane Wave Generator, which controls vertical dispersion from 350 Hz to 20k Hz because it operates equally well with high-frequency "rays" and midrange "waves." Combined with the wideband point-source CDT 1.5, this unique approach provides true line array performance. The digital PM-3 PowerNet Intelligent Amplifier includes speaker-specific signal processing.

## I. STUDIO MONITOR TECHNOLOGY

**ADAM Audio P33-A:** The P33-A provides the advantages of ADAM's popular S3A design at a lower price. Like the S3A, one woofer acts as a full-range driver with the second woofer joining it below 150 Hz. This unusual approach effectively doubles the area and power of the woofer when it needs to respond to deeper frequencies. The P33-A is shielded and has three 100W amplifiers to deliver outstanding dynamic performance. It can be used either horizontally or vertically.

**Blue Sky MediaDesk:** MediaDesk™ is a compact 2.1 or 5.1 full-range monitoring solution designed specifically for critical monitoring on the desktop. Ideal for computer-driven audio recording/production in a closed-field environment (typically less than one meter), MediaDesk combines two Blue Sky ultracompact amplified satellite speakers with a complementary powered subwoofer. The company's innovative approach to answering current trends with a steadfast commitment to quality has helped revolutionize industry-reference standards while offering unprecedented value.

**Dynaudio Acoustics BM5A:** The BM5A's compact size is no disguise for its remarkable performance. Self-powered and loaded with matched Dynaudio transducers, it delivers exquisite clarity and performance that is characteristic of all Dynaudio Acoustics studio monitors. Two 50-watt amps drive a 6.9-inch woofer and 1.1-inch softdome tweeter, respectively, providing a uniform 50-Hz to 21k-Hz response in every studio environment where space is limited and budget a consideration.

**Genelec 8050A:** This brampified active monitor system is designed for critical monitoring where wide frequency response and high SPL are required. At the core of the 8050A's design is the all-aluminum Minimum Diffraction Enclosure™ technology, which incorporates an Advanced Directivity Control Waveguide™ carefully matched with advanced electronics, the latest driver design, newly designed reflex port and integrated IsoPod yielding the lowest possible distortion across its entire operating frequency spectrum.

**JBL LSR6325P:** The LSR6325P provides ultraaccurate response and exceptional SPL capability in a compact form factor. The brampified design is based on a 5.25-inch high-excursion LF transducer powered by a 100-watt RMS amplifier and a 1-inch titanium/composite HF transducer powered by a 50-watt RMS amplifier. JBL Professional LSR Linear Spatial Reference design provides greater accuracy at the mix position, making the LSR6325P ideal for critical stereo and surround sound production.

**Tannoy Ellipse IDP:** Ellipse IDP™ is a stunningly versatile intelligent active monitoring system, combining the unique Tannoy Dual Concentric™, WideBand™ technology with the latest cutting-edge digital processing. By incorporating DSP technology, networking intelligence and Class-D digital amplifiers, along with the company's renowned acoustic expertise, Tannoy has established a new level of performance and operation convenience in studio monitors. Ellipse IDP™ studio monitors provide the professional user with complete control over the entire monitoring operation.

## J. MUSICAL INSTRUMENT TECHNOLOGY

**E-mu Emulator X Studio V. 1.5:** Emulator X Studio Desktop Sampling System offers musicians and engineers unrivaled synthesis and over 50 patented XPlane morphing filters that deliver hands-on control down to the sample level, as well as unprecedented tools for automated sampling and preset creation. The Emulator X Studio hardware features premium 24-bit/192kHz A/D and D/A converters (120dB SNR), comprehensive SMPTE, word clock and MTC sync, two preamps designed by Ted Fletcher, hardware-accelerated effects and mixing, and much more.

**Garrigan Personal Orchestra 2nd Edition:** Personal Orchestra includes a comprehensive orchestral sample library, Native Instruments Kontakt sample library, GeneSoft's Overture™ LE notation program, Cubasis VSTPC and Ambience reverb. Features include samples of all major symphony instruments—strings, brass, woodwinds, and percussion—as well as instruments not found in other orchestral libraries, such as a Steinway concert grand, Stradivarius violin, Vuurlitzer and Venus concert harps, Haynes flutes, Heckel bassoons, a Mustel celeste and more.

**Line 6 VariaX Acoustic 700:** The world's first acoustic modeling guitar, the VariaX Acoustic 700 was developed to create the ultimate acoustic experience for guitarists who require mics or pickups to amplify or record acoustic guitar. It delivers 16 detailed acoustic instrument sounds including vintage steel-string, nylonstring classical, resonator and archtop guitars, all with phenomenal feedback-resistance, unique loneshaping options and instant access to alternate tunings. The guitar features a set-in mahogany neck, chambered mahogany body and natural finish cedar top.

**MOTU MX4™:** Inspired by legendary subtractive synthesizers, this studio plugin powerhouse combines several synthesis techniques in a unified, hybrid engine delivering fresh and vintage sounds alike. As you explore its hundreds of presets, the MX4 will become your "goto" instrument. Fat basses, nasty leads, analog pads, vintage electronica—all at your fingertips and conveniently saved with your host application projects for instant recall. Tweaking sounds is easy, but with a depth and sophistication true synth programmers will appreciate.

**Roland V-Pro TD-205 V-Drums:** With the V-Pro™ Series TD-205BK, Roland improves upon the industry-standard V-Drums™ starting from the ground up, with improved mesh-head V-Pads™, highly acclaimed VCymbals™ and innovative new V-Hi-Hat for complete playability. At the heart of this flagship set is the TD-20 module with more than 500 new sounds and functions, improved dynamics and sensitivity, CompactFlash storage and in-depth VEditing.

**Tascam GigaStudio 3:** The GigaStudio 3 sampler is available in three versions: Orchestra, Ensemble and Solo. All offer near-unlimited polyphony, 24-bit/96kHz resolution, ReWire support, VST hosting, real-time convolution modeling and a new look and feel for improved workflow. Also standard in 3 are features that have made GigaStudio a favorite of pros everywhere, such as disk streaming, ultra-low latency and a massive library of available sounds.

## K. SIGNAL PROCESSING TECHNOLOGY/HARDWARE

**BSS Soundweb London BLU-80:** This integrated system solution heralds a new age in DSP system processing. The Soundweb London family builds on the success of the original Soundweb system, but adds more flexible and enhanced I/O configuration, dual-redundant CobraNet audio networking with greater network capacity and matrix sizes, double the DSP of the Soundweb 9088ii processor, a new core system design, plus integration of control and monitoring of Crown's CTS Series of amps using TCP/IP PIP cards.

**Empirical Labs LI FrEQ:** Instead of daisy-chaining EQs and frequency processors, LI FrEQ crams most of what an engineer needs into one single-height box. Features include HP filtering, high/low-shelving EQ, four sections of parametric EQ (with ultra-low 0.007% THD), and a multiband parametric dynamic equalizer that combines filters with a compressor-like circuit to control sibilants. Its three outputs include a Class-A transformer output for vintage-style soft saturation and "beefy" low end.

**Eventide H8000A:** The culmination of more than 30 years of crafting groundbreaking effects, the H8000A features Eventide's best 1,588 preset algorithms and more processing

power than its predecessor, the Orville. The H8000A offers Monolithic Tandem™, which allows both processors to operate together, facilitating large complex algorithms, including 5.1 reverb and effects up to 96k Hz. The H8000A offers four channels of analog I/O, four channels of AES/EBU, ADAT as well as S/PDIF and word clock I/O.

**Lake Mesa Quad EQ:** An alternative to traditional EQ, the Mesa processor provides revolutionary equalization technology including Lake's asymmetrical Mesa Filter and the perfect-summarion Ideal Graphic EQ. Each channel of processing uses "EQ Overlays" to provide a new realm of parametric control. Additionally, each processing channel can be assigned to "groups," providing virtual master controls across a distributed Ethernet-based network of processors. The Lake Controller provides a wireless user interface, enabling instant updates to any processor on the network.

**Oram Hi-Def 4T Memory EQ:** The first product from Oram Digital Developments—a division of Oram Pro Audio—is a digitally controlled version of the Hi-Def EQ, famous in studio and mastering rooms around the world. Providing a pure analog signal path, MIDI digitally controlled with 105 memories of all functions on the control panel, this British equalizer confirms the title earned by John Oram over many years. Made in England with a two-year warranty.

**TC Electronic Mastering 6000:** Mastering 6000 is the 4-engine mastering processor based on the company's award-winning multichannel processing platform, System 6000. Included is a custom set of precise timing and high-resolution digital signal processing tools designed to service the needs of discerning mastering engineers around the world, engineers producing high-quality audio for CD, DVD, SACD and film. Mastering 6000 has a license-based structure, which enables it to be augmented with optional processing tools.

## L. SIGNAL PROCESSING TECHNOLOGY/SOFTWARE

**Antares Auto-Tune 4:** Universally praised as the worldwide standard in professional pitch correction, Auto-Tune 4 corrects intonation problems in vocals or solo instruments in real time without distortion or artifacts, while preserving all of the expressive nuance of the original performance. Whether to save studio and editing time or that otherwise once-in-a-lifetime performance, ease the frustration of endless retakes or to create striking special effects, Auto-Tune 4 is the tool of choice.

**McDSP Channel G:** Channel G is a sophisticated console strip featuring expander/gate, compressor/limiter, equalizer and filter sections, form-fitted for the Digidesign ICON workspace. Modes for music, post-production and models of the world's most popular analog mixing desks are provided. Additionally, Channel G includes a powerful surround compressor/limiter consisting of LR, C, LRs and LFE compressor sets. Each compressor/limiter can key from, and be linked to any of the compressor sets.

**Sony Oxford Restoration Tools:** The Oxford Reverb plugin is a highly flexible reverb generation generator, combining the highest technical and sonic performance with superb artistic and creative facilities. Powerful user control of all parameters gives the Oxford Reverb the flexibility to build virtual spaces on artistic need—from dry reflection ambiances, room and hall simulations and sound effects to expansive reverberant spaces with brood textures and spatial character.

**TC Electronic MD3 Stereo Mastering Package:** MD3 Stereo Mastering package for PowerCore brings two professional production and mastering tools (previously only available in System 6000) to the realm of DAWs. Integrating smoothly with VST or AU-compatible applications for music and post-production, MD3 includes multiband dynamics for true dual-mono and stereo dynamics processing in three bands and brickwall limiter for every one who is concerned with preserving the audio quality for the end listener.

**Trillium Lume Labs TL Space:** TL Space is the ultimate Pro Tools reverb for music and post-production applications. From the largest concert hall to the densest plate reverb, TL Space delivers the pristine sound of natural reverb spaces with the familiar controls used in high-end hardware reverb units. By combining the sampled acoustics of real reverb spaces with advanced DSP algo algorithms, TL Space offers stunning realism with full control of reverb parameters in mono, stereo and surround formats.



# The new DSD-ready mastering standard: TASCAM's high-definition 2-track recorder.



**Introducing the next generation mixdown recorder: the first to record both standard CD-R and high-resolution formats in one affordable unit.** Created in collaboration with Sony, the DV-RA1000 is the ultimate 2-

DSD  
2.822 MHz 1 bit 109 min.

192 kHz 24-bit 66 min.

172.4 kHz 24-bit 66 min.

96 kHz 24-bit 72 min.

88.2 kHz 24-bit 133 min.

48 kHz 24-bit 267 min.

44.1 kHz 24 bit 290 min

track recorder, capable of writing 24-bit PCM from 44.1kHz all the way up to 192kHz, as well as the ultimate digital format, DSD (Direct Stream Digital). Whatever your final mastering sample rate choice, the DV-RA1000 does it.

#### As a mixdown recorder. A

full complement of professional I/O, including balanced analog, AES/EBU and word clock, allow the DV-RA1000 to easily integrate into your studio. Mix in confidence to universally-accepted DVD+RW media, mountable on a Mac® or PC.

DV-RA1000 is the obvious mastering choice for pro studios: DVD is as easily deliverable as CD or DAT but with significantly higher audio resolution.

**As a live 2-track recorder.** DV-RA1000 boasts an epic recording time of nearly 5 hours at 24-bit resolution on a single disc. Built-in processors such as multiband

compression and EQ ensure your live performances are perfectly captured.

**As an archive recorder.** Preserve your analog and digital masters using DSD, the format used by Sony® for Super Audio CD (SACD) authoring. With multiple sample rates that allow simple digital transfers from aging formats such as DAT tapes, TASCAM ushers in the Direct Stream Digital era with the only affordable way to accurately archive your precious recordings.

**Meet the New Standard at your TASCAM dealer.** Or visit [www.tascam.com](http://www.tascam.com) for more information on the new DV-RA1000.



- Up to 192kHz/24-bit recording
- Records to DVD+RW and CD-R/RW media\*
- Multiband compression and 3-band EQ effects
- ±6% pitch control
- USB 2.0 port for use as DVD data drive
- Balanced AES/EBU I/O, running at normal, double-speed and double-wire formats plus balanced XLR and unbalanced RCA I/O
- SDIF-3 DSD I/O for external conversion & DSD audio processing
- Word Sync In, Out, Thru
- RS-232C serial control
- PS/2 keyboard connector for title editing
- Records to CD-DA, DSDIFF & Broadcast WAV formats
- Headphone output
- Supports UDF disk format for cross platform computer compatibility

## TASCAM

\* CD recording is at 44.1 kHz/16-bit (Red Book spec) only.

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**Waves L3 Maximizer:** The world's first multiband auto-summing peak limiter, L3 differs from conventional wideband and multiband limiters by using linear phase crossover filters to divide the audio spectrum into five bands. Its PLMixer™ then uses psychoacoustic criteria to intelligently decide how much attenuation to apply to each band so all available headroom is used. Intermodulation is minimized and overall loudness is maximized, and brickwall limiting is still maintained—all while retaining the simplicity of a single master threshold control.

## M. WORKSTATION/RECORDING TECHNOLOGY

**Apple Logic Pro 6.5:** Logic Pro 6.5 is the complete professional solution for music creation and audio production. It combines an award-winning sequencing and audio workstation application with a comprehensive set of studio-quality software instruments and audio effect plugins like Space Designer. Logic Pro 6.5 features optimization for the PowerPC G5 processor and seamless integration with Mac OS X, forming a highly productive system that changed the way music is composed, recorded, edited and mixed.

**BIAS Peak 4.1:** Peak offers stereo audio editing and processing capabilities along with support for popular audio formats. Version 4.1 also includes Roxio Jam Red Book-standard CD burning software for Mac OS X, and SFX Machine LT (a limited edition of the multi-effects sound design plugin). The addition of Jam to Peak allows users to include track indices, names, ISRC codes (International Standard Recording Code) and additional information necessary for producing commercial replication-ready CDs.

**Cakewalk SONAR 4 Producer Edition:** SONAR Producer Edition has a well-earned reputation for delivering powerful production tools in a fast, streamlined user interface. With SONAR 4, Cakewalk has added powerful new recording, editing, comping and navigation tools that optimize workflow for today's professional. In addition, V. 4 combines innovative surround and AV capabilities along with precise engineering tools, making SONAR 4 Producer Edition the definitive audio production environment on the Windows platform.

**Digidesign Pro Tools 6.7:** With Pro Tools 6.7 software, MIDI sequencing capabilities are more comprehensive than ever, while MIDI recording, editing and mixing features are still as easy to work with as audio. The audio and MIDI feature set in Pro Tools 6.7 is greatly expanded to deliver tempo-dependent audio placement, tempo-dependent automation, graphic tempo editing, precise control of meter changes, MIDI step input, enhanced support for instrument plugins, MIDI Detective and Beat Detective IE.

**MOTU Digital Performer 4.5:** Digital Performer lets users record, edit, arrange, mix, process and master MIDI and audio tracks simultaneously to produce musical recordings, sound tracks for film and television and other audio production tasks. Version 4.52 adds many new features, including plugin latency compensation, Beat Detection Engine, MasterWorks EQ, dynamic CPU management and enhanced Pro Tools support.

**Steinberg Nuendo 3:** Nuendo 3 is the center of Steinberg's pro system for creating audio for film, television, video or games. Key features include 32-bit/384k Hz recording, 12-channel configurable surround, OMF, AES 31, Open TL, TCP/IP networking, and advanced MIDI and scoring features such as pitch shift/time stretch, play order track and unlimited undo. Nuendo also includes comprehensive networking and routing, configurable workflow, full plugin, virtual instrument and external hardware implementation, postproduction edit mode, and much more.

## N. SOUND REINFORCEMENT CONSOLE TECHNOLOGY

**Digidesign VENUE:** VENUE is Digidesign's innovative digital live sound mixing and production system, purpose-built for the stringent reliability and quality requirements of modern sound reinforcement. The system components are modular and scalable, allowing configuration to match user needs perfectly. Multiple redundant subsystems, Pro Tools plugin support, outstanding sound quality, comprehensive snapshot capabilities and integrated Pro Tools recording and playback options make VENUE a powerful live sound solution for venues and tours.

**InnovaSON Sy48:** The Sy48 digital mixing console takes its feature sets from the successful large-format Sy80 and packages them in a compact and lightweight stand-alone surface. Fitted with 48 freely assignable faders, Sy48 can mix up to 72 channels (all

with full processing) into 40 discrete bus outputs. In addition to the 8x8-channel audio cards fitted internally, Sy48 can access up to two remote stage boxes connected via coax, optical fiber or Ethernet.

**Mackie IT24:** This 56x45, 24-bit/96kHz-capable digital live console features 100mm motorized faders, onboard analog and digital I/O, full channel metering, digital recall, EQ, dynamics and effects. Standard are 24 mic/line inputs with 4-band EQ/comp/gate, eight line inputs with 4-band parametric EQ, left/right C-mono outs with 4-band parametric EQ and comp/limiter, 12 aux sends with 4-band parametric EQ and comp/limiter, eight groups with 10 assignable 4-band parametric EQ and comp/limiters and eight matrix outputs with delay compensation.

**Midas Siena:** Siena puts Midas' experience in building dual-purpose consoles into a compact package. Built on the proven Verona platform, it combines superb audio performance with increased functionality. The bus structure has been redesigned to be more appropriate for monitor use and features a powerful logic-controlled solo system, switched inserts on outputs and the Solo Tracking System. Siena maintains the familiar ergonomic layout of all Midas consoles making navigation around the control surface quick, easy and intuitive.

**Soundcraft G88:** Available in frame sizes from 16 to 48 channels, each with four full-function stereo channels and four stereo returns, the G88 is designed for installations such as churches and performance venues, or for small touring sound systems. The dual-mode topology allows the G88 to be used on FOH or monitor duties, with fader control of group or aux outputs. Additional features include a meter bridge with three LED meters that closely emulate the ballistics of VU meters.

**Yamaha PM5D:** The PM5D features a self-contained design with 64 channels of superior dynamic control, 24-bit/96kHz audio with 32-bit internal processing, eight internal stereo multi-effects processors, multiple output configurations and analog-style operation. The console includes 25 user-defined keys, scene-based automation, motorized faders and 28x8 matrix system for cue monitor mixes or zone level control. Four slots accept I/O and effects plugin cards, and dedicated ports enable cascading of up to four Yamaha mixers.

## O. SMALL FORMAT CONSOLE TECHNOLOGY

**Allen & Heath WZ316:2:** WZ316:2 shares the new mic preamp design and advanced grounding scheme of the third generation of compact MixWizard mixing consoles, further enhancing the sonic quality of the well-established versatile functionality and renowned build quality of the range. Also sporting a stylish new look, the WZ316:2 features a dedicated mono output fader with innovative mode for control of auxed subs, individual phantom power switches and internal configuration options for user convenience.

**Digidesign Command|8:** Digidesign Command|8™ is a USB-based control surface for Pro Tools TDM and IE that puts integrated, tactile manipulation of Pro Tools sessions at users' fingertips. Command|8's touch-sensitive moving faders, automatable rotary encoders, large LCD display, and dedicated transport controls provide outstanding visual feedback and hands-on control. It also features a robust USB/MIDI interface and stand-alone MIDI controller mode enabling simple mapping of Command|8's controls to third-party MIDI applications and devices.

**Mackie Digital X Bus X.200:** Mackie's Digital X Bus console represents an evolutionary jump for compact, powerful and affordable mixing systems. Features include two 1.5-inch touchscreen flatpanel monitors, up to 192k Hz operation (144 simultaneous audio streams at 96k Hz), 32-bit floating point processing, expandable analog or digital I/O options and Mackie Control Universal control surface emulation with virtual overlays for any software DAW: Pro Tools, Logic Pro, Nuendo, Cubase, SONAR and more.

**Mackie Onyx 1640:** This compact 16-channel (16 mono mic/line inputs) analog mixer offers four buses, a 4-band sweep mid EQ, direct outs on each channel and a rotatable I/O pod for rack or desktop use. An optional FireWire card lets users output a combination of direct outputs from every input channel and the L/R mix directly into a FireWire-equipped computer and, at the same time, return two channels of computer audio back to the mixer for monitoring through the control room/phones matrix.

**Soundcraft/UREI 1620LE DJ Mixer:** Soundcraft has reintroduced the UREI range of DJ mixers. The 1620LE has all the sonic qualities of the original UREI 1620 faithfully retained. Features include six input channels: two phono and four aux matrix inputs (three line and one mic input), available with optional phono, line or mic options. Also standard are headphone monitoring of any input, balanced house and booth master volume controls, and 2-band EQ on the master output. The unit has gold-plated connectors for quality connections.

**SPL MixDream:** MixDream is a cascaddable, 16x2 analog outboard mixer in a two-rackspace format. Any DAW or digital console can be expanded with active analog stereo summing and (16 balanced) insert functionality while retaining the entire scope of computer automations. The MixDream discrete Class A technology is based on a 60Volt rail (±30V), providing a low noise level of -97 dBu (A-weighted, all channels active) and a dynamic level of over 125 dB.

## P. LARGE FORMAT CONSOLE TECHNOLOGY

**Digidesign ICON:** The Digidesign ICON Integrated Console Environment redefines the state-of-the-art in recording and mixing technology. Systems are completely scalable and feature the flagship D-Control or medium-format D-Command worksurface, both offering comprehensive touch-sensitive controls and visual feedback. Recording, editing and mixing functions are fully integrated with the world-standard Pro Tools DAW, enabling the user to work directly with its mix engine. Modular Pro Tools|HD interfaces provide all analog and digital I/O, completing the integrated console environment.

**Fairlight Constellation-XT:** Fairlight follows a development maxim of "more for less." Constellation-XT provides more features, more channels and more integration, at a lower cost than any other manufacturer's component system, combined with innovations such as OLED display technology. A journalist recently remarked that "the bang-for-your-buck, price vs. performance ratio of the Constellation is simply staggering"—a testament to technology resonating with customer aspirations. Headquartered in Sydney, Australia, Fairlight is celebrating its 30th anniversary in 2005.

**Lawo mc<sup>2</sup> 66:** The mc<sup>2</sup> 66's excellence comes from its conceptual design: one of largest audio matrices, the highest quality signal processing in every channel and sophisticated redundancy arrangements, from mic input to program output. Its compact DSP core with 512 DSP channels underlines the enormous capability. The control surface with its graphical support makes this the ideal tool for ambitious productions. Flexibility of external control, sophisticated audio-follow-video and sequence automation guarantees the flexibility needed for live/studio situations.

**Oram Series 4T:** This range of consoles feature complete restyling with a sleek body kit. The consoles are manufactured using enhanced robotic technologies in England. The 4T incorporates electronic design changes made to satisfy the experience we've gained from the Series 24. This product represents the best value 24-bus console in the market and from \$38,500 for 24 tracking channels, provides 58 channels in remix. Made in England with a 2-year warranty.

**Solid State Logic AWS 900:** With over 100 sold, the Solid State Logic AWS 900 Analogue Workstation System combines the benefits of SuperAnalogue™ processing and sophisticated digital control to provide a complete solution combined with the use of DAWs. The AWS 900's Total Recall™ memorizes the position of analog controls for later reset. The AWSomation™ option is a fully featured automation package developed from SSL's renowned G and K Series automation with a feature set designed specifically for the AWS 900.

**Studer Vista 8:** Vista 8 culminates over 47 years of Studer console experience and 12 years with digital desks. Vista 8 is specifically designed for all "live" broadcast and production applications. Studer's stunning Visionics™ user interface has been enthusiastically accepted by operators around the world, having returned familiar analog-like channel strip operation to a digital console. A completely redundant operating system and legendary Studer audio and construction quality complete this highly configurable multifunction console.



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# The L.A. Studios

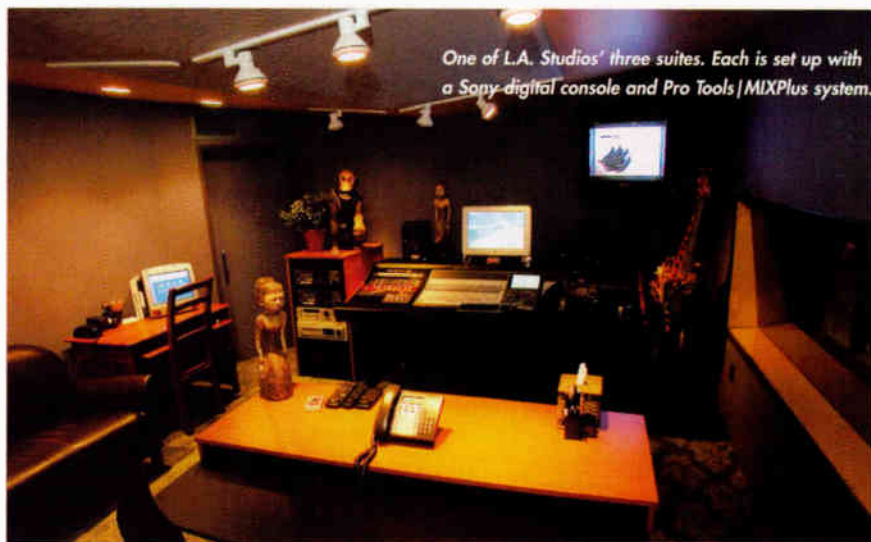
## Giving Voice to Animation

By Matt Hurwitz

Carlos Sotolongo has a Mickey Mouse job—literally. Over the years, he and his colleagues at The L.A. Studios have recorded Wayne Allwine and Russi Taylor (the voices of Mickey and Minnie) countless times, along with dozens of now-classic cartoon characters, voiced by actors and celebrity talents alike.

