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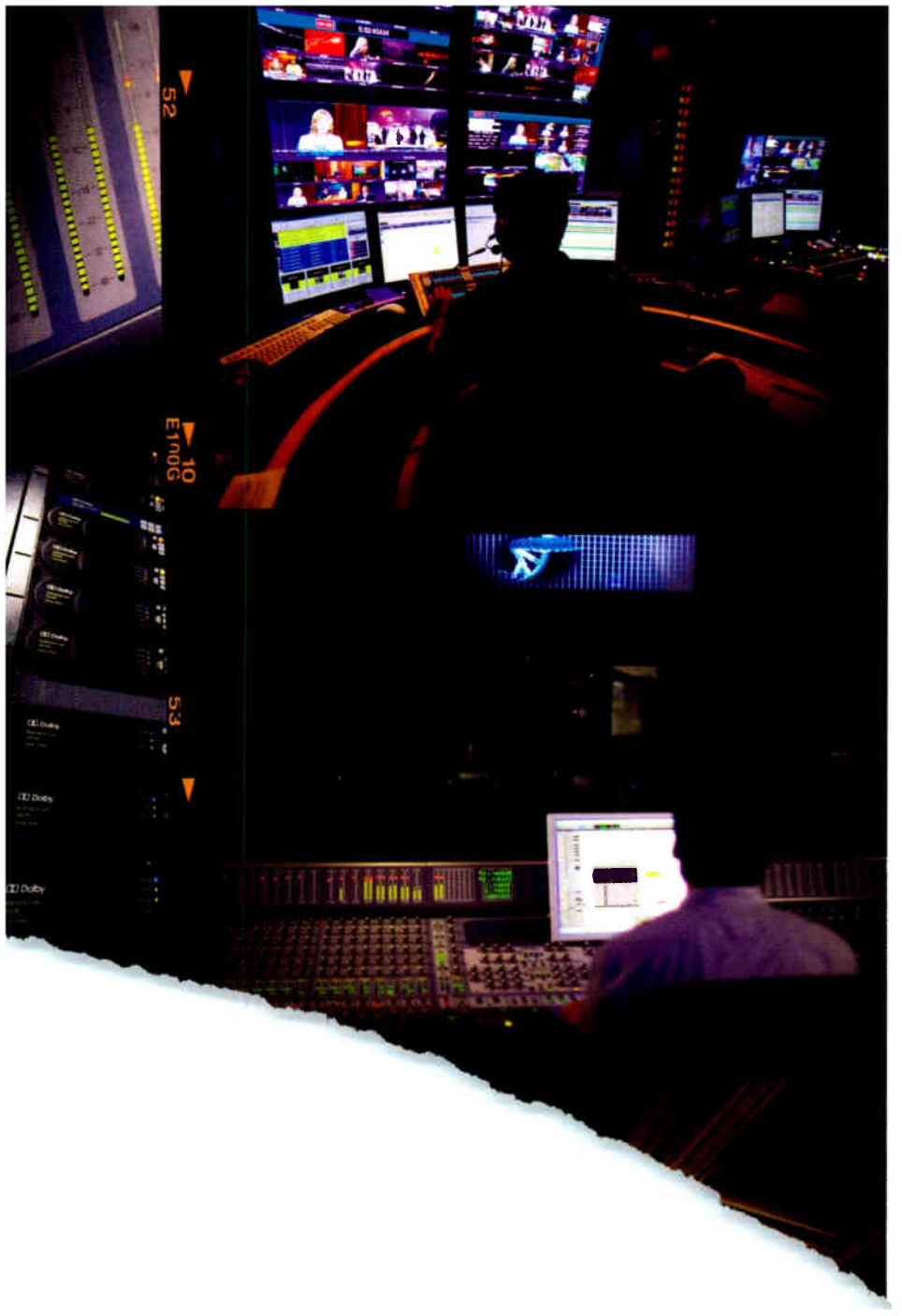

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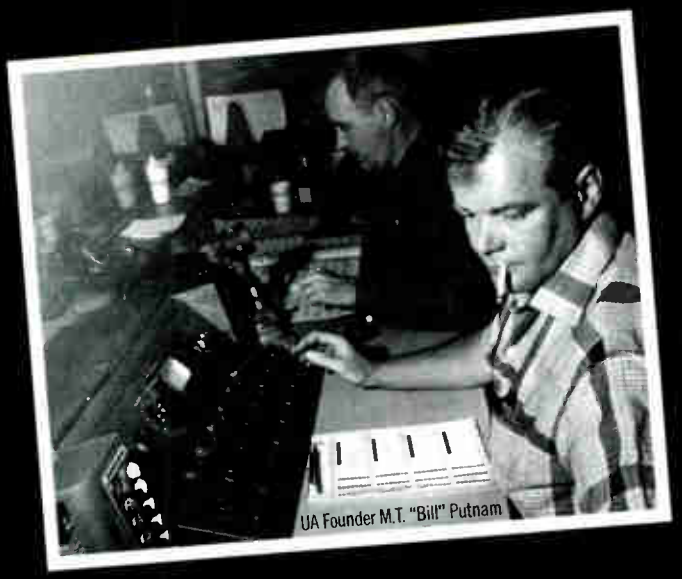

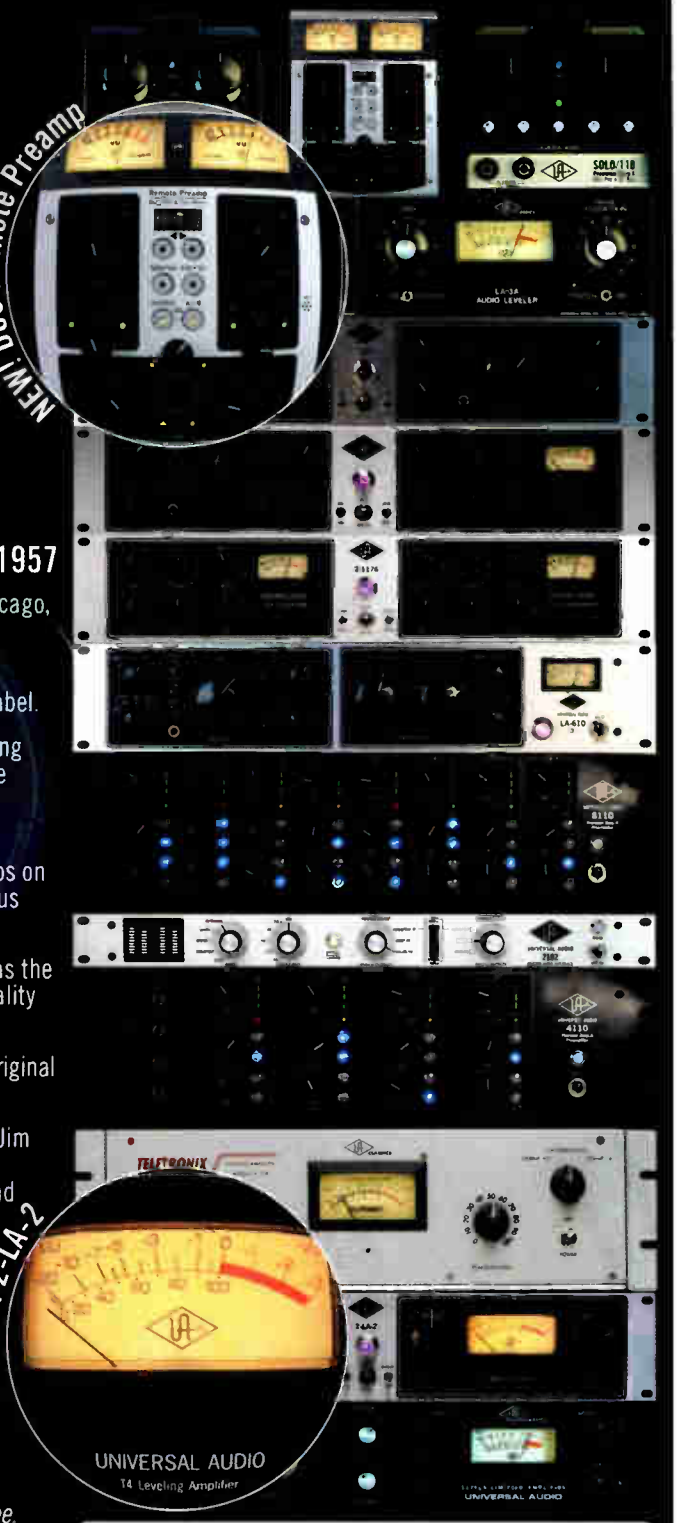

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MIX
PROFESSIONAL AUDIO AND MUSIC PRODUCTION
OCTOBER 2007, VOLUME 31, NUMBER 10

Mix 30th Anniversary!

Celebrate with *Mix* magazine as we take a walk down memory lane through the past three decades of pro audio. In this issue, we congratulate the people and technologies that have made these past 30 years so inspiring, and so exciting to report on. And, as this year's AES Convention takes place in New York City, we give you a taste of what "the city that never sleeps" was like back in 1977. Coverage begins on page 33.

features

On the Cover: Owned by Juan Perez and designed by Walters-Storyk Design Group, Jay-Z's new home base, Roc the Mic, houses a classic SSL 9080 J and custom Augspurger monitors. **Photo:** Cheryl Fleming Photography/ David Flores Photography. **Inset Photo:** Greg Gorman.

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(Volume 31, Number 10) is ©2007 by Penton Media Inc., 9800 Metcalf Ave., Overland Park, KS 66212. Mix (ISSN 0164-9957) is published monthly with an extra issue in January. One-year (13 issues) subscription is $35. Canada is $40. All other international is $50. POSTMASTER: Send address changes to Mix, PO Box 15605, North Hollywood, CA 91615. Periodicals Postage Paid at Shawnee Mission, KS and at additional mailing offices.This publication may not be reproduced or quoted in whole or in part by printed or electronic means without written permission of the publishers. Printed in the USA. Canadian GST #129597951; Canada Post Publications Mail Agreement #40597023. Canada return address: BleuChip International, P.O. Box 25542, London, ON N6C 6B2.

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AES—A Gathering of Idea-Driven Minds

I'm writing this on the sixth anniversary of the tragedy we now refer to as 9/11, with its repercussions that changed the nation and the world. Recalling the horrors of that day is tough, but life goes on. Even that tiny microcosm known as professional audio had to adapt, change and move forward, with the 2001 AES convention (originally scheduled just weeks after the World Trade Center disaster) postponed to late-November.

AES was right in not canceling the show. But even with fewer exhibitors, many who attended that AES felt that it was perhaps the best show in years. Why? Well, the secret to a great tradeshow often has little to do with the exposition.

A hall crammed with gleaming new products and technologies is traditionally the "hook" of any tradeshow, and with hundreds of exhibitors hawking their latest whiz-bangs and hoo-hahs, this year's AES will certainly deliver in that regard. There will also be a great selection of papers and events to keep you way busy, along with two workshops and a master class on game audio production—AES gets hip! However, the magic of AES actually comes from the attendees themselves.

This gathering of the tribes doesn't necessarily take place on the show floor, but in the corridors, the Javits lobby, the shuttle buses, the interminably long elevator lines (an AES tradition), the parties or in the bars of the Marriott Marquis or any of the dozen other official show hotels. Often these nontraditional locales are where the *real* action is. In a flash, e-mail addresses are exchanged, leading to someone's next gig; two developers debate approaches to filter design; or ideas are sketched on menus, placemats or cocktail napkins, leading to some new product design you'll see on the floor of AES 2008.

If you're looking for industry action, New York AES is the place to be for audio pros—and it's all about people first and products second. The sage who once said, "Nobody ever walks down the street humming a reverb preset" was right: Technology is just a tool. Music comes from emotion, from people's heart and soul. With that in mind, when we began planning *Mix*'s 30th-anniversary issue, we wanted to reflect on some of the individuals who have made their mark on the industry and society as a whole in the past 30 years. To be sure, the world of 2007 bears little semblance to 1977 when that first issue of *Mix* hit the streets. But analog or digital, virtual or actual, the words of that Duke Ellington hit "it don't mean a thing if it ain't got that swing" still ring true. Our romp through the past three tumultous decades begins on page 33.

Speaking of changes, our own Joanne Zola steps up to the group publisher position for *Mix*, *Electronic Musician* and *Remix* magazines. She's been here since 1991, and as associate publisher of *Remix* built the successful Remix Hotel franchise and, more recently, was our director of interactive and live media.

See you at AES!

George Petersen
Executive Editor

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BACK ISSUES: Back issues are available for $10 each by calling 866/860-7087 or 818/487-2020.

POSTMASTER: Send address changes to *Mix* magazine, P.O. Box 638, Mt. Morris, IL 61054.

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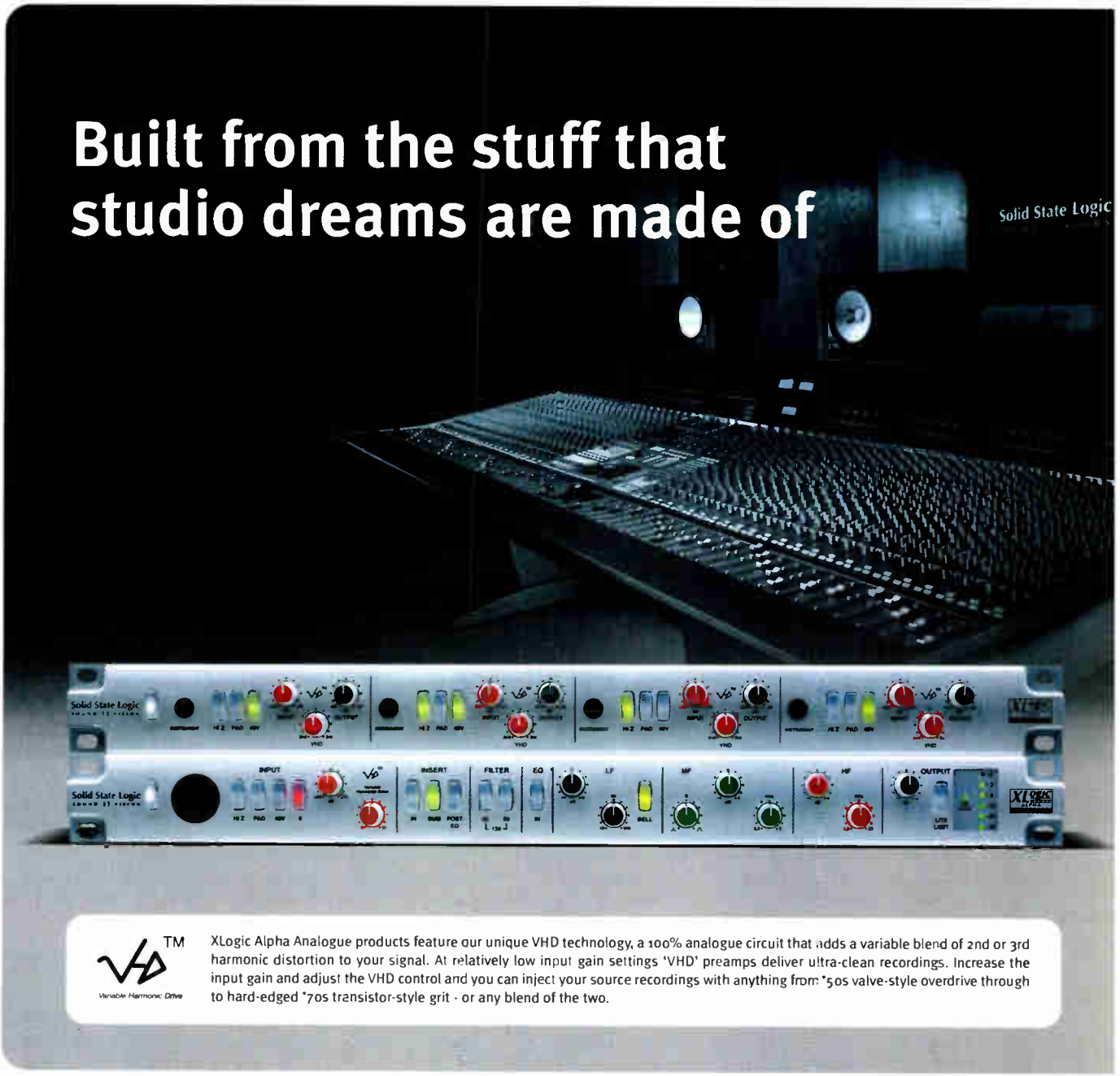

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Letters to Mix

DON'T FORGET YOUR IN-EARS!

I just read "Pushing the Limits of Native Processing" (July 2007), which says, "I couldn't daisy-chain two units together without experiencing digital snats due to clocking problems." This issue could have been remedied by installing the WinXP dual-core Hotfix and the AMD dual-core Optimizer patches.

I also wanted to comment on the article "The Unfamiliar P.A." (July 2007). One of the best things an up-and-coming band can do is invest in an IEM system and a digital console to create each performer's mix. This has many advantages: You can have perfect mixes every night and use the time normally spent to dial in a wedge monitor mix either to hone the house mix or just to chill out before the show. The band I work with, Artemis, uses a Yamaha 03D or BSS SoundWebs to drive three separate in-ear mixes, with effects tailored to each performer. We can even automate the in-ear mixes from a MIDI keyboard or our electronic drum kit to change the mix for each song or even sections of a song. You'll never again be at the mercy of the house wedges, you'll substantially lower onstage volume and your in-ear mixes will allow you to give the best performance possible.