Recording voice-overs for animation requires a unique skill set. While voice-over mixers have to deal with mic selection and placement, compression and, of course, egos, just like music engineers, their relationships with talent and directors, and an understanding of the distinctive material being recorded places them in a singular category within the recording industry.

The L.A. Studios, located in the heart of Hollywood's Cahuenga Pass, half-a-block from the former home of Hanna-Barbera Studios, opened its doors in 1980 to work with audio for commercials. "From day one, we were niche-focused on high-end spots," explains company CEO Jesse Meli. "We started a film mixing business in one or two of the rooms, though we catered primarily to voice-related projects." The film mixing business made its move to Hollywood proper 10 years later with the opening of Margarita Mix Hollywood, followed in 1999



with the opening of Margarita Mix de Santa Monica, a response to what Meli calls the "commercial diaspora" of advertising clients to L.A.'s West Side in the late 1990s.

While the Margarita Mix Studios also record voice-overs for a variety of markets, the Cahuenga facility focuses on recording voices for animated feature films and television series. The studio features a half-dozen rooms, each big enough to contain an ensemble of up to a dozen or so and each similarly outfitted. "The

beauty of this facility is that the mixers can change rooms, as can the business markets," Meli says.

Each room is set up with a Sony digital console running Pro Tools|MIXPlus (shortly transitioning to HD). All systems are networked in two ways: through enhanced Ethernet to a common server and through 110-ohm AES digital audio lines running throughout the building. Chief technical engineer Keith Scheyving designed the system to facilitate workflow and allow for scheduling flexibility. "On any given project, you can be working on dialog in one room and sound effects in another," says Meli. "And all three of our facilities can speak to each other." The suites are also digitally routed to a range of ISDN codecs, allowing for remote real-time recording with either talent or directors.

The rooms are also video-friendly, with tielines running from each room to the CMR. "Because of the DVD bonus features and commentary we record, edit and mix, in addition to our animation business, there's quite a bit of videotaping going on on any given day," says Meli. "This can be material for an EPK or Katie Couric when she recorded her part for *Shark Tale*. Our machine room is set up to record any choice of video format."

While the facilities are state-of-the-art and client-friendly, it's the mixers

—CONTINUED ON PAGE 95



From left: L.A. Studios' CEO Jesse Meli, general manager Jane Curry, Larry Winer and Carlos Sotolongo



# The Art of Anime Dubbing

## Chasing Sync in Post-Post-Production

By Bryan Reesman

The recent boom in the popularity of anime, both on TV and DVD, has seen the introduction of dozens of shows to the U.S. market each year, as well as a few scattered theatrical features and shorts on the festival circuit. At the same time, producers fighting to make their shows stand out from a newly crowded pack have brought much-needed attention to the soundtracks, particularly to the voice dubbing.

Differences do exist between Japanese and American dubbing processes. While Japanese recording sessions for anime series involve multiple cast members and crew and usually average four hours per 30-minute episode, American dubbing sessions are done one actor at a time and take two to three days per episode. When it comes to features, they can take longer, as with the Disney dubs of Japanese director Hayao Miyazaki's films. Those average eight weeks to complete.

### A HIGHER MAGNITUDE

Les Claypool (*not* the bassist for Primus) has owned Magnitude 8 Post for two decades and has been involved for 15 years in dubbing anime series such as *Ghost In the Shell: Stand-Alone Complex*

and movies such as the cult classic *Akira* and the recent *Appleseed*. Early in his career, Claypool spent a lot of time fixing bad dubbing jobs by other studios; he still does that today.

"We are currently working on a 26-episode series that's just the biggest mess I've seen in 20 years," Claypool says. "We're restoring and remixing it. There's very limited funds to dub this stuff, so of course they go with anybody who says they can do it. Then I usually fix it and tell them, 'If you had come to me in the first place, it still would have cost 40 percent less than doing it twice.'"

Magnitude 8 has two locations: an Arleta, Calif., facility for ADR and dialog editorial, and a Burbank address for music, effects and mixing. While the company does not do casting or directing,



A scene from *Howl's Moving Castle*

Claypool does have a relationship with Yutaka Maseba, president of Zero Limit Productions, a California-based company specializing in English adaptations that he operates with his partner and VP, Haruyo Kanesaku. Claypool's company then tracks, edits and either mixes or supervises the mixes.

At Magnitude 8's Arleta studio, the rooms are purpose-built for ADR. "It's all Pro Tools-based, all removable SCSI drives that we can run around town with," explains Claypool. "We keep the Pro Tools rigs really stripped-down. That way, we minimize crashes when we have actors backing up and clients watching. Minimal plug-ins and tons of RAM is how we keep all that flowing smoothly."

The studio is equipped with Mackie and Tascam consoles used solely for monitoring. Either Avalon or Neve mic pre's usually go directly into Aphex 661 compressors, which then go straight into the Pro Tools interface. They never bus and go through a board, according to Claypool.

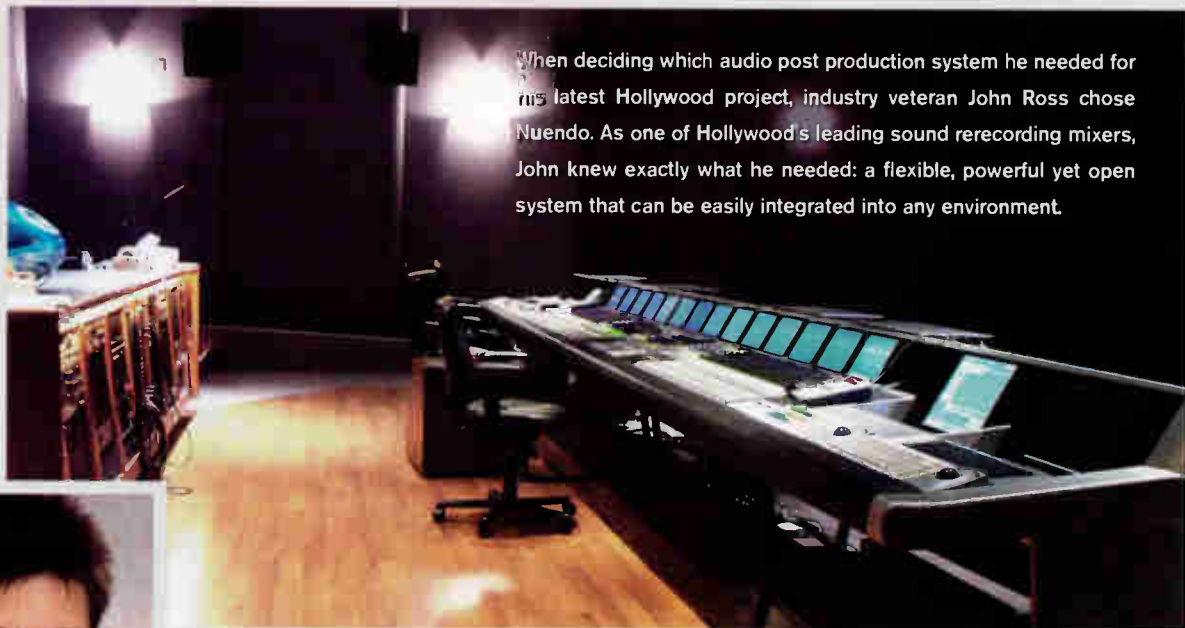
The studio's microphone of choice



Rick Dempsey, senior VP of Disney Character Voices, recently co-directed *Howl's Moving Castle*.

# Post pro's, no cons.

Part One – John Ross



When deciding which audio post production system he needed for his latest Hollywood project, industry veteran John Ross chose Nuendo. As one of Hollywood's leading sound rerecording mixers, John knew exactly what he needed: a flexible, powerful yet open system that can be easily integrated into any environment.



“What excites me about this product is you've now come out of that little world of DSP cards that were setting the pace of development. This system is both powerful and flexible enough to accommodate anything that would come our way.”

Not only did editing with Nuendo turn out to be a joy, John was also impressed by the next-generation Nuendo networking features.

“The editing in general is far superior in Nuendo. And the networking for editing is another layer that hasn't been achieved by any other system I've seen.” John also treasured his Nuendo system's ability to blend in to almost any existing post facility with its huge range of supported interchange formats.

With major Hollywood movie credits under his belt such as *Austin Powers: The Spy Who Shagged Me*, *Blade II*, *American History X* and *Lost Highway*, John was wrapped with his system's performance throughout his work on *De-Lovely: The Life Of Cole Porter*. So much so that he used Nuendo as the sole DAW on this major motion picture, which he mixed at leading post facility Todd AO West, California. In fact, John has adopted Nuendo as his number one preferred system for all his future post projects.

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is a Neumann U87, but they do possess many Audio-Technica tube mics including the 4060 and shotguns such as the 416. "For anime, it's usually a combination of 87s and BLUE Mouse," reports Claypool.

Claypool believes that the essential elements that make up a good ADR facility include quiet, pure signal path,



Appleseed was recently completed at Magnitude 8.

tight acoustics, floated floors and "all the usual stuff that real recording studios know about," he quips. "Then there's trying to keep it relatively close-miked, which is really difficult to do. You're trying to get good, rich, thick voices, which is not the case for commercial stuff, feature films and TV, which is more off-mic, shotgun-type of recording because you're trying to create a sense of air around the mic. We've even had our Avalons modified. Avalon calls it the 'Mag 8 Mod' so we can actually do that."

#### THE IMPORTANCE OF VOICING

Proof that anime has gained a foothold in American popular culture is witnessed by the fact that popular anime series have been luring stronger and stronger voice talent. When it comes to features, Disney's English-language dubs of Miyazaki's award-winning films (including *Nausicaa of the Valley of the Wind*, *Kiki's Delivery Service* and the Oscar-winning *Spirited Away*) have attracted top-notch Hollywood actors such as Michael Keaton, Uma Thurman, Daveigh Chase, Michael Chiklis, Peter Boyle, Cary Elwes, Anne Hathaway and a slew of others.

"We record them one person at a time and shape and mold their performance," says Rick Dempsey, senior VP of Disney Character Voices, who has directed most of the company's dubs of Miyazaki films and recently co-directed *Howl's Moving Castle* with Pete Docter (*Monsters, Inc.*). "Obviously, the differences between U.S. animation and what we're doing with

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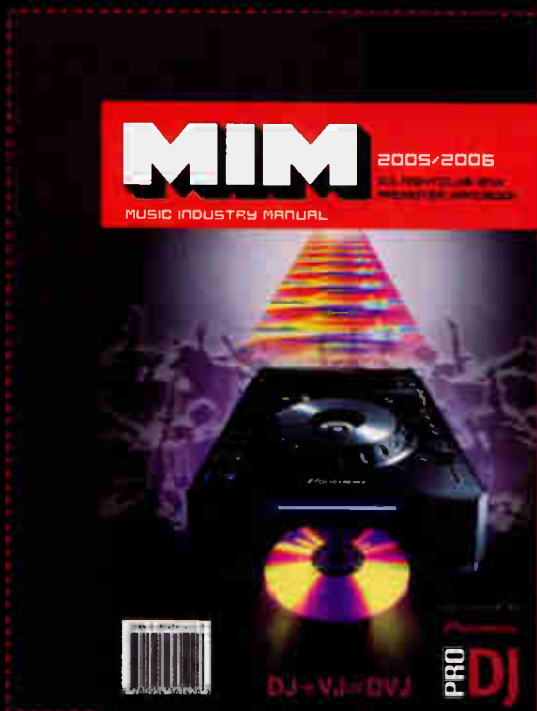
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the Miyazaki films is that in the domestic productions that we have, we get to record the voices first and have the luxury of animating around them." He points out that Disney dubs its films in about 36 languages. "It's rare where we get to take someone else's product and dub it into English."

At Disney, actors are recorded into Pro Tools. The studio usually uses a Neumann U87 microphone for all of its recording. Like *Magnitude 8*, Disney uses a Doremi V1 video deck for visuals. The hardest obstacle to overcome, according to Dempsey, is getting natural performances from actors who are trying to match the rhythms of pre-existing mouth flaps as opposed to their own natural rhythms. The challenge is to get a good flow to the performance.

Main characters are recorded in the Disney Character Voices Recording Studio, which Dempsey says is small but has a good sound for recording and mixing. On the rare occasion that an actor is working out of New York, Dempsey and Disney will record in another studio there. Walla sessions on the Miyazaki releases are done at Studio B on the Disney studio lot and



Ghost in the Shell: Stand-Alone Complex

feature up to 15 actors at once. (Due to its larger budget, *Howl's Moving Castle* was all recorded on Stage B.)

"We will have a walla session during a scene such as a riot, sporting event or concert, which call for the recording of a large crowd," explains Zero Limit Productions' Maseba, of the casting firm that works with *Magnitude 8*. "The Japanese call this 'Gaya.' We'll have a group of men, women or both, and have them speak about various things that pertain to the scene. The idea is to have dialog that isn't really needed to be understood by the audience, but to bring about an emotion during that scene. We also listen to

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the original Japanese walla recording to pick out certain audible walla and incorporate that into our scripts. The Japanese scripts usually say to improvise, but once again, we will go the extra mile to stay true to the original Japanese recordings."

"There are a lot of libraries where it is already on CD, and they probably just cut it in Japan," says Claypool, who tends to record walla sessions in groups of five. "But if you want any specifics, walla groups will actually study the movie itself and what they're supposed to be talking about."

Whether or not individual tracks are compiled or larger group sessions are recorded depends on the scene. "Sometimes we'll do a huge crowd—we'll do what we call a donut," says Dempsey. "If it's a moving scene, we'll have all 15 talent form a circle and make a giant donut and they walk around and have different proximities to the microphone. They're all making noise, but it gives you a variation, so it's not a static sound and you get a little bit of movement, especially if you use a stereo mic" Disney's mic selection varies and includes a Neumann TLM 170 and U87 or a Sennheiser shotgun microphone, "depending upon what the scene looks like."

#### LOOSE LIPS SINK SYNC

Maseba observes that the biggest difference between dubbing in Japan and America is lip sync. "Japanese dubbing is acceptable as long as the dialog starts when the first frame of the animated character's lips open and ends when the last lip flap closes," he explains. "In the U.S., the process starts with our dialog script writers, who write dialog that will specifically synchronize to the animated lip flap movements. From that point, the actors and directors work hard to make sure everything syncs while giving a natural performance. Even after recording, our studios will edit the dialog to make sure everything fits together perfectly."

The amount of editing in American productions varies. For the Miyazaki films, says Dempsey, "We try to shoot all the dialog in a clear-cut fashion and get it as close to sync as possible. There are just some times that we love a performance but it's not the best lip sync."

Claypool observes that some directors get what they want by doing multiple takes, "and maybe slip it a frame one way or the other, but some of the other directors will track eight to 10 takes of this stuff and start cutting and pasting. Then we'll get a hold of it in editorial and, depending on the project, we can take it all the way down to the level of pluralizing words by sticking an 's' at the

end of a sentence. Quarter-frame bumps are pretty normal for dialog editorial. You wouldn't think a quarter-frame matters."

Maseba notes some differences in the way dialog is tracked in Japan. He says that during an entire cast session for one episode that usually lasts only four hours, two takes of the show are done with pickups recorded afterward. Actors stand before a three-mic setup, surreptitiously sliding back and forth to the mic when it is their turn, quietly turning pages and some even removing their shoes to avoid making shuffling sounds.

"You see them holding the script in front of their faces to the side of the monitor and they move the script away from the mic to turn them," illustrates Maseba. "Stateside, we usually track the dialog in groups of three or four episodes with individual actors unless there is a walla session. We average three days per episode, so a recording can last up to nine or 12 days. The other thing we do differently is track one loop at a time. Really good actors can record several loops in one take."

#### STAYING TRUE TO THEIR ROOTS

Aside from dialog, Claypool and Dempsey agree that preserving the original music and effects tracks is paramount. "One of our philosophies is never cover the Japanese effects with new effects," states Claypool. "If you're going to do anything at all, blend them in because it's sort of presumptuous and disrespectful to listen to it and go, 'None of that's any good, so why don't we just cover it with more stuff?' We tend to just blend it in, so you may not know we've been there, but your speakers will rumble a little more."

Claypool adds that standard procedure is to be given to M&E tracks, and if he is lucky, they are already split. "But many times, they give you a comped-down M&E, where you have no control over anything except a little volume dipping and EQ here and there," he notes. There may occasionally be music changes, but his company tries to keep things as true to what they have been given as possible, including the relative volume levels between the American and Japanese language tracks.

One of Magnitude 8's trademarks is perspective cutting, including plenty of reverbs and slaps. "If you're out in the forest, give it a little slap," says Claypool. "If somebody's 10 feet away from the other person and they're talking back and forth, dip the volume and roll a little EQ out, and put a little low end out of the distant voice and put a little bit of room on them."

At the end of the day, both Disney and Magnitude 8 strive for the best sound



and performances as possible to offer a quality product and keep viewers engaged. Dempsey hopes that those viewers who prefer watching the Japanese originals with subtitles will try out the American dubs and get sucked into those performances, which he feels are as equally good.

"Traditionally, dubbing has been seen as a dark cloud, something that's always been done poorly here in the U.S.," Dempsey admits. "Think of the traditional *Godzilla* movie—that's an American audience's vision of dubbing. We're just trying to be meticulous about this and take it to a whole new level so that people can appreciate these films without having to read subtitles." ■

### The L.A. Studios

—FROM PAGE 88

themselves, many of them part of the staff since the company opened, who keep the talent coming back. Mixers Sotolongo and Larry Winer have worked on weekly cartoon series and features such as the recent *Shrek 2*, *Shark Tale* and *The SpongeBob Squarepants Movie*, to name a few.

Recording for weekly animated series and features might appear to be similar, but they are quite different animals, notes Sotolongo. "The process for recording a feature can take three to four years, while a television show can record, perhaps, two episodes in one session," he explains. Television sessions can involve recording an ensemble cast, while feature animation sessions typically involve recording a single actor at a time.

For a typical feature, the process usually begins with the recording of a "table read" by the whole cast, if possible, from which roughly drawn animatic sequences are created for a given scene. Once those are completed some months later, an actor will return to the studio to record the production track for the scene, on which final animation will be based. "They often videotape the actors during recording to capture their facial expressions, which is helpful for the animators," explains Winer. The process continues over several years' time, sometimes within months of release.

Celebrity actors sometimes need to become acclimated to working in animation. "They usually perform as if they are on a set," Sotolongo says. "They are unaccustomed to the technical parameters typical to the VO process, such as not going off-mic, not turning one's head or making noise or turning pages during a take." That doesn't appear to be a problem with TV animation.

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"We have the best actors here in Los Angeles," he adds. "These guys are automatic. The read is already programmed into them, and they know how to work the mic."

The engineers typically use Neumann U87s for feature recording, while television work gets a Gefell UMT 70S (both in-line with Millennia HV-3D preamps). "The Gefell is more midrangy, with less bottom or top end," Sotolongo says. "It will cut through a television speaker much better than the Neumann." Features are normally recorded at L.A. Studios with a pair of mics: one near and one far. "In features," Sotolongo continues, "spatial environment is very important. The audio needs to match the scene. If it's a big, wide shot of a big room, you're not going to want a tight mic placement." While animation recording receives compression, feature recording gets very little. "We want to leave it as dynamic as possible for the editor and the mixers down the line in post," notes Winer.

During recording for TV, L.A. Studios provides a note-taker to keep track of take information, which becomes useful during editing. While feature recording characteristically results in complete session tapes being provided to the production, the mixers generally edit the recordings for television shows. "They're quite fast," says L.A. Studios general manager Jane Curry. "These shows usually have about 250 lines for a half-hour episode and they can edit approximately 30 to 35 lines per hour." The editing is not as simple as one might expect. "On a lot of these shows, you're cutting within words from different takes," says Winer. "They can be very particular."

Clients typically want to stay with one engineer once a project has started. "I think there's an element of superstition coupled with a real trust factor involved," says Curry. "The L.A. Studios specializes in delivering premium sound, and our clients appreciate the fact that we consistently deliver. They think, 'Well, this previous project was very successful and Carlos did it, so we'd like Carlos for our new project.' That's why they get asked to travel. They're aware that our guys know what their project needs and how it's supposed to sound."

"If there's a fix that needs to take place or a pickup line that needs to be recorded and the director is tied up, they're pretty confident that he doesn't even need to show up," adds Meli. "The director will have developed a rapport and a symbiosis with the mixer, where he's confident the mixer can carry out his directive. That degree of faith is illustrated by our growing number of unattended sessions." ■

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## On the Road

### Hobbs

Motorhead has been criss-crossing the U.S., booking small theaters to celebrate their 30-year anniversary. These godfathers of metal are co-headlining with Corrosion of Conformity, carrying only the necessities: minimum gear, longtime engineers and enough dB to announce that metal is back. *Mix* caught up with Hobbs, Motorhead's FOH engineer.

*You've been the band's FOH engineer since '82. Has your technique changed?*

My engineering has changed only insofar as I am using newer technology (or gadgets) to help counter the ever-increasing stage volume. I have tweaked the gear, but I'm not sure that "refined" suits the band! *What are you carrying?*

We are carrying everything except racks and stacks. I requested a Heritage 3000, but you know how budgets can be! The XL200 is a good board and we have a Midas [monitor board]—my favorite. I have a rack of outboard gear.

*Going into different venues just about every night—and hence, new P.A. setups—how do you work around that?*

My only technique is equalizing the P.A. I get as near as possible to the same sound every night and can then mix with minimal changes to the board settings. I use pink noise and an analyzer to quickly identify peaks and troughs and then EQ by ear using a CD. I then tweak during sound-check and again at the beginning of the show to accommodate the changes caused by having an audience in the gig.

*There is a Motorhead "mixing stick" joke (a 2x4 is put down at the edge of the FOH board and the engineer raises it—simultaneously raising all of the faders up) going around. Care to dtulge?*

The "mixing stick" was a Motorhead joke based on the "everything louder than everything else" philosophy. It never existed and, hopefully, never will!

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## Webster Hall Revives Its Live System

Webster Hall, which has seen its share of live acts—Prohibition-era balls, a recording space for RCA Records' artists and numerous rock acts—has brought in a new sound reinforcement system with the assistance of promoter The Bowery Presents' system designer, Matthew Kasha. "It's a very good-looking club," Kasha says, "so there wasn't a lot of acoustic treatment that we would be able to do. We had to make sure that the footprint of the speaker system did not dominate the stage proscenium."

The venue's twin dV-DOSC/dV-SUB line source arrays—each comprises one dV-SUB with 12 dv-DOSC cabinets flown below and three additional dV-SUBs hung inches above show trim—were set up on a motorized rig. "We're able to pull it back in-between shows," Kasha says. "That's how we ended up with this extended line array situation, which sounds just fantastic and gets out of the way really nicely." Key to the space's flexibility is the temporary rolling control room with outboard gear and a Midas Heritage 3000 attached. A permanent FOH position is currently being installed.



The Bowery Presents' Matthew Kasha (L) and owner Michael Swier



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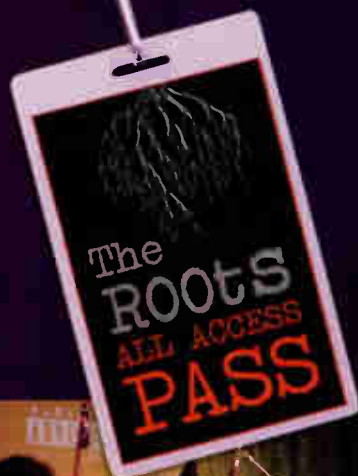
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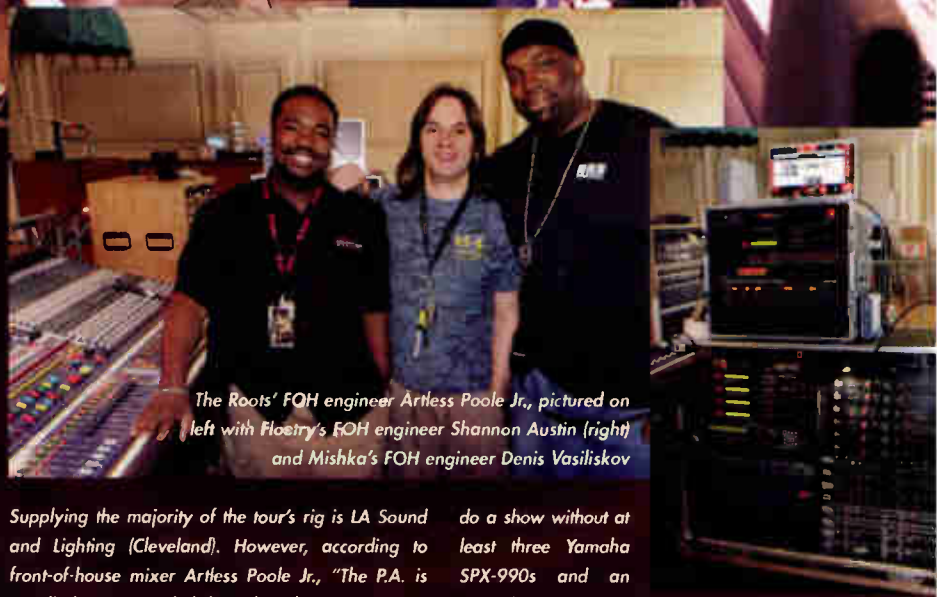
World Radio History

Photos and text by Steve Jennings

# The ROOTS



**H**ip hop/rap masterminds The Roots have taken a more “band” approach than their artistic counterparts—using live instruments onstage and in the studio. Building their arsenal from two turntables and a microphone to a full-sized rig, The Roots’ live affair has kept their fans groovin’ and entertained. *Mix* caught up with the seven-piece (who are touring with Floetry and Mishka) in mid-June on their stop at San Francisco’s Grand Ballroom—the former site of the historic Avalon Ballroom. Living Colour’s guitarist Vernon Reid also sat in.



The Roots’ FOH engineer Artless Poole Jr., pictured on left with Floetry’s FOH engineer Shannon Austin (right) and Mishka’s FOH engineer Denis Vasiliskov

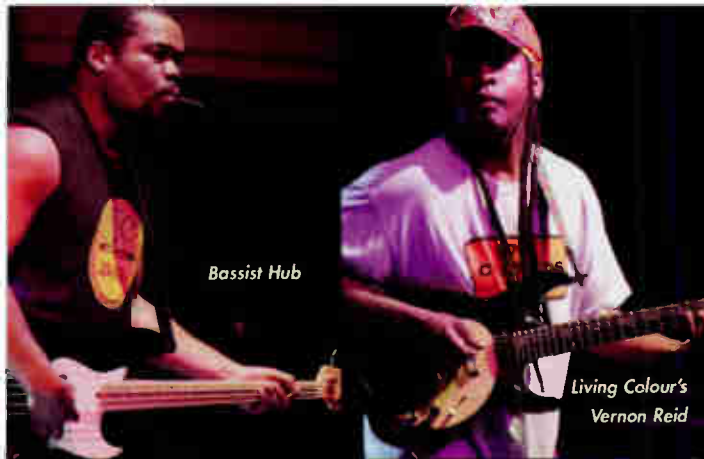
Supplying the majority of the tour’s rig is LA Sound and Lighting (Cleveland). However, according to front-of-house mixer Artless Poole Jr., “The P.A. is usually house-provided, but when there is none, we have an EAW 850 rig with five top boxes per side stacked three side-by-side and two on top of them with four subs per side.”

Poole mixes on a Midas Heritage 3000 with 40 inputs and eight stereo outputs. “For rack gear, I’m using dbx 160A compressors, Drawmer DS201 dual gates, four Yamaha SPX-990, TC Electronic D2 and 2290, and an Eventide H3000 SE,” he says, but adding, “I never

do a show without at least three Yamaha SPX-990s and an Eventide H3000.”

Poole definitely finds the job of FOH mixing rewarding. “Working with The Roots has been a dream come true for me. I was a huge fan [of the band] when I was in college,” Poole says. “It’s definitely been a great learning experience for me because, although they’re considered a hip hop band, they cross just about any boundary of every genre of music there is.”





Bassist Hub

Living Colour's  
Vernon Reid



Keyboardist  
Kamal

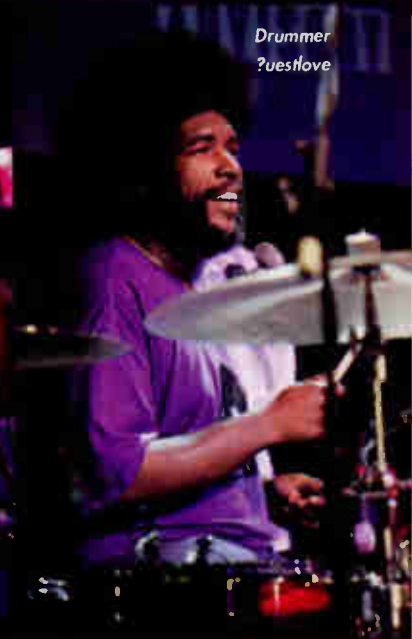


Vocalist Black  
Thought

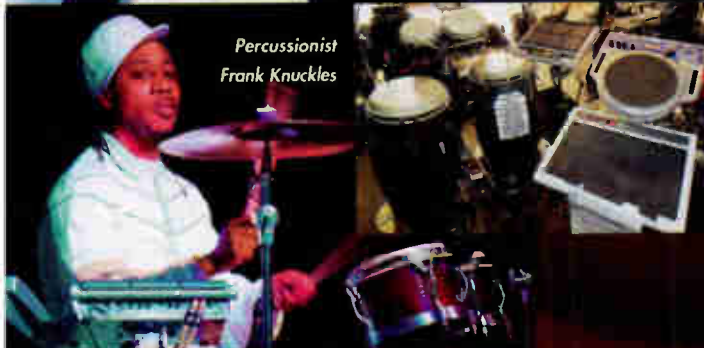
The keyboard setup (above, left) is shared by The Roots and Floetry. Kamal of The Roots only uses a Fender Rhodes and a Korg Triton; Floetry has two keys players using a Yamaha Motif, two Tritons and the Rhodes. The Mackie mixer on the floor submixes the keys used by Floetry keyboardist/guitar player Ray Ray, who also uses the pedal board for effects.



Backing vocalist  
Maimouna Yusef



Drummer  
Questlove



Percussionist  
Frank Knuckles



Monitor engineer  
Michael Mulé

"I'm using a Yamaha PM4000 console," monitor engineer Michael Mulé says. "Actually, I'm in love with the DiGiCo D5, but due to budget constraints on this tour, I have the 4KM, which I'm quite happy to use. With the onboard parameters for the outputs, I don't have a rack of graphics taking up space, giving me more room to dance. I'm using very little rack gear: Aphex comps for the main vocals; Drawmer gates for the kick and snares; and a BSS four-banger compressor for the bass channels and whatever I feel needs it that day."

There are no in-ears on this show.


"It's definitely old-school and loud," he says. "Everyone is on wedges: D&B M2s for floor wedges, two D&B C7 subs with two Max 15s for the drum-fill, and two C4 subs and a C4 top for the sidefills provided by Eighth Day Sound. I have been impressed by the D&B line and their ability to keep the same characteristics, however loud or soft."

Other than a Yamaha Subkick, the mics are all Shure: Beta 52 on kick, Beta 57As on top snares, standard SM57s on the bottom, SM81 on the hats, SM98s on the toms and the new KSM condensers on overheads.



# ROBERT CRAY

By David John Farinella



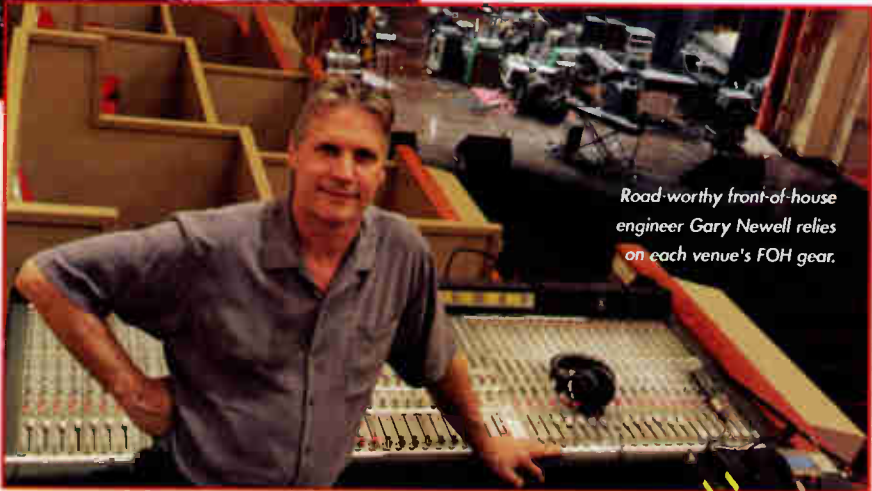
Monitor engineer Steve Selid at the Midas XL3 desk, which the tour carries.

**F**ront-of-house engineer Gary Newell should be eligible for hazard pay as he travels across the globe with blues man Robert Cray. It's not that Cray's music is a mixing challenge for Newell—he's been with Cray for 25 years now—or that the tour is taking them into dicey territories. Rather, from coast to coast, country to country, venue to venue,

Newell walks into a gig never knowing what type of gear he's going to get.

"We pick up front of house wherever we land," he reports. "I have a different rig every day that I deal with, so I've had to learn how to use all the new digital consoles; I've had to keep up with all the new computer and processing stuff. It makes it interesting for me. The first thing I do when I get to a gig is turn the P.A. on, turn up the left side and then the right side and make sure they sound the same. About 40 percent of the time they don't, which is really amazing. A lot of times, I spend half the day just trying to get one side to sound the same as the other.

"It's not that uncommon to go ahead and EQ the left side and then EQ the right side and make sure they sound the same because the components aren't sounding the same," he continues. "Even in this day and age—with all this new technology—you'd think that wouldn't be a problem anymore, but it still is." To tune a P.A., Newell will turn to three songs—Sting's "It's Probably Me" from *Ten Summoner's Tales* and "Love Wars" and "Baby I'm



Road-worthy front-of-house engineer Gary Newell relies on each venue's FOH gear.



Scared of You" from Womack & Womack's *Love Wars* album.

It's a testament to his survival skills that Newell has succeeded while using all sorts of gear, from the new digital consoles to the 40-channel Crest HP-Eight desk that he worked on during the Robert Cray Band's stop at San Francisco's Herbst Theatre at the end of May. The show was one of the first on Cray's summer tour that will take the band (drummer Kevin Hayes, keyboardist Jim Pugh and bassist Karl Sevareid) and crew across Europe before they drop onto the festival circuit.

During the San Francisco stop, Newell and crew worked with older Meyer cabinets. "I'd never seen that stuff before," Newell says. "The house usually does acoustic gigs there and we were one of the biggest acts they'd seen, but we made it work. I had to mix in the balcony against the wall and I was the farthest person away from the P.A. in the theater. That made it kind of tough to make it sound good in the front and in the middle when you're stuck up in the corner like that, but I'm used to it after 25 years and I can throw my ears down there and make it work. We got quite a few compliments and no complaints, so it worked."

The crew ensured some consistency this time out by purchasing a monitor rig. According to monitor engineer Steve Selid, who has been with Cray for 14 years, the rig includes a Midas XL3 desk, a rack of QSC amps with BSS Minidrives, three Klark Teknik 370s, a pair of dbx 162SLs and a Lexicon PCM80. They're carrying eight Sound Image 1212 wedges. "We also bought a Whirlwind snake," Selid reports, "so when we go into venues, I can hand an XLR tail to them and say, 'Plug in our inputs.'"

Although Selid asks about once a year, Cray still prefers wedges to any type of personal monitoring system. "Robert is old school and he likes to hear his vocal hitting him in the face and his guitar amps hitting him from behind," he says. "It just makes him feel more like they are playing together. They play close together and set up tight so he can hear the band itself fine along with the P.A. [The monitors are] pretty low-level. It's more about fidelity than volume."

That mind-set helps with stage volume. "I try to keep the stage volume down so [Newell] can get a good mix going out front, but they do have pretty good control of their stage volume." And that becomes more important as they move from venue to venue and Selid must compensate for the band's needs. "Sometimes we have to



change the levels a little bit," he explains. "Sometimes I have to turn the mixes down about 5 dB because it's a real small live room so Gary can get a good mix out front. At other places, it's flat at zero and we rock it up."

When asked how he mikes the drum kit, Newell says jokingly, "I start out with the kick drum and point one toward the hole. It's like anybody else—I try to stick the mics toward the instruments that they are intended to pick up." Pressed, though, he explains that Shure KSM32s are used as overheads, a Beyer M88 handles kick drum, Shure SM81s on the cymbals, Sennheiser 604s on the rack and floor tom, and the top and bottom of the snare is miked with Shure SM57s. "It's a pretty simple kit and sometimes I throw a reverb on the snare, depending on the room," he says.

Sevareid's bass tones run through a Line 6 Bass Pod into a Mesa Boogie Basis M 2000 head, a Stewart World 1.2 power amp a Demeter tube bass preamp and a Bradshaw switcher. His cabinets are Hartke 15-inch and 4x10s and Newell mikes one of the 10-inch speakers with a Sennheiser 421. "We also run a signal before his amp rack into a Groove Tubes Ditto tube direct box that sends a nice fat tube signal down the line to me," Newell explains. "So I have a DI signal and a separate mic signal and I blend those. Karl plays a pair of Fender Precision basses, a Jerry Jones bass with lipstick tube pickups and a Clevinger fretless stand up."

Pugh plays a modified Hammond B3 with a Leslie cabinet that Newell mikes right and left at 45 degrees on top with Studio Project P1 mics; the bottom is miked with a Sennheiser 421. His piano setup is

a Roland A90, and his rack includes a Rane SM 82 stereo mixer, an Aphex 109 parametric EQ with tube essence, a Roland P 330 digital piano module and a JV 880 module, and a Lexicon PCM70. Pugh also runs a Digidesign MBox with Reason on a Mac PowerBook G4.

Cray has a pair of Matchless Clubman 35 amps and a Fender Vibro-King. Both are miked with KSM32s. His rack includes a Tone Works tuner, a Samson UR5D wireless, a TC Electronic 2290 digital delay, a Peavey Valverb and a Zack Electronics Stereo Vibrato that was custom-made by Cray's former guitar tech. He switches between Robert Cray model Stratocasters, a custom-made James Trussart steel Deville guitar and another custom guitar with a Telecaster body and neck and a block under the strings between the back pickup and the bridge so it sounds like a sitar. Cray uses that guitar on "Up in the Sky." He sings into a Beyer M88.

One thing that 25 years with the same artist has given Newell is confidence to get his job done even as Cray picks songs from his entire catalog. "Robert does set lists that he puts on the stage for the band, but the crew isn't allowed to have one," he says with a laugh. "He wants to keep us guessing. The set list is only a guideline. He wants to keep it spontaneous."

"I've never even wanted a set list because I never needed one," he continues. "It's pretty simple because it's a four-piece. I just push the faders up and if I get the P.A. sounding good, I hardly have to EQ the channels at all." ■

*David John Farinella is a San Francisco-based freelance writer.*

# New Sound Reinforcement Products



## A&H UPGRADE GL MIXERS

Based on the popular GL4000, Allen & Heath's ([www.allen-heath.com](http://www.allen-heath.com)) third-generation GL consoles are offered in 24/32/40/48-frame sizes, with a choice of all mono, four stereo or eight stereo channels. The flagship GL4800 provides eight groups; 10 auxes; L, R and M mixes; an 11x4 matrix; and mode switching for handling any combination of front-of-house or monitor duties. Trimmable channel direct outs, group trims, and matrix and multiple main outs provide recording functionality, whether live or in the studio. Other features include mute groups and snapshots, MIDI, aux master faders and inserts, pre/post-aux flexibility, solo-in-place, individual talkback and improved audio performance via ultra-quiet mix bus head amps and full-sweep, switched-Q equalizers.

## NADY SPL METERS

Nady Systems ([www.nadywireless.com](http://www.nadywireless.com)) announces two SPL meters for pro applications. The digital DSM-1 offers two level ranges of measurement between 30 dB and 130 dB, and features a 4-digit backlit LCD, maximum hold selector and an alarm that indicates input is above range. The analog ASM-2 has seven sound level ranges for measurements from 50 dB to 126 dB. Both meters include a built-in mic, selectable A or C weighting, fast/slow response modes, a threaded (camera tripod) mount and internal battery tester.

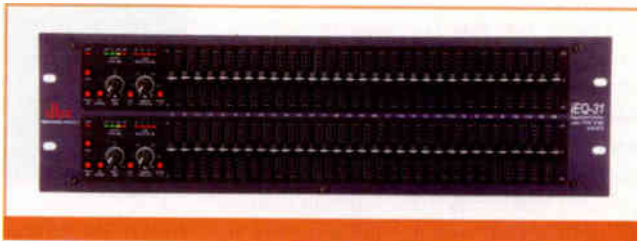


## SOUNDCRAFT MH2 DUAL-MODE CONSOLE

The MH2 is the newest MH Series dual-mode (FOH/monitor) console from Soundcraft ([www.soundcraft.com](http://www.soundcraft.com)). Designed for touring and fixed use, the MH2 offers eight subgroups, 10 aux buses, eight VCA groups, six mute groups and an 11x4 matrix. The MH2 is available in 24, 32, 40 and 48 mono-channel frame sizes, each with an extra four full-function stereo inputs and four stereo effects returns. Prices range from \$11,595 to \$16,950.

## DBX INTELLIGENT EQUALIZERS

The dbx ([www.dbxpro.com](http://www.dbxpro.com)) iEQ Series Intelligent Digital Graphic Equalizers comprise the dual 15-band iEQ 15 and the dual 31-band iEQ 31. Features include a 10-22k Hz frequency response, 113dB dynamic range, Advanced Feedback Suppression (AFS™), proprietary dbx Type V™ noise reduction and PeakStopPlus® limiting.



## ROAD READY CASES COOL CASES

Avoid the heat and humidity of summer gigs with Cool Cases™ from Road Ready Cases ([www.roadreadycases.com](http://www.roadreadycases.com)). Offering built-in electric cooling and venting fans, these are said to cool gear by an average of 12 degrees F, which can extend equipment life and/or help avoid overheating failures. The first five cases in the line are designed to hold some of the most popular DJ gear. Other models are planned.

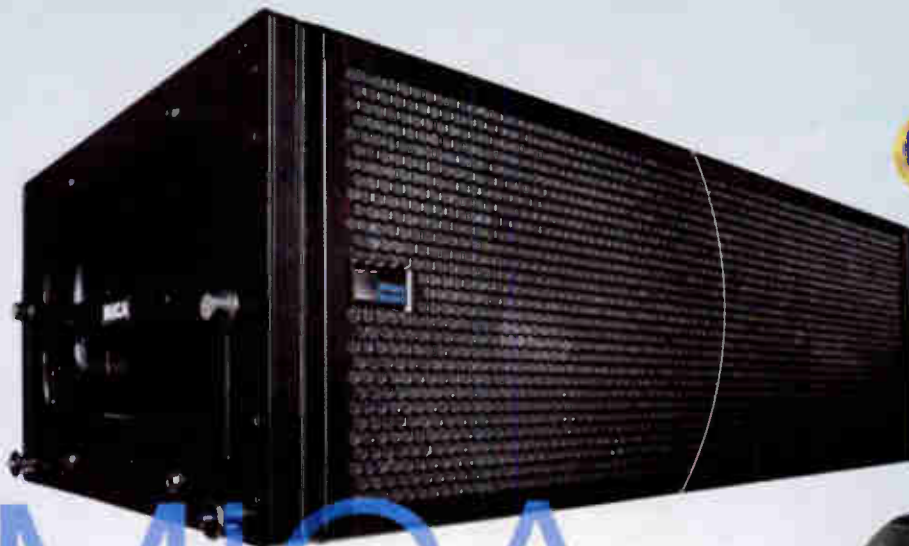


## TOA LINE ARRAYS

Intended for fixed installs are the new SR-A Mid Line Arrays and the SR-S Slim Line Arrays from TOA Electronics ([www.toaelectronics.com](http://www.toaelectronics.com)). The SR-A Series feature TOA's Nexus Control Drive horn technology for a uniform, HF soundfield. The SR-A12L (long-throw) and the SR-A12S (short-throw) mid/high boxes have dual-compression drivers and two 12-inch LF drivers; the SR-A18 subwoofer adds an 18-inch woofer with 740W handling. The SR-S4L and the SR-S4S compact line arrays each have eight 4-inch cone drivers and 24 1-inch dome tweeters, all aligned to form a continuous linear sound source. Weather-resistant models and multiple hardware mounting options are also available.







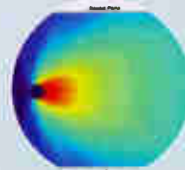
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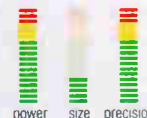
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# The Slide Rules

## Time, Phase, Math, Mics, Drums and Hearing Perception

This month, I correlate the technical with the artistic using two different show-and-tell examples: multi-miked drums and an ancient analog calculator. I must be crazy. Using multiple mics on drums requires polarity awareness. Sure, polarity can be toggled in the analog domain, but once in digital form, *time* can be manipulated from the sample level (phase) all the way to delays that are larger than life. So if you've never looked for kick drum leakage in each mic and attempted to retime the kit, I've got some pics and clips for you. Geek first, then the tweak reward. (Translation: Roughage first, dessert later!)

Our thought processes vary depending on the task at hand—from the logically linear time manipulation example above to the nonlinear (if not abstract) world of art. Our ability to distinguish level changes varies with each person—audio geeks being hyperperceptive compared to their average consumer counterparts; aka the sonically unwashed—but from a scientific perspective, the ability to perceive change is considered to be logarithmic and that's what the decibel is all about. Similarly, the Inverse Square Law mathematically describes the way changes in

$$\text{dB} = 20 * \log \frac{\text{new volts}}{\text{ref volts}}$$

**Figure 1:** The decibel is a much easier way to compare two voltages. When comparing two powers (in watts), substitute a "10" for the "20" in the formula.

distance affect gravity, light, sound and electromagnetic radiation (EMR). If you're an electric guitar player—or know one—then you've dealt with EMR.

We all have a feel for the decibel because it relates directly to our perception of changes in SPL. At the circuit level, voltage and power changes create a ratio that gets converted to decibels using logarithms. We take for granted that the scientific calculator has simplified our pursuit of things mathematical, but it was not so long ago that the slide rule—a physically linear device—was an essential part of an engineer's tool kit. What an abacus is to basic math—like addition and multiplication—a slide rule is to higher math, such as the aforementioned logarithmic and exponential equations.

Let's talk exponents for a minute. Most of us tech types know that 10 raised to nice round "natural number" powers (1, 2, 3, etc.) yields 10, 100 and 1,000, respectively. An exponent can also be a decimal fraction (a rational number). So, given only the exponent of 10—that exponent being known as a common logarithm—it's possible to determine the number using a calculator, slide

rule or logarithmic table.

Applying this theory to the audio world, a signal raised from one volt to two volts or lowered from two volts to one volt is, respectively, doubled or halved. Two divided by one equals two; one divided by two equals ½, or 0.5. The log of that doubling or halving yields the same number but one of opposite numeric polarity (the log of 2 is 0.3, the log of 0.5 is -0.3), so that 10 raised to the "0.3 power" is 2 and 10 raised to the "-0.3 power" is 0.5. The log of those numbers, when multiplied by 20, equals +6 dB and -6 dB, respectively.

### WRONG SIDE OF THE TRACKS

Aside from your workstation's obvious emulation of traditional sonic tools (mixer, EQ, dynamics, etc.), it is also an oscilloscope, dB meter and time measurement/manipulation device. Figure 2 shows three waveforms: kick, overhead and acoustic guitar mics. Relative to the kick impulse, each waveform is delayed simply by the mic's position and its relationship with the speed of sound. The overhead mic was positioned eight to 10 feet above and behind the kit, and the acoustic guitar was 10 to 15 feet farther behind the kit surrounded by gobos.

As you may know by now, one of my soapbox issues is low-frequency management. The point of this exercise is to help the low end without additive EQ. Note the polarity of the "kick leakage" into the overhead and the acoustic guitar—all of it conspiring to kill the kick's low-end punch. Of course, the tracks can be left in place, polarity reversal being the only option in a purely analog world. But once realigned in the digital domain, the acoustic's polarity was flipped so that all kick leakage was in phase. Think of it as time alignment.

Tweaking a fourth track, acoustic guitar DI, was much more difficult because its waveforms were so radically different from the mic. There was no drum leakage in the DI, but once the acoustic guitar mic was in place and locked in time to the kit, the DI track was visually ball-parked. Then I alternately monitored the acoustic tracks in stereo and mono, sliding the DI track and flipping its polarity until the "center" image came into focus and, when combined, the pair had the least amount of comb filtering. This was admittedly a little tedious, but well worth the effort, especially for a simple guerrilla recording using a student guitar that was less than optimum.





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## TECH'S FILES

To show how aligning the timing of elements affects the mix, audible online samples are provided at [www.tangible-technology.com/mix/08aug05/](http://www.tangible-technology.com/mix/08aug05/)

alignment—but there it was: The negative excursion is clipped. Fortunately, the threshold of clipping “worked” with the track, providing a type of overdrive that

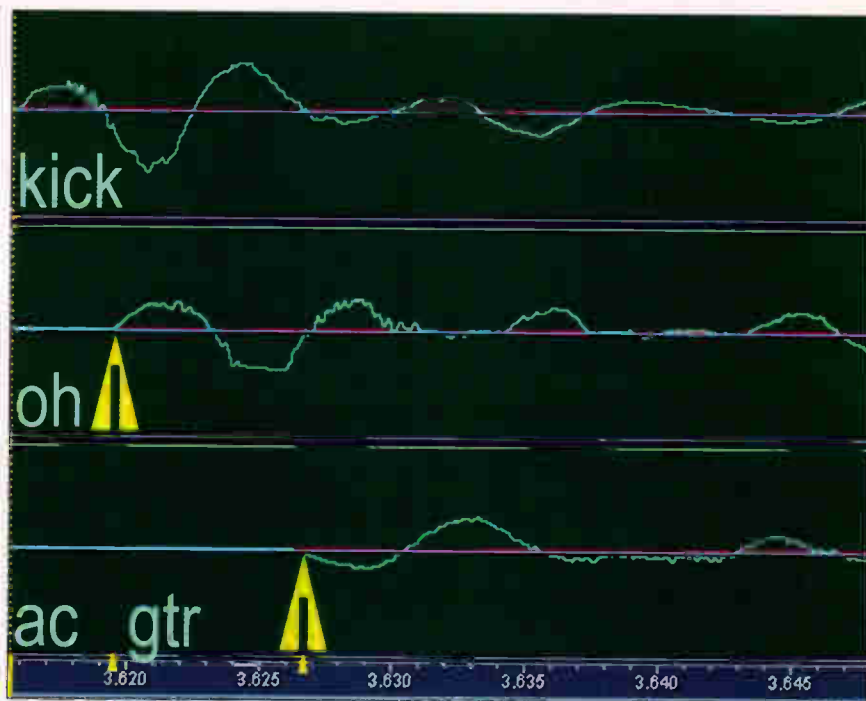


Figure 2: The speed of sound reveals itself in these three waveforms. At top, the initial impact of a kick drum; below, its leakage into the kit overhead mic and an acoustic guitar mic

thesliderules.html. These clearly show the before and after difference, both for flat and peak-limited and EQ'd versions (using mix bus processing only; the individual

is similar to peak-limiting. Figure 3 zooms out to show the unnaturally even peaks, the result of using a very powerful mic into an external preamp (at minimum gain) feeding a Digi 002's line input. If you ever have a problem like this, a simple in-line pad such as Audio-Technica's (\$49 retail) AT8202 will suffice—and it's phantom power-compatible.

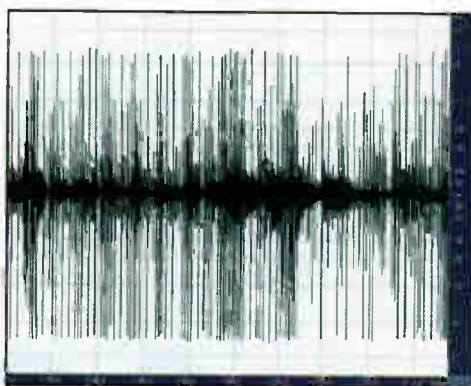


Figure 3: This drum overhead track has unnaturally even peaks, the result of the inability to attenuate an exceptionally hot mic signal before the preamp.

multitracks are always flat). The track was a cover version of Buffalo Springfield's “For What It's Worth.”