Keith Crusher
RTFM Records

BEAT CREDITS?

Your article "Production Construction" (August 2007) was of great interest to me. I agree that songwriting—especially in pop, dance, hip hop and R&B—certainly has changed. The definition of a song as something that you can sit down with a guitar and sing is completely out the window in those genres. However, in reading the article, I kept expecting *Mix* to address the bigger question: Do these producers get a songwriting credit in these situations?

As a full-time producer, songwriter and composer, I am often called upon to provide all kinds of input for my clients in the songwriting process. The blurred line of songwriting and beatmaking for me is, at what point does the producer become a co-writer? Are the producers in the article performing a work-for-hire for a set fee or do they require points on CD sales and downloads as compensation? Or do they actually get songwriting credit and collect royalties? And, if they do get songwriting credit, what percentage is common?

Steve Hansen
Hi-Top Productions

Steve,

Thanks for your letter and astute comments. As a general rule, if a producer's input makes a recognizable contribution to the song, it is considered significant enough to warrant songwriting credit. The exact percentage is typically something agreed upon by the entire writing team and their publishers—save to say that the old set standard of 50/50 or equally divided shares is long gone in such piece-meal processes. Of course, in an era of plummeting production budgets, the monetary incentive of having your name appear in the writing credits is stronger than ever. Some producers go so far as to insist on "stirring the songwriting pot," even when unnecessary, just so they can cash in on a portion of the royalties from a lucrative hit as a form of salary subsidization.

—Jason Scott Alexander

OH NO, NOW I...I'M STILL ALIVE!

In his article about re-creating the opening bass riff from Carly Simon's "You're So Vain" for a new Janet Jackson track ("Boombastic Bass," July 2005), Kevin Becka mentions that the original bass line was played by "the late Klaus Voorman." However, Klaus is still among the living and was recently interviewed in *Bass Player* magazine.

Steve Boisen

SMALL ROOM OR NO SMALL ROOM?

I was inspired to write concerning the *Mix* observation, "The majority of records today are being made in a personal studio—jamming in a spare bedroom, laying down beats in a 'closet-turned-control-room' or any other number of tracking/mixing necessities" (TalkBack, "Pre-Production Trade Secrets"). Here's why: I was asked to simply copy a CD (by someone who had never burnt a CD before!) made from a classical opera recital. This material was in desperate need of some de-noising/de-clicking, etc., so I decided to do some work in Sound Forge, using the iZotope mastering plug-ins, as well after performing some audio restoration.

A little bit of EQ and multiband compression after restoration brought it to life, and so I gave them the "remastered" version, never mentioning that I had done the work (or had a modest home studio). Nonetheless, I received immediate feedback that the material was greatly improved and the singer was thrilled. I'm not a mastering engineer, yet they noticed the results immediately. I thought it might be interesting to ask real mastering engineers like Grammy-winning veteran mastering engineer Jay Friggoletto the question, "At what point should someone consider moving their project into a professional mastering facility?"

If the majority of records today are being made in a personal studio, how can the producers of recordings made in this manner maximize their results for a professional mastering engineer who is listening on Quested monitors. Here are some other subjects of possible discussion in addition to the volume wars: the use of convolution samples in mastering, how close a plug-in can get to a Manley Variable-MU and the trend toward listening on less-than-audiophile equipment. I think answers to these questions would enlighten those of us with personal studios as to when we should move to the next step and bypass the invisible bottlenecks that may be present in the untreated rooms where "the majority of records are being made."

Bruce Alger

THE VENTURES GET DUE CRED

I was happy to see The Ventures get some props in Mix ("Classic Tracks," July 2007), as for two years I was front of house and road manager for them back in the late-70s and early 80s. In a page-and-a-half, Gary Eskow did a good job chronicling their history and the background behind "Walk Don't Run." This was of particular interest to me, as on the day I left the band, Don Wilson and Bob Bogle gave me the Fender Jazzmaster (modified with a Tele neck) that they used to record "Walk Don't Run '64." I still have that guitar to this day.

Bill Ford

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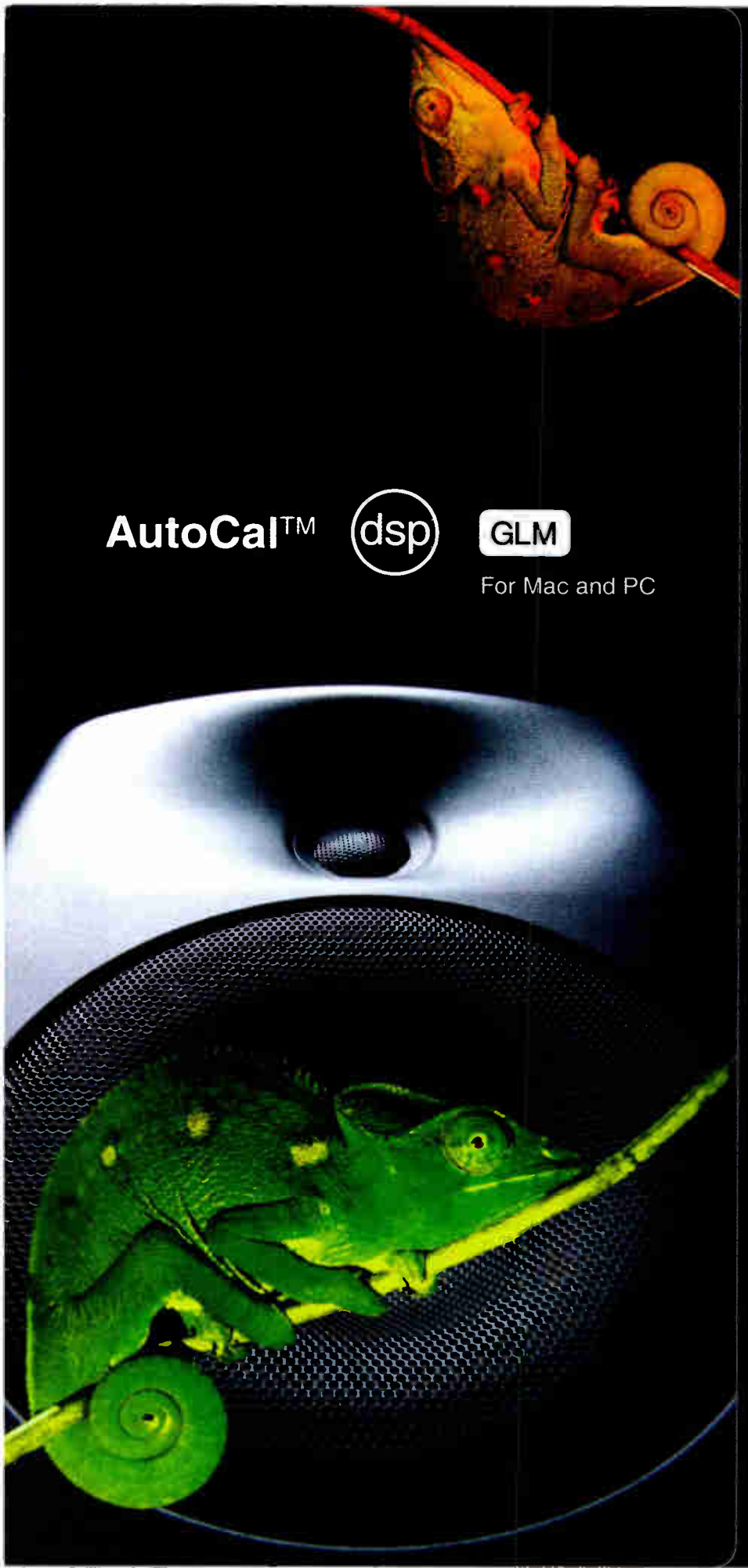

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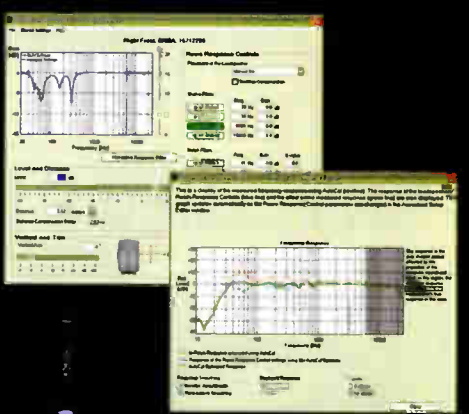

On screen, GLM software uses its *Interactive Response Editor* to give visual indication, loudspeaker-by-loudspeaker, of exactly what the response of each loudspeaker is.

In 1978 Genelec brought active monitoring to the professional audio world. An essential part of our active design is the room response controls. They are included in every Genelec analogue model to help integrate them to the listening environment. To further this, Genelec Product Specialists travel the world providing system calibration services to ensure optimum monitoring performance for our large system customers.

The Genelec DSP Series now brings this commitment, along with our acoustical knowledge and experience, directly to every customer.

AutoCal™
Cleverly designed to give you the room to adapt.

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MIX AT AES: NEW PRODUCTS, NEWSLETTERS, PODCASTS, VIDEO REPORTS,

2007 TEC AWARDS TO FEATURE ALL-STAR CAST

The 23rd Annual Technical Excellence & Creativity Awards, presented by the Mix Foundation for Excellence in Audio, will be held Saturday, October 6, 2007, at the New York Marriott Marquis. TEC Awards will be presented in 25 categories at the ceremony, and renowned broadcast engineer Ed Greene will be inducted into the TEC Hall of Fame, while musician, producer and composer Al Kooper will receive the prestigious Les Paul Award, sponsored by Gibson Guitar Corporation and presented by the great Les Paul.

For the third year in a row, Will Lee, the world's busiest bassist, will host the show. For the 15th consecutive year, the event will be produced by Rick Miller, and Larry Batiste will lead the 2Cold Chili Bone TEC Band featuring top New York session players. Sound will be handled by Masque Sound and sponsored by Meyer Sound Labs. GSD Productions will provide video and lighting, handled by video director Mauricio Flores and lighting director Eric Fedeler.

A limited number of tickets are available online at www.mixfoundation.org or by calling the ticket hotline at 510/985-3214. TEC Awards' proceeds benefit programs for hearing health and audio education, including the annual TEC Awards Scholarship.

JOHN STEPHENS, 1930-2007

John Stephens, circa mid-1960s; inset: the portable 24-track—a Stephens innovation.

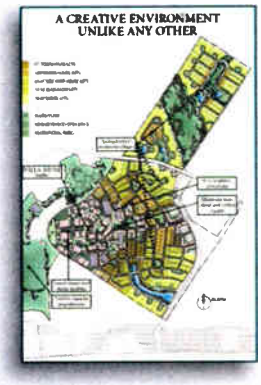
Recording innovator John Stephens, founder of Stephens Electronics, passed away at age 76.

As the first 3M 8-tracks came to market, Stephens developed improved record amplifiers and later bought transports from 3M, marketed with his electronics. Eventually, 3M stopped selling transports to Stephens, who began building his own decks. These recorders combined excellent electronics and a clever capstanless/pinch-roller-less transport. A modular construction allowed creating custom portable decks housed in road cases, and an optional DC supply simplified location work. These were employed on countless live music and location film recordings, including classics such as Robert Altman's *Nashville*.

At most, Stephens made only a few hundred decks, ranging from ½-inch 2-tracks to 2-inch 40-tracks—another first. A good number of these machines remain in service today and are considered by many to be among the finest-sounding recorders ever made. Stephens' legacy lives on in the tools he built and the multitude of great performances recorded on these machines.

—George Petersen

DON'T MIND THE CONSTRUCTION



Entertainment industry leaders joined by Texas State Representative Dawnna Dukes, Texas State Senator Robert Deuell, M.D. and Director of the Texas Film Commission Bob Hudgins, announced VILLA MUSE (www.villamuse.com), a $1.5 billion mixed-use development that will be situated 15 miles east of Austin. The ambitious project will include residential, retail and commercial spaces anchored by the $125-million, 200-acre Villa Muse Studios, developed for the film, television, advertising, music and videogame industries.

Phase one, to open by the end of 2008, will include a variety of soundstages, including a 50,000-square-foot purpose-built soundstage, a scoring stage, recording studios and an outdoor amphitheater with a capacity of more than 70,000.

The news coincides with the recent vote by the Texas House of Representatives on House Bill 1634, authored by Dukes and sponsored by Deuell, which provides state-funded incentives for film and television production. (The VILLA MUSE project will not receive funds appropriated by HB 1634.)

VILLA MUSE is led by founder/CEO Jay Aaron Podolnick, a producer/engineer who founded Texas' first 24-track recording facility in 1972. Podolnick has worked with such artists as Marianne Faithfull, Eric Johnson, Jerry Jeff Walker, Christopher Cross, Dan Hartman, Stephen Doster and The Electomagnets.

The VILLA MUSE team includes Rupert Neve, CTO; Tom Copeland, senior VP of film studio operations; Bob Walters, senior VP of recording studio operations and opened Power Station Studios in New York; Paul Alvarado-Dykstra, VP of strategic development; and Hiten Patel, financial. Also on board are Steve Durr of acoustical designers Steve Durr Designs, nonzero \ architecture (formerly studio bau:ton), Sam Toyoshima of Acoustics Design Office and Land Design Studio, a planning and design team based in Austin.

BLOGS, SURVIVAL GUIDE—ALL AT MIXONLINE.COM/AES!

DANIEL LANOIS TURNS FILMMAKER

"The mystery of the recording studio is what keeps me coming back. Many rewards have come to me through this laboratory. It is my temple, my domain, my frustration and my love. But most importantly, it is my place of innovation," says Daniel Lanois in his first feature film, *Here Is What Is*. The film captures Lanois in the past year and a half by camera man Adam Vollick, showing the producer philosophizing with old friend Brian Eno, sitting in with Brian Blade in the deep South to perform "This May Be the Last Time" and in the studio mixing, explaining to the imaginary audience his moves and the musical reasons behind them. Guest appearances include Garth Hudson, U2, Willie Nelson, Emmylou Harris, Aaron Neville, Billy Bob Thornton and others.

The film debuted last month at the Toronto International Film Festival.

INTERNATIONAL STUDIO UPDATE

3:3:2 STUDIO

Located in the Puerto Madero neighborhood in Buenos Aires, Argentina, 3:3:2 Studio was designed and built by the Walters-Storyk Design Group; acoustics were handled by John Storyk, Renato Cipriano (Brazil), Dirk Noy (Switzerland) and Sergio Molho (Argentina). The studio opened in September 2006 and offers top-level engineers and equipment for recording, mixing and mastering stereo and surround 5.1 projects for CD, DVD-A, SACD, as well as movie soundtracks. The studio has one recording room and two control rooms; all three main rooms are linked.

Five-time Grammy-winner Chucho Valdes at 3:3:2 Studia during the mixing and mastering sessions of his next solo piano album live. From left: Diego Calviño (studio co-founder and junior engineer), Chucho Valdes, Pablo Lopez Ruiz (studio co-founder and chief engineer).

ON THE MOVE

Who: Scott Schumer, BLUE Microphones VP, global sales

Main responsibilities: bringing the same creative spark to the business of selling and partnering that the team here already has in abundance.

Previous Lives:

- Loud Technologies, VP domestic sales
- In2Out Audio, president/CEO
- Harman Professional Systems, VP sales
- Sennheiser, VP sales
- Regent Sound Studios, studio manager

One album (or song) that really speaks to me is... Bonnie Raitt's *Luck of the Draw*. There is a wide range of production that seamlessly works together and, of course, her voice! Every element has its place in the mix and the grooves really pop.

The best concert I've ever attended was... Paul McCartney at the Georgia Dome in Atlanta in the early '90s. Sure, it sounded great, but it had a lot to do with the friends I was with. A perfect evening!

The most memorable pro audio event for me in the past 30 years was...in the early days of in-ear monitoring and I was invited to hang out with the Steve Miller Band for a series of performances to understand what was working and what needed to be improved upon. It was great fun, and it also put me in a very cool place in what is now a huge part of touring.

Currently in my CD changer (or iPod): Semisonic's *All About Chemistry*, Keith Jarrett's *My Song*, Led Zeppelin's *Houses of the Holy* and The Wallflowers' *Bringing Down the Horse*.

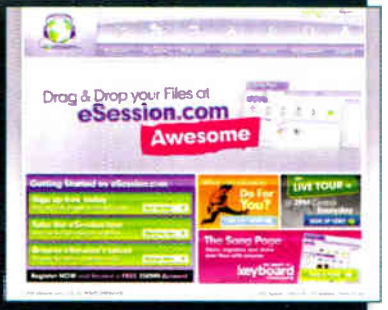
When I'm not in the office, you can find me... On Zuma Beach [near L.A.] with my son and daughter and our boogie boards!

CALREC BOUGHT

D&M Holdings has acquired Calrec Audio Limited, placing D&M more prominently in the broadcast market. D&M Holdings has also targeted expansion in other commercial A/V markets (which accounts for 25 percent of the company's worldwide revenue this year) such as recording, live music performance venues, film production and public spaces.