### OOPSI!

Did anyone hear distortion on the overhead track? It wasn't obvious during tracking—I didn't notice until I zoomed in for time

### TAIL OUT

There you have it—the math that parallels our hearing perception. I hope the correlation of slide rule and drum timing was not too much of a stretch, but once the image was in my head, it would not shake loose. If you get a chance to time-align the kit, remember that you should be looking for phase issues in all the kit mics. In any case, drop me a line and let me know if it works for you—or not. ■

*Eddie would like to thank the musicians in his spring AE282 class and Logan Erickson for the guerrilla Pro Tools rig. For more about this month's topic, visit [www.tangible-technology.com](http://www.tangible-technology.com).*



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World Radio History



## Tools of the Trade



### PMC TB25-A STUDIO MONITORS

The TB25-A powered monitors from PMC ([www.pmc-speakers.com](http://www.pmc-speakers.com)) is the larger of two "digitally activated" speakers recently added to the line. The monitors, using a 6.5-inch woofer and 1-inch tweeter, use digital amplification from Flying Mole and PMC's Advanced Transmission Line (ATL). The ATL technology boasts exceptional low-frequency extension, lower coloration, consistent balance at all levels and stable 3-D imaging. The black, unshielded monitors each weigh 20 pounds, are 15.7x7.8x13.7 inches (HxWxD) and are geared for near- or mid-field applications. XLR inputs are adjustable from 0 to -30 dB and reach SPLs of 111 dB at 3 feet. Options include mag shielding, a matching TLE1S sub and custom stands.

plated copper conductors, a 95% silver-plated annealed copper braid shield and an ultra-flexible wear-resistant jacket. Each set of conductors is seated in a low-loss polyethylene insulating material with a dielectric constant of less than 2.26. All Accusound cables have a lifetime warranty against manufacturing defects. Prices range from \$12.99 to \$139.99.

### CROWLEY AND TRIPP RIBBON MICS

Crowley and Tripp ([www.soundwaveresearch.com](http://www.soundwaveresearch.com)) announce a line of newly designed (not reissue) U.S.-made ribbon mics. Designed for voice, The Vocalist (\$1,395) has a 30-15k Hz bandwidth, 126dB SPL handling and a bass response tailored for full low/midrange sounds. The \$1,395 Soundstage Image offers an uncolored sound for broadcast, soundstage, orchestral and other applications. Proscenium (\$1,485), useful for classical recording, has a warm sound reminiscent of vintage ribbon models, while the \$1,595 SPLx has a smooth, rising response and is intended for high-SPL sources such as amp and percussion miking. All feature stainless-steel bodies, point-to-point wiring and transformer outputs.



### PRO TOOLS LE 6.7 CELL PHONE REMOTE

Yes, you heard it right: By using a free script available at <http://homepage.mac.com/deadrat/scripts.html>, you can control Pro Tools LE 6.7 remotely using a Bluetooth-equipped cell phone. The script allows a user to play/stop, record/punch I/O, QuickPunch toggle, rewind, fast-forward, Mark In/Out, half-speed play/record, loop playback toggle, zoom, cut, save and undo. Other requirements include a CPU with a Bluetooth module and Sailing Clicker Version 2.2.1, a Mac shareware remote-control utility.

### WAVES APA32 AND APA44-M

Those needing more DSP for their Waves ([www.waves.com](http://www.waves.com)) plug-ins will love the company's new dedicated hardware accelerators. The APA32 (\$1,600) is a one-rackspace unit, while the more powerful APA44-M (\$2,400) is a half-rack unit that can be ganged side-by-side with a second unit, providing max power in a small portable package. Up to eight units can be connected to the host computer via a standard Ethernet port and switch or shared among several DAW workstations via a suitable V-LAN configuration. These PC/Mac-compatible units support Pro Tools 6.9, Nuendo/Cubase SX 3.0.2, Logic Pro 7.1 and Digital Performer 4.52, and use Waves' Netshell, which is included in every new Waves bundle that contains Netshell-compatible plug-ins. No special authorization is required for Netshell or for an APA unit; APA users just need to update their authorized Waves plug-ins to Netshell-supported versions.

### MAXTOR ONETOUCH II FIREWIRE DRIVE

This new drive from Maxtor ([www.maxtor.com](http://www.maxtor.com)) features a blistering 800M bit-per-second data transfer rate, almost twice the bandwidth of FireWire 400 and USB 2. The OneTouch II FireWire 800 comes with Maxtor's DriveLock for added security and an exclusive version of EMC Dantz Retrospect Express HD software for simple backup and restores. Apple-heads will love that the OneTouch II is ready to rock out-of-the-box, being fully bootable on a Mac running OS X system software. Prices: 200 GB, \$259.95; 300 GB, \$329.95.



### ACCUSOUND SILVER STUDIO PRO CABLES

Accusound ([www.accusoundproaudio.com](http://www.accusoundproaudio.com)) offers a full line of U.S.-made XLR and ¼-inch cables, featuring twin silver-



**ABLETON LIVE 5**

Ableton ([www.ableton.com](http://www.ableton.com)) releases Live 5, a major upgrade to its popular application. A partial list of features includes Clip Freeze (freeing CPU power), plug-in delay compensation and Launchable Arrangement Locators, offering arrangement song position markers with MIDI mapping and quantized recall. In addition, the software offers support for Mackie Control and MP3, automatic tempo matching and Complex Warp Mode, a frequency-domain warping method specifically designed to accommodate composite signals such as mixed-down music. Price: \$499 new; upgrades are available from earlier versions.

**MERGING TECHNOLOGIES PYRAMIX NATIVE V. 5**

Making the software-only version of its DAW even more powerful, Merging Technologies ([www.merging.com](http://www.merging.com)) releases Pyramix Native DAW V. 5 (\$675). Increased I/O is the order of the day, with the standard system growing from two to four I/Os and the more advanced Native Media Bundle (\$475) growing to eight I/Os. Both versions have increased from 8- to 24-track editing, mixing and processing. In addition, the Native and Media Bundle now contain

all of the increased functionality of the Pyramix Virtual Studio V. 5 software with the option of 96kHz sample rate. The DAW is designed to operate on any Windows XP desktop or laptop PC using the computer's onboard audio engine or ASIO-compatible audio card. A range of available third-party plug-ins include Reverb, Audio Restoration and Time Compress/Expand with DirectX and VST compatibility.

**PSP AUDIOWARE EFFECTSPACK**

Vintage Lexicon processor lovers and others will want to check out the new PSP EffectsPack plug-ins from PSP Audioware

([www.pspaudioware.com](http://www.pspaudioware.com), \$299). The bundle comprises the Lexicon PSP 42, a knockoff of the coveted PCM 42 delay; the PSP 84, the same engine as the PSP 42 but with more advanced features; and the PSP Nitro, a multimode filter plug-in derived from analog prototypes, featuring phasers, bit-crushers, downsamplers, waveshapers and interpolated delay blocks. The plugs support HTDM/RTAS/AudioUnits/VST for Mac OS X, RTAS/VST (without PSP Nitro) for Mac OS 9 and RTAS/DirectX/VST for PC.

**MOJAVE AUDIO MA-200 TUBE MIC**

Mojave Audio ([www.mojaveaudio.com](http://www.mojaveaudio.com)), known in the past as David Royer's D.I.Y. mic kit company, has released a new tube condenser mic, the MA-200 (\$995). The fully assembled mic features hand-selected, 1-inch, 3-micron capsules; Jensen transformers; and military-grade JAN 5840 tubes. The mic has a fixed cardioid polar pattern and is targeted for multipurpose use, including vocals, voice-over, piano, acoustic instruments, drum overheads, orchestra and related applications. It ships with a carrying case, power supply, shock-mount and cables.

**AMS-NEVE 8051****MULTICHANNEL COMPRESSOR**

Born from the same stock as the company's 33609 stereo compressor, AMS-Neve ([www.ams-neve.com](http://www.ams-neve.com)) releases the 8051 (\$11,995), a 6-channel analog compressor for surround production. The unit features transformer balanced paths using two sidechains and a key input. Each channel can be controlled from either sidechain A or sidechain B, and the six signal paths can be split between the two sidechains in any format required. The key input can be connected in parallel with one of the inputs. The 8051 is available in standard and mastering stand-alone versions or incorporated into a Neve 88R Series console.



## DIGITAL AUDIO WAVE WIRELESS NOTEBOOKS

Putting the words "portable, powerful and affordable" all in the same sentence, Digital Audio Wave ([www.digitalaudiowave.com](http://www.digitalaudiowave.com)) has released the W5000 (\$1,645) and W4000 (\$1,695) Mobile Studio range of wireless notebooks. Featuring the Intel Centrino mobile technology platform with the latest Intel 915PM chipset, the W5000 and W4000 are ideal for audio pros that want a mobile platform for PC-based desktop replacement and mobile recording and editing needs. Each offers four Intel Pentium M Processor options (1.73/1.86/2/2.13 GHz with 2MB L2 cache; 533MHz FSB), 802.11a/b/g Wi-Fi communication, 512MB DDR2, 533MHz SDRAM (upgradeable to 2,048 MB), 15-inch SXGA+ TFT LCD and a variety of hard drive options.

## GROOVEBOX BEAT DETECTIVE TUTORIAL CD

*Beat Detective Explained!* (\$39.99) from Groovebox Music ([www.grooveboxmusic.com](http://www.grooveboxmusic.com)) is a training tool to help Pro Tools users learn the audio and MIDI editing utility Beat Detective (Mac and PC). The interactive CD contains 20 Beat Detective

lessons (nearly two hours of video) and an easy-to-use Master Command control panel. As an added bonus, more than 200 MB of license-free loops are included and ready to be used with Beat Detective. In a move that will please cross-platform users, Groovebox is merging all Mac and PC memberships for its online training. Previously, customers would choose between a Mac or PC membership, but members can now get access to both Mac and PC Pro Tools video tutorials, all for the same price. Pro Tools training memberships start at \$14.99.

## SONY MZ-M100/MZ-M10 RECORDERS

Two cool new handheld Hi-MD (1GB MiniDisc) recorders from Sony ([www.sony.com/professional](http://www.sony.com/professional)) are perfect for audio recording on the go. Supported recording formats include PCM linear (44.1 kHz, 16-bit), MP3/ATRAC3 and ATRAC3plus. Both units receive power from a rechargeable internal battery, and include an ECM-DS 70P stereo microphone, MDR-EO931 earbud headphones, a mic in jack and USB port for uploading material to a Mac or PC. The MZ-M100 (\$439.95) has a six-line organic electroluminescence display; the \$329.95 MZ-M10 offers a five-line LCD.



## M-AUDIO STUDIOPHILE BX8A

A new, enhanced version of M-Audio's ([www.m-audio.com](http://www.m-audio.com)) popular BX8 studio near-field, the Studiophile BX8a (\$599/pair) offers improved driver materials and a new industrial design. New features include a silk-dome tweeter and a new 8-inch LF driver crafted from Kevlar. This bi-amplified design features 70 watts for lows, 60W for highs, mag shielding, individual volume controls and a rated 40-22k Hz frequency response. Dimensions are 12x10x15 inches; weight is 26.4 pounds each.

## Upgrades and Updates

MOTU's Digital Performer now comes with a trial version of Minnetonka Audio's discWelder BRONZE DVD authoring software. The trial version will burn up to five DVD-A discs; afterward, final disc recording will be disabled until a license is purchased at [www.discwelder.com](http://www.discwelder.com)...

SpinAudio ([www.spinaudio.com](http://www.spinaudio.com)) has released RoomVerb M2 V. 2.3. The release features a redesigned reverb engine, 10 new presets, plug-in delay reporting and improved rendering synchronization...Metric Halo is shipping the V. 2 update of its Mobile I/O Console and driver software for Mac OS X. The update provides new functionality and increased performance across all Mobile I/O hardware models. Users of the Mobile I/O 2882, 2882+DSP, ULN-2 and ULN-2+DSP can now run Tiger and take advantage of several maintenance fixes. Visit [www.mhlab.com](http://www.mhlab.com) for more info...Applied Acoustics ([www.applied-acoustics.com](http://www.applied-acoustics.com)) announces that its

Tassman 4, Lounge Lizard EP-2, Ultra Analog VA-1 and the upcoming String Studio VS-1 software are compatible with Mac OS 10.4 (Tiger). Check the Website for the update, which is available free of charge to registered users...Las Vegas Pro Audio ([www.lasvegasproaudio.com](http://www.lasvegasproaudio.com)) is now shipping SoundField's Surround Zone plug-in for Digidesign's Pro Tools software on Mac and PC platforms. The software combines the hardware features of the SP451 surround processor and the MKV System, and is designed to accept the B-Format information generated by any of the current SoundField microphone models...Disc Makers (<http://quote.dismakers.com>) has launched a new Quote-o-Matic feature on its Website, giving customers access to instant, custom quotes 24/7...Submersible Music is shipping V. 1.5 of its DrumCore software ([www.drumcore.com](http://www.drumcore.com)), now making



it available for PC and Mac platforms. The new version also offers library expansion via "DrummerPacks"—user-created drumkits—and enhanced export to popular DAW applications...M-Audio ([www.m-audio.com](http://www.m-audio.com)) announces that its new Pro Tools M-Powered software now supports their FireWire Solo, FireWire Audiophile, Delta 1010, Delta 1010LT, Delta 44 and Delta 66, in addition to the five previously supported interfaces...Sony Electronics is offering a special mail-in cash rebate for its Oxford plug-in line through September 30, 2005. Rebates range from \$50 to \$275, depending on software selection. Visit [www.sony.com/OxfordCashback](http://www.sony.com/OxfordCashback) for details. ■



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# Linn Professional 318A, 328A Monitors

## A New Approach in High-End Studio Reference

The Linn name may be new to the studio community, but this Glasgow, Scotland-based manufacturer has been building audiophile gear for more than three decades and launched its acclaimed record label in 1981. What's new is the company's entry into the professional audio market with its 318A and 328A active studio monitors.

Linn examined every aspect of the monitoring system to create a new, yet uncompromising design. Perhaps the most striking part of its flagship 328A (\$16,000 each) is its radical enclosure design, where parallel surfaces are simply not found. The top panel slants downward; the wide oval front baffle houses twin 8-inch woofers that flank a central driver array with a 3-inch dome midrange, a 1-inch tweeter and a ½-inch super-tweeter that kicks in at 11.5 kHz and extends beyond 33 kHz (-3 dB).

Under the hood, there's a whole lot going on in this active four-way system. The two LF drivers are servo-controlled using an accelerometer on each cone that sends data to closed-loop feedback circuits. Intended to reduce distortion, these ensure that the 500-watt amp driving each woofer constantly produces the exact drive current required for cone motion that precisely reproduces the input signal, with a -3dB down-point of 20 Hz (-6 dB at 15 Hz).

Linn's patent-pending 3-K driver array—a sealed-back-shaped aluminum slab that houses the dome mid/high drivers, with a smooth front to avoid acoustical diffraction effects and the array's thick slab construction—is rock-solid and free of any unwanted resonances. Meanwhile, what appears to be a front port is actually an acoustically shaped chamber behind the baffle plane, with the tweeters centered in the space. This minimizes the area behind the high-frequency drivers, totally isolating them from the front baffle itself. At the same time, the entire 3-K array is mounted at the monitor's acoustic center, and the tight placement of the mid and high drivers creates the effect that all frequencies are emanating from a single point source.

All of the active crossovers are Linkwitz-Riley types with 24dB/octave slopes and are fixed at 594 Hz (LF to MF), 4.1 kHz (MF to

HF) and 11.5 kHz (HF to XHF). The 500 watts (250W MF/125W HF/125W XHF) driving the 3-K array brings the total power in each 328A to a whopping 1,500 watts. Linn specs the 318A monitors as capable of maximum SPLs in the 110dB range. They aren't kidding. With the thick, non-resonant MDF-based Hornflex cabinet, heavy rear heatsinks to keep amplifier temperatures in check, drivers and associated electronics, the 26.5x11x22.5-inch monitors weigh in at nearly 100 pounds each. You'll appreciate the built-in side handles if you need to move these.

The rear panel has a Neutrik Combo ¼-inch/XLR connector that handles balanced or unbalanced inputs and can be set for -10dBV or +4dBu levels. The electronics can run at any voltage from 100- to 240 VAC. The 318As sound fine as is, but LF and HF controls are provided for user taste or tweaking for room/system variations. A ±1.5dB shelf offers treble cut/boost. On the bass side, controls include a switchable -12dB/octave roll-off at 19 Hz or 50 Hz and a 3dB boost from 19 to 80 Hz. Should more LF be required, an optional subwoofer is available.

I had the opportunity to audition a 5.1 version of the 318As during a demonstration in the 48-seat screening room at the Saul Zaentz Film Center in the Fantasy complex in Berkeley, Calif. On playback from a variety of media—SACD, DVD-A and DVD-V—the monitors had no problem providing ample levels, even with the size of the room. At one point, I asked to hear the system without the subwoofer to get a better feeling about its bass response, but I was surprised to find

out that the sub was off.

Also, Linn describes the 318As as near-fields or mid-fields, but these monitors are definitely in the latter category; stand-mounting is a preferred option to balancing two or three of these on a meter bridge. But whether listening close or at a distance, the spectral balance was wonderfully natural, with pinpoint imaging and an accurate soundstage from stereo or surround playbacks. One nice feature of the 318As is the cabinets' low profile, which not only makes them easier to integrate into a studio with soffit-mounted mains, but also simplifies placement in a sound-for-picture environment, where the center channel won't block the screen.

The 328As are substantial monitors, but for those who need something downscaled, Linn also offers the \$11,000 318A, a single-woofer version with 1,000 watts of active amplification and the same 3-K MF/HF array, but in a more compact, conventional (rectangular) enclosure. Having the same voicing as the 328As but with less bass SPLs, the 318As are suitable as stereo near-fields or as rear surrounds in a 5.1 system with 328As in the LCR positions. Either way, Linn has introduced impressive new contenders for the high-end pro monitor market.

For more information, visit [www.linn.co.uk](http://www.linn.co.uk) or call 904/645-5242. ■

*George Petersen is Mix's editorial director.*





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Garrett Lee a.k.a. Jacknife Lee - Artist/Producer - U2,  
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"Focusrite have made it possible for me  
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and many more

"A creative palette; bold strokes,  
vivid colours, pure... filth!"

Cenzo Townsend - Graham Coxon, New Order,  
Ordinary Boys, Kaiser Chiefs, Beastie Boys

"Great idea, sounds fantastic  
and you can link several  
together for 7.1 - Perfect"

Simon Osborne - Sting

"What a great product!  
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but great value too."

Dave Hampton - Herbie Hancock, among others

"I'm amazed how authentic the box  
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Bros, Weezer, Weezer and the new band and many others

"The results are sonically brilliant &  
it's a huge time-saver"

Steve Johnson - Producer - The Chemical Brothers, The Roots, The Roots, The Roots  
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# Tascam DV-RA1000 CD/DVD Recorder

## Multiformat PCM/DSD Burner With Wired Remote

If Les Paul is considered the father of multitrack recording, then Tascam should be considered the pioneer of home studio recording. The company started the trend in home recording in the early '70s with models such as the 3340 ¼-inch 4-track tape recorder and the cassette-based Portastudio. Its newest 2-track recorder, the DV-RA1000, is definitely a pro unit, but its price makes it suitable for home studios. It is the first affordable stand-alone 2-track recorder capable of recording high-resolution PCM digital audio (up to 192 kHz) and DSD audio, the basis of the Super Audio CD; other systems capable of recording DSD format cost five to 10 times as much.

### MEDIA AND MODES

The DV-RA1000 writes directly to DVD+RW and CD-R/RW media. When a CD-R or CD-RW is inserted into the drive, the DV-RA1000 switches to CD mode and only allows recording at 44.1 kHz/16-bit—the Redbook standard for audio CDs. When a DVD+RW is inserted, the deck switches to DVD mode and all of the PCM sampling frequencies are available, from 44.1 kHz to 192 kHz, but only at 24-bit. DSD recording, which operates at 2.8 MHz/1-bit, is also available in DVD mode.

DVD media is formatted in UDF 1.5 format and can be read by personal computers with DVD drives. A USB mode makes the DV-RA1000 appear on a PC (Windows or Mac OS) as a removable USB mass storage device. I plugged my Mac laptop into the DV-RA1000's USB port and burned a DVD+RW disc using Toast.

### FEATURE BONANZA

Tascam has packed lots of features into the DV-RA1000. The front panel is intelligently laid out with a jog wheel, transport controls and dedicated buttons for setting markers, display options, input level and menu access. There are four buttons for effects (digital EQ and dynamics), I/O monitoring, fade (in or out) and a Sync Record button. Sync Record allows the unit to record only when it detects audio above a preset threshold or if the co-ax input is selected when it detects a track ID. The unit does not have timecode provisions, but it will accept word clock sync.



Five user-programmable buttons are set by default to input select, reference clock, calibrate, preferences and UDFMI-save. The remainder of the DV-RA1000's parameters are set using the Virtual Front Panel (VFP) or by navigating the menu pages. The VFP is shown on the LCD when the Enter button is pushed and provides access to 15 functions, including pitch, dither, oscillator and finalize. A wired remote-control unit duplicates or complements the keys on the main unit, and a front panel PS/2 QWERTY keyboard is useful when naming projects, markers and audio files or when entering up to 1,000 characters of text, which is saved with each project.

The back of the DV-RA1000 offers balanced +4dBu XLR and unbalanced -10dBV RCA analog inputs and outputs. All digital formats are supported with S/PDIF (up to 96 kHz), AES (single and dual wire, up to 192 kHz) and BNC connectors for SDIF-3 and DSD-raw. Word sync In, Out and Thru, RS-232C serial control and the USB 2 connector are also on the back.

### A MASTERLINK KILLER?

Ever since the Alesis Masterlink came out, it has been my choice for high-resolution digital mixdown. Everyone I know who owns or uses the Masterlink has asked me the following question: Is the DV-RA1000 a Masterlink killer?

The answer is yes—and no. No, because they are different machines that perform similar functions. The Masterlink is a two-drive machine, which gives it certain advantages over the DV-RA1000, such as the ability to print high-resolution mixes, reorder them, add processing and sample rate—convert them internally to make a CD that will play in any CD player. The DV-RA1000 beats the Masterlink when it comes to supported formats and features, but it is a single-drive unit that should be thought of as a data recorder (like a tape machine).

If the DV-RA1000 is your master mixdown machine and you want to listen to your mix on another system, you will have to make copies to a second machine or print the mix twice: once to DVD and once to CD-R.

In my opinion, the DV-RA1000's biggest advantage is that it will record DSD audio. Many engineers, producers and artists who have compared DSD to PCM have preferred the DSD audio. So the answer to the Masterlink killer question, in regard to sonics, in my opinion is yes.

For listening tests, I set the Masterlink at 96/24 and printed the same mix on the DV-RA1000 at 96 kHz/24-bit, 192 kHz/24-bit and at the DSD setting. I was not surprised when I found that I preferred the sound of the DV-RA1000 at the higher sampling formats, especially when recording DSD-formatted audio. It sounded more open and natural than the Masterlink, as well as sounding closer to the source. I did the same test with both machines set to 44.1/16-bit and I still preferred the DV-RA1000.

I also connected each machine to an Apogee Big Ben master clock. The Masterlink sounded better when externally clocked, while the DV-RA1000 sounded better when set to its internal clock.

### WISH LIST ASIDE, LOVE THE SOUND

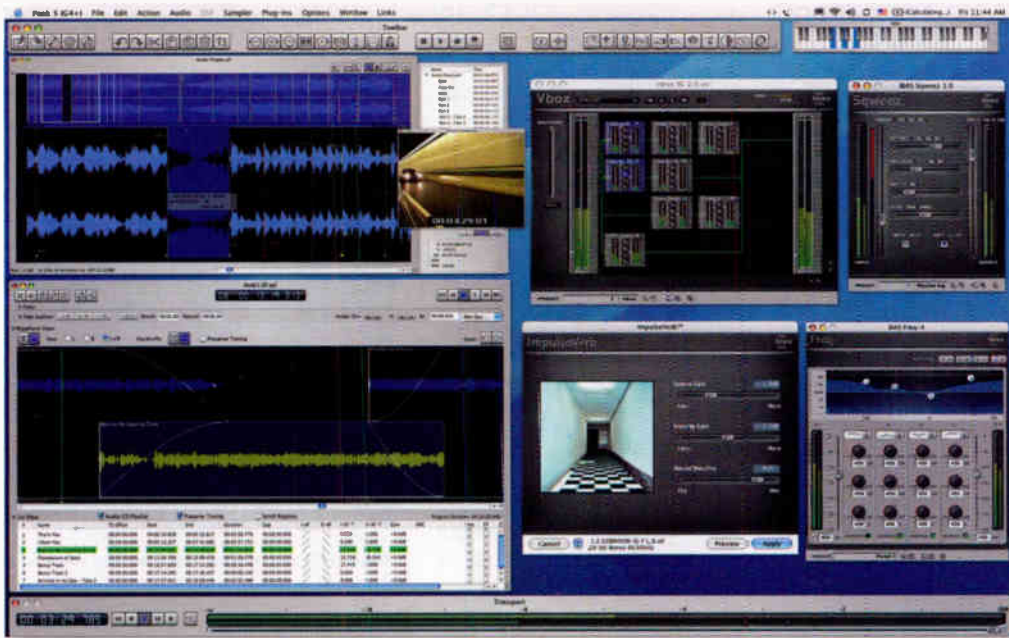
There are some things I wish this machine would do, such as allowing me to print to an external hard drive or the ability to digitally down-convert to an external CD-R burner. I would also be nice if it played back commercial SACD discs (at least the stereo tracks). The transport buttons are also a bit flimsy. But these are minor issues. The DV-RA1000 is a great-sounding machine with tons of features at an amazing price of \$1,499.

Tascam, 323/726-0303, [www.tascam.com](http://www.tascam.com).

*Erik Zobler is an L.A.-based mixer.*



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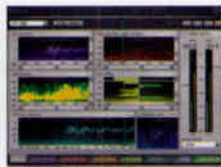
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# Native Instruments Kontakt 2 Sampler

## Software Update Offers Surround and Improved Workflow

In the sampling world, cross-compatibility with file formats and a friendly user interface are king. But if you want to hang with the big dogs, you've got to have all of this and more to be considered a winner. In my experience, Native Instruments' Kontakt has always been a contender, so I was very interested to check out the upgrade.