NOTES FROM THE NET

ESESSION ENHANCES SITE



New additions to the Web-based collaborative music recording/mixing/project management eSessions include 128-bit SSL-encryption layer for the site's file-transfer mechanism that protects files as they move across the Internet; an easy-to-use online signup form; a streamlined workflow; a Client Invoice/Escrow Bin; and a new version of eChart that allows users to create simple chord charts of their work.

SOUNDEXCHANGE ANNOUNCES CAP

SoundExchange has reached an agreement with several large Webcasters regarding a proposed cap on the minimum fee charged against royalties for sound recordings played on Internet radio; the minimum cap is now $50,000 per service. Recently enacted regulations by the Copyright Royalty Board (CRB) require each Webcasting service to pay a $500 minimum fee "per station or channel," regardless of the overall number of station/channels they are streaming.

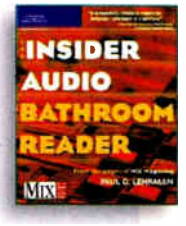
The agreement also calls for census reporting (i.e., reporting all tracks played by a service as opposed to a sampling) and cooperation on discussion and assessment of anti-stream-ripping technologies. There is no requirement that any of the services implement any particular technology nor that they develop or accept from a third party a particular technology.

BETA STUDIO GETS OUT OF BETA

Los Angeles welcomed another studio: BETA Studio within the BETA Records' (www.betarecords.com) facilities. The studio celebrated its launch with The Temptations working on their New Door/Universal release, *Back to Front*. According to BETA CEO Georg van Handel, "It was great watching the five vocalists interact, and when we brought in the horn section things were really jumping in here."

The studio offers analog and digital gear, focusing on its all-native Mac/Logic/Apogee Symphony combo, allowing producers to patch into the studio's many pieces of outboard. A peek inside the mic closet reveals models from Neumann, Manley, AKG, Shure and AEA; monitoring is via Focal, Yamaha and Event units. The studio, located off Sunset Boulevard, includes a video production room with green screen, interview room, make-up room, DJ and Internet radio production areas, kitchen and guest room.

BOOKSHELF



Mix "Insider Audio" columnist Paul Lehrman's *The Insider Audio Bathroom Reader* features a compilation of Lehrman's favorite columns. Lehrman will be signing books at AES Booth #942.

Far more than a simple historical retelling, *The JBL Story: 60 Years of Audio Innovation* 326-page book—written by the late John Eargle—is packed with rare photos, advertising and brochure reprints, technical drawings and diagrams. Certainly, one of the strengths of the book comes from Eargle himself—a audio historian, design engineer, Grammy-winning engineer and producer of hundreds of records and JBL employee/consultant.

After a foreward by Les Paul, the $29.95 book begins with the pre-JBL days of Lansing Manufacturing in 1927 on through the company founding in 1947 up to the present. Highlights include chapters on JBL innovations in consumer, studio, cinema and live sound, followed by spotlights of major installs. One of my favorite sections details the engineering of various key products, from the classic D130 woofer and the ring "bullet" tweeter up through today's Eon and VerTec systems. Dist. by Hal Leonard books; available from www.mixbooks.com and other retailers.

—George Petersen

INDUSTRY NEWS

Michael Bahr

Trew Audio (Nashville) named **Richard Rosing** executive VP/CFO...Filling the newly created position of VP, technology and business development at **Stanton Group** (Hollywood, FL) is **Tony Rodrigues**...The **NSCA**'s (Cedar Rapids, IA) new directory of industry outreach is **Nancy Owen**...Boulder, Colo.–based **Coupe Studios** hired **Eric Singer**, associate producer...**Sigmet Corporation** (Valley Forge, PA) update: **Kelly Ireton** and **Clif Barkalow**, regional sales managers; and **Kevin Wilkin** and **Dave Costello**, sales associates...**Thom Salisbury** was promoted to **Sennheiser** (Old Lyme, CN) Western regional sales manager, professional products...New senior sales engineer at **Revolabs** (Maynard, MA) is **Donald A. Goguen**...**Meyer Sound** (Berkeley, CA) hired **Chris Wiedenbeck**, installation sales manager, and **Michael Bahr**, marketing coordinator, both at the Germany office...New distribution deals: New **SSL** (NYC) AWS 900+ dealers include **American Pro Audio** (Minneapolis), **Guitar Center**, **HHB Canada** (Montreal), **Interface Audio** (Nashville), **Long & McQuade** (Ontario, Canada), **Sam Ash Music**, **Vari International** and **West L.A. Music**; dealing **Linear Acoustic** (Lancaster, PA) products in Mexico, Central and South Americas, and the Caribbean is **Cricon International Business** (Fort Lauderdale); **L-Acoustics** (Oxnard, CA) tapped **Techrep Marketing**'s Nashville office for the Southeast; **Doviente** is InnovaSon's (Nashvile) distributor in Spain; and the three indie rep firms that represented **Electro-Voice**, **Midas** and **Klark Teknik** in Canada have joined forces under the umbrella **PAG Canada Ltd.**

A Symphony that Rocks... Hard.

Ulrich Wild

Producer, Engineer, Mixer

"Technology has finally caught up to my needs in a DAW. I'm running Logic Pro with the new Symphony System with fantastic results. The Symphony System finally brings near zero latency to native recording, and the new converters (AD/DA-16Xs) sound absolutely fantastic. ***Logic Pro sounds much better than any other DAW I've used before.*** The low-end is warm and the high-end is silky smooth. It is a very efficient program and not very taxing on the CPU, which, along with the new Intel Macs, leaves me with an astounding surplus of processing power. ***The quality of this system meets and even surpasses the large format analog consoles I was used to.*** I have mixed many Rock and Metal records and until recently, I wouldn't even have considered mixing "in the box". Now, however, I mix nearly all projects in Logic."

Recent projects:

Project 86, SOIL, Static X, DethKlok, Mindless Self Indulgence, Breaking Benjamin

The Symphony System:

Apogee X-Series & Rosetta Series Converters, Apple's Mac Pro & Logic Pro

See Ulrich's system and more Symphony users at:
www.apogeedigital.com

APOGEE
SOUND AMAZING

NOTES FROM THE P&E WING

GETTING PROACTIVE: THE DAW GUIDELINES FOR MUSIC PRODUCTION

In 2003, in an effort to simplify life for those who record and mix music, the Producers & Engineers Wing developed the "Pro Tools Session Guidelines for Music Production," an easy-to-use reference that became a popular tool for many engineers and producers. Now, just in time for the 2007 AES convention, the P&E Wing is debuting a new version of the document. Created, like the "Pro Tools Guidelines," by a volunteer group of industry professionals, it's titled "DAW Guidelines for Music Production."

"A few years ago, an engineer could open a box of analog multitrack tape they'd never seen before, glance at the track sheet and begin working almost immediately," explains engineer, author and educator Charles Dye, whose writings were the genesis for the original guidelines. "Now that DAWs have replaced tape machines on most recording projects, the amount of time between opening a session from another engineer and going to work has increased; in some cases, drastically.

"We deal with an immense amount of information today—sometimes several hundred tracks, as well as tons of other parameters and stored settings," Dye continues. "We have all sorts of creative options and almost endless flexibility. But in many cases, the people who engineer sessions haven't come up through the studio system we used to have, where they learned conventions and good practices—things that were passed on from engineer to engineer. Opening a DAW session can reveal a jumble of tracks that take a while to untangle. This can even be true of your own session if you haven't worked on it for a few months. It's not uncommon on DAW sessions to find 100 tracks in some order that isn't very logical, along with eight vocal takes and no vocal comp."

Dye started keeping notes on problems he discovered and compiling notes from other veteran engineers. The need for better project organization and documentation was obvious, and he began suggesting better practices on his Website and in his writing work for manufacturers. But it was when he got together with several Florida-based members of the P&E Wing—including Eric Schilling, Tom Morris, Roger Nichols, Carlos Alvarez and Ron Taylor—that the nascent guidelines underwent a metamorphosis.

"A lot of people worked extremely hard to update, expand and vastly improve on the original," he remarks, "and what we came up with was also reviewed by members of the P&E Wing from around the country. The resulting "Pro Tools Session Guidelines" are based on the input of some of the most respected engineers and producers in the industry, including Bob Ludwig, Tony Maserati and Mick Guzauski, to name just a few."

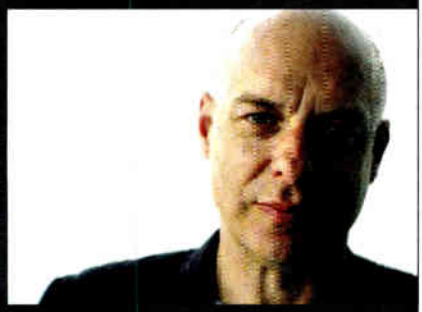
The DAW Guidelines were a natural outgrowth of the original Pro Tools document. "We always wanted to make the guidelines universal and to incorporate other platforms," explains Dye. "This year, we regrouped and got together with power users and manufacturers' representatives of [Steinberg] Cubase/Nuendo, [MOTU] Digital Performer, [Apple] Logic, [Digidesign] Pro Tools and [Cakewalk] SONAR. So now we have input from people like Frank Filipetti, Chuck Ainlay, Don Gunn, Scott Garrigus and Vincent di Pasquale."

The DAW Guidelines are organized into two sections: Universal Guidelines that apply to any DAW platform and platform-specific guidelines. Essentially, the document breaks the work process into three types of project/session files: master, used during tracking, recording and overdubbing; Slave, files sent out as satellite projects for overdubs; and Mix, the stripped-down, cleaned-up and notated files ready for mixing.

"We're not re-inventing the wheel here," Dye concludes. "We've simply adopting practices that were used with tape for years to DAWs. Following the guidelines will eliminate most of the questions that arise when opening a project/session file. You can open the file and go to work instantly. You don't even have to do a quick, rough mix; you hit the spacebar and hear the mix back the way that somebody else, two weeks ago in a city halfway around the world, was listening to it. It decreases time spent and increases productivity, and life is so much easier when all you have to do is focus on the music." ■

READ...WATCH LISTEN...PLAY

Go beyond the printed page and log on to www.mixonline.com to get extra photos, text and sounds on these select articles—plus much more online:



READ: We've got more information on the "30 People Who Shaped Sound"—discographies, past *Mix* articles and much more!

AES NYC 2007 show report

WATCH: Bookmark www.mixonline.com/aes for all of your AES 2007 needs—"New Products Guide," podcasts, blogs, video, newsletters and more.

LISTEN: Audio clips from Paul McCartney, White Stripes, Satellite Party and Cool Spins.

TALKBACK

PLAY: *Mix*'s November issue covers anything and everything on audio education. What's the best piece of advice you've gotten about your career—be it from a mentor, an educator, your parents, a friend...Let us know by e-mailing mixeditorial@mixonline.com.

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Roc the Mic Studios

By Janice Brown

PHOTO: WES BENDER/MOJO WORKING INT. 2007

PHOTO: HOWARD SHERMAN

Above: Roc the Mic engineer Young Guru; inset: the A room with SSL 9000 J board, home to engineer Brian Stanley.

Bearing the trademark prefix of hip hop impresario Jay-Z's Roc-a-Fella Records, the brand-new Roc the Mic Studios in New York City caters to the label's extended family of artists, producers, engineers and songwriters who make hip hop and R&B music. This is the second studio venture for Jay-Z's longtime business collaborator, Juan Perez; they also own Manhattan's 40/40 Club. Perez sold their previous facility—Baseline Studios—to Roc-a-Fella producer alum Just Blaze when Jay-Z put his solo career on hold in 2003. But, as Jay-Z returned with *Kingdom Come* last year, plans for a bigger and better studio were already well under way.

Perez found a totally raw space on 27th Street and got in touch with Professional Audio Design president Dave Malekpour, who had set up Baseline. "With Roc-a-Fella's roster of artists and all the production development going on, it made total sense that they build a studio catering to the label," says Malekpour. "And Juan decided to make it a commercial studio because of the current market conditions. There aren't many rooms like this available in New York City anymore."

Malekpour recommended that frequent PAD-collaborator John Storyk of Walters-Storyk Design Group (WSDG) be brought onto the project as designer and acoustician. "They have their entourage of golden ears and knew exactly what they wanted," says Storyk. "Two spacious comfortable studios, each with an analog desk, very loud, very accurate monitors and private lounge inside the sound lock. They also wanted a small writing room, which through the design process actually grew into a producer's suite and booth—a mini version of the main rooms."

Proportionally, the 4,500-square-foot space splits up visibly to urban music production code: smaller tracking spaces, larger control rooms and sizeable lounges. Clients can shoot pool and hang out in the main common lounge, or keep completely to themselves via private access to both main studios, each with its own similarly sized tracking room and private lounge. Technically, the rooms feature the classic tools of the genre. The only marked difference between the two main studios, known as the "J Room" and "G Room," is the choice of SSL consoles of heavy-hitting Roc The Mic house engineers Brian Stanley (9000 J) and Young Guru (4000 G+). PAD worked with these engineers to develop the rooms' equipment lists, a combination of new and PAD-refurbished classic gear, including Avalon 737s; Lexicon 480Ls, PCM 81 and 42s; Distressors; Eventide H3000 and TC Electronic reverbs; and Summit dual-compressors that stack up in split-island producers' desks.

The J Room houses the 9080 J console from the Hit Factory, completely refurbished with upgraded electronics by PAD. An inaugural session with Beyonce opened J back in January, kicking off nonstop action at Roc the Mic. "Everyone's been here," says Perez, running down the list: "Mariah, Puff, Timbaland, Timberlake, Rhianna, 50 Cent, will.i.am, Ne-Yo, Jay-Z." The J Room and surprise-hit production studio—equipped with Control|24 and Pro Tools HD—have been running full time for several months, and by the end of summer the G+ was undergoing final commissioning.

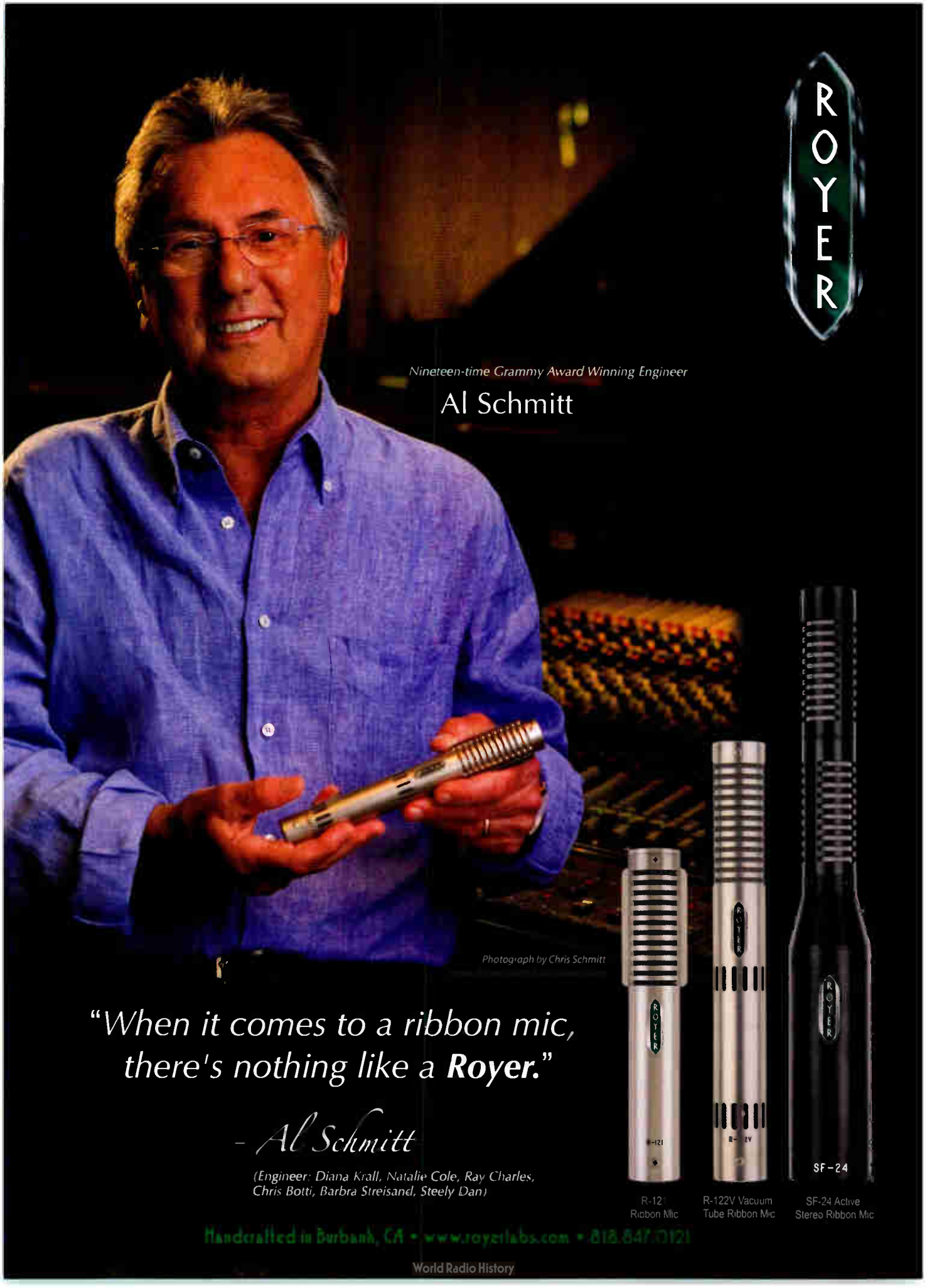
The studios are distinguished by their thumping sound systems, a design requirement Perez stressed from the get-go. "This is a hip hop environment; people want to really crank it up to see how it's gonna knock in the clubs," he explains. "You'll have 10 guys in here bopping their heads. This is the culture; this is how hip hop gets played."

Developed by PAD and George Augspurger, the custom monitoring systems comprise Augspurger horns, dual 15-inch drivers and dual 18-inch subs per side, driven by massive Bryston 14B power amps. "These are loud and efficient systems; they're getting about 127dB peaks, continuous at around 123 dB," says Malekpour. "It's really a second-to-none main monitoring system, and we scaled it down to fit the smaller footprint in the production suite. So that's a much smaller room, but it has the big Augspurger sound."

Storyk's designs incorporated extreme isolation and bass trapping to accommodate such a big and bass-heavy sound. Working with less-than-ideal ceiling height, Storyk explains, "We did all the low-frequency trapping with thin-membrane absorbers, using both stretched-rubber and metal plate absorbers throughout the room—above the clouds and behind the fabric on either side of the rear-room resonators."

Guru, who recorded Jay-Z's verses for Rhianna's "Umbrella" and T.I.'s "Watch What You Say to Me," among many other projects in the J Room, attests. "I'm not an exceptionally loud mixer—I'll mix loud in the beginning to get the drum and bass relationship together and then I'll move to near-fields—but the clients want to hear it loud," he explains. "These rooms are clear at those really loud volumes; we love that we can turn it way up and maintain the consistency of the mix." ■

Janice Brown is a freelance writer in New York City.



BY PAUL D. LEHRMAN

The Secrets of NIME

A Peek at Tomorrow's Musical Interfaces

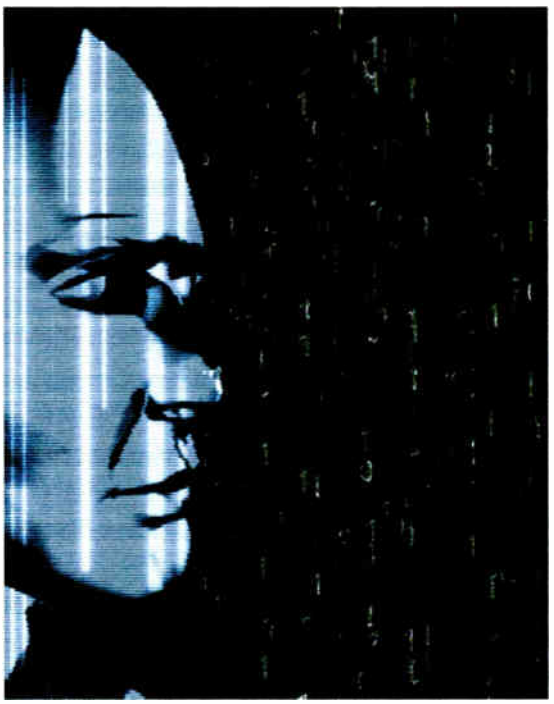
There's an old adage in chemistry: Once you find the "perfect solvent"—a substance that can dissolve anything—what do you keep it in? In audio (as every AES show makes abundantly clear), we have a parallel problem: Once you find the perfect audio processor—a device that can do absolutely anything—how do you control it?

In fact, we've had the potentially "perfect" audio processor ever since the first digital audio products were introduced 30 years ago. Since then, the chips keep getting better and more capable, and the algorithms to make them do cool things have just been getting cooler. But developing the interfaces to make the best possible use of these tools has lagged behind. The mouse-and-windows paradigm, we all agree, is woefully inadequate for doing complex, real-time control of sound creation and processing, and yet it's still the most common way we work with audio in the digital domain. Dedicated control surfaces have helped to make chores like mixing more ergonomic, but these aren't so much revolutionary as they are retro, harkening back to an era when the hardware forced us to think in terms of discrete tracks and channels. Comfortable, but not exactly cutting-edge. I mean, how revolutionary can a piece of gear called Big Knob be?

Some visionaries have proposed control interfaces that let us work in virtual space, or on an infinitely reconfigurable touch surface, or with multidimensional doohickeys that give us expandable degrees of freedom. But where are the people and companies that can make these a reality?

Actually, a whole lot of them were in New York a few months ago. When it comes to looking at the future of real-time control over sound in the digital domain, there's no better place than the experimental musical instrument community, which meets annually at the New Interfaces for Musical Expression (NIME) conference. I wrote about NIME two years ago (September 2005 issue) when it met in Vancouver, but so much has happened in the world of musical interfaces, and so many more people and institutions are getting involved, that it's worth another look.

This year's conference was at New York University, right in the heart of Greenwich Village, and was a joint effort between the university's music technology program, the nonprofit educational collaborative Harvestworks Digital Media Arts Center and The League of Electronic Musical Urban Robots (LEMUR), a Brooklyn-based group that does amazing things with, as you might expect, robots that play music. (Disclosure: Since meeting LEMUR director Eric Singer at NIME 2005, I have worked on a large installation with the group,



and we are currently in the planning stages for another installation later this year.)

Three very full days of meetings were held in the auditorium at the university's Stern School of Business, with concerts in the evening across the street at the Frederick Loewe Theater. After hours, there were installations at a gallery in Chelsea and club performances in Brooklyn, some of which went all night. A fourth day of installations, demos and performances was at the Computer Music Center at Columbia University, way uptown on W. 125th Street (home of the world's first synthesizer, the RCA Mark II, which is in the process of being restored).

NIME is a relatively small conference—there were some 250 participants, although many more came to the performance events—and unlike AES, where there are many simultaneous events from which to choose, there was essentially only one "track" at NIME. But there was still too much going on for one person to take in.

Almost all of the presenters were from academia, and one thing most academic institutions have in common is that they don't have a lot of money, so most of the presentations involved inexpensive technology. But there's a lot more interesting stuff in that category than there used to be: the price of things like accelerometers (which detect not only motion, but also tilt as they can respond to the earth's gravity), video cameras,

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wireless transceivers, haptic devices that provide touch- and force-feedback to the user—even eyeball-tracking systems have come down dramatically in price in just the past few years.

A team from McGill University in Montreal showed the T-Stick, an instrument based on capacitive touch and charge-transfer proximity sensors, along with accelerometers and a piezo contact mic, all built into a 4-foot plastic pipe. The user can play this instrument by fingering, rubbing, twisting, jarring, shaking and swinging it. T-Stick can distinguish between the touch of a single finger and a whole hand, and every different gesture can be used for a different sound or musical parameter. All fun, all new, but it brings up a common problem that the group is continually addressing: When someone puts in the time and effort to learn how to play a new instrument, the skills he or she picks up aren't necessarily going to be of any use with the next new instrument. So the McGill team plans to build a "family" of T-Sticks of different sizes to be played, like the instruments in a conventional string orchestra, using similar techniques but in different positions relative to the body.

Another multimode instrument is the PHYSMISM from Aalborg University in Copenhagen, Denmark. The device, which looks like it would have made a great remote control for R2-D2, is designed to take advantage of physical modeling, a terrific synthesis technology that has never caught on the way many people (including me) think it should have, in part because no one has been able to come up with a physical interface that can take advantage of everything it has to offer. By combining a number of sensor technologies in one package, the PHYSMISM goes a long way toward that goal. Along with four knobs for choosing and setting system parameters, the device has a breath sensor that uses a dynamo (a small magnet-based electrical generator, typically used to power the lights on a bicycle) attached to a fan blade at the end of a tube; a rubbing sensor that combines two slide potentiometers; and a pressure sensor, two force-sensitive drum pads and a crank, also attached to a dynamo. Each of the input devices corresponds to a particular aspect of the physical model being played, and they do so in a clever and surprisingly intuitive fashion, so that with just a little practice, virtually anyone can come up with a useful range of sounds.

Graphics tablets are occasionally found in sound designers' tool boxes, but they are rarely used for real-time musical applications. Researchers at the Faculté Polytechnique of Mons, Belgium, have a solution for this in the HandSketch Bi-Manual Controller: Add fingertip-sized touch sensors for the nondominant hand and mount the whole thing vertically so you can play it like a washboard or perhaps an accordion. The graphics tablet is mapped in an arc so that it follows the natural motion of the forearm as it pivots at the elbow. Large movements change the pitch, small movements control vibrato, and lifting the pen stops the sound. So what does it do? It sings. The developers have perfected an excellent human voice model for which the instrument is eminently well suited. The touch sensors under the fingers alter the pitch in discrete steps, like frets on a guitar, while the thumb is used to control timbre, scale and various aspects of articulation. I got a chance to play the thing in one of the demo sessions and found it really easy to make lovely sounds.

Electronic percussion instruments since the era of Simmons drums have been pretty limited affairs: You hit something and it makes a noise, which, at best, varies depending on how hard you hit it. Some devices add position sensing, but none of them can come close to providing the expressiveness of even a single

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real drum played by a real drummer. But what if you could devise a controller that would know not only how hard and where you hit it, but what you hit it with, what angle the stick was at and when you damped it? Building a system out of standard electronic sensors to handle all that would be pretty hard, so MIT Media Lab researcher Roberto Aimi decided that he'd use a simple source of data that's already information-rich: an audio signal. His paper described using small, inexpensive, damped percussion instruments to excite convolution filters of much more complex percussion instruments.

For example, a cheap cymbal equipped with a piece of piezoelectric plastic, a layer of foam to partially dampen the sound and a force-sensing resistor to sense when it's being choked can sound like a 5-foot gong when its signal is run through a convolution filter derived from a real gong. The filter will respond differently, depending on whether the cymbal is hit with a hard mallet, soft mallet, wire brush or a hand, and whether it's struck on the edge, the midpoint or on the bell. Any input device can trigger any convolution filter, and all of the parameters in the filter—pitch, envelope, EQ, reverb, etc.—are adjustable, so

When it comes to looking at the future of real-time control over sound in the digital domain, there's no place better than the experimental musical-instrument community, which meets annually at the New Interfaces for Musical Expression conference.

the range of possible sounds is enormous and very realistic. Aimi demonstrated a variety of drums and pads, and even showed how he equipped a pair of brushes with sensors and wireless transmitters so that they could trigger sounds all by themselves. The models Aimi played sounded fabulous; some manufacturer would be doing itself a big favor if it were to pick up this technology.

Another MIT Media Lab project was Zstretch, which uses fabric to generate musical parameters. By stretching a rectangular chunk of cloth in different directions, you can, for example, control the balance between two loops, their speed and their pitch. Each side of the rectangle has a resistive-strain sensor sewn into it. After some experimentation, the developers found that a two-point stitch done with a sewing machine gives the greatest dynamic range. Cloth is a natural sort of interface because we're so used to manipulating it, and Zstretch can be grasped, scrunched, twisted, tugged, yanked, etc., and can give interesting musical results in several dimensions at once while providing touch-based feedback that feels familiar. The biggest problem was that over time, the fabric would stretch out to the point where the sensors provided much less data. And I imagine putting it in the

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laundry wouldn't be a particularly smart thing to do.

At the 2005 NIME, Tina "Bean" Blaine gave a talk encouraging musical interface designers to look at the videogame industry as possible customers for their ideas. But on the last day of this year's conference, in front of a small gathering at Columbia, two Berklee College of Music undergrads, Matt Nolan and Andrew Beck, demonstrated the opposite: how to use Nintendo's inexpensive but sophisticated Wii Remote (Wiimote) and Nunchuck controller to make music.

The Wii system's remotes, as anyone who hasn't been living in a cave for the past year or so knows, use nonproprietary Bluetooth technology and can interface with any computer that supports the standard. Used together, the two devices provide 14 buttons, a joystick, two three-axis accelerometers, an infrared sensor, four LEDs, a Rumble motor to provide vibration feedback and even a speaker—all for about $60. Nolan and Beck's contributions are conceptually straightforward, but absolutely essential: They have written drivers that interface the controllers with Cycling '74's Max/MSP audio processing and Jitter image-processing software, as well as the music programming language Csound. As Nolan puts it, "One person might use it to control their set in Ableton Live and another might use it to mix a video projection from a number of live camera feeds. The only limitations for using the Wiimote as a controller are your creativity, programming experience and the number of hours in a day. The experience from a relatively inexpensive device is in real time, and most of all, it is fun."

Not everything at NIME was on the cheap, however. In the "We could do this if we had a contract with the Office of Naval Research, too" category, Anthony Hornof of the University of Oregon performed a simple but highly engaging piece called "EyeMusic v1.0" at the first evening's concert. Hornof stood on the stage with a commercial eye-tracking system called EyeGaze (about $15k), which was hooked up to a computer running Jitter and Max/MSP. Projected on a screen was the image of his moving eyeball, along with various geometric objects. As he "looked" at the different objects, musical notes and patterns started, stopped and were modified. Every time he blinked, there was a loud crash, and the visuals and sounds changed. The process was wide open for everyone to see, but the music still managed to be surprising and, yes, fun.

Similar systems that cost far less than the EyeGaze are out there, and we'll no doubt see them used by musicians and video artists before long—in fact, a team from the University of Wollongong, Australia, showed a homebrew eye-tracking system made from a stock miniature FireWire camera and an infrared LED and mirror. From there, it's only a short step to the 3-D virtual mixing console that would make us all drool.

Next year's NIME will be hosted by the Infomus Lab at the University of Genova, Italy. I probably won't be able to attend, but maybe you can, or maybe you're willing to wait until the year after when it's likely to come back to North America. But if you've got a hankering to see what the next generation of sound-creation and -manipulation tools will look and sound like, I urge you to check out this remarkable gathering. ■

Paul Lehrman is coordinator of music technology at Tufts University. Go forward into the past with him in The Insider Audio Bathroom Reader *(Thomson Course Publishing) available at www.mixbooks.com.*

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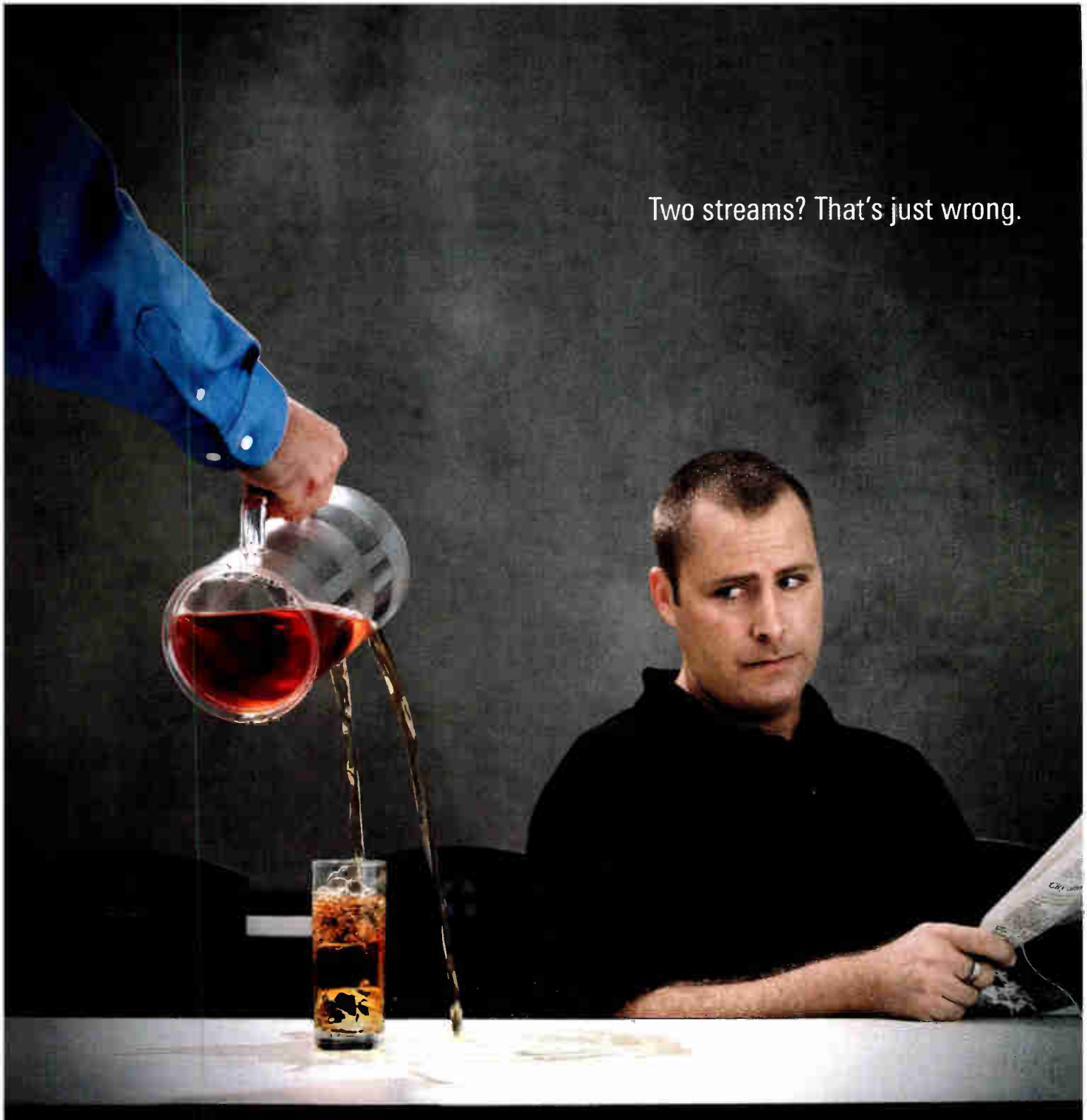