Kontakt 2 offers many improvements over the original—a powerful sampler in its own right enabling multitimbral operation, powerful layering and handy signal processing. The latest incarnation takes sampling to the next level, offering a new user interface, 42 surround formats and much more.

### A BEVY OF NEW FEATURES

Enhancements include a newly designed user interface, an undo/redo history, and mapping and loop editors that can be opened as separate windows. Other features include keyboard shortcuts to speed workflow and a new master section that enables control of global tempo and master tuning, among other things. There's also a virtual keyboard that can be toggled on and off. In terms of compatibility, Kontakt 2 now works with 25 library formats and five sample formats, enabling friendly play with nearly every possible sample format on the market. A bank module allows you to load up to 128 instruments, switchable by program change, which is useful in live performance situations.

A total of 42 different surround sound formats are supported, representing up to 16 discrete channels. Surround panning, import of .WAV/.AIFF surround samples and surround effects are all useful tools. Kontakt 2 also features a new high-performance audio engine with unlimited voices and 64-part multitimbrality. The Sample Purge feature enables you to remove samples that are not used in your arrangement, saving valuable RAM.

The company has also developed the Kontakt Script Processor, which enables the user to program instrument modules with scripts. This is a powerful tool to create exotic instrument simulations, chord generators and arpeggiators. Among

Kontakt 2's diverse and useful suite of effects is a new convolution processor, enabling reverb and other special effects. Many impulse responses from real concert halls and echo chambers are included; you can also import your own. There are also new synth filters, namely the Pro-53 classic analog, and a 4-stage ladder filter for tweaking any sample you want.

Numerous new browser functions enable convenient and simplified workflow. An enhanced loop editor simplifies loop slicing. Surround loops are handled just as easily as mono loops. Kontakt 2 enables the import of REX and Apple loops, along with slice information.

Kontakt 2 ships with a new instrument library featuring orchestral instruments from the Vienna Symphonic Library, killer grand pianos, electric pianos and organs, other acoustic instruments, drums of every stripe, synthesizers and an abundance of loops. There aren't many samples missing from this library, and the quality of the instruments is truly excellent.

### INITIAL KONTAKT

I installed Kontakt 2, started noodling and found that the interface is pretty self-explanatory. The browser easily enables location of samples and presets, among other items. I started out with symphonic instruments, and I was impressed with their sound quality. More importantly, however, the instruments' response to the keyboard touch was better than I've ever seen in a sampler. I continued on through pianos, other electric keyboards and guitar samples. I played endlessly with various effects and consistently found myself thrilled with the instruments' playability. Some instruments use hundreds, if not thousands, of individual samples, and although they take some time to load, the wait is worthwhile because all those samples lend to the expressiveness of the instrument.

I was easily able to sequence music,



*Kontakt 2's redesigned user interface simplifies workflow.*

and Kontakt 2's multitimbrality enabled me to literally put together an entire piece using nothing else. Sometimes, when using a "be-all/end-all" module, I find myself wishing for a slightly better synth sound or maybe a punchier drum kit. Not in this case. For me, Kontakt sounds were pretty much grab-and-go; I didn't have to do a lot of deep parameter tweaking to put together a piece of music. This is an instrument that is clearly intended for musicians to be able to sit down and compose and play. It's also satisfying for tweakheads such as myself.

### FINAL KONTAKT

I love the workflow improvements in Kontakt 2, and as a result, I will use it far more frequently than I did with the original version. The surround features are excellent, as is the convolution reverb. I also love the sound of the Pro-53 classic analog filter and found it useful for tweaking all kinds of sounds. The effects, in general, lend a huge amount of power, because it's plausible to drive Kontakt 2 with a sequencer and mix within Kontakt.

That aside, Kontakt 2 resides proudly in the very short list of virtual samplers worthy of consideration by serious users.

Native Instruments, 323/467-5260, [www.native-instruments.com](http://www.native-instruments.com). ■

*John McJunkin is the principal of Avalon Audio Services in Phoenix.*





## Mark Isham **M-POWERED**

**The movie: "Crash." The monitors: M-Audio.**

Mark Isham's soundtrack for "Crash" is a vital element in conveying the unique message and vibe of the critically acclaimed film. Isham did all of his composition and mixing on the monitors he's come to rely on—the M-Audio BX series.

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—Mark Isham, composer, "Crash"



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World Radio History

# AEA R92 Ribbon Microphone

## Extended Top End With Reduced Proximity Boost

What? Another great affordable ribbon mic to put in the locker? And you don't have to click your heels three times and make a wish to get it? The Audio Engineering Associates R92 is the latest outing from Wes Dooley and it's remarkable. Finished in space-age anodized aluminum and fixed in an integral shock-mount with attached cable, the R92 looks and feels as stylish and solid as the R84 and R88—the two previous AEA efforts that share the R92's engine.

Although its ribbon pedigree is similar to its cousins, the R92 is truly a different mic, featuring a reduced proximity boost and some extended top end. The mic is only about -2 dB at 10 kHz, whereas its forefathers were down some -5 dB. The reduced bass boost at close range makes this a winner for vocals, narration duties and other "intimate" work. The cost of this tailored response means less overall output, but when paired with a quiet preamp with plenty of gain, it's not a problem. As with other AEA mics, the front and back of the mic have different personalities; in this case, the front being the "crisp" side and the back exhibiting a more traditional ribbon smoothness and roll-off.

### LET'S CUT TO THE CHASE

I first heard the R92 used on a male lead vocal. It was sent through an SSL 4000 Series mic preamp and flat to tape. The mic is well protected by the stylish outer skin, but being a bit paranoid about the ribbon, I used a windscreen. The reduced bottom end and extended top was evident. While not in-your-face with "air," I could still sense the extra detail. Even without compression, the vocal sat nicely in the mix, and the ribbon's tendency to round out the rough transient edges made it a winner for this application. Even though you will need to add some top for the final mix, this mic really brings something to the table when used for vocals.

Next, I used the R92 as the center mic in an LCR array over a drum kit through the new Universal Audio 8110 mic preamps. I was happy to see that this preamp nicely has a 2k setting for input impedance and plenty

of gain—a great match for any ribbon. I lined it up about two feet over the cymbals along with two vintage AKG 451E cardioid microphones on the left and right. The 451Es are naturally (and beautifully) bright and are among my favorites when used as a stereo pair over a kit. The R92's signature couldn't be more different. As expected, it sounded noticeably dark, but was a nice addition to the center image.

What the R92 does to transients is a thing of beauty. The snare's snap was wonderfully rounded, giving a compressed sound that only a ribbon can. As the snare is set up to the left of the kick, overheads can drag the image to the left, but when panned center and added to the left and right spaced mics, the R92 sat the snare down in the middle of the mix. In addition, it didn't compete or detract from the 451Es; it was just "there" where you needed it, doing its thing very well.

Next was the R92 on a guitar cabinet, about a foot from the speaker. The mic's ability to handle 135dB SPLs makes it perfect for this application. Also, the rear of the ribbon gave a bit of the room to the sound. The amp was placed behind a gobo and near a corner of the room. The track started with the guitar set at a clean sound with some punctuated chords played with the ensemble. The ribbon rounded out the punchy chords and added a nice lush tone to the track. When the guitarist kicked in the overdrive for the solo section, the R92 didn't flinch, handling the extra level and making the solo sing.

Soprano saxophone can be an "edgy" instrument, but not so with the R92. Placed about a third of the way up the horn from the bell, with the ribbon in the vertical position, the mic laid a silky blanket over the sound, especially when the player went for upper-register staccato notes. The solo sat squarely in the track and hit the reverb perfectly. Even with the fader in a static position, it fit in with the rest of the ensemble.

### IT'S RIBBON-LICIOUS

I'm a pushover for ribbon mics. They are uniquely qualified to bring warmth and pleasure to almost any sound source. With



the R92, the extended top and reduced bottom brings something completely new to the mix. And although it sounds decidedly dark when compared to a condenser, it more than makes up for it with personality.

It rounds off transients in true ribbon fashion, adding a naturally compressed sound that flatters even the most strident source. This tendency and its tailored frequency response make the R92 a hands-down winner at close quarters. You don't need to be afraid to get this mic in a singer's face or right up on a speaker. The R92—like its forefathers carrying the same engine, the R84 and R98—is unequaled in its price range. I almost felt guilty getting this kind of quality for \$900. Well, not *that* guilty! Wes Dooley and the AEA crew have done it again.

Audio Engineering Associates, 626/798-9128, [www.wesdooley.com](http://www.wesdooley.com).



Kevin Becka is Mix's technical editor.



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World Radio History

# KRK V8 Series II Active Near-Field Monitors

## Upgrade Offers Improved Drivers, Functionality and Imaging

For some audio engineers, choosing the right monitor can be a never-ending quest. To most, it's all about accuracy, flat response and translation at the right price. Running with that idea, KRK launched a new wave of V Series monitors that improve the V4, V6, V8 and the V12S with a newly upgraded woofer, tweeter and crossover. I welcomed the opportunity to review the V8 Series II two-way, 8-inch active monitors.

### A NEW SLANT ON A V8

It's hard to re-invent the wheel in this product category, but KRK has done it with a couple of interesting features. The first is the auto-on/off function. After 20 minutes of silence, the V8 II automatically shuts off. New LEDs on the front end display activity for the peak indicator and a new limiter circuit. A three-position switch gives the user control over the LED's action. You can set it to Off for no clip or limiting activity, On for a flashing red LED when approaching distortion and Limit to route the signal through the limiter circuit (flashing green LED). Running your mix through the Limit position protects the monitors from level abuse caused by level spikes from unplugging instruments, etc. KRK does not recommend using this limiter while mixing.

Input is derived through a Neutrik Combo connector; sensitivity is variable between -30 dB and +6 dB via a recessed screw adjustment on the back. The frequency response of 42 to 20k Hz is projected through an 8-inch Kevlar LFE and a 1-inch soft-dome HFE, sorted out with a three-filter active crossover situated at 2.18 kHz (altered from the 1.66kHz point in the original V8s).

For those who like it loud, level is not a problem. The high and low transducers are powered by 60- and 120-watt amplifiers, respectively, and are capable of putting out a healthy 111 dB. High- and low-frequency manipulation is possible with a pair of three-position switches. High-frequency adjustments include  $\pm 1$ dB shelving curves at 1 kHz and a flat position. Low-frequency tweaks are made with an identical toggle switch that dips 3 dB at 45 Hz, 50 Hz or 65

Hz. Consider the 45Hz dip is flat as the monitors reach down to 42 Hz. It's not a huge deal, but a flat position would have been more user-friendly.

### WORKIN' 'EM

I took the V8 IIs home for two days of burn-in before I made any critical decisions. I ran pink noise through them for about five hours at 85dB SPL. In doing so, driver suspensions will loosen up and, sometimes, tweeter harshness diminishes. Interestingly, another monitor company, B&W, recommends a break-in period of up to a month for Kevlar drivers! In my test, the V8 IIs started warming up, especially the tweeter.

My critical test took place back at the studio with the V8 IIs traditionally mounted on top of a large-format console alongside a pair of Genelec 1032As. At first hearing, the monitors seemed hyped in the low end. The previous model, the V8, was criticized for a lack of bottom, but this is not the case with the V8 II. The new 8-inch woofer was upgraded with a larger voice coil and a lighter, stiffer cone. The V8 IIs actually projected more low end than the 1032As' bigger 10-inch drivers. Using the -3dB setting at 50 Hz, I was able to even out the lows nicely. The kick was tight, punchy and provided a good translation for the pop/rock tune I was mixing.

I did perceive a slight deficiency in the low mids, which presented a challenge for bass and some electric guitar tracks. I occasionally reached for the EQ to correct mix problems that were not there when auditioned on the Genelecs. (Keep in mind the \$3,500 price difference.) Higher mids remained detailed and concise. Acoustic guitars maintained all of the string nuances in the upper-mids to high frequencies. Blending of the top and bottom snare drum was also effortless.

With the new tweeter design, highs were pleasant and had the detail I expected (an excellent upgrade from the original V8, which was a little harsh to some). The cymbals were smooth and natural, but they didn't have that expensive, silky top end. As for image, when angled to the



equidistant triangle, the V8 IIs have better spatial imaging and expressed a larger sweet spot, as compared to the previous model.

### A SPEAKER YOU CAN WORK WITH

Quite honestly, the original V8s remind me of active Yamaha NS-10s. The V8s lacked lows, had a midrange bump and possessed uninspiring highs. Now, with new tweeters, woofers and crossovers, the V8 II is completely improved over its predecessor. A colleague of mine put it succinctly when she said, "Wow, I can really work with these."

However, for this test, there were some adjustments to be made to the low end, but once that was tamed with the low-frequency dip switches, the bottom was very good. Mids to high-mids were also well-represented. As for the highs, the new tweeter design is a big positive.

Overall, my biggest beef was the slight dip in lower mids, but at this price, it is something I could live with. The KRK V8 IIs should be the first stop for anyone searching in the \$999 price range and could even give some more expensive monitors a run for their money.

KRK Systems, 818/534-1580, [www.krksys.com](http://www.krksys.com). ■

*Tony Nunes is an audio engineer and educator in Phoenix.*



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Mixing the band under difficult circumstances was in fact easy and a pleasure. I'd use and spec these boxes again.

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I have to say the Renkus-Heinz line arrays are not only lightweight and easy to work with but they sound amazing and get extremely loud too.

**Brian Schmidt**  
FOH - Tech, "The Joint"  
Hard Rock Hotel, Las Vegas



I was the crew chief on the Gobi tent at Coachella and not only was I impressed with the STLA but all of the engineers we worked with had very positive things to say. It's light for a powered box, has tons of horsepower, and goes up and down, quickly and easily.

**Hoover**  
Rat Sound Systems

Honestly, I thought it was solid. I liked it better than many systems. For a compact versatile system, it is definitely worth taking a listen and a look at the numbers.

**Dave Rat**  
Rat Sound Systems



The STLA rig made my two days at Coachella so easy! All of the engineers that worked on it were extremely happy with the performance and not one of them reached for the house EQ the entire festival.

**Neil Shelton**  
FOH-Tech, Gobi Tent, Coachella

I'm not even using a processor, and my graphic is flat unless I get into a really tough room or if I'm using less than eight boxes. This PA has made a huge difference in my stress level. I'm really happy with my mix every night.

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# MindPrint EN-VOICE MK II Tube Preamp

## Channel Strip—Style I/O With USB and S/PDIF Options

It seems that MindPrint has the seven-year itch. Based on the success of its EN-VOICE Class-A mic preamp, which launched in 1998, the company has now released the MK II, an improvement on the original in many important areas.

With a few design upgrades, the original equalizer and tube circuitry remain the same, while the input section has been redesigned, including an integrated balanced insert and some handy compressor presets. MindPrint states that the redesigned switched-mode power supply delivers a solid 250 volts for tube stability and consistent sound. At home on a desk-top or in a rack, the MK II comes loaded with useful features.

### SMART LAYOUT, SLEEK CONTROLS

The attractive red front panel, silver control knobs and clear plastic function buttons (which light up a very cool blue when active) let you see at a glance how the unit is functioning. All 14 control knobs have a solid, smooth feel, with easy-to-grasp tops that let you get right in there for tweaks without disturbing the rest of your settings—no mean feat in a single-rackspace package this crammed with features.

The input section contains a TRS instrument/line input (mic and line inputs are on the rear) with two pots for input trim (line and mic, respectively) and a clever three-way selector switch for mic, line or instrument. Phantom powering and a -20dB pad switch are also on the front. Mic input impedance is a surprising 10k ohms. Two lighted switches complete this section: one for metering selection and one for low-cut (80Hz) activation. (The rear panel's insert TRS jacks function in tandem with this section and the USB interface.) The selectable metering view is handy: You can monitor input or output here, with an easy-to-see green/yellow/red LED for keeping an eye on levels at either end of the chain.

The three EQ (LF, MF, HF) sections all have level and frequency controls, while the mid section also includes a third control for changing the size of the mid-frequency EQ's

bell curve, ranging from a third-octave to six octaves. (The EQ shape is a unique design: Low-frequency control covers 20 to 300 Hz, MF covers 100 to 11k Hz, and HF is 1.6 to 22 kHz.) Each section has its own in/out lighted switch—another great at-a-glance feature when working with so many parameters.

The compressor section—based on a 12AX7A triode circuit (with its own hardwired in/out lighted switch)—has the usual controls for threshold (+2 dB to -28 dB), ratio (1:1 to infinity), a gain reduction LED and a tube saturation control. (You can dial in 0 percent to 100 percent.) Tube saturation levels are easily visible with a three-color Tube Sat LED, letting you see and hear the effect: Yellow is a clearly audible; when it's red, you really know it has kicked in.

The sidechain path has a 6dB/octave cut starting at about 300 Hz, which is activated via a lighted hardwired I/O switch. This really helps reduce any pronounced low-end compression adversely affecting the compression on highs and mids. Lastly, there are eight presets for quick and useful settings, depending on the program material. These are excellent places to start; you can also sweeten to taste after you've dialed them in.

### CLEAN, BRIGHT, WARM AND FUZZY

I put the MK II through a series of successful torture tests with everything from bass guitar to drums to guitars and vocals in a live band tracking session. I was particularly pleased with the kind of bass guitar sound achieved with very little tweaking. A bass amp cabinet miked with an Electro-Voice RE-20 routed through the MK II using preset "Bass 2" produced a smooth, detailed, lush bass, with a round, warm sound. The compression was barely noticeable, yet the bass retained fullness and punch that used to take me forever to accomplish with other more complex gear.

Kick and snare drums had the kind of

detail, clarity and headroom I needed. It won every time it was A/B'd against other preamps and console inputs at my disposal. Whether as a clean preamp or crunchy tube warmer-upper, the MK II is impressive.

While you can simply track the MK II's analog outs into your own converter, the



DI-MOD card USB add-on (a DI-MOD 24/96 with optical and co-ax S/PDIF, master and slave modes, and analog insert is \$349) is the finishing touch in using this box with a laptop or desktop computer. The drivers loaded smoothly, and the unit seamlessly works with any Windows or Mac DAW application. Audio data flows via a USB connector at 16 or 24 bits up to 96k, all adjustable via the driver settings. A sync LED lets you know things are working properly, and a S/PDIF output lets you feed DATs and other digital sources without a computer. A clever dual-purpose monitor mode switch allows your choice of stereo playback (from the host computer) with headphones or use as a final insert point for another processor or outboard device input.

### SO WHAT'S THE SCOOP?

The EN-VOICE MK II is a tough box to define. Calling it a channel strip is a good start, as it does all that and more, yet it's also incredibly useful as a stand-alone preamp for vocals, voice-overs and more. It's rare to find a unit that does everything so well, so cleanly and so smoothly. At a combined price of just less than \$1,000 for the unit and the DI-MOD, the MK II is worth looking into for private or pro use. Defying categorization, in this case, is a really good thing.

Prices: basic unit, \$799; optional USB I/O, \$299.

Mindprint, 847/439-6771, [www.mindprint.com](http://www.mindprint.com). ■

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





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PHOTOS: MAUREN DRONEY

Dave Grohl (left) and producer Nick Raskulinecz at the Foo Fighters' Studio 606 in Los Angeles

## FOO FIGHTERS DOUBLE UP FOR "IN YOUR HONOR"

ROCKERS SET OUT TO RELEASE ELECTRIC AND ACOUSTIC DUAL-DISCS

By Maureen Droney

It was kind of strange for urban L.A. The air smelled like barbecue, and across the street, two country-looking geezers, sunk deep in porch chairs, stared as I parked and then buzzed for entrance into the nondescript compound that is the Foo Fighter home base. I offered a friendly wave, got two in return and sauntered inside, expecting a funky, home-style (okay, grungy!) studio; you know, ancient couches, shaggy carpet, tattered posters. Instead, I found an *operation*: a spacious, high-ceilinged complex with offices, tour production, lounges, a full kitchen and a parking lot—complete with forklift—where an efficient team was grilling chicken for dinner.



At the heart of this hive is the studio: a nifty, craftsman-inspired control room and a huge live recording area where *In Your Honor*, the Foo's new double-album, was recorded and where, on the day I visited, the band was rehearsing for their upcoming tour.

"My original intent was to create something really low-key like my basement studio in Virginia where we made the last two records," says head Foo Dave Grohl. "It was homemade, low-budget and low-tech, but a lot of good shit came out of there. I thought that

was our vibe. I didn't start out to create the Abbey Road of the San Fernando Valley. It just grew."

"Yeah, it's more than we originally pictured," agrees a bemused Nick Raskulinecz, *In Your Honor's* producer, who's worked with Grohl since the 2002 release, *One By One*. "But we wanted a nice big control room where people could smoke if they wanted to and it wouldn't drive everybody else out. And then it just made sense, since Dave had tons of gear scattered around the country, to build a place big enough to store it all."

Studio designer Steven Klein and producer/engineer Allen Sides consulted on layout and acoustics, but lots of homegrown energy did, ultimately, go into the studio's construction. The bulk of the woodwork was done by Foo bass tech Jeff Templeton and guitar tech Sean Bates, who also happen to have master carpenter skills. Grohl, along with Raskulinecz and various crew members, also swung some hammers.

A Pat Schneider-restored Neve 8058 console, hooked up to a Neve BCM10, is the control room's centerpiece. Both boards are automated with Flying Faders, and racks of API gear—from a 32-input desk previously housed in Grohl's Virginia studio—are wired into the 8058.

Obviously, this is not a place where everything gets done "in the box." Analog front end is key to the Foo's sound. Outboard, both vintage and new, abounds, and *In Your Honor* basics were recorded to 16 reels of 24-track analog Quantegy GP9 (used over and over due to the current tape shortage and a desire save money) before being bounced to Pro Tools for overdubs, editing and mixing.

Raskulinecz—who, with engineer Mike Terry, handled recording—also mixed the rock half of the release; noted producer/engineer/surround sound expert Elliot Scheiner mixed the stereo and 5.1 versions of the acoustic sides.

—CONTINUED ON PAGE 135



# TERENCE BLANCHARD TEAMS UP WITH HERBIE HANCOCK

TWO ARTISTS FLOW TOGETHER

By Chris J. Walker

Trumpeter Terence Blanchard constantly—and seamlessly—flits between the worlds of jazz and motion picture scoring. They are by nature different, requiring distinct approaches, applications and philosophies. In cinema, he is best known for his work scoring films by director/provocateur Spike Lee, but he has also worked with such directors as Kasi Lemmons, Michael Cristofer, Joe Sargent, Leon Ichaso and Ron Shelton. In his jazz career, Blanchard's first big breaks came during the early 1980s via icons Lionel Hampton and Art Blakey, the latter particularly known for spotting and grooming talented young musicians. Since those initial experiences, Blanchard has moved on to work with many of jazz's top players, including saxophonist Donald Harrison and vocalists such as Jeanie Bryson, Jane Monheit, Cassandra Wilson, Dianne Reeves and Diana Krall. Since 1991, he's pursued a career as a solo artist and has been leading his own band. Much like his mentor Blakey, Blanchard has been working with emerging and exciting young players.

*Flow*, his latest jazz ensemble CD, is a synthesis that showcases his current jazz sensibilities and some of the sort of tasteful electronics he's employed in his scoring work, plus the bonus addition of Herbie Hancock as the producer. Remarkably, the recording is the first time the revered pianist has produced someone else's project since 1987. According to Blanchard, though, he and Hancock never had a plan or agenda for the album. Mostly, they were just interested in getting into the studio and seeing if any exhilarating and remarkable music would evolve from the sessions.

"In doing all the film work I've composed for, I used all these other types of textures—electronics and other stuff—and became increasingly interested in it," Blanchard explains from his home New Orleans. "I found



a way to use them all on this record with my bandmembers' compositions. So this was an opportunity to bring those things together, such as my development as a performing artist, composer/arranger and representing where the young guys are going." The resulting album is unmistakably 21st-century jazz—structurally and harmonically more challenging and edgier than the popular modes developed in the '50s to the late '60s, but also with some international flavors, particularly Brazilian.

Nonetheless, the traditional method of tracking jazz hasn't evolved much from the days of classic recordings by Miles Davis, John Coltrane and Dave Brubeck. Digital formats have mostly replaced analog, but jazz is still essentially cut live with ensembles playing together, perhaps with some occasional overdubbing. "I still like the 'organic' feel of playing with live musicians," Blanchard says, "especially with the pack of guys I have in this group. There's a synergy or oneness that happens, which can't be re-created by mirroring, so we try to get a live sound."

For four days in mid-December 2004, the trumpeter worked with his sextet—Aaron Parks (keyboards), Brice Winston (saxophone), Derrick Hodge (bass), Lionel Loueke (guitar/vocals) and Kendrick Scott (drums)—and guests Howard Drossin (synth programming; he often helps Blanchard with his scoring work) and Gretchen Parlato (vocals) at Jim Henson Studios in Hollywood capturing the sound of the ensemble in the big live room, which Blanchard has used for previous sessions.

"The great thing about [the live room] is that the drum area is huge and you can get a nice live sound but still have plenty of isolation," Blanchard notes. "We got a nice natural sound on the upright bass without having to run it through a DI." Blanchard says that the room sound is always paramount to him—more so than the recording equipment. Still, he does have some preferences in that area: He's a big Neve fan, generally likes the old tube sound, but has remained open to new technologies. The Henson sessions more or less fit that bill—the room has an SSL J board, but he got to use a host of Neve 1073 preamps as the group cut to Pro Tools|HD.

Tracking the sessions at Henson was engineer Don Murray, who has a relationship with Blanchard dating back to 1995, when the trumpeter scored Lemmons' film *Eve's Bayou*. Of the sessions for *Flow*, Murray remarks, "I was kind of like the bystander or the audience watching this whole dynamic go down. With Herbie there, it was so inspiring, especially for the younger musicians. He really psyched those guys up by telling them stories and talking about his great experiences with various musicians. The band was just going crazy, and I was, too."

Blanchard and Hancock first became



acquainted through their involvement with the Thelonious Monk Institute of Jazz in Los Angeles, where the trumpeter is artistic director and the keyboardist is the institute's chairman. When Blanchard decided to cut a new album with his group, Hancock was the first person he approached about producing

—CONTINUED ON PAGE 142

# TOTO'S "AFRICA"

By Robyn Flans

At the 1982 Grammys, accepting Toto's sixth award of the night, David Paich raised the award in the air and said, "We'd like to thank Robert Hilburn for believing in us," a sarcastic salute to the *Los Angeles Times* music critic who took every opportunity to slam the band. Even when the article wasn't about the Southern California group, Hilburn would find a way to bring them up as a negative example. And he wasn't the only one. Ironically, because of their mastery of their instruments and their profile as studio aces, critics then—and still—decided

the group was too polished and treated them as if they were some kind of pre-fabricated band, a la The Monkees.