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Mix 30th Anniversary Special

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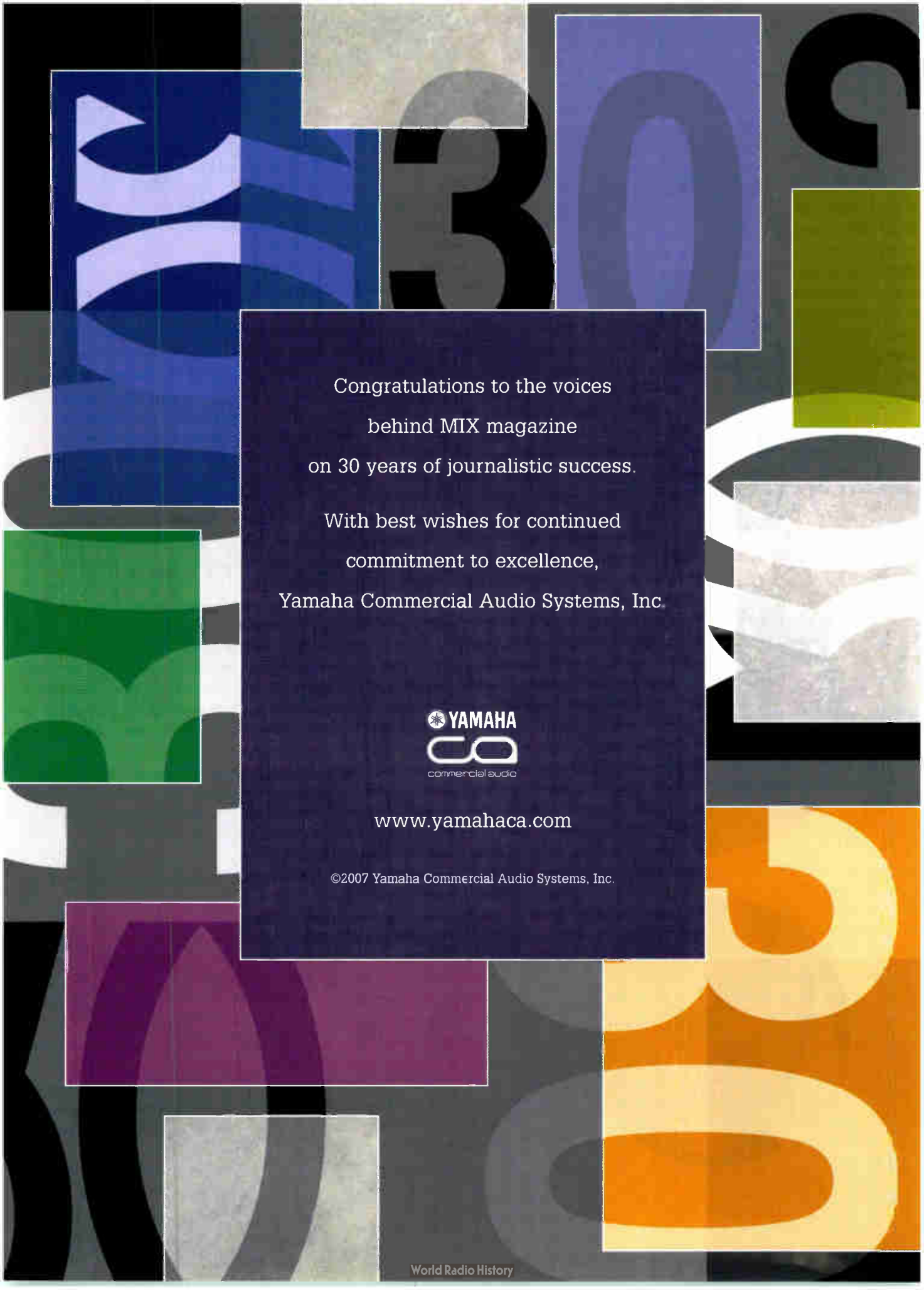


Time Keeps on Slippin', Slippin', Slippin'...

Pass the bubbly, it's our birthday! Which sounds older—30 years or three decades? Either way, it's an impressive number, and we're proud to have served the pro audio community for all these years, from the age of disco and punk to whatever the hell this current era will be known for years from now—hopefully not just downloading and tattoos. A surprising number of you have been fellow travelers all the way down our long road, and we clink virtual glasses with you to salute your longevity, too. I don't know if *any* of us will outlast the Rolling Stones, but dare to dream!

Now, if you've been a reader of *Mix* for a while, you know that traditionally in these quinquinnial anniversary issues, we devote thousands of words and many pages to celebrating ourselves. We drag out the old stories—like misty tales of Avalon—about the struggles of our early years: how we wrote out our early issues in long-hand one copy at a time and walked barefoot through the snow to deliver copies of the magazine to recording studios and music stores. Sorry, that was young Abe Lincoln, not *Mix* co-founder David Schwartz. No, *our* anniversary issues were filled with photos of lots of people from the mag and from the industry, many wearing mismatched outfits and sporting haircuts that were outdated even then, standing in front of pieces of equipment that have long since been relegated to landfill (unless, of course, you were smart enough to sell them off as "vintage" gear!). Every five years, the contrast between the photos of our younger selves and our current selves would become more pronounced. Let's just say that none of us has aged as well as Al Schmitt.

This is all a roundabout way of saying that for a change this anniversary issue isn't going to be about *us*. Instead, it's going to be a different sort of celebration of the past 30 years—specifically, we're all doing the "We're not worthy" bow to the people and technology that have helped define the "*Mix* Era."

At the heart of this special section is "30 People Who Shaped Sound" (page 36), which showcases some of the most creative and influential people who have shaped recording during our 30-year history. We agonized for months about this list, tossing hundreds of names back and forth until we finally settled on the august group of producers, engineers and musicians you'll find here. No doubt there will be many disagreements about whom we've included and excluded (such as important manufacturers, inventors, live sound engineers and facility designers). Feel free to register your opinions and offer your own choices by e-mailing us at mixeditorial@mixonline.com.

One name that certainly deserves to be on that list, but who instead gets the full-on "Mix Interview" treatment in this issue is legendary producer/composer/musician/jack-of-all-trades Quincy Jones, who reflects on his 60 years in music and recording. The breadth of his career is truly staggering.

On the technical side, George Petersen offers a look at "Technology Movements That Shook Pro Recording," from the introduction of near-field monitoring, to digital tape, to the rise of home studios and the proliferation of DAWs.

Drawing from the live sound world, Sarah Benzuly has assembled a colorful collection of anecdotes supplied by front-of-house and monitor engineers about some of their most memorable road experiences during the past 30 years. As you'd expect, they span a range from "Glad I was there" to "Be thankful it didn't happen to *you*!"

Our old pal Larry Blake—once our regular "Sound for Picture" columnist and still a top working film sound professional—weighs in with his picks for 10 of the coolest and/or most significant film sound design moments since *Mix* was founded in 1977. Some of his choices are sure to surprise you. What, nothing from *Wedding Crashers*? Larry is such an elitist!

The year 1977 is a springboard for several articles in this issue. As a tie-in with this month's AES show in Manhattan, we take a look back at New York's music and recording scene in 1977—when both the Village People and The Ramones cut great albums just blocks apart! And our regular "Coast to Coast" columnists—Bud Scoppa in L.A., David Weiss in New York City and Rick Clark in Nashville—get in their time machines and go back to that year as well for a glimpse of—(cue strings) "the way we werrrrrrre."

So enjoy the party! Tom Kenny is the designated driver. Only 1,825 days until our big 35th-anniversary issue!

Cheers,

Blair Jackson
Senile, er, Senior Editor

30 YEARS OF MIX

30 People

WHO SHAPED SOUND

Murray Allen

Big Band to Game Audio, The Consummate Pro

Murray Allen was a musician first. A child prodigy. Played all the reeds in a bunch of Big Bands. He could arrange. Did as many as 25 sessions a week, back when sessions had four or five saxes!

But among Murray's many gifts was his ability to see over the horizon. He saw the guitar blowing the Big Bands away, and set about to marry his two passions: music and physics. Before you knew it, he was mixing. And building rooms. And designing gear. And along with a few pioneers, pretty much inventing the independent recording studio business. He introduced digital audio and EdNet and surround to Chicago and beyond; and helped build SPARS.

From my first day on the Grammy telecast set, he shared and collaborated, and was a genuine mentor and friend to me. And to many, many others in our world.

I spoke to Murray a number of times during his last month. And let me tell you, he was pissed. He had work to do! *—Hank Neuberger, owner, Springboard Productions*

Phil Ramone

Production Mentor

Phil Ramone has always been known for his great production and engineering ability. He's also famous for designing one of the best studios in New York, and possibly the world, A&R Recording studios. He's been a teacher and a mentor to countless young engineers, including myself. Phil has always been on the cutting edge with new technology; always the first to give something new a chance. Countless manufacturers came to Phil to beta test their products. I can still remember Ray Dolby bringing in his original 301 noise-reduction unit for Phil to try. He was the first to try satellite technology to link studios around the world and record master vocals.

With at least 50 million records sold as a producer, he proved that engineers could be more than geeks. In the '60s, he wore apple seeds around his neck and owned a pretty good baseball team. To this day, he is still my mentor and teacher. *—Elliot Scheiner, producer/engineer*

ILLUSTRATION ROB KELLY

30

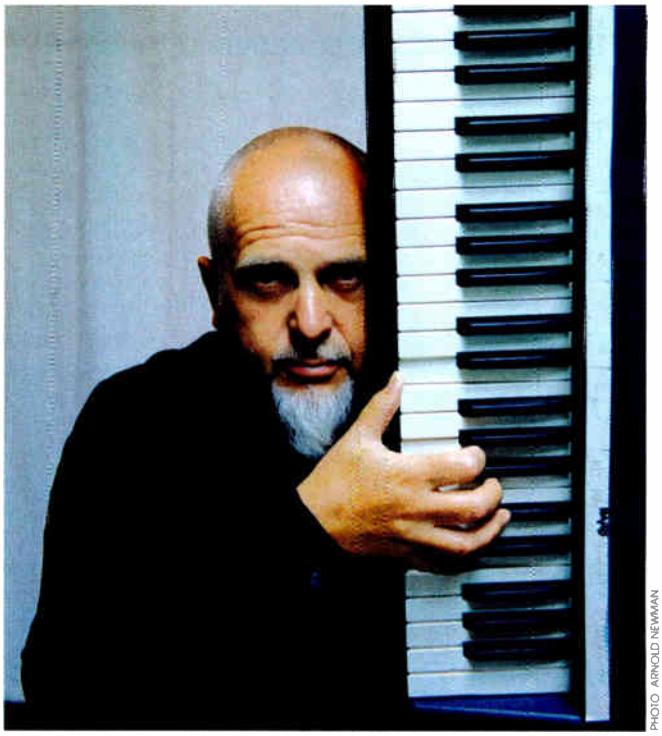


PHOTO: ARNOLD NEWMAN

Bob Ludwig

Mastering Master

Early one morning in 1982, I walked into Bob Ludwig's room at Masterdisk to master an album I had produced by an Australian band called The Church. When I arrived, Bob was just running off a ref for a project he had worked on the day before, and suggested that I relax on his couch (between the mastering desk and his large Altec monitors) and have a listen. As I had just finished mixing The Church's nice, melodic, strummy album at 4 a.m., I had gotten very little sleep so I figured, great, I'll just catch a few more winks before we start.

Next thing I knew, I was practically blasted right off the couch by the cannons of AC/DC's "For Those About to Rock." At this point, besides being fully awake, I was wondering how he was going to transition his brain (and mine) from an assault like that to The Church, but needless to say, as always, he did an absolutely flawless job on two records that couldn't have been more different!

—Bob Clearmountain, mixer extraordinaire

Peter Gabriel

Innovator, Curator, Human Advocate

Peter's infectious enthusiasm for making music is nourished by his great imagination, endless experimentation and his involvement with many different types of music. Through his deep engagement with the technologies of making and distributing music, he has contributed many valuable insights to equipment designers over the years, as well as investing directly in enterprises such as Syco Systems, OD2, SSL, Exabre and We7.

His vision of what a recording environment could be was realized at Real World Studios. Artists who have been lucky enough to record there have enjoyed the innovative approach to acoustics and air conditioning, the massive Big Room, the intimate Work Room, Peter's leafy Writing Room and the uniquely supportive atmosphere.

His influence extends beyond the music industry, and his involvement with WITNESS (he was co-founder) and more recently THE ELDERS are two of the more high-profile examples of his extraordinary contribution.

—Antony David, managing director, Solid State Logic

George Massenburg Audio Renaissance Man

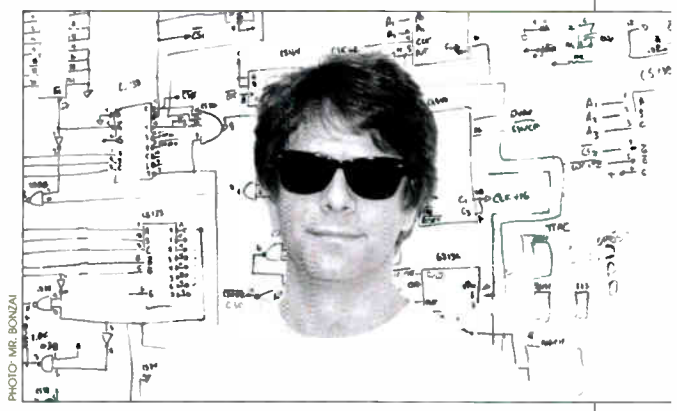


PHOTO: MR. BONZAI

There have been so many articles written about George, most of them about his achievements in the engineering world. But I want you to attach a person to that EQ: George makes a great cup of tea. He really loves the crossword puzzle in *The New York Times*. He can use the Heisenberg uncertainty principle to justify a panning decision. I have never seen him speed, though he doesn't seem like the kind of guy who wouldn't. He understands more about teaching someone to teach themselves than anyone I have ever met. He is a wicked ping-pong player. He is one of the most thoughtful and caring parents in the world and there is nothing he would not do for his son. He really should have patented his parametric EQ and moving fader designs. If he was single again, he would be an awesome roommate; he never leaves dishes in the sink and always cleans up the bathroom after himself. He's a real class act there.

And while he is one of the most profoundly loyal friends you could ever have, never—ever—let him order wine for you in Berlin.

—Nathaniel Kunkel, engineer

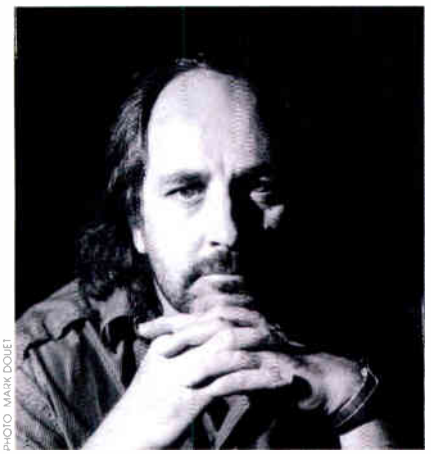


PHOTO: MARK DOUET

Chris Thomas

British Titan of Record Production

Without a doubt, if George Martin was the fifth Beatle, then Chris Thomas was the fifth Pretender. He was hands-on in all aspects of the recording, whereas a lot of producers produce from their phone in the car. He was there for every moment of whatever was going on, directing either me or the musicians.

When it came to her vocals [on *Learning to Crawl*], Chrissie was great so long as nobody else was in the room. The band, everybody, was kicked out... Only Chris Thomas and myself were in the control room while Chrissie sang, and he'd have to coax a performance out of her. Chris was all about that. On a vocal day we might sit around for hours and drink tea and have lunch and chat about everything other than what we were about to do, and then at a certain point—which was part of Chris' gift as a producer—he would say, "Okay, how about now?"

—Steve Churchyard, engineer (from Sound On Sound, *9/05)*

Al Schmitt

An Icon Who's Always a Class Act

ILLUSTRATION: BOB KELLY

Sixteen Grammy® Awards, (nine for Best Engineered Album, Non-Classical), two Latin Grammys, three TEC Awards and induction into the TEC Hall of Fame, and those are just the numbers.