Not true. These guys started out as a garage band well before their musicianship gained them attention in the studios. And why should having the talent to play with such a variety of artists as Warren Zevon, Paul McCartney, Cher, Cheap Trick, Joni Mitchell, Steely Dan, Tommy Bolin, David Gilmour, Alice Cooper, Bob Seger, George Duke, Michael Jackson and Michael McDonald (the list goes on) mean they weren't capable of creating a great band sound?

But that night in February 1983, even the critics couldn't keep Toto from getting their just desserts. Toto took home five Grammys: Record of the Year ("Rosanna"), Best Instrumental Arrangement with a Vocal ("Rosanna"), Album of the Year (*Toto IV*), Producer of the Year (for *Toto IV*) and Best Engineered Recording (*Toto IV*).

It was no surprise to engineer Al Schmitt. "When we started that album, the first track we did was 'Rosanna'—and it was the second take, with the improv creative piano solo on the way out—and I think

the second track we did was 'Africa,'" he recalls. "I had a friend who said to me, 'Next time you're going to be up for a Grammy, let me know. I want to go to the Grammys. Right after we cut that second track, I called my friend and said, 'Start getting your tickets.' It was just magic."

Paich recalls writing "Africa" on his living room piano. "Over many years, I had been taken by the UNICEF ads with the pictures of Africa and the starving children. I had always wanted to do something to connect with that and bring more attention to the continent. I wanted to go there, too, so I sort of invented a song that put me in Africa. I was hearing the melody in my head and I sat down and played the music in about 10 minutes. And then the chorus came out. I sang the chorus out

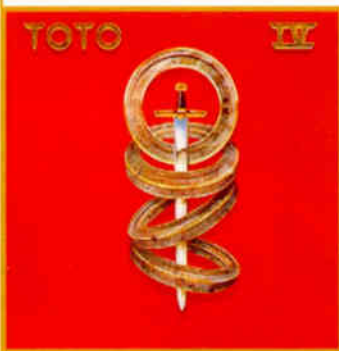


From left: Jeff Porcaro, David Paich, Steve Lukather, Michael Porcaro and Joseph Williams

as you hear it. It was like God channeling it. I thought, 'I'm talented, but I'm not *that* talented. Something just happened here!' Paich then proceeded to work on the lyrics for another six months. He brought the skeleton to drummer Jeff Porcaro with the idea of having percussion being an integral part of the composition. "Jeff got out African sticks with bottle caps that his dad [Joe Porcaro] and Emil Richards [both percussionists] used on National Geographic films. He brought in a marimba and a wooden xylophone kind of thing. This was pre-synthesizer. We didn't have samples back then. You're hearing bass marimba, that other instrument, and you're hearing probably one of the first loops that was ever done."

"I was about 11 when the New York World's Fair took place and I went to the African pavilion with my family," Jeff Porcaro, who died in August 1992, told me in a 1988 interview for *Modern Drummer* magazine. "I saw the real thing; I don't know what tribe, but there were these drummers playing and my mind was blown. The thing that blew my mind was that everybody was playing one part. As a little kid in Connecticut, I would see these Puerto Rican and Cuban cats jamming in the park. It was the first time I witnessed somebody playing one beat and not straying from it, like a religious experience, where it gets loud and everyone goes into a trance. I have always dug those kind of orchestras, whether it be a band or all drummers, where a bunch of guys are saying one thing. So when we were doing 'Africa,' I set up a bass drum, snare drum and a hi-hat, and [percussionist] Lenny Castro set up right in front of me with a conga. We looked at each other and just started playing the basic groove—the bass drum on 1, on the 'and' of 2 and 3. The backbeat is on 3, so it's a half-time feel, and it's 16th notes on the hi-hat. Lenny started playing a conga pattern. We played for five minutes on tape—no click, no nothing. We just played. And I was singing the bass line for 'Africa' in my mind, so we had a relative tempo.

"Lenny and I went into the booth and listened back to the five minutes of that same boring pattern," Porcaro said. "We picked out the best two bars that we thought were grooving and we marked those two bars on tape. We made another







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Yamaha CS80, “then David Hungate put his bass on, Steve [Lukather] put a guitar on, I put some more piano on,” Paich says. “We did the track and I was still working on the lyrics. Everyone tried to sing the song—there were a lot of lyrics to fit into a small amount of space. Bobby [Kimball] tried to sing it and he couldn’t phrase it right. Steve Lukather tried, but I ended up doing it by default. I’m an Elton John fan and he fits a lot of words into his songs. When we get to the chorus, it’s Bobby, Steve and Timmy Schmidt singing. The legendary Jim Horn came in and played recorders in the second verse.

“We recorded 24-track with lots of slaves,” Paich continues. “We got it from Paul Simon, who I think was the first to do it. As soon as he did the rhythm track, he would put the master away so it wouldn’t get worn down and you’d make another 24-track tape for vocals, one of guitars, et cetera, and we made a lot of those. By then, I had my first little 24-track studio [dubbed Hog Manner] at my house, which was a Trident flexi-mix console, two JBL 4311 speakers and two Ampex M1200s, and we messed around doing overdubs there. We were recording 30 ips, non-Dolby, if you can imagine! There was a Yamaha instrument called a GS1, a prototype for the DX7, which at that time was the new little digital synthesizer, so the kalimba sound you hear is that. And we used a CS80, which is very unique.

“On the vocals, I think we had a U47, probably through an LA-2A limiter. Whenever you hear my lead vocals, they’re tripled. Each line has three vocals on it. I got that from listening to a lot of Beach Boys and Beatles records. I like that layered sound.”

“Then and still today, I’m an SM57 kind of guy,” says Lukather. “I’m a big Shure fan when it comes to guitar amps.”

“On the guitar, we used a close mic on the amp and then we had a mic about 15 feet back for room ambience,” Schmitt adds.

“It was a time when we wanted to experiment a lot,” Lukather recalls. “We lived in the studio. It was before any of us were married and had kids, so we rented a Winnebago and had it in the parking lot at Sunset Sound so we didn’t have to go home. We would record all day and all night and if anyone wanted to sleep, they could go into the Winnebago.”

Greg Ladanyi then came in to mix the album. “I think we used three 24-track machines for ‘Africa’ and ‘Rosanna,’ which was something a little bit ahead of its time,” he says. “We were at the Sound Factory. We had to mix ‘Africa’ in sections because the console wasn’t big enough—it didn’t have enough faders for the amount of tracks that were on the record. We had to mix sections

mark four bars before those two bars. Lenny and I went back out; I had a cowbell, Lenny had a shaker. They gave us two new tracks and they gave us the cue when they saw the first mark go by, where Lenny and I started playing to get into the groove, so by the time that fifth bar came, which was the first bar of the two bars we marked as the cool bars we liked, we were locked, and we overdubbed shaker and cowbell. So there was bass drum, snare drum, hi-hat, two congas, a cowbell and a shaker. We went back in, cut the tape and made a one-bar tape loop that went ‘round and ‘round and ‘round.

“We took that tape, transferred it onto another 24-track for six minutes, and David Paich and I went out in the studio. The song

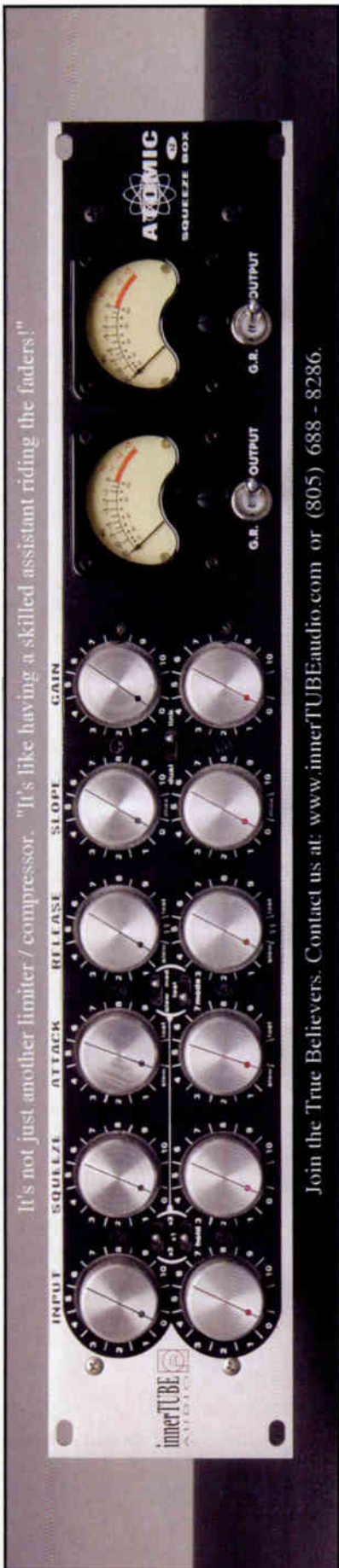
I was trying to get the sounds I would hear Milt Holland or Emil Richards have, or the sounds I would hear in a National Geographic special, or the ones I heard at the New York World’s Fair.

—Jeff Porcaro

started and I was sitting there with a complete drum set and Paich was playing. When he got to the fill before the chorus, I started playing the chorus, and when the verse or the intro came back, I stopped playing. Then we had piano and drums on tape. Then we had to do bongos, jingle sticks and big shakers doing quarter notes, maybe stacking two tracks of sleigh bells, two tracks of big jingle sticks and two tracks of tambourines all down to one track. I was trying to get the sounds I would hear Milt Holland or Emil Richards have, or the sounds I would hear in a National Geographic special, or the ones I heard at the New York World’s Fair.”

Schmitt recalls being at Sunset Sound working on the track and remembers Porcaro’s original process going to a 2-track machine. “After choosing the looped bars, we put a music stand out and had the tape go around the music stand and back into the tape machine.”

Then everything else was overdubbed. Paich recorded the opening sound on a



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and I had to edit the 2-track together to complete the mixes—the verses got mixed, the chorus would go by and then once the verses were mixed, we mixed the choruses and cut the choruses into the verses. The guys in the room were involved in moving faders because we had no automation on the console then. I would be mixing and I'd have Lukather on one side of the console and Paich or Porcaro on the other side of the console and we would do the rides all live. We kept doing the mixes over and over until we got the rides the way we wanted to hear them.

"We used the Eventide Harmonizers for chorusing and harmonizing, a lot of analog effects like tape delay and 1/4-inch slap," Ladanyi continues. "There was Publison and the Sound Factory had the great EMT 140 plates, so all the reverb came from pretty much that. So much of the stuff has come and gone now."

"One other cool thing about the record is something we need to go back to," Ladanyi says. "The lack of compression used on the final process for the record to be pressed was not an issue like it is today, so the great dynamics of Toto as a band were really felt and heard by the end-user. Today, almost every record you hear is so compressed. A musician's ability to play with their feel is all about their dynamic range, and when that gets taken out of the mix, the end-user has no relationship with the musician or artist and how they feel things. That record had all that. That was a great record, and it's still the record that I hear on the radio when I travel the world, even in places like South Korea or South America."

"Africa," which went to Number One at the end of 1982, is creative, dynamic proof that critics aren't always right. "If the critics had any power at all, we would have been over with 25 years ago," Lukather says. "We're just here to piss them off and remind them that some of us still believe you have to play good to be successful." [Laughs]

Toto is currently working on a new album, about which Lukather says, "It's all the original guys, except, of course, for our brother Jeffrey," says Lukather. "But he's always in the room anyway. The other day, we were working with Pro Tools and we were able to immediately go back and listen to a detailed balance of the vocals and it was going by so fast. And Paich said, 'We could have really used that in 1981.' Technology is great, Pro Tools is great, but it also enables people who can't play and can't sing to make records. If you give technology to the people who can really play and not use it as a crutch but use it as a tool, then it's awesome."

## FOO FIGHTERS

FROM PAGE 130

*In Your Honor* was a long time gestating but a relatively short time in the making. After touring until the end of 2003, Grohl took six months off to write. Then, just as pre-production for the new record geared up, an ideal location for the studio was discovered. Suddenly, both construction and the album were under way.

"I put a drum setup and a Pro Tools demo situation in Dave's garage," relates Raskulinecz. "Then I gave him Pro Tools lessons. He ended up doing everything himself."

He writes the songs on acoustic guitar, then plays all the instruments, working really fast. For demos, he'll lay down drum tracks and record a complete song—with vocals—in about an hour."

After some demo refining, Grohl gathered the band (drummer Taylor Hawkins, bassist Nate Mendel and guitarist Chris Shiflett) at North Hollywood's Mates Rehearsal Studios. "We ended up with three or four different versions of about 30 songs," says Raskulinecz. "In hindsight, we might have gone a little too far. [Laughs] But part of the reason was we were waiting for the studio to be done. Finally, it got to the point where I didn't want

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Elliot Scheiner (l) and Nick Raskulinecz at Capitol Studio C

them to play the rock songs anymore. I was afraid they were going to get stale."

With deadlines looming and the studio still unfinished, Grohl, Raskulinecz and the crew descended on the construction site, "hammering, stuffing insulation—doing whatever to speed the process." By the middle of November, walls were still just insulation, but the gear was in. Construction moved to the graveyard shift and recording commenced from 1 p.m. to 1 a.m. every day.

Although the walls in the 25-foot-high recording area are now covered with classic (and hard-to-find) acoustic tile, when recording began, neither it nor other acoustic treatment was in place.

"It was kind of bombastic [sounding]," admits Raskulinecz, "but Jeff built us some baffles really quickly, as well as a huge bass trap in the corner. We were working with a lot of differences in sound because we were in various stages of room construction—and also because we switched up a lot of the drums."

Ultimately, Hawkins used different kit setups in different places in the room for just about every song. One constant was Raskulinecz's 22-inch black Slingerland kick drum, "which is," he points out, "the same kick drum we used on the last record."

Mics for that stalwart were a Sennheiser 602 inside and a Soundelux 251 outside with the Yamaha NS-10 "polarity reverse" trick added in: reverse the leads on the speaker so it's pulling rather than pushing and plug it into a mic pre. "You've got to have a lot of gain," Raskulinecz notes. "We used the console mic pre with the shit cranked out of it."

Tracks were mostly cut in layers. Drums were played to a "stripe" comprising the band's rough version of the tune, then guitars and vocals were added; bass went on last. "Bass is so important," Raskulinecz explains. "By doing it last, you can really tailor it for

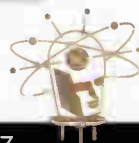
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tuning, parts and sound. The traditional way is to do drums, then bass; you get this massive bass sound—the greatest thing you've ever heard. But then you put the guitars on, and they're small because the kick drum and bass guitar are taking up all the space. So you pile on 25 guitar tracks.

"Whereas if you do the drums and then the guitars, you can fill the hole that's left with bass. And sometimes that hole wants a certain frequency that isn't traditional for bass, but you have to go with it, which is even more fun."

We did the acoustic record, then Dave started feeling that it was better than the rock record. So we went back into rock world and recorded eight more songs.

—Nick Raskulinecz

After recording about 20 electric songs, the band turned to the acoustic tunes, which were recorded in approximately two weeks. Instrumentation included drums, acoustic guitars, and electric and upright bass with guest appearances by Norah Jones, Wallflowers' keyboardist Rami Jaffee, violinist Petra Haydn and Led Zeppelin bassist John Paul Jones on mandolin, piano and Mellotron.

Generally, two mics were used on Grohl's acoustic guitars: a Soundelux 251 placed close to the soundhole and an RCA 77 on the neck, "at about the 12th fret, exactly the same distance from the guitar as the 251," says Raskulinecz, a phase freak who admits he put tape markings on the floor and insisted Grohl use them for positioning. "For a couple of songs, we went with the 77 over Dave's shoulder and a Coles up high in the room. On 'Friend of a Friend,' for what's maybe my favorite sound on the record, we used the 251 close, a pair of Royers spread on each side and farther out on the sides a pair of Earthworks, with everything pointing at the same source spot."

The 251 was also used as a room mic on Mellotron, piano and *all* of Grohl's vocals. "We used it into a Martek preamp and a dbx 160XT compressor, which is kind of funny—\$7,000 worth of gear into a \$200 compressor. But it sounds great."

The 160XT aside, Raskulinecz prefers

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tape compression to electronic, especially for guitars. "Dave is really sensitive to compression," he notes. "There's almost none on the record, including in the mastering that Bob Ludwig did. I should also mention that since we wanted to preserve the dynamics of the record, we deliberately didn't master 'loud!'"

With the acoustic record in the can, it should have been smooth sailing into the mixes, but, instead, "We did the acoustic record," continues Raskulinecz, "then Dave started feeling that it was better than the rock record. So we went back into rock world and recorded eight more songs that Dave wrote on the spot."

The rock tracks were mixed in stereo a song per day to, concurrently, 1/2-inch analog, Pro Tools at 88.2 kHz and DAT. Raskulinecz monitored on Yamaha NS-10s, ProAcs, the studio's Allen Sides/Ocean Way mains and a tiny pair of Realistic speakers he's had "since I was a kid."

Scheiner mixed the acoustic cuts to 1/2-inch analog for stereo and a Studer 827 2-inch 8-track for surround at Capitol Studios in Hollywood on a Neve VR console fitted with a surround matrix. Scheiner monitors on Yamaha NS-10s for stereo and powered Yamaha MSP-10s for surround. He also arranged a loaner for Grohl's studio of a 2005 Acura TL Sedan—whose standard equipment includes the ELS 5.1 surround system that Scheiner helped develop—for 5.1 mix monitoring.

"I was really impressed with the recording on this project," Scheiner offers. "It's not often that I get to just put up the faders and hear something outstanding. To me, the music and the recording have a timeless, classic feel, like something that will have a lot of longevity. These guys are very concerned with quality and that made it fun for me to come to work every day."

"We were too busy to leave the studio, so we started working with [Scheiner] before we even met," says Raskulinecz. "Thank God for ISDN! We didn't really know how it would go, but after Elliot played us his first mix, we just looked at each other, then said to him, 'Okay, which one do you want to do next?'"

The end result: two albums and two dual-discs. The rock album's flip side contains a *Making of DVD*, while the acoustic album's side 2 features a 5.1 DVD-A.

"Recording the rock album was great," concludes Grohl. "I love that kind of music; it's what we do. But making the acoustic album made me really happy. Being able to stretch out and do different things on it let me realize that I want to keep making records for a long time." ■

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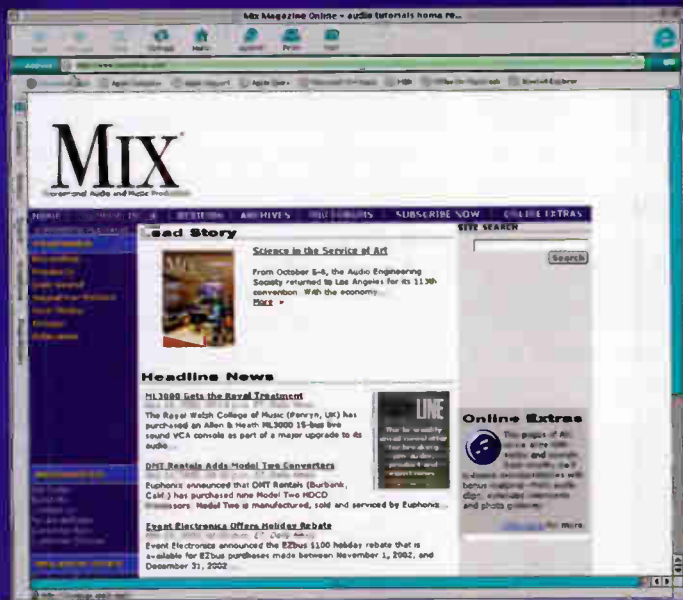
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## TERENCE BLANCHARD

FROM PAGE 131

it, and Hancock quickly accepted. "Part of it was curiosity from having so many people rave about Terence's band," Hancock says. "I think they asked me [to produce] because I like dealing with the unknown, carving out new territories—Terence described it as 'thinking outside the box.' It was great to be in that environment, and all those guys could really play. On the other hand, I had been working on another project and didn't have a lot of time to spend on Terence's. When I heard the music the day before the recording

the musical and emotional high points that occur on each track." As for the electronic and other embellishments, "I heard more sustained sounds and other kinds of textures throughout the sessions," Blanchard says. "It just seemed to be a natural progression for me, given things I was experiencing in the film world."

Miking was quite straightforward, Murray says. "I used a combination of an RCA 77 ribbon and a [Neumann] U47 tube for Terence, recorded separately on two different channels. I've done this for a couple of albums and my original thinking was that the 47 was really good for the softer sounds

When I heard the music the day before the recording at the rehearsal, I thought to myself, 'This is all together and there isn't anything for me to do!' But Terence really wanted me there for my presence, inspiration and spirit of exploration, which is what I'm really about.

—Herbie Hancock

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at the rehearsal, I thought to myself, 'This is all together and there isn't anything for me to do!'

"But Terence really wanted me there for my presence, inspiration and spirit of exploration, which is what I'm really about," Hancock continues. "Also, he wanted my input and suggestions as things went along. I didn't know I would be playing on the record, but then Terence asked me to play on something and I wound up on a couple of things. In a way, I was scared because they are so good and I was a bit out of shape. I hadn't been playing on that level for a while, but now I'm in shape again." (Hancock had just finished touring with saxophonist Michael Brecker, trumpeter Roy Hargrove, bassist Scott Colley and drummer Terri Lyne Carrington.)

Engineer Murray described the process of cutting the tunes as "taking a little journey," with three or four takes done as adventurous explorations. There was some editing later and minimal overdubbing, mostly add-ons from Blanchard done at his L.A. apartment studio. The title track, as suggested by Hancock, was split up and became three separate selections on the CD. Blanchard says that the arrangements of a number of the tunes were "built off the performances, not the other way around—then it really does have an organic feel. Everything starts to take shape based on

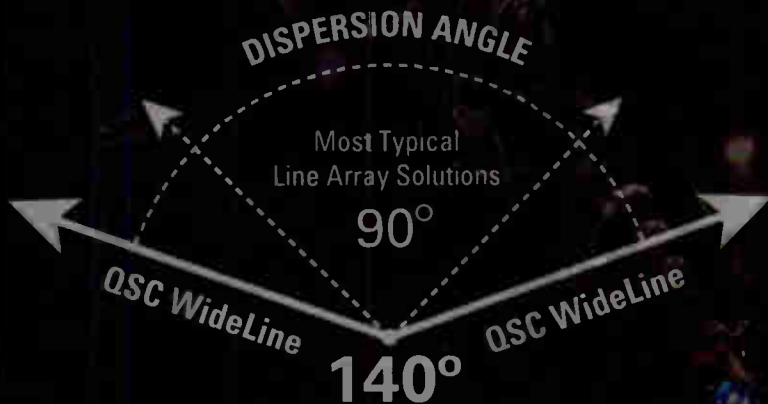
of the trumpet but the 77 ribbon is great for focusing on very dynamic and loud passages. So I set them both up and played with the relationship later, which gives me freedom later to blend the sounds, depending on the dynamics of the song." Murray also used a couple of Neumann M49s as room mics and on bass, a Telefunken 251 for the saxophone and an AKG C-12 on piano.

Mixing for the album, sans Hancock, was done over a four-day period in January 2005 at G Studio, a home facility owned by drummer/producer and Concord Records co-owner Greg Field. Murray had used the room to mix Blanchard's previous album, *Bounce*, and was eager to go back. Murray and Blanchard mixed about three songs a day, using a TC Electronic 6000 as their primary effects.

"Terence took about a week to listen to everything, then he had me go back in for an additional day and make some changes," Murray says. "The sounds I had in the computer were pretty good, so we just had to fine-tune them and get the right reverb and relationships. It was just a matter of balancing and retaining the energy of the performances. That was the most important thing and what's so great about this music. The whole CD is like a suite, with Herbie there and everybody contributing so much. It all stands out to me." ■



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## Brian Setzer *Rockabilly Riot* Vol. 1: A Tribute to Sun Records (Surfdog)



Here's the album Brian Setzer was born to make. Since his days with the Stray Cats and through his long tenure fronting a big band, Setzer has never veered too far from his roots in rockabilly. But this generous 23-song set lets him really go crazy, as he fronts a small group and rocks hard through an excellent selection of well-known ("Red Hot," "Blue Suede Shoes," "Get Rhythm") but fairly obscure Sun Records treasures from the '50s. How can you lose with tunes like "Peroxide Blonde in a Hopped Up Model Ford" and "Red Cadillac and a Black Moustache"? Setzer's singing has just the right rough edge to handle the wildest material, and his guitar playing, as always, is raw but right.

Producers: Dave Darling, Setzer. Engineers: Jeff Peters, Neil Cappellino. Mix: Peters. Studio: The Castle (Nashville). Mastering: Adam Ayan/Gateway Mastering (Portland, Maine).

—Blair Jackson

## Fountains of Wayne *Out-of-State* Plates (Virgin Records)



Shoegazers, Brit-pop-poppers, Emo rockers—take a pill and dose up on modern power pop heroes Fountains of Wayne's latest release, two CDs' worth of bonus tracks, live tracks, home demos and other "non-album" tracks from the band's decade-long career. The comp leads with "Maureen," a new song (one of two) jammed with hyperspeed guitar melodies, retro keyboards and a bouncy, stuttery chorus ("d-d-d-do you know what I mean"). Old B-sides such as "Janice's Party," "Baby I've Changed," "I Want You Around" and the previously unreleased "The Girl I Can't Forget" make for choice leftovers, along with their ELO, Britney Spears and Gene Pitney covers. "Enjoy in moderation," their liner notes advise; in this case, I'd much rather overindulge.

Producers: Chris Collingwood, Mike Denneen. Engineers: Collingwood and many, many others. Mix: Tom Lord-Alge. Mastering: George Marino.

—Heather Johnson

## The White Stripes *Get Behind Me Satan* (V2)



Nothing released by the Detroit-based duo could prepare a listener for *Get Behind Me Satan*, the new album from the White Stripes. Almost completely devoid of Jack White's signature guitar playing, *Satan* relies mainly on piano, brooding lyrics about truth, and—get this—marimbas. It gets better with every listen. *Satan* lacks much of the guitar-heavy rock that made *White Blood Cells* (2001) and *Elephant* (2003) work, but there's a difference between a drunken, Courtney Love stumble and a Savion Glover-inspired sashay. *Satan* is of the latter variety: an artful divergence from previous works that only deepens the Stripes' catalog. This is never more apparent than on the funky "My Doorbell" and the moody "I'm Lonely (But I Ain't That Lonely Yet)," where Jack White's falsetto channels the late Janis Joplin.

Producer: Jack White. Mixers: White, John Hampton, Adam Hill. Studios: Ardent Studios (Memphis), Third Man Studios (Detroit). Mastering: Howie Weinberg at Masterdisk (New York City).

—Ryan Wilkins

## Antony & The Johnsons

### *I Am a Bird Now* (Secretly Canadian)



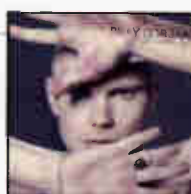
If you saw Lou Reed's 2003 tour for *The Raven*, you'll remember being haunted by Antony's angelic voice and androgynous beauty as he backed Reed in several duets. The singer's cabaret-inspired rock project, Antony & The Johnsons, spent 2004 and 2005 releasing EPs and a second full-length CD, *I Am a Bird Now*. The new album showcases the contrast between Antony's falsetto-laced, world-weary voice and well-known contributing artists—Reed, Rufus Wainwright, Boy George and Devendra Banhart—but it's often the subtle, artful playing of The Johnsons (Julia Kent, cello; Todd Cohen, drums; Jeff Langston, bass; Joanna Wasser, violin/vocals; Maxin Moston, violin/keyboard; and Rob Moose, guitar/violin) that frames and balances Antony's experimentation. Unique and emotionally revealing music, this is an intense piece not meant for casual listening.

Tracking: Emery Dobyns and Dick Kondas at Sorcerer Sound and Dubway (New York City). Mixing and mastering: Doug Hendersen at his studio in Brooklyn.

—Breean Lingle

## Billy Corgan

### *TheFuture—Embrace* (Warner Bros. Records)



When I first heard that Billy Corgan was releasing a solo CD, I was a bit hesitant to give it a listen, figuring that he would use the Smashing Pumpkins' past successes (and sound) to catapult his own career. But I caved. I was amazed to hear how non-Pumpkins it sounds—full of lush, shadowy guitar lines, ambient side notes and ever-changing rhythms. The lyrics are full of emotional push and pulls; Corgan must have stolen from his recently released poetry book, *Blinking With Fists*. Standout tracks include "DIA" (handpicked by Courtney Love and featuring former Pumpkins drummer Jimmy Chamberlin), an unlikely remake of the Bee Gees' "To Love Somebody" with The Cure's Robert Smith singing backup and numerous odes to his Chicago hometown.

Producers: Corgan, Bon Harris, Bjorn Thorsrud. Engineer: Thorsrud. Mixers: Corgan, Thorsrud, Alan Moulder. Mix Engineer: Ron Lowe. Studios: Pumpkinland, Chicago Recording Company. Mastering: Howie Weinberg at Masterdisk (New York City).

—Sarah Benzuly

## Prefuse 73

### *Prefuse 73 Reads The Books E.P.* (Warp Records)



Let's say you're sitting on the subway listening on your iPod. Let's also say that I snag your iPod and load onto it *Prefuse 73 Reads the Books E.P.*—a sonic collaboration between Prefuse 73 (alias Scott Herren) and experimental indie-glitch rock band The Books. Now sit back and listen—I've just given you the soundtrack to help you relax in the urban hustle and bustle.

The stringed instruments' tones are sliced, diced and then masterfully spliced together with Prefuse 73's electronic, groove-intensive samples. "Pagina Dos" takes a page straight out of the handbook of Four Tet, only it's set at a speed of 33 rpm rather than 78. It's got the glitchiness of Squarepusher blended with the mellow, ambient sounds of Boards of Canada. "Pagina Cinco" has a slow, sexy, romantic vibe infused with the smooth, stringed honesty that The Books provide. Collaboration truly is a beautiful thing.

Producer: Scott Herren. Tracking: Herren's personal studio in Spain.

—Lori Kennedy



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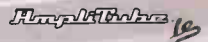


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World Radio History

## L.A. GRAPEVINE

by Maureen Droney

An official passing of the torch took place at May's SPARS (Society for Professional Recording Services) luncheon in Hollywood: Paramount/Ameraycan/Third Stone Studios has become Paramount/Ameraycan/Third Stone/Encore. With 12 studios in four different locations, it's now the largest studio operation in Los Angeles (not counting, of course, the major movie studios). Handing off the flambeau was Larrabee Studios owner

PHOTO: MAUREEN DRONEY



From left: New Encore owners Adam Beilenson and Michael Kerns and chief engineer Tom Doty

(and SPARS director) Kevin Mills. At its largest, Larrabee encompassed three facilities and eight rooms. In the past two years, however, Mills divested himself of the original Larrabee West Studios in West Hollywood (it's no longer a studio) and Larrabee East, which, as we reported here in May, has been purchased by mixer Dave Way and wife Jamie, and rechristened The Pass. Mills now concentrates on the three-room Larrabee North and Gearworks, his equipment rental company.

Why buy a traditional studio now, you may ask? Well, partners Adam Beilenson and Michael Kerns, who purchased Paramount in 1987, have always charted their own path, and through the years have built a solid, no-nonsense business. Originally offering no frills and cheap rates to up-and-comers at Paramount, they've gradually accumulated clients, equipment

and good vibes. Now the fact that they offer good value for reasonable rates has put them right in step with what the music industry needs.

The odd couple of the L.A. studio business, Beilenson and Kerns became partners a couple of years before they acquired Paramount. "I was a student at Musician's Institute," recalls Beilenson. "Mike and his then-partners contacted student placement for someone to help with management at the studios they were operating. I had an 'in' with the placement officer who'd been in a band with me back in Washington, D.C., so she passed the contact on to me.

"It was pretty loose back then," he says with a laugh, "three Hollywood locations with 16- and 24-track rooms and no mortgages. Michael and I became friends. In 1987, we were looking to move everything under one roof and Paramount became available. That's when we got serious and I became involved financially."

"We were so seat-of-the-pants," adds Kerns. "The first year Adam worked for us, we couldn't afford to actually pay him. When, after about a year, he presented us with a time card, we had to make him a partner!"

A lease option at Paramount became a purchase in '89, and Kerns and Beilenson found themselves partners in three rooms with Amek, Harrison and MCI consoles. They now not only had a mortgage, they owed payments on everything.

Almost 20 years later, the duo owns four properties (including Third Stone in North Hollywood, which is leased to Three Kings Records) comprising 12 full studios, a mastering room and peripheral private workspaces.

Back to the question: Why more?

"The simple answer," offers Beilenson, "is that Encore is a good opportunity. It had been on the market for a while and

—CONTINUED ON PAGE 150

## NASHVILLE SKYLINE

by Rick Clark

When I think of all the music that has sprung from the American South, it truly boggles my mind. Just the music that was created or recorded in Memphis and Nashville alone is a lifetime's worth of immersion. I'm always thankful that I live in this place and have come to know some mighty fine folks who have put their hearts and minds into telling the story and doing everything they can to preserve and document the recorded and written magic of the region.

I've known Alan Stoker, the Country Music Hall of Fame and Museum's Recorded Sound and Moving Image curator, for a number of years. Since 1980, Stoker has been restoring and mastering music for this nonprofit organization. Stoker's not a guy who seems stuck on himself, and you'd probably have to get it from someone else that he won a Grammy Award in 2004 for his work on the Country Music Foundation's release, *Night Train to Nashville: Music City Rhythm & Blues, 1945-1970*.

A longtime musician (drummer), Stoker comes from a musical family: His dad was Gordon Stoker of The Jordanaires, the gospel quartet who backed Elvis Presley on numerous recordings and are also Country Music Hall of Fame inductees. "I think it's safe to say that Alan Stoker is second-generation country music royalty," says Kyle Young, director of the Country Music Hall of Fame and Museum. "Because a great musician raised him in a household where many other musicians visited and the late Bob Pinson mentored him, Alan brings intimate understanding and a great knowledge of all popular music to the care and interpretation of the Museum's Bob Pinson Recorded Sound Collection."

I dropped by one afternoon to hang out with Stoker and my buddy (and one-time MTSU intern) Jeremy Rush, who is now working as the CMF's media relations coordinator. At the time, Stoker was wrapping up work on volume two of the *Night Train to Nashville* collection.

This whole series is of particular



## NEW YORK METRO

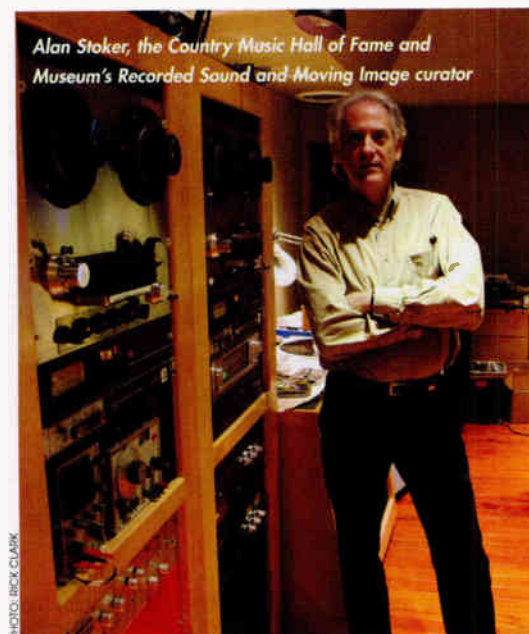
by David Weiss

importance to me as there is such a pervasive perception of Nashville around the world as just being about country music. As one who grew up on R&B, blues and early rock in Memphis, it is wonderful to hear these sides. *Volume Two* features songs by Clyde McPhatter, Esther Phillips, Arthur Alexander, Roscoe Shelton, Ivory Joe Hunter, Joe Simon and Gay Crosse & The Good Humor Six, which, incidentally, included future jazz sax giant John Coltrane.

Stoker is currently programming a companion CD for cultural historian Martin Hawkins' *A Shot in the Dark: Nashville Independent Record Labels, 1945-1955*. Due to be published by CMF Press in 2006, the collection includes vintage gospel, R&B, country, pop and other music released on Nashville-based indie labels during the decade after World War II.

The Country Music Hall of Fame and Museum has more than 200,000 sound recordings of country and folk music in its holdings. The collection includes Edison cylinders, 1920s electrical recordings, 1930s acetate radio transcription discs

—CONTINUED ON PAGE 150



Alan Stoker, the Country Music Hall of Fame and Museum's Recorded Sound and Moving Image curator

PHOTO: BOB CLARK

Shake-ups are supposed to happen in the big bad world of corporations, not in the highly specialized universe of mastering. But in a town like New York City, there's a sizable enough infrastructure to ensure that, every once in a while, a large-scale reshuffling will take place.

As the latest example, get a load of the game of musical chairs that went down in February 2005 right after the Hit Factory announced the end of its New York City operations to their staff, including mastering engineers Tony Gillis, Scott Hull, Herbie Powers and Joe Yannece. "They got everyone from mastering in a conference room and they said, 'We're closing the facility,'" Yannece (Chemical Brothers, Missy Elliot, Lou Reed) recalls from his and Gillis' new professional New York City digs, Classic Sound ([www.classicsound.com](http://www.classicsound.com)). "You could see everybody checking their watch and thinking, 'We gotta get on the phone and find a place to work.' I started making calls that afternoon. All of us did—and you don't want to tell any of your loyal clients of the last five years that, no, you don't have a room.

"To be frank," he continues, "initially it was every man for himself. We're a brotherhood, we all know each other and check each other's work. But you've gotta pay the rent, and it's a tight community with a finite amount of positioning. Fortunately, the New York City scene is large enough that it was able to absorb us. Classic Sound is beautifully equipped with great rooms. When I got here at Tom Lazarus' invitation and saw the place, I was sold. I got familiar with the room in a week."

Gillis' (Destiny's Child, Moby, Prince) initial strategy was slightly different. "I was going to try and do something on my own, so I bought every single piece of gear in the room at the Hit Factory. At the same time, there was a room here at Classic Sound that they were thinking of building. I

PHOTO: ROBIN GENTILE



Joe Lambert in his new digs at Trutone

came by, saw the space, talked with Tom and very quickly we decided that I would come here, bring my equipment and set up. Having my own gear really paved the way—it's a very attractive package to offer somebody."

Now ensconced in Studio A, Yannece does his listening through Egglestonworks Savoy's and B&W DM604 S3 monitors, with an M&K MX5000-MKII subwoofer and a Krell 300cx power amplifier. Meanwhile, Gillis is in Studio B with his B&W Nautilus monitors, B&W AS400 sub and Aragon Monoblock Amps. "It's nice to go to a place where there are familiar faces; the manager here, Tara Wood, is also an ex-Hit Factory employee," Gillis notes. "It's a little disturbing the first day when you get the announcement that you're out of a job, but when the dust does settle, it's good to have that familiarity and still work with people you worked with in the past."

But wait, the plot thickens! Shortly before the Hit Factory dropped its big news, another New York City mastering veteran, Joe Lambert (Ted Nugent, Electric Six, Martha Reeves), was contemplating a move from his five-year residence at—you guessed it—Classic Sound. "I had a good time at Classic Sound, but it got stagnant, as far as where I wanted to go," Lambert recalls. "Tom Lazarus and I were always in open discussions about where I wanted the studio and my career to go. So I started thinking about what I could do

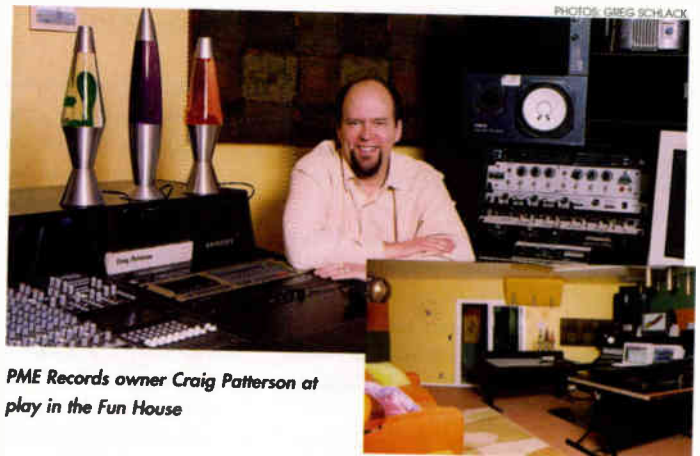
—CONTINUED ON PAGE 152

## THE FUN HOUSE AT PME RECORDS DENVER-AREA STUDIO—NO RIGHT ANGLES, NO SHARP CORNERS

It's fitting that a studio named the Fun House would be built with 900 pounds of rubber. However, this one-room facility located just outside of Denver in Aurora, Colo., is more than just a padded playroom for musicians. The new recording/mixing home to owner/producer/musician Craig Patterson's PME Records ([www.pmerecords.com](http://www.pmerecords.com)), as well as occasional outside clients, features a Nuendo Version 2.2 workstation and Mackie 32x8 housed by two Argosy desks at its core, with ample plug-ins, a select list of outboard gear and a collection of more than 100 vintage keyboards.

Designed by Patterson with the help of the late Tom Norton of Kinetics West, the Fun House offers isolation by virtue of a damped ceiling hung from Kinetics ICW spring-loaded hangers and the aforementioned rubber. "It's neoprene, about ¼-inch thick, and it comes on 300-pound rolls and was installed above the Sheetrock," explains Patterson. Because of that, and the fact that Patterson wanted no parallel walls or right angles in the Fun House, "The drywall guys were not my friends."

Custom removable broadband absorbers and diffusers and assorted RealTraps panels enhance acoustics, while colorful modern and art deco-style furniture give the room a quirky yet comfortable vibe. Patterson's Nuendo rig offers Ultrafunk, Kjearhus, Samplitude, SAW, GigaStudio, Stylus RMX, BFD and PlugSound plug-ins, which are complemented by UREI 1176 and dbx 160 compressors and various other outboard effects, processors and preamps.



*PME Records owner Craig Patterson at play in the Fun House*

The studio area features a sizable vocal room with removable full-range absorbers and a 20x50-foot live room that, in addition to serving as prime tracking space, houses Patterson's extensive keyboard collection, which is used on his roster's projects and his own.

Patterson's 12-year-old label (run with the help of VP Gary Dunn) boasts nearly 25 acts, ranging from rock, pop, folk and acoustic to heavy metal, church choirs and new age. "It's fun that way," says Patterson (no pun intended!). "Everything is always new."

### BEHIND THE GLASS

## AMBER AND EMERALD DOTSON NAILS DEBUT



*Billy Joe Walker Jr. (l) and Amber Dotson in Walker's project studio*

Nashville's "A Team" came out in full force to produce country vocalist Amber Dotson's Capitol Records debut, due out later this year.

Producer Billy Joe Walker Jr., engineer Steve Tillisch and some of Music City's top-tier session players—Lonnie Wilson (drums), Michael Rhodes (bass), Audrey Haney (fiddle), J.T. Corenflos (electric guitar), Pat Buchanan (bass),

Gordon Mote (keyboards) and Biff Watson (acoustic guitar)—gathered at Emerald Entertainment's Studio A and, later, Ocean Way Nashville to track the album, which was recorded onto two analog tape machines, one with a 16-track head in sync with a 24-track analog machine.

Chuck Ainlay mixed the album on his SSL 9000 J at Sound Stage Studios in Nashville, and Bob Ludwig mastered at his Gateway Mastering facilities in Portland, Maine. Walker enthuses, "It's punchy and fat, and hopefully a lot of people will love it as much as we do."

## METAL HITS WESTBEACH ALTAMONT IS BACK



*From left: Dale Crover, Tosh Kasai, Altamont's Dan Southwick and studio drummer Sash Popovich listen to new tracks at Westbeach.*

Engineer/producer Tosh Kasai and assistant Chris Gresham recently recorded three tracks for the new Altamont (featuring Melvins drummer Dale Crover on guitar/vocals) record at Westbeach Recorders in L.A., giving the studio's Trident 80B and Studer A827 a solid workout. The songs will be featured on the band's forthcoming Antacid Records release, out later this year.



## BEHIND THE GLASS

### “POWER” PROJECTS COMMON MIXES AT CHEZ BOB



Common (L) with Bob Power

Producer/mixer extraordinaire Bob Power recently wrapped up mixes for Chi-town hip hop artist Common's new Kanye West-produced album *Be* (Geffen), followed by Me'Shell Ndegeocello's contribution to the upcoming Radiohead Tribute (BBE). Power used the "industrial-strength" Pro Tools|HD rig at his own studio, Chez Bob in New York City, as well as his collection of modern and vintage classic gear, including models from Pendulum, GML, Tube-Tech, Neve and API.

### SOLO AGAIN THORNTON WRAPS UP THIRD



Billy Bob Thornton hides out at *The Cave*.

Songwriter/recording artist/actor Billy Bob Thornton wrapped up his third solo album, tentatively titled *Hobo*, at his own studio, *The Cave*, with co-producer/songwriter/guitarist Randy Mitchell. Another Mitchell, Grammy-winning Jim Mitchell, co-produced and co-mixed the release, which is due out this fall.

## TRACK SHEET

### SOUTHERN CALIFORNIA

NRG (L.A.) welcomed Dave Navarro and Brook Burke, hosts of CBS' new reality show, *Rock Star*, to oversee filming. Eric Sarafin mixed Pete Murray's forthcoming release; and producer Don Gilmore and engineer Mark Kiczula worked on a song for The Veronicas...The Game dropped by Chalice Studios (L.A.) to record vocals on a remix for Mary J. Blige's forthcoming album, produced by Dre & Vidal, Rich Harrison, Kendu and Chris Puram, among others. Producer Jazze Pha assembled tracks for Dr. Dre's "retirement" album with engineer Oscar Ramirez. Chingy recorded his next album with producer Kwame and engineer Brian Sumner. Nick Lachey recorded vocals with producers Soulshock and Carlin and engineer Mike Schoffell, while Jason Cupp produced/mixed the new Finch album...Mark Endert mixed The Fray and Anna Nalick's respective debuts at *Scream Studios* (Studio City). David Bianco mixed songs for *Smash Mouth*; producer Desmond Child and engineer Rob Jacobs mixed the forthcoming *American Idol* comp; and producer George Drakoulis and Bianco mixed Rhett Miller's new album...Ross Hogarth teamed with producer John Fields at *Track Record* (L.A.) to record new tracks for Val Emmich.

### NORTHWEST

*Final Mix Studios* (Campbell, CA) chief engineer Don Budd produced and engineered Drist's latest. Budd later tracked/mixed San Francisco 49ers wide receiver Brandon Lloyd's debut rap album, *Training Day*...San Francisco Bay Area pianist Aileen Chanco finished her latest at *Hollcraft Studio* (Pleasant Hill, CA), which was recorded/mastered by Ed Hollcraft and produced/edited by Carol Greenley.

### SOUTHWEST

Ambient Digital (Houston) reports activity from Sparrow/EMI act Dizmas with producer Brian Garcia...Indie band Modulator recorded a single at *SugarHill Recording Studios* (Houston) with co-producer/staff engineer John Griffin. Carolina Bedetta completed her debut with *SugarHill* president/producer Dan Workman...Blues Traveler camped out at *Texas Treefort Studios* (Austin) to track/mix their new album with Wilco's Jay Bennett producing and Jim Vollenhine engineering.

### SOUTHEAST

Gospel artist Donnie McClurkin returned to *Doppler Studios* (Atlanta) to mix his latest with producer Kevin Bond and engineer Ralph Cacciurri. Patti LaBelle sang via ISDN for the *Diary of a Mad Black Woman* soundtrack, engineered by Rick de Varona. *OutKast's Big Boi* added vocals to a new *Santana* track; Matt Still engineered. TLC stopped in with producer Jazze Pha to track vocals for a new *Jive Records* release; Mike Guidotti engineered...*Tree Sound* (Atlanta) welcomed Phish's Trey Anastasio, who recorded/mixed his *70 Volt Parade* project;



Rapper Imam THUG hit *Battery Studios* (New York City) with producer/engineer Steve Sala to work on his solo debut for *Hits Music Group/Plain Truth Records*. From left: Imam THUG, *Hits Music* promotion head Joe Tossaint, *Hits Music Group* tour manager Saulja and producer/engineer Steve Sala

Ken Lanyon engineered...MC Breed enlisted Leslie Brathwaite to mix two songs at *Patchwerk Studios* (Atlanta); house engineer Mike Wilson mixed four more, all produced by 7:30...*Catalyst Recording* (Charlotte, NC) hosted *My So Called Band*, who were in remixing their debut CD...In steamy New Orleans, John Mooney tracked, mixed and mastered his next release with engineer Mark Bingham and mastering engineer John Fischback at *Piety Street Recording*. Charlie Sexton produced Shannon McNally's latest, which was mixed by Trina Shoemaker at *Piety*; Bingham also had a hand in *Morning 40*, Mary Flowers and Dr. John's forthcoming albums.

### NORTHEAST

Mick Guzauski is mixing the *Cream* reunion shows for CD and DVD (5.1) release at his own *Barking Doctor Recording* (Mt. Kisco, NY)...Jay Newland is mixing Louise Setara's debut at *BiCoastal Studios* (Ossining, NY)...*Sound on Sound* (NYC) hosted Paul Shaffer, who was in mixing with engineer Harvey Goldberg; Labba mixing with Brian Stanley; Kem mixing with Ray Bardani; and *Thwak! Music* tracking a Trojan spot with Tony Verderosa and Teddy K...*Kittyhawk* tracked their upcoming release at *HarariVille* (Weehawken, NJ), which was produced by Pier Giacalone and engineered by Rob Harari...Producer David Kahne brought *The Strokes* and engineer Rob Brill to *Allaire Studios* (Shokan, NY) to record their next album, while producer/Counting Crow David Bryson and producer/engineer Brad Wood recorded *Working Title*...*Avatar* (NYC) hosted *Windup Records'* *OmniSoul*, in with producer Gregg Wattenberg and engineer Greg Gordon; Donald Fagen overdubbed with engineer Brian Montgomery; pianist Makoto Ozone recorded a Sony DSD project with engineer Joe Ferla; Al Schmitt recorded pianist Taylor Eigsti; and Roberta Flack lent her talents to a Mr. Rogers tribute, engineered by Roy Hendrickson...Producer/engineer David Maurice worked on N'Sync's J.C. Chasez's new *Jive Records* release at *Sear Sound* (NYC)...Joan Osborne visited *Coyote Studios* (Brooklyn, NY) to sing on Vivian Campbell's new *Sanctuary Records* album (produced by Tor Hym, engineered By Michael Caiati). ■

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the price had come down. The studio business is not, by any means, gangbusters, but it has recovered a bit. Due to studios closing and going private, there's also been a significant contraction in the L.A. market. So we felt it wasn't terribly risky. We liked both the reputation and the location of the studio, and the fact that it's a turnkey operation; we knew we'd be able to step right in. As a matter of fact, both rooms at Encore were booked the first day we took over."

The two-room Encore, on Glenwood Place in Burbank, was originally part of the legendary Kendun Studio complex. Its new owners are excited about its history; they're also excited about the 104-input SSL 9000 J Series console they've installed in Studio A, which, for most of the '90s, was home to top mixer Tom Lord-Alge.

"Encore is such a great facility," enthuses Kerns. "The studios were actually the showrooms for [acoustician/studio designer] Tom Hidley. If you wanted to hire him to build you a beautiful studio, he'd say, 'Come over here and take a look—B is your tracking room and A is your mix room.'"

A thumbnail Encore history, from Beilenson: "In Studio B, [engineer] Barney Perkins was in with his huge legacy of R&B and soul music. More recently, Dr. Dre. has a super-hip setup: a kitchen and the 'Ultralounge,' with pinball, a Jacuzzi and a spiral staircase to the roof. Three of last year's biggest records were done in B: Eminem's *Encore*, 50 Cent's *The Massacre* and The Game's *The Documentary*. Studio A is where TLA [that's Tom Lord-Alge] mixed an incredible list of projects, from the Rolling Stones and U2 to Sugar Ray and Blink-182. A was also a big favorite of mixer Dave Pensado."

"There's also the fact that Encore really helped us get our start," points out Kerns. "In 1989, we bought our first SSL—our first major console—from them, which really helped us when A&R people called and asked what kind of console we had! It gave us our first real credibility. Darryl Casseine, who ran Encore, helped us out and made sure the deal went through. He also helped us load it in the truck!" (Casseine, who managed Encore for almost 20 years, can be reached at 818/421-4711.)