Al is an audio industry national treasure who's hard-earned all of his accolades. The man is always working, but he also always makes time to give back to his friends and to the industry. Of course, it helps that he's so darn efficient and a man of his word. If Al says he'll be there, he will. Al loves art, food, Italian leather loafers and a good joke. Here's what other engineers have said about him: "Naturally musical with amazing ears," "Intuitive—and he gets the big picture," "Always goes the extra mile," "The consummate live engineer—nobody can touch him!" "Al is a class act," "Simply the best—and he doesn't take crap from anybody!"

—Maureen Droney, president, Recording Academy P&E Wing

Jimmy Jam and Terry Lewis R&B's Dynamic Duo: Friends First

Terry on Jimmy: I have so much respect for Jimmy as a person first, a musician second. This respect allows me to give him his freedom to do what he feels is best for his life, and in turn I get that same respect. And I think the freedom is what keeps us in a great partnership. In any partnership—a business partnership or a relationship or just a friend—it's never 50-50. It's whatever it needs to be, and we've always had the ability to adjust ourselves. We were always able to do what we felt was best—I can't say right or wrong, because right or wrong are fleeting; that's a moving target. *—Terry Lewis*

Jimmy on Terry: Terry is the most unselfish person I know. For 35 years, he's been like the big brother I never had. He is a motivator. He doesn't take "no" for an answer. He has a really good business mind. A lot of times, I'll work on a project by myself, he'll work on a project by himself, but it's always about getting each other's stamp of approval or adding that last little thing. I always tell people it's like somebody built an ice cream sundae, but you need that cherry on top. It's not about my way or your way; it's the best way. *—Jimmy Jam*

Ben Burtt

The Legacy of *Star Wars*, The Birth of Modern Film Sound

In 1980, while at USC film school, I tried to be Ben Burtt. I was creating sounds for a student film about a TV game show and didn't want to use a synthesizer because I heard how for *Star Wars* Ben Burtt made those cool sound effects from real sounds. And I wanted to be cool. But I couldn't for the life of me figure out how he did it, and in the end resorted to a synthesizer. Soon after, my sound career began when Lucasfilm called USC asking for "another Ben Burtt." Luckily, they didn't know how badly I had already failed at that. Years later, for *Star Wars: Episode I*, I was amazed when Ben made a video screen sound effect in the style of *Flash Gordon* by recording my wife playing her flute. Ben combines an aficionado's knowledge of film history with a knack for twisting real sounds into fantastic ones. After 25 years of working with him, I've learned that there never will be another Ben Burtt.

—Gary Rydstrom, Oscar-winning sound designer, Pixar director

Roger Nichols

Stretching the Limits of Music and Technology

Once upon a time, Roger Nichols turned his back on a lucrative career as a nuclear engineer, turning audio knobs instead, and the world's been a better-sounding place ever since. From his decades of work with Steely Dan, John Denver and other artists, Roger proved his production prowess while stretching the limits of technology. When the available gear couldn't do the job, he'd invent solutions, such as the 1978 Wendel sampling drum computer or the Rane PaqRat, which transformed a lowly ADAT or DA-88 recorder into a 24-bit mastering deck.

Over the years, tracks Roger engineered (such as Donald Fagen's *The Nightfly*) became established as standards for speaker demos in audio showrooms and AES booths—in either case, some pretty tough customers. These days, Roger leads a far more restful existence—running a mastering studio, serving on the board for the Florida chapter of NARAS and developing plug-ins for his Roger Nichols Digital company. Doesn't this guy ever sleep? *—George Petersen, Mix executive editor*

Hans Zimmer As Inspiring as He Is Prolific

With a staggering body of work, including memorable scores for such films as *Rain Man*, *The Lion King* and *Gladiator*, Hans Zimmer is one of the most brilliant and prolific composers of our time, earning a best music Oscar and two Grammys. In addition to these top accolades, he is a world-class audio technologist and visionary trend-setter. As a fledgling assistant music editor at Media Ventures in the mid-'90s, I watched Hans in amazement and I developed an appreciation for how he ushered in the use of custom orchestral samples, which at the time required dizzying arrays of hardware samplers. Then with the advent of software samplers and high-quality sample libraries, Hans legitimized the use of this technology, resulting in the democratization of music composition for many aspiring musicians and composers around the world. Lastly, he is a thoughtful, generous and caring mentor who has nurtured the careers of many composers through the spirit of collaboration—all of this makes him a modern legacy and an inspiration to us all.

—Michel Henein, audio technology guru

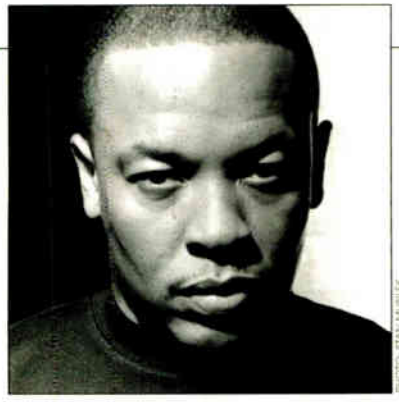


PHOTO: STAN MUSILEK

Dr. Dre Hip Hop Vigilante

The hardcore messages from the streets didn't sit well with the likes of Tipper Gore, but whether fretting mothers liked it or not, Dr. Dre changed the entire hip hop landscape. While his voice was distinctive, it was Dre's production skills and catchy tracks that hooked a legion of fans and sparked thousands of young-gun producers to follow. Creating the blueprint for gangsta rap beginning with N.W.A., Dre continued his production legacy under the umbrellas of his Death Row and Aftermath labels, and the signature G-funk style and rolling synth melodies of *The Chronic* and Snoop Dogg's *Doggystyle* cemented his rule as the king of hip hop. Even after Dre had hit icon status, he took it a step further, finding unknown talent and launching the careers of Eminem, 50 Cent and The Game into the stratosphere, as well as keeping Jay-Z, Busta Rhymes, Gwen Stefani and Eve riding high. Dre keeps up a steady burn of studio work, never giving up his loyalty to the hip hop game. —*Kylee Swenson, editor,* Remix

Jimmy Bowen Nashville Powerhouse

To me, the records Bowen cut with Hank Jr. are as timeless as Patsy Cline and Brenda Lee. Those are the records that made Hank Jr. the superstar he became. Hank was around for years cutting records, and no one took him seriously, but Bowen cut these records that sonically were amazing. He pulled songs out of Hank Jr. that no one would have believed he could write. Those records changed a lot of people's lives with the way he approached cutting them. Bowen had blind faith. He just refused to play it safe, and those records were amazing.

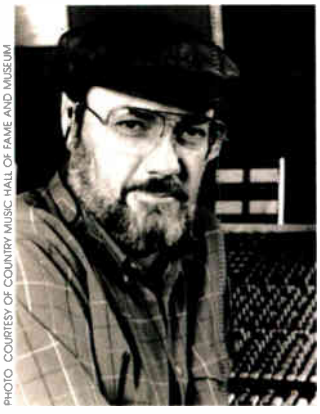


PHOTO COURTESY OF COUNTRY MUSIC HALL OF FAME AND MUSEUM

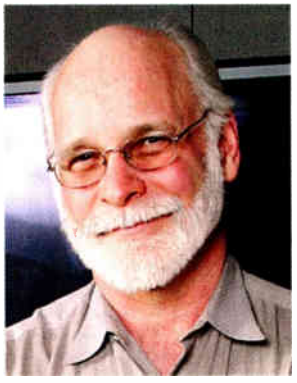
He challenged me to do that kind of thing with Steve Earle. He said, "You cut me one thing where I can understand him and make me like him, and we'll consider it." And I did, and he said, "T, that's what I'm talking about right there!" I don't think any other label head in town would have been as supportive as Bowen. —*Tony Brown, producer/music executive*

David Hewitt

The Dean of Remote Recording Engineers

My father has the greatest work ethic of anyone I know. In the field, his job is to capture whatever occurs onstage to tape, and there are no excuses allowed, no room for ego and no time for flailing about. He shows up, gets the job done and goes home, often after an 18-hour day. My father takes great pride in what he does, and rightly so because there are few engineers out there who can handle the pressure of a live recording gig with such aplomb.

I started working for my dad when I was 13, polishing the wheels on the truck and taking out the garbage. Gradually, as I displayed a sense of responsibility, he taught me how to solder, understand signal flow, get a mix together. When I went off to work in non-wheeled studios, I got to return the favor a bit by teaching him the inner workings of Flying Faders and the latest studio trickery. We are better friends now than we have ever been, and I could not have asked for a better teacher or mentor.

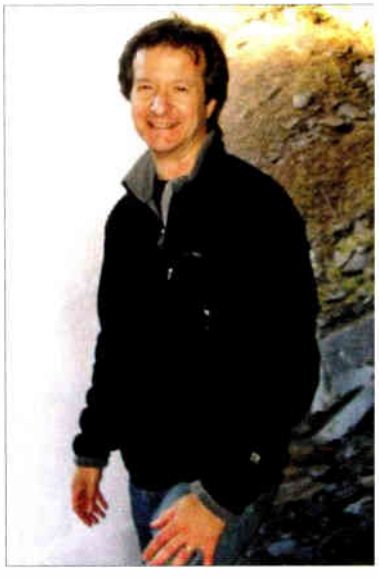


—*Ryan Hewitt, engineer/mixer*

Bob Clearmountain

The Gold-Standard Mixer

The first project I mastered for Bob was a 12-inch dance mix of the Stones' "Miss You." I was at Masterdisk, and Bob's reputation as a young hotshot mixer preceded him. I put up his mix and—holy cow!—I'd never heard anything like this before. In my opinion, Bob created a whole new way of mixing, and there was a period of time in the late '70s, early '80s where every engineer tried to match his style. Bob was chief engineer at Power Station when they opened, and they only had Altec 604E monitors. Bob found these NS-10Ms, so he brought them in, thought they were a little bright and put a Kimwipe® over the tweeter and mixed hit after hit. Engineers trying to copy him also bought the Yamahas and it became a de facto standard! When I think about Bob, the word "consistency" comes to mind. Time after time, excellence! When I get a project from Bob, I know it will be a pleasure. He is amazing, and now that he has his own room at home, his mixes have taken on another level of that sharp focus. People are still trying to follow Bob. —*Bob Ludwig, mastering engineer/owner, Gateway Mastering*



David Foster

Pop Composer, Megaproducer

It was the equivalent of hitting the engineering lottery when I started working for David Foster in the mid-'80s. He had opened his first professional home studio and just earned his fourth and fifth Grammys. Working exclusively for David over the next 10 years (and freelance ever since), I discovered the amazing genius behind David's deep passion for record making, as he deservedly added another nine statues to his collection. It's very clear to me that my career was launched by walking on the shoulders of a giant.

Choices bombard each day in the life of making music, and David is a master at understanding the power to create without getting bogged down, second-guessing his instincts. He listens with his heart and has the gift of inspiring artists to give their absolute best. David often remarked that getting a record or performance up to the 95-percent level of greatness was fairly easy, but the real magic happens in that last five percent. That's where hit records are born and recording artists rise to the level of superstar. Thanks, David, for all that you have given. It is more than anyone could have ever dreamed of.

—Dave Reitzas, mixer/engineer/producer

Bruce Swedien

A Legend Who Makes Time to Teach

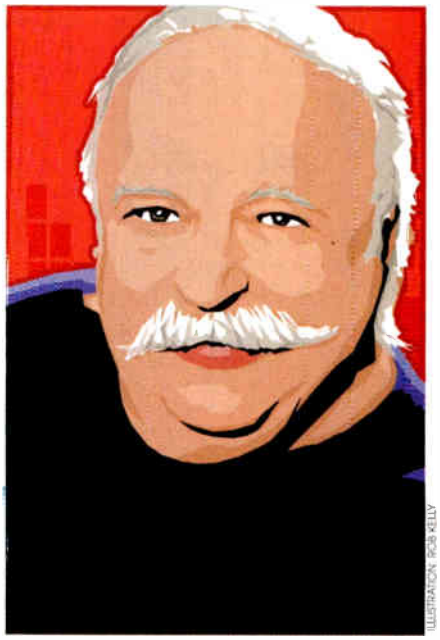


ILLUSTRATION: RICH KELLY

I took a recording class from Bruce in Chicago before there were recording schools and before I had a studio job. At some point, he moved to California to work with Quincy, and a little while later I moved to L.A. as well, and immediately got a job at Westlake Studios. Three days after I'm in California, I'm busy. And who comes in, and who do I start assisting for? Swedien and Quincy.

I ended up being Bruce's assistant for five or six years and it was wonderful. I sat behind him on Michael Jackson's *Off the Wall* album, with Lena Horne, with Rufus and Chaka Khan, with Quincy on *The Dude*—dozens of records—and Bruce was always really generous with information, always sharing about how to do something, *why* he was doing something—and not just recording, but life lessons, too.

If I have any kind of success now, it really is directly proportional to the love and attention and education I got sitting behind Bruce Swedien.

—Ed Cherney, producer/engineer

Roy Thomas Baker From Queen to Cars, No Holding Back

PHOTO: JIM STEINFELDT

Before we made our first album, Roy came and saw us in a snowstorm at a gig where there were like 12 people in the audience at this college dance, and he wasn't bothered by it at all. He was all, "Hello, my dears! How'd you like to come to England and make a record?"

Working with Roy was my first experience recording in a major studio, and I learned so much from him about layering and the big background vocal sound he's so famous for. The great thing with Roy is, he was so over the top, but he didn't so much worry about rules or restrictions. His credo was if it sounds good, it's good, and if the needle was buried but it sounded great, so be it. There's no halfway with Roy—it's either off or full-on.

But it was so much damn fun working with him. He was such a great guy and he kept it light, which was really a good thing for a young band.

—Elliot Easton, guitarist/singer, The Cars

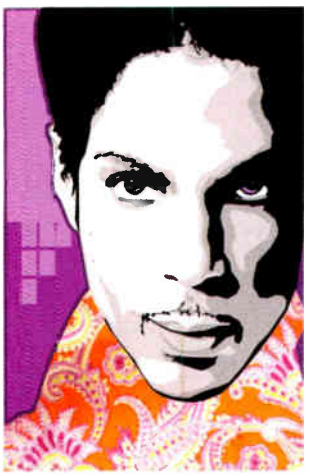


ILLUSTRATION: ROB KELLY

Prince

Musical Multitasker, Enigmatic Genius

Since exploding out of Minneapolis in the early '80s, Prince has been one of music's most fascinating artists: creatively restless, always shifting, chameleon-like between musical genres; never still long enough to be either fully understood or pigeonholed; turning up unannounced at tiny clubs and rocking the joint till sun-up; *and* slaying a Super Bowl crowd and 100 million TV viewers at once. He's always liked to do *everything* on his albums—even as he has hired great musicians and engineers to help him realize his vision. And those engineers and musicians understood that once everyone had cleared out of his Paisley Park studio for the night, the Purple One might very well go in alone and put down a new bass line, mess with the panning on that guitar part, maybe track a new backup vocal—or start from scratch because a brilliant new idea had come to this mercurial genius in the dark and quiet after midnight. As he once noted, "If you could go in the studio alone and come out with that, you'd do it every day, wouldn't you?" Amen.

—Blair Jackson,
Mix *senior editor*

Steve Lillywhite

Brings a Positive Vibe to the Room

The wonderful thing about working with Steve Lillywhite on *Naked* [1988] is that he was great at bringing an excited and positive élan to the studio. This was the last studio record we did, and there was certainly some strain in the group and we didn't want to exacerbate any of that by putting people in charge of each other, so that's why we wanted an outside producer. By this point, all of us in the band had produced our own records and other people's records, so our demands on a producer were different than they were when we began. And Steve was obviously already established.

But he had this great, positive and encouraging attitude and he really knew what was on every track, which was impressive because we made it in Paris and New York and there was a lot going on musically on that record—it was a thick mélange of instruments, with a big Latin brass band on there and these interesting rhythms, yet he kept it all together somehow.

—Jerry Harrison,
producer, musical mentor, former Talking Head

Elliot Scheiner

It's All About the Performance

Elliot, to me, is the consummate professional. He works on such a wide range of styles—look what he's done with Steely Dan, Van Morrison, Natalie Cole, The Eagles and everyone—really. Elliot likes a good, natural sound; he's an organic guy. With him, it's not about tricks ;it's straight-ahead recording and capturing the performance as it goes down. At the same time, he's obviously not just a traditional engineer who's set in his ways. He keeps up with technology. I love the way he uses the computer when he mixes, which is different than most people, but it's brilliant. He's got an incredible sense of balance and everything is always in the right place. He was one of the first guys to get into surround, and he's still one of the best at that.

He's timeless. The best thing I can say about him, aside from the fact that he's really funny, is if I was doing a date and I had one guy to pick, it would be Elliot. *—Al Schmitt, engineer/producer*

Tony Brown

MCA Hitmaker

You'd never call Tony Brown subtle, but in very few (if not always cordial) words he can tell you exactly what he wants. I've always appreciated this about Tony as it makes my job that much easier. I remember one legendary session where the musicians were congratulating each other on how great the take was when Tony got on the talkback and told them they all had their heads up their *** (or something to that meaning). He was right, of course; the original take was a wimpy, soft, jazz kind of thing, but with Tony's guidance it turned into a country hit.

Throughout Tony's career, he's been lured by pop and rock artists but he's always resisted the temptation, claiming, "I like country music." Instead, he continues to produce some of the most relevant country records. Tony rose through the ranks at MCA Nashville to label president so that he could influence his artists' destiny and benefit them most. During his tenure, MCA Universal became the biggest record company in Nashville; during that time, Tony produced records that have sold over 100 million copies and 105 Number One singles. He's perhaps the most respected and adored music personality in Nashville, and I'm glad to call him my friend. *—Chuck Ainlay, engineer/producer*

Ken Hahn and Bill Marino

The Mix is the Passion at Sync Sound

Ken and Bill. Bill and Ken. It's hard to think of one without conjuring up the other. Like an old-school comedy duo or a made-for-TV odd couple, they created something there in New York that took on its own identity. A place where quality sound for picture—whether music or performance, drama or comedy, feature or documentary, film or television—found a home. *Dance in America*, *Great Performances*, *The Metropolitan Opera* and Barbara Walters' specials; *Homicide*, *Oz* and *Real Sex*; films like *9/11*, *Shut Up & Sing* and *Monster in a Box*; cast albums for *Cabaret*, *Chicago*, *Ragtime*; all Grammy nominees; music specials for the Rolling Stones, Garth Brooks, Janet Jackson and The Eagles; and ADR/VO work for just about any actor you can name. We marvel at the range. We applaud the five Emmys and dozens of other awards. But we salute the fact that they are mixers, and after more than 23 years in business, in the dog-eat-dog world of New York City post, they are still kicking it out: This year, Emmy nominations for *30 Rock* and *The Magic Flute (Great Performances at the Met)*. Not a bad roll. *—Tom Kenny, Mix editorial director*

Michael Wagener Multi-Platinum Producer, Hair Band Enthusiast

Dokken. Motley Crue. X. Metallica. Poison. Alice Cooper. WASP. Ozzy. King's X. Just a taste of this producer powerhouse's impact on the hard-rock/metal world—no wonder his introduction to music was purchasing a guitar in 1962. From his early beginnings as an electronic engineer in Germany—designing and manufacturing studio/stage equipment—to building a 16-track studio in Hamburg in '79, it was a chance meeting with Don Dokken (who was touring in Germany) that brought this seminal producer to the States—specifically, L.A. After stints as a maintenance engineer at Larrabee Sound and doing live sound with Accept, Wagener truly burst onto the production scene with Dokken's *Breaking the Chains*, which helped firmly ensconce metal into mainstream radio play. Thousands of productions (more than 50 million copies have been sold worldwide) and a move cross-country to Nashville later, we can find Wagener sitting comfortably in his WireWorld Studio, a fully digital 5.1 surround production facility for his Double Trouble projects, which have recently included some *Greatest Hits* albums for Skid Row and Testament, as well as cultivating "young metal blood" from the likes of Karaoke and Hydrogyn. *—Sarah Benzuly, Mix managing editor*

Jack Renner

Groundbreaking Classical Engineer

PHOTO: BARBARA PEASE RENNER

Jack was one of the outstanding innovators in the classical recording industry, even before his early digital recordings and all. He has a fantastic ear, which is, of course, paramount in this business, balancing-wise; and from the very get-go, he analyzed the Music Hall in Cincinnati and how he would mike the orchestra and make it sound its best. He essentially used a pair of mics exactly over my head and then a couple on either side, trying to achieve for the listener what the orchestra sounds like to the conductor because I'm working for an absolute balance. And once he set the dials—the highs and lows—he never really touched them again; all the balancing had to be done by the conductor, and that's how it's supposed to be.

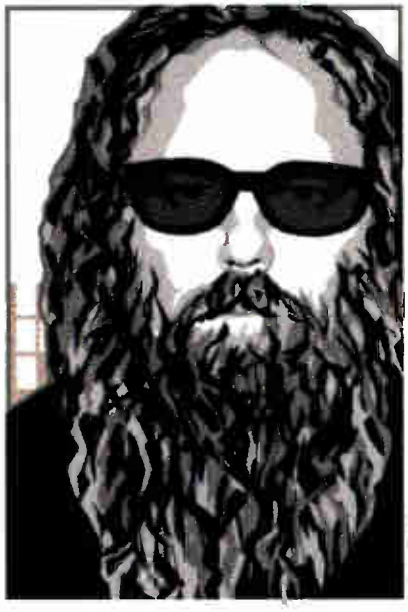
Our first recording was our landmark "1812 Overture," which has sold over 800,000 copies. In all the years I've known him, I've never seen him lose his temper; he's very easy-going. If there's pressure, you don't see it on Jack Renner.

—Erich Kunzel, conductor, Cincinnati Pops Orchestra

Rick Rubin

From Rock to Rap, Everything He Touches Turns Cutting Edge

Music is Rick Rubin's overriding passion, the filter he sees the world through, resulting in landmark albums with Run-DMC, the Beastie Boys, the Red Hot Chili Peppers and more. His shotgun marriage of rock and rap—Aerosmith and Run-DMC's smash collaboration on "Walk This Way"—revitalized Aerosmith's stalled career and started a revolution in rock itself. His continued involvement with Tom Petty and Johnny Cash helped keep those artists vital and current. He thinks nothing of working with Slayer and Danzig on one hand and Donovan, Lucinda Williams or the Dixie Chicks on the other. And after all this success, Rubin still does hang in ratty rehearsal halls, not letting his bands near a proper studio until the songs are great. He's an enigma, a cipher, but his love of music is as clear as day.



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—Maureen Droney, president, Recording Academy P&E Wing

Skip Lievsay Bringing a Musician's Ear to Film Sound

In 1982, I was at Reeves Sound Shop on East 44th Street in New York City working on Access, the first digital editing system for feature films. We needed an editor to cut dialog on 35mm mag. This guy walks in wearing dirty white bucks, jeans and an Elvis Costello T-shirt. He was completely uninterested in the million-dollar editing system; his eye went straight to my Oberheim OB-8 sitting on a coffee table. He said his name was Skip Lievsay and he was a bass player. We hit it off right away.

Skip went on to work with Marty Scorsese on *After Hours*; then came *The Color of Money*. With each new film, Skip broke with convention: stereo Foley on *Last Temptation of Christ*. Editing on a music system (Synclavier). He continued to question how things were done and convince people that his way was better. This would be meaningless if it weren't for the great-sounding films he had supervised and mixed.

The strongest influence Skip has had on me isn't how to marry a dog bark with a chin sock, but how to fish with a fly. Though we have spent countless hours creating together, we haven't spent enough time on the flats trying to catch bonefish.

—Eugene Gearty, film sound editor

Mutt Lange

Rock Sensibility To Country Acts

No list of country or rock music's most influential producers would be complete without Robert John "Mutt" Lange. His 1980 production of AC/DC's landmark *Back In Black* was arguably one of the greatest (and finest-sounding) hard rock albums ever released. From there, Lange generated an unstoppable series of mega-Platinum AOR rock album staples with AC/DC, Def Leppard, The Cars, Foreigner and more. When Lange arrived in Nashville to produce a little-known female artist, Shania Twain, the Music Row buzz was generally skeptical that he could deliver an album on a Nashville-biz schedule and with a Nashville-biz budget that would fly on country radio. But Lange gave Twain (who is also his wife) a load of hits that drew much from the song forms that had turned Def Leppard into AOR standards. Before you could say "arena rock," Nashville was cranking out records that paid tribute to Lange's production vision. To date, 111 million albums have been sold sporting Lange's production credit. And his meticulousness to achieving hard-hitting sonic perfection is the stuff of industry legend. Not bad for a guy named Mutt.

—Rick Clark, Mix Nashville editor

Brian Eno

Composer, Producer, Sonic Manipulator

PHOTO: PETER ANDERSON

Brian really opened my eyes and showed me how you could manipulate sound. In those days [early '80s], engineers were very conventional in their approach to sessions. You recorded everything as dry and flat as you could and then got everything right in the mix. But Brian had little respect for that theory, and everything he did went to tape already very manipulated and treated, and I thought that was a really interesting approach to things. So we had this way of using a 36-channel console, where from channel 24 to 36 would be effects returns, and they'd be bused not into stereo, but into two channels all the time so at any given moment I could print effects very quickly. At the time, it seemed like a very extreme idea because back then people only really monitored effects. So if something sounded good with an effect, within two seconds I could get it down on tape.

—Daniel Lanois, producer, musician (in Mix, February 1990)

Hugh Padgham

The Man Behind "That Drum Sound"

I had been working at Townhouse in London as the newest assistant. In other words, I was making tea! Apparently, I was very hyper and had lots of questions about "the art of recording." I had been put on a few sessions but was told to stay very quiet and never got any of my questions answered. Then out of the blue I got put on a session with Steve Lillywhite and Hugh, who were making an LP with one of my favorite bands, XTC. The assistant had gone ill, and I was the replacement. I couldn't believe my luck!

Not only was Hugh an amazing engineer, but he also took time after the session to answer *all* of my questions: mic positions, how gear worked, etc. He then asked me to be the assistant on his first proper gig as a producer, on what became Phil Collins' *Face Value*. I'll never forget sitting at the back of the room in Studio 2. Hugh had just gotten Phil a huge drum sound for a little song called "In the Air Tonight" and he signaled for me to push Record. We waited patiently as the song rolled on. About two minutes in, not a note had been played, and we both were thinking, *when* is Phil going to play something? Then suddenly, du-dum, du-dum, du-dum, du-dum dum DUMM! I almost fell off my chair! Need I say more?

—Nick Launay, engineer/producer ■

10 Technology Movements

That Shook Pro Recording

1977-2007

30TH ANNIVERSARY ISSUE

By George Petersen

Audio pros have never been afraid to embrace the future, and the past three decades marked an era of enormous technological upheaval. 1977 was a significant year in terms of audio technology, and that revolution continues to this day.

With that in mind, we revisited 10 major movements that shaped pro recording since '77. These are listed in no particular order because selecting one as more important than another would be just plain silly, and listing them in an exact chronological sense is impossible. Also note that, like any great piece of gear, our story actually goes up to 11.

NEAR-FIELD MONITORS

Smallish reference speakers (such as Auratones) did exist before 1977, but that year Ed Long introduced the MDM-4 Near-Field Monitor™ with its then-revolutionary concept of near-field speakers. No one could have predicted the impact his Near-Field Monitor would have on studios for decades to come. A year later, Yamaha debuted the NS-10. Although a failure with consumers, it eventually found favor among studio users as a reference comparable to small home hi-fis and car stereos. Later products, such as the Meyer HD-1 and Genelec 1031, showed that the near-field approach had gained enough acceptance to be used in serious audio tools.

Yamaha NS-10s were the perfect "real-world" reference for many pro mixers.

THE BIG BOARDS

At AES Paris in 1977, SSL introduced its 4000A Series console with onboard "Studio Computer," and the race was on, with automation—mostly VCA-based, but also moving fader systems—eventually becoming a common sight on the studio landscape. The first large-scale digital console—the Neve DSP—appeared in 1982, and a decade later Capricorn, Neve's commercial digital console, arrived. Yet analog showed no signs of letting go, whether it was the 1984 TAC Scorpion, Neve's 1986 mega-hit V Series or Harrison's Series 10/12, with digital-controlled automation of all functions. Digitally controlled analog also found lasting success in the 1988 debut of the Euphonix Crescendo.

Everything changed in 1995, with Yamaha's compact 02R digital 8-bus (D8B), offering 40 inputs on remix, with moving faders, instantaneous reset, dynamics on every channel and onboard effects—all for $10,000. Meanwhile, the onscreen power of DAWs and the popularity of mixing "in the box" drove the need for combination console/workstation controllers, from smaller Yamaha boards to SSL's large-format Duality. The market wasn't unnoticed by Digidesign, which began a long-term controller development project in the late 1990s, leading to its ProControl, Control|24 and eventually ICON products. Today, the market is wide open, with consoles small and large—analog, digital, DAW controllers and hybrids.

DIGITAL TAPE

In 1977, analog multitracks were well-established, with 2-inch decks from Ampex, MCI, Otari, Scully, Stephens, Studer and 3M, and smaller-format machines from Fostex, Tascam, Otari and Dokorder. A year later, 3M showed its $115,000 digital machine, which recorded 32 tracks (16-bit/50kHz) on 1-inch tape at 45 ips. Mitsubishi countered with its own 32-track PD (ProDigi) format shared by Otari. And with Sony's DASH (Digital Audio Stationary Head) ½-inch, 24-track standard, the format wars were off and running. DASH emerged as the winner, helped mainly by the development of the $240,000-plus dual-density DASH decks that recorded 48 tracks on that same ½-inch tape and could play sessions from their digital 24-track cousins.

Neither PD nor DASH 2-tracks gained much ground, with most studios mixing to analog 2-track. What did catch the attention of pros was the consumer DAT digital tape format in 1987. It was fairly inexpensive, but became embroiled in years of RIAA attempts to legislate copy-code circuits to prevent home CD taping. Years later, consumer DAT decks (equipped with Serial Copy-Management System) arrived, but by then DAT had failed as a home format, with the net effect of SCMS making it difficult for bands using home digital equipment to create backups of their own works.

Today, 2-inch analog is used less as a recording medium, but has enjoyed a resurgence as an effects device for recording rhythm tracks and transferring to a workstation for overdubs, editing and mixing.

Frank Zappa with his PCM-3324 in his Utility Muffin Research Kitchen studio, flanked by Sony's Toshi Doi (left) and Curtis Chan (right). Zappa was an early adopter of digital recording.

THE CD COMETH

The 1982 advent of the CD brought consumers a convenient, novel and decent-quality medium, but also ushered profound changes into pro audio. This new format required entirely different production, mastering and replication methods. Suddenly, premastering/tape editing services sprung up as a new industry, while phrases like "PQ coding" and "1610

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"A-T has raised the bar once again, this time with the new M-50 headphones, and this time they've raised it quite a bit. Already these phones are by far the favorite in our studio."

George Massenburg
Grammy®-winning engineer & producer

"...it's the most exciting thing to come along in years. These are fantastic-sounding headphones, period. There just isn't anything better you can do for your artist than to give them a pair of these."

Frank Filipetti
Grammy®-winning mixer and producer

"I tried these phones on a few major artists and they all said, 'WOW these are great.' We use these phones on all our vocalists."

Al Schmitt
Grammy®-winning recording engineer and producer

"Since I got my ATH-M50 headphones, I have actually enjoyed mixing and referencing with headphones. My M50 headphones are now an integral part of my process...they absolutely translate with my speakers, but most importantly, they translate to the outside world."

Ed Cherney
Grammy® and TEC award-winning producer/engineer

"The M50's seem to be winning hands-down. Everyone that's heard them won't give them back."

Tom Schlum
Chief Engineer / Capitol Studios

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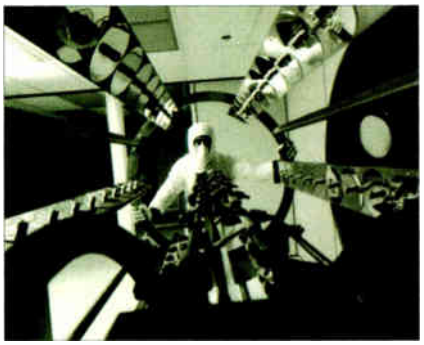
master" became part of the lingo. And the price of a CD plant in the early 1980s was simply astronomical—unlike vinyl pressing, the cost of a replication facility was beyond the means of the average business.

CD mastering bore little resemblance to vinyl mastering, with its nuances of groove pitch and depth, and working with RIAA EQ curves. In the studio, the CD opened up new possibilities. With no side A/B hassles, tracks could be recorded of any length—even extending the LP's usual 40-minute limit. And mixing for CD was an anything-goes affair: Bass-heavy signals could be panned anywhere in the soundstage, something that would never occur on



Early CDs' labor-intensive manufacturing made replication plants expensive and scarce.

a vinyl release. Yet years later, the convention for center-panning bass guitar and kick drum remains. Old habits die hard.

MIDI

Musical Instrument Digital Interface, or MIDI, wasn't the first sequencing platform for electronic musical instruments. But as a non-manufacturer-specific standard, it's remarkable that it still exists and thrives today—some 24 years after its birth. MIDI's origins stem from Sequential Circuits' founder Dave Smith, who presented a 1981 AES paper for a Universal Synthesizer Interface based on his meetings with Tom Oberheim and Roland's Ikutaro Kakehashi.

In a rare example of cooperation, competing companies worked together to refine USI into the more powerful MIDI standard, culminating in a public demonstration of MIDI at Winter NAMM 1983. As computers became affordable and more powerful, MIDI became a staple in studios, along with growing racks of synths, drum machines, sequencers and samplers, with control rooms expanding to house all of this gear.

Opcode shook the pro audio world with Studio Vision (1990), a program that combined MIDI sequencing with the digital audio capability of Digidesign's Sound Tools. Audio

In 1984, New York City's Unique Recording earned the name "MIDI City."

data showed up as tracks of waveforms and could be manipulated as easily as MIDI tracks in a conventional sequencer. The concept caught on, and other digital sequencers—such as MOTU's Digital Performer, Steinberg's Cubase Audio, Emagic's Logic Audio and Cakewalk Audio—entered the market.