Other new gear has been added to Encore: two Pro Tools|HD Accel systems, 10 channels of Neve 1073 modules and eight channels of API 550A. Both A and B are now stocked with doubles of such standards as LA-2As, Pultecs, Avalons, Distressors and 1176s.

It's onward and upward for the odd

couple: "We've worked hard to gain the trust and friendship of a lot of music producers and labels, both mainstream and indie," says Beilenson. "We've got good relationships, and now we've got different options and locations to offer our clients." ■

E-mail your L.A. stories to [MaureenDroney@aol.com](mailto:MaureenDroney@aol.com).

#### NASHVILLE SKYLINE FROM PAGE 147

and every format up to present. As a way of preserving vintage music and making historically important music available and more accessible now and in the future, Stoker and his colleagues, partially funded by an NEA/SAT grant, work hard and fast to set up a digital archive so that generations to come can enjoy this rich heritage.

"We feel that country music—from 'Keep on the Sunny Side' to 'Take This Job and Shove It,' from 'Fraulein' to 'Where Were You (When the World Stopped Turning),' from 'Your Cheatin' Heart' to 'How Do You Like Me Now, and from 'Okie From Muskogee' to 'Long Haired Country Boy'—is an American art form, that its history is worthy of preservation and that its traditions, values and connections are worthy of study," says Young.



"Alan's work is important to us and to the public. Our Bob Pinson Recorded Sound Collection is unduplicated and irreplaceable," continues Young. "For more than a century, this lyric-intensive, storytelling music has given voice to the thoughts, feelings, challenges, triumphs and values of America's working people and a record of American history."

Stoker spends quite a bit of time salvaging old radio transcripts. While I was there, he pulled out one that looked like it could fall apart at any moment. "Those things aren't pressings," he notes. "They're one-of-a-kind. It's kind of an instantaneous-

cut recording. One recording was made, maybe it was played once on the radio and that's it. It's very important to get that information off of its original media and put it on a much more stable medium. That's mainly what I'm doing these days.

"We're actually now starting to do high-resolution .WAV files of the transcription recordings," he adds. "John Spencer at Bridge Media Solutions helped us set up our high-resolution digital archive. In the past, I've done everything to analog tape, because I knew it and trusted it and I knew what it would do. I might have made a CD copy as a listening source of some of the material, but I really don't trust CD for something like that, so I really think that high-resolution 24/96 .WAV files are the way we're going to go. We're also doing analog copies at the same time, which sort of scared me earlier in the year when Quantegy closed down; I went ahead and bought the last hundred cases my supplier had."

During my visit, we got into a discussion about being aware that different labels pressed their records at slightly different speeds, sort like an early version of proprietary marketing. "Pre-war Victors were recorded at 76 rpm, so when you play them back at 78—the standard speed—they're all too fast, while pre-war Columbia's were all at 80 rpm, so when you play them back at 78, they sound too slow." Stoker points out that RCA and Columbia, among others, wanted music fans to play their records on their players, which were set at those odd speeds. Yes, format nonsense has always been with us.

"It's just like Sony Beta and VHS. They each got their own thing and some of them even had different-size spindle holes," says Stoker. "If you didn't have an Acme player, you couldn't play the Acme discs. There were no standards that anybody followed. I'd like to see some correspondence in the early days of why each company had their own EQ curve and their own speed. What were they thinking? 'We're going to be the only ones to survive and everyone's going to have to do it our way.' That's kind of the way it is today.

"There is a recording of 'Matchbox Blues' where all the re-issues I'd heard of it sounded way too fast," Stoker continues. "One day, I put it on tape and slowed the tape down till the guitar sounded right, then focused in a little bit more on the voice and I just transferred it at that speed. When you go out into the museum now, that's what you hear. It now sounds like a real human being and not some guy sucking helium."

Stoker is also involved with the Library



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of Congress' National Recording Registry, a project he is very passionate about. "This is a registry that is underpublicized and I am trying to help raise awareness," he says. "Under the terms of the National Recording Preservation Act of 2000, the Library of Congress is responsible for annually selecting recordings that are 'culturally, historically or aesthetically significant' and adding them to a Recording Registry, which the Library is then charged with preserving. Many of these recordings are recognized for their technical achievement, in addition to their hip factor. I am one of the board members that advises the Library of Congress on recordings that are registry-worthy, but any recordings submitted by the public are considered." (For more on the selection process, go to [www.loc.gov/nrp](http://www.loc.gov/nrp).)

I could have spent all day hanging out with Stoker, listening to his stories about great artists and to the many recordings he has laying around—which he plays with the spirit of someone who hasn't lost the fire for great music. That's exactly the kind of person you want to preserve what is great in our wonderful musical culture. ■

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### NEW YORK METRO FROM PAGE 147

that would be better for me; that's what you do in life."

Instead of the flurry of phone calls that Yannece and Gillis were about to have to make, Lambert only had to make one: reaching out to a friend (name withheld) with feelers in every corner of the New York City mastering scene. The result was a connection to Carl Rowatti, who had just moved Trutone Mastering ([www.trutonemastering.com](http://www.trutonemastering.com)) into the legendary location of the former Record Plant and wanted to man one of his spacious new suites with an established pro.

Lambert and Rowatti met, saw that they were a great match for each other and agreed to terms. Now, all Lambert had to do was inform his employer that he was moving on—never an easy task, but one made simpler for him by a strange twist of fate. "It was weird how it all happened," Lambert admits. "I went home, said, 'I'm going to do this' and went into work the next day at Classic with the intention of telling them that I was going to leave. They told me that day that the Hit Factory had closed! I knew Classic would be talking to their engineers and it would help them fill the rooms."





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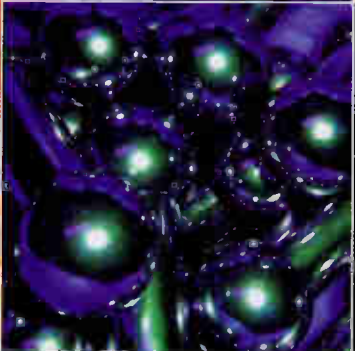


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Listening through Master Reference KEF 207 monitors with McIntosh amps, Lambert has settled right in at his new suite. "I'm working faster here and my clients have been very happy," he reports. "This room and my old room were both built by John Storyk and they're both excellent. We also have a lathe in my room, and I've been working on getting my vinyl-cutting skills up since Trutone has a big client base for that."

The fact that his replacement in Classic Sound's Studio A, Yannece, once held a suite at Trutone's former New Jersey location re-illustrates the incestuous web that New

York City's mastering scene can sometimes be. "We all know each other," Lambert says. "We're all in the same club and there's always been a little bit of competition, but I feel it's always been healthy."

out through word of mouth about the opportunity here at Jigsaw Sound." A one-room SoHo facility founded by engineer/designers Phil Klum, Michael Iurato and David Ares in 2001, Jigsaw ([www.jigsawsound.com](http://www.jigsawsound.com)) is a relatively new player on the scene that moved boldly to make well-known Hull their chief mastering engineer when he became available. "It was a single room owned by artists and engineers who knew what this business was about," Hull explains of his surprising decision. "They had set up a room not unlike what I had at Classic Sound and even set up the same speakers, so it all sounded familiar. With my personal gear and setting up the room to my taste, it has turned out to be a good fit. I'm working with my assistant, Nathan James, who's been with me since Classic Sound and is now building his own clientele as he transitions to a full-fledged mastering engineer."

Relying on Duntech Sovereigns 2001 monitors and McIntosh 352 power amps motivating his listening experience at Jigsaw, Hull admits that the final effect of many of the same mastering engineers basically trading rooms around New York City has some humor. "We thought it was comical," he says. "It's simply about the people. The clients follow the people—the engineers, in this case—and as long as the facility is able to keep up both economically and logistically with the activity, then it works. In the last year or so, with the Hit Factory falling apart, many times we all looked at each other and said, 'If we could just find a facility with a little bit of support, we would all be doing great.'"

"At Masterdisk, I learned from Bob Ludwig and how he interacted with the other mastering engineers in New York City and out West that there was a friendly rivalry. We all knew that we were in competition, but when one of us had a problem or question, we usually took it seriously. Especially today, it's not about proprietary technology or techniques, it's really about personal service. If people like the way you handle all aspects of the project, you'll get the call back." ■

Send your Metro news to [david@duvords.com](mailto:david@duvords.com).



From left: Scott Hull (seated) with Michael Iurato, David Ares and Nathan James of Jigsaw Sound

York City's mastering scene can sometimes be. "We all know each other," Lambert says. "We're all in the same club and there's always been a little bit of competition, but I feel it's always been healthy."

"The closing of the Hit Factory definitely made things interesting: You had a handful of mastering engineers who in 24 hours needed either a different career or a different place to work. I think what's important is that we have a quality room to work in and our clients will follow us. That's how we can keep doing what we're doing."

Herbie Powers (LL Cool J, James Brown, Mary J. Blige) has set up his practice in his Staten Island residence ([www.pmmastering.com](http://www.pmmastering.com)) and expects to announce a relationship with a major New York City mastering facility shortly. At the same time, another of the Hit Factory alums, Scott Hull (The Corrs, Garbage, John Mayer), was angling for his own position. Previously, Hull had also been in residence at Classic Sound, preceded by a long stint at Masterdisk, and the way he saw it, he had three job-search options. "Picking a new place, I could contact a major established facility or go solo and build my one- or two-room facility, but then I found



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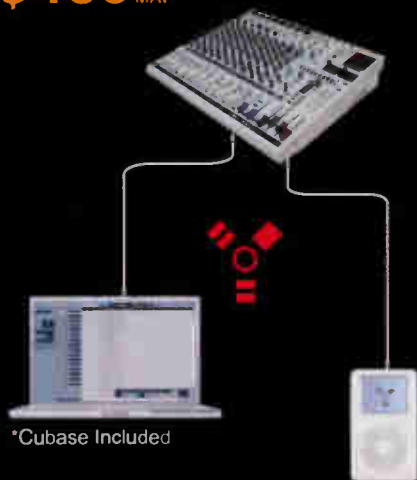
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
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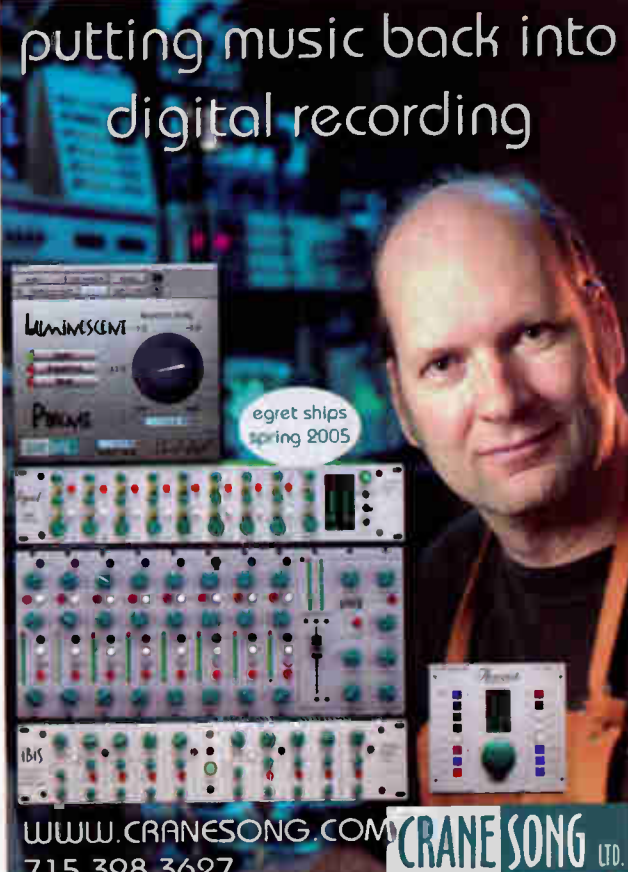
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## English Estate with World Class Recording Studio

One of the most spectacular properties offered for sale on the west coast, USA, is situated on 17 glorious acres of lush forest, lawns and gardens. Impeccably crafted the architectural estate is set on a mountaintop with breathtaking panoramic views of Lake Arrowhead. The residence is approximately 7,000 s.f. There are six Bedroom Suites, a quiet library/office, and separate gym with sauna and spa bath. English pub with wet bar and Inglenook fireplace opens to a spectacular outdoor entertaining area.

Triple grammy winner Mark Mancina spared no expense when he created a state-of-the-art recording studio on the premises reflecting his own standard of perfection. This one of a kind studio was completed in 2002. Built from the ground up as a recording studio, this facility is complete with all new custom wiring, acoustically treated walls and floors, and is ready with a T1 Internet connection. Complete with a very large tracking room, two ISO rooms, large live room, machine room, office, humidified guitar locker/closet, wine cellar, kitchen, bathroom and 11 custom input panels through out. A 128 input Pro Tools HD system with 48 faders of pro controls is the centerpiece of the control room. Racks of vintage outboard gear include: Neve, API, GML, Millennia, Lexicon 480L, 960L, TC6000, and a wide assortment of vintage microphones. The studio also includes a loft apartment and a unique connoisseurs wine tasting cellar!

It duplicates an old English farmhouse with massive hand-hewn beams, a thick 14' double door, crusty bricks, split oak wood walls and solid pine floors! The studio blends beautifully with the natural landscape and the grand residence. Total seclusion. Includes single slip canopied dock. Lake Arrowhead is located two hours from Los Angeles. \$15,000,000

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# The MOTU Power-on-Demand Studio

Digital Performer, the Traveler and a host of development partner products deliver on-demand processing and world-class sound.

## The look.

Whether you've got a G4 PowerBook, G5 Power Mac or both, the Apple 20-inch Cinema Display gives your MOTU power-on-demand studio the world class look your eyes want — and the look your clients respect. A 77% increase in screen real estate gives you the space you need to visualize your entire DP project. An eye-popping 2560x1600 pixel resolution lets you view 64 faders at one time in the Mixing Board!



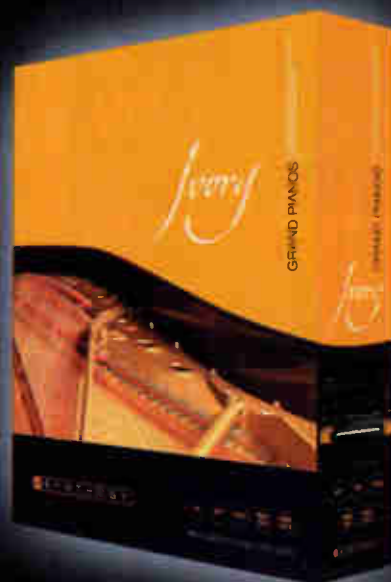
## The effects.

Cycling 74 **Pluggo™ 3.3** is an extraordinary, must-have collection of more than one hundred audio plug-ins that offer real-time interactive audio processing, modulation, and synthesis right inside DP. Delays, filters, pitch effects, distortion, granulation, spectral effects, modulators, multi-channel processing, synthesizers, audio routing, reverb, dynamics, visual display — the list is huge, and you'll have a blast exploring Pluggo's vast array of sounds and effects.



## The piano.

Three incredible grand pianos, Bösendorfer®, Steinway®, and Yamaha®, in one Virtual Instrument for Digital Performer. **Synthogy Ivory™** has been knocking the critics flat with its stunning realism and unsurpassed playing experience! It features more than 32 GB of premium piano samples and a custom engine built exclusively for the exacting demands of recreating the piano. Produced by piano sound design pioneer Joe Ierardi and DSP wiz George Taylor, you have to play it to believe it. Trust us, you will!



## The help.

Of course, the tech support wizards at Sweetwater can help you with any operational issues you might encounter with your MOTU power-on-demand studio, but if you want complete peace of mind, the **AppleCare Protection Plan** is the perfect insurance policy. No matter what perils await your portable rig on the road or your studio setup at home, with AppleCare, your investment in your Apple gear is totally protected.





## Waves on-demand processing.

The Waves **APA-44M** delivers on-demand Waves processing to your MOTU 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 power-on-demand studio.



## The mix.

The new Grace Design **m902 Reference Headphone Amplifier** is the final word in high fidelity headphone amplification and is the new must-have tool for audio playback in your MOTU power-on-demand studio. Combining a full compliment of analog and 24-bit/192kHz digital inputs with dual headphone and unbalanced line outputs, the m902 is an ideal solution for critical editing, mastering and monitor control for a MOTU studio of any scope.



## Mastering & restoration.

Your DP mastering and processing lab awaits you: **BIAS Peak Pro 5** delivers award winning editing and sound design tools, plus the world's very best native mastering solution for Mac OS X. With advanced playlisting, Superb final-stage processing. Disc burning. Plus PQ subcodes, DDP export (optional add on), and other 100% Redbook-compliant features. Need even more power? Check out our Peak Pro XT 5 bundle with over \$1,000 worth of additional tools, including our acclaimed SoundSoap Pro, SoundSoap 2 (noise reduction and restoration), Sqweez-3 & 5 (linear phase multiband-compression/limiter/upward expander), Reveal (precision analysis suite), PitchCraft (super natural pitch correction/transformation), Repli-Q (linear phase EQ matching), SuperFreq (4,6,8, & 10 band parametric EQ) and GateEx (advanced noise gate with downward expander) — all at an amazing price. So, when you're ready to master, Peak Pro 5 has everything you need. It's the perfect complement to DP. Or, perhaps we should say, it's the perfect finishing touch.



## The feel.

Looking for the ultimate compact keyboard controller for your MOTU studio? The Alesis **Master™ 425** delivers the revolutionary Alesis XYZ 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/D 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.



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World Radio History



# The MOTU Power-on-Demand Studio

## Audio Ease **Altiverb V5™**

### Your first choice in convolution reverb

Altiverb broke new ground as the first ever convolution reverb plug-in, delivering stunningly realistic acoustic spaces to your MOTU desktop studio. Altiverb V5 continues to lead the way with cutting edge features. Altiverb V5's ever growing Impulse Response library provides the most diverse and highest quality acoustic samples on the market. Recent additions are shown below from the Altiverb Fall 2004 East Coast Tour. Version 5 delivers more seconds of reverb, more instances, and less CPU overhead than any other convolution reverb. And its new adjustable parameters are a snap to use! Altiverb takes full advantage of the Altivec™ processor in your PowerBook G4 or desktop Power Mac G4 or G5. THE must-have reverb for every MOTU studio.



See a 15 minute demo movie at [www.audioease.com](http://www.audioease.com)



Shift resonances and room modes while adjusting reverb times.

The new multi-channel waveform overview reveals crucial detail about gain levels and timing during the first tenth of a second of a reverb tail. The rotatable and zoomable 3D time/frequency plot reveals even more about damping, EQ and resonances.

- Highest quality samples on the market.
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- Versatile coloring and time-EQ section.
- Click-and-drag 3D sound placement.
- 'Size' parameters shift resonances and room modes.
- Gains and delays to direct early reflection and tail.
- Waterfall diagram shows time-frequency behavior in 3D.
- Surround up to 192 bits.
- Snapshot automation for mixing and post-production.

A rotating Virtual Reality movie helps you feel the presence of each space.

Snapshots let you automate complete preset changes.

Altiverb is the most efficient convolution reverb. Reduce CPU load even further with extensive settings.



Place the violins stage left, cellos stage right, and saxophone in the back, all in stereo.



Use up to four hands of EQ, tailored for reverb tail adjustment, to fine-tune the sound.



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Haydn Hall — Eisenstadt

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[www.allairestudios.com](http://www.allairestudios.com)

Schubert Hall — Vienna

[www.mechanicshall.org](http://www.mechanicshall.org) — Photo by Steve R. Smith

Sound on Sound Studios — NYC  
[www.soundonsoundstudios.com](http://www.soundonsoundstudios.com)



## 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.



## The faders.

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. Mackie Control delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MOTU Digital Performer engineering team. Mackie **Control** brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on DP itself.

## The desk.

When you're on the road and looking to record a full band, the Mackie **Dnyx** series of mixers from Mackie is the perfect complement to your MDTU Traveler. Whisper quiet and built like a tank, Dnyx mixers feature an all-new mic preamp design capable of handling virtually any microphone. With the optional Firewire card, you can connect an Dnyx mixer to your laptop with a single Firewire cable and have all the extra mic preamps and line inputs you need to capture every drum mic, vocal mic, individual synth output and DI the band throws at you. Since Digital Performer works seamlessly with multiple Core Audio devices, configuring a Traveler/Onyx system is a snap.



## The monitors.

The Mackie **HR Series Home Studio Monitors** are considered some of the most loved and trusted nearfield studio monitors of all time, and with good reason. These award-winning bi-amplified monitors offer a performance that rivals monitors costing two or three times their price. Namely, a stereo field that's wide, deep and incredibly detailed. Low frequencies that are no more or less than what you've recorded. High and mid-range frequencies that are clean and articulated. Plus the sweetest of sweet spots. Whether it's the 6-inch HR-624, 8-inch HR-824 or dual 6-inch 626, there's an HR Series monitor that will tell you the truth, the whole truth, and nothing but the truth.



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# Audio in Apple OS X

## A Potpourri of Production Pointers

On the surface, audio production in Mac OS X isn't all that different from working in OS 9 once you've set up your DAW to interface with its new environment. But dig a little deeper and you'll find some cool features offered in OS X. Some of the following features may not have been implemented in early OS X versions, but they are all included as of OS 10.3.8 (Panther) and should also work with Tiger (OS 10.4).

### WHAT'S UP, DOCK?

The Dock is more than a convenient launchpad for applications—it can also help keep tabs on CPU or memory usage, among other things. To set this up, drag the icon for the Activity Monitor utility (located in Applications/Utilities) to the Dock. Launch the Activity Monitor (either via the Finder or the Dock) and press its Dock icon with your mouse. Drag your mouse to Dock Icon in the pop-up menu that appears and choose the desired command (Show CPU Usage, Show Memory Usage or other) from the ensuing list of options. The Activity Monitor's Dock icon now graphically and dynamically displays the chosen parameter's state. The Dock's display is pretty tiny compared to the utility's full-size view, yet it's always conveniently visible—as long as the Dock is visible and the Activity Monitor is booted—while working in your DAW.

Despite the useful feedback such real-time performance monitors provide, problems will inevitably crop up. When your DAW freezes, the “spinning colored beach ball” may prevent you from quitting via the Apple menu's Force Quit command. A quick way to thaw your DAW is to click on the application's icon in the Dock while holding the Option key on your QWERTY keyboard. Then select Force Quit from the pop-up menu that appears above the icon.

### LET'S GET LOADED

When your host app attempts to load newly installed AudioUnits plug-ins for the first time, the plugs will automatically be examined to determine if they meet Apple's AudioUnits standards. Your DAW should automatically save a self-generating

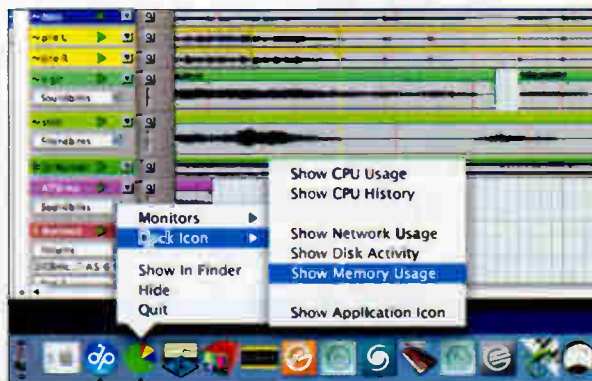
report that details which plug-ins failed the exam and weren't loaded. For example, Digital Performer users can open the “MOTU Test Results.txt” file located in their home folder's Documents folder. This file keeps a running record of all AudioUnits exam results, with the oldest results first. Similarly, Logic users can run the Logic AudioUnits Manager utility, launched via the DAW's Logic Pro>Preferences hierarchical submenu to peruse exam results. Once you've determined which plug-in(s) failed the test, follow up with the manufacturer to see if there is a fix (i.e., patch or update).

The exam may get hung up on a plug-in—neither passing nor failing it—if it hasn't been authorized. If you skip the exam, the plug probably won't automatically load after it's authorized. In Logic, you can force the plug-in to load using the Logic AU Manager utility. In Digital Performer, you must force a re-examination of the plug-in by trashing the AudioUnits Info Cache (located in your home folder/Library/Preferences your DAW folder). The next time you reboot Digital Performer, all plug-ins will be re-examined and compatible ones loaded.

### I NEEDED IT YESTERDAY

If you don't have an ISDN or T1 line and your corporate client needs your audio files immediately, OS X offers an easy way to perform FTP uploads (i.e., Internet file transfers) without buying special software. First, find out what file format (e.g., .AIFF) your client prefers to receive and save or convert all of your files accordingly. Name all the files with basic characters; don't use spaces, slashes or any punctuation, such as hyphens, commas or periods in the file names. Drag and drop all of your files into your home folder (i.e., the Users folder with your name as the title), which is located on the left side of the Finder's directory view.

Now launch the Terminal utility, located in Applications/Utilities. Type a series of



Setting the Activity Monitor's Dock icon to display memory usage

commands (noted here inside quotation marks) in the Terminal's window. First type “ftp” (without the quotation marks) and press Return on your QWERTY keyboard. The Terminal will respond with “ftp>.” Type “open” and press the spacebar. Then type the company's server address (omitting the “ftp” header) on the same command line and hit Return again. The Terminal will show that you are connected to the FTP server and will ask for your user name. Type your user name and hit Return. When the FTP server asks for your password, type it and press Return again.

Terminal should now show you are logged into the FTP server. Type “put” and press your spacebar, then type the name of the first file (including any extension such as .AIFF) you wish to upload and press Return. After the file has been uploaded, type “put(spacebar)(file name)” for each additional file to be uploaded in turn, pressing Return to initiate each upload. When all uploads are finished, quit Terminal.

### FOR YOUR EARS ONLY

Nobody wants their song sketches and pre-production work demos showing up on the Internet. When you no longer need these sensitive files, use OS X's Secure Empty Trash command (under the File menu) to permanently delete them from the trash and assure peace of mind. ■

Mix contributing editor Michael Cooper is the owner of Michael Cooper Recording in beautiful Sisters, Ore.



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**No Fan**  
Northbridge Cooler

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Heatpipe VGA Cooler.

**No Fan**  
Power Supply (400W)



Folding Handles



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