ACOUSTICS COME ALIVE

It would be ridiculous to suggest that decent acoustics didn't exist prior to 1983. But the early days of facility design were driven by intuition, luck and trial-and-error. All that changed in 1983 when Crown's Techron division unveiled the TEF System 10, the first portable Time-Delay Spectrometry analyzer/acoustical measurement system. Licensed using Richard Heyser's 1967 TDS concepts, TEF included energy-time curves and could show complex waterfall displays of audio spectra, allowing, for the first time, complex on-site measurements of systems and spaces from a commercially available product.

At the time, available acoustical treatments were few—mostly absorptive materials such as heavy drapes, perforated wall/ceiling tiles, fabric-covered Fiberglas and a few brands of foam. Coincidentally, as the TEF 10 came to market, acoustician Dr. Peter D'Antonio offered his Reflection Phase Grating (RPG) products, capable of turning a hard reflected sound into a controllable diffuse field. This, along with TEF's ability to measure the effects of sounds striking various surfaces (including consoles), inaugurated the era of modern, science-based studio design.

AFFORDABLE DIGITAL REVERB

Traditionally, realistic-sounding artificial reverb was never easy or cheap. Acoustic chambers required a lot of real estate. EMT introduced the plate reverb in 1957—still fairly large, but far smaller and less expensive than a chamber. In 1976, EMT built the Model 250—the first commercial digital reverb—but at $20,000 and nearly three feet tall, it wasn't cheap or compact. Lexicon's 1978 Model 224 was more affordable—only $7,400. Other reverbs followed, including the 224X, 224XL, the AMS rmx-16, Quantec Room Simulator, and Eventide's SP-2016—but the Lexicon PCM60 unveiled in 1984 was the first pro digital reverb priced at less than $1,500.

A year later, the first less-than-$1,000 reverbs debuted from two companies spun off from the breakup of MXR: ART's $995 DR2 and the Alesis XT at $795. In 1986, Yamaha launched the SPX90, a $745 unit that even today is a standard item in studio and touring racks. Affordable DSP had finally arrived.

THE PROJECT STUDIO

The term "project studio" has its origins back in the late '70s, with the analog ½-inch, 8-track format bridging the gap between hobby and pro recorders. With careful attention to gain structure, machines like Tascam's 80-8 and the Otari 5050B-8 could produce decent work. In the late '80s, both Fostex and Tascam offered very good-sounding ½-inch 16-tracks, thanks to Dolby S-type noise reduction, a consumer version of its pro Spectral Recording system. And linked to MIDI tracks with a simple FSK sync box, a semi-pro 8- or 16-track rig was capable of nearly anything.

In 1989, newcomer Mackie Designs debuted the CR-1604, a 16-channel mixer, but in an all-metal chassis with an internal power supply and seven aux sends per channel. The concept of a rugged, clean-sounding, affordable console took the industry by surprise, and the process repeated three years later with Mackie's 8•Bus line.

A revolution began on January 18, 1991, when Alesis launched the ADAT, a modular digital multitrack system offering 8-track digital recording on S-VHS tapes, with the ability to interlock multiple transports for up to 128 tracks. The original ADAT was $3,995—a lot for a digital 8-track in today's terms—but compared to the $100,000-plus reel-to-reel digital 24-tracks of its time, ADAT was a bargain. ADAT had the effect of immediately bringing analog 8/16-track recorder sales to a halt. Affected most by ADAT's arrival, Tascam and Fostex began their own MDM development projects. Alesis went on to sell more than 100,000 ADATs, and digital multitracking was no longer the realm of the rich and famous.

LOOP RECORDING/SAMPLING

One of the weak links in any home/budget recording was always drums. In 1980, Roger

—CONTINUED ON PAGE 67

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New York '77

New Wave, Disco and the Yankees Ruled in the Year of *Mix*'s Birth

BY BLAIR JACKSON

PHOTO: LARRY GALLAGHER

Yankee Stadium, October 18, 1977. "Reg-*gie*! Reg-*gie*! Reg-*gie*!" The chant builds louder and louder in the cavernous stadium as Yankee slugger Reggie Jackson, who has already hit two homers in this sixth game of the World Series against the L.A. Dodgers, steps into the batter's box in the bottom of the eighth inning. Pitcher Charlie Hough floats one of his famous knuckleballs across the plate and—*pow*!—there it goes! Jackson's improbable third homer of the game seals the series victory for the Yanks and brings a first championship trophy to the team's colorful owner, George Steinbrenner. Uptown, downtown, through all the boroughs and beyond, it's bedlam!

Other scenes from New York in 1977—the year of *Mix* magazine's birth 3,000 miles away from the Big Apple, in the San Francisco Bay Area—are not quite as pleasant. There was the big blackout in mid-July that led to riots, looting and thousands of arrests. There was the ongoing terror of the Son of Sam serial murders, which kept the city in the grip of fear for months on end until the culprit, David Berkowitz, was apprehended in August '77. The city's economy was in shambles, leading to the election that fall of a fiscally conservative new mayor, Ed Koch. And like every other city, New York suffered mightily during the great Mideast oil crisis that so bedeviled the newly elected president, Jimmy Carter, and led to maddening gas rationing for a spell.

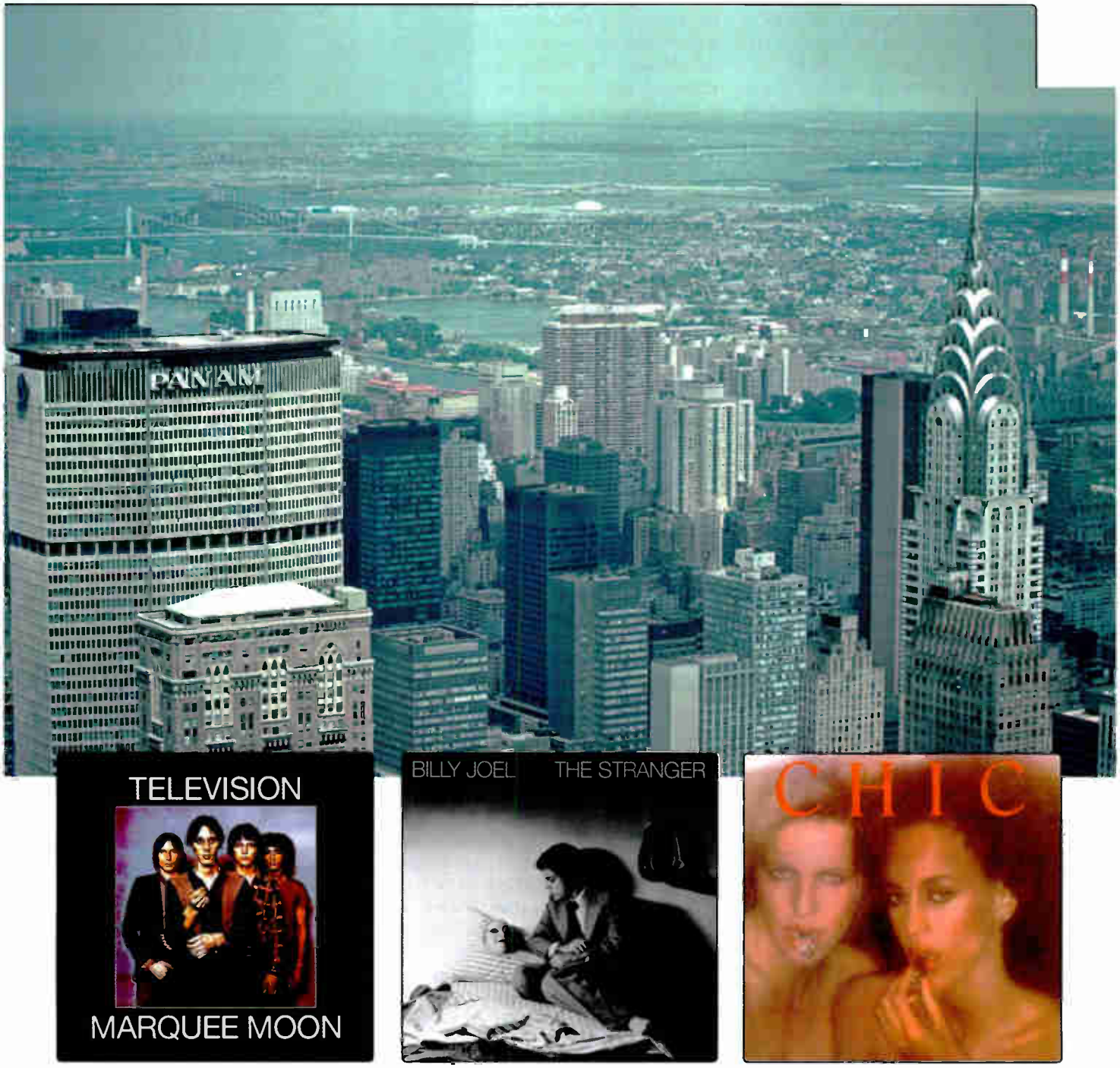
Ah, but 1977 was a *sweet* time in the music and recording business in New York! Despite some supply problems concerning petroleum-based products (like vinyl) brought on by the oil crisis, the music industry as a whole was enjoying an explosive growth period, which led to a proliferation of new studios and clubs all around the New York metropolitan area.

PHOTO: HOWARD SHERMAN

In the live room at Mediasound (L-R), engineer Joe Jargensen, chief engineer Fred Christie and studio founder Harry Hirsch

THE PROJECTS

The sheer diversity of projects filled studios big and small, as this was the era when both disco and punk/new wave were going strong, in addition to all the mainstream pop, rock, jazz and classical that had always brought business to New York studios. "A lot of studios did either disco or new wave, but we did them both," comments Tony Bongiovi, who opened the Power Station on West 53rd Street during 1977. Bongiovi got his start at Motown Studios in the '60s, then went to Apostolic Studios in New York (the first 12-track room in New York City), then to Record Plant and Mediasound before building his own facility. His work co-producing a pair of Ramones albums helped him land a number of other new wave clients, "but we also did Chic and all sorts of disco records with Sister Sledge, Diana Ross and other people," he recalls. In-



deed, the new studio was financed largely with money Bongiovi made producing a disco smash: Meco's "Star Wars." During 1977, Bongiovi co-produced the groundbreaking *Talking Heads: '77* album, but Power Station hadn't opened for business yet; instead, it was recorded at Sundragon Studios on West 20th Street and mixed at Mediasound, Harry Hirsch and Bob Walters' incredible Baptist church-turned-studio on 57th Street.

Here's just a taste of some of the other notable projects that came out of N.Y. studios that year:

Producer Jacques Morales and engineer Gerald Block made the classic sides by the Village People at Sigma Sound, Joe Tarsia's highly successful New York City offshoot of his legendary Philadelphia facility. Nile Rogers and Bernard Edwards' hit-filled *Chic* album was recorded by Bob Clearmountain, Michael Frondelli and others at Electric Lady, and mixed at the Power Station.

Producer/engineer Eddie Kramer was busy with the suddenly hot band Kiss, mixing the sequel to the mega-selling 1975 album *Kiss Alive*—recorded by Record Plant's remote truck—at Electric Lady with Neil Dorfsman assisting, and recording a new album called *Love Gun* at Record Plant.

Another multi-Platinum live album from that year was an all-New York effort: Barry Manilow's *Live*, produced by Ron Dante, was recorded at New York's Uris Theatre by John Venable and mixed by Michael Delugg at Mediasound.

Meatloaf's epic *Bat Out of Hell* album

was mostly recorded at Bearsville Studios upstate, but mixed on a Neve console at Hit Factory. Todd Rundgren produced and co-engineered with a slew of others.

Television cut their classic first album, *Marquee Moon*, at Phil Ramone's old A&R Recording with producer/engineer Andy Johns. Meanwhile, Ramone was working there on Billy Joel's breakthrough album, *The Stranger* (which included "Just the Way You Are" and "Only the Good Die Young"), with engineer Jim Boyer. Ramone also worked on the Paul Simon track "Slip Slidin' Away," which hit the Top 5 near the end of 1977.

Bruce Springsteen's *Darkness on the Edge of Town* would not be released until 1978, but much of it was recorded in the fall of 1977 by Jimmy Iovine and Chuck Plotkin at the Record Plant.

One of the great unsung punk albums, the Dead Boys' *Young, Loud and Snotty*, produced by Genya Raven, was engineered by Dave Wittman and mixed by Harvey Goldberg at Electric Lady.

The Ramones' *Rocket to Russia*—produced by Tony Bongiovi, Tommy Ramone and engineer Ed Stasium—was recorded at Mediasound and mixed at the just-opened Power Station.

Though Blondie's self-titled debut album (recorded in 1976) was still selling very briskly in 1977, the band went back to the same recording facility—historic Plaza Sound Studios above Radio City Music Hall—with the same producer (Richard Gottehrer) and engineer (Rob Freeman) in June 1977 and cut *Plastic Letters*, a moderate hit here that yielded two Top 10 singles in the UK. That year, Gottehrer and Freeman also spearheaded the recording of the highly influential punk masterpiece *Blank Generation* by Richard Hell & The Voidoids, recorded at Plaza Sound and Electric Lady. Hell is widely credited with introducing the hardcore punk aesthetic to both England and New York.

PHOTO RICHARDMCCAFFREY.COM

Blondie returned to Plaza Sound Studios to record Plastic Letters.

The cast album for the Broadway smash *Annie* (11 Tony Award nominations) was recorded in April 1977 at Columbia's 30th Street studio by producer Lewis Allen and engineer Bud Graham.

And speaking of show tunes, we would be remiss if we didn't mention the theme song from Martin Scorsese's film *New York New York*, which came out in 1977. The song, by Broadway writers Kander and Ebb, was sung by Liza Minelli in the film. However, the soundtrack album was not recorded in New York; it was cut in L.A. Frank Sinatra's 1979 version of the title song—also recorded in L.A.—later turned it into a true standard and the modern song most associated with New York City.

CONCERTS AND CLUBS

Live music venues of every size were in full swing all over town. The great rock showcase club of the day was the Bottom Line on West 4th Street. Steve Rubell and Ian Schrager's ultratrendy Studio 54 disco emporium opened April 26, 1977, and became a world-famous magnet for the glitterati (although it was pre-dated by the much funkier 2001 Odyssey club in the Bay Ridge section of Brooklyn, where some of the dance scenes for *Saturday Night Fever* were filmed). The major punk emporiums were CBGB's (which had opened in December '73) and Max's Kansas City, a hangout for artists, literary types and cool bands since 1965.

The Village Vanguard was (and still is) the preeminent jazz spot in the city, though at the time there was also a move by a number of avant-garde players into various loft spaces. Among the best known of these were Ornette Coleman's Artist House, Sam Rivers' Studio Rivbea and Ali's Alley, operated by Rashied Ali, who drummed with John Coltrane in Trane's final years.

Singer/songwriter-friendly clubs in Greenwich Village like the Bitter End (founded in 1962) and Kenny's Castaways (1967) were around in 1977, and still hang on, although they are no longer considered particularly significant rooms. An important venue for experimental music, dance and performance art of various sorts was the Village club The Kitchen, which started in 1971 and operates to this day. In 1977, a mid-sized band like the Grateful Dead played at the Palladium Theatre (previously known as the Academy of Music), while the monster acts—such as Led Zeppelin—filled Madison Square Garden for multiple nights.

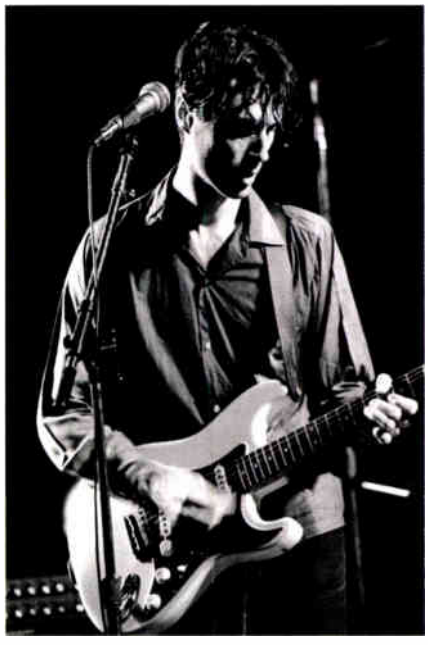


PHOTO RICHARDMCCAFFREY.COM

Talking Heads tracked Talking Heads: 77 *at Sundragon Studios. Pictured: frontman David Byrne.*

THE STUDIOS

You almost can't talk about the New York recording business in 1977 without mentioning Bongiovi's justifiably legendary Power Station (today's Avatar Studios), which opened that year. Bongiovi recalls what set his studio apart: "My engineering discipline was in acoustics and I had an idea to design a reverberation time-based room. At the time, most studios were very dead so you could get the separation, but I went the other way: I had a reverberation time of 0.75 seconds. I made sure no distance was greater than 30 milliseconds away, and I was able to section off large groups, so if you had an orchestra you could put the rhythm section in one room, the horns in one room and the strings in the other. I designed the isolation into the room, and no one had really done that before. Also, since the walls curved in, some people thought that was an acoustic no-no because it creates what's called focusing, but I figured out a way using the slatted absorber techniques that had been around forever to dissipate that.

"It was truly a musician's and a producer's studio," Bongiovi continues. "When I'd be at other studios, string players were always complaining about the acoustics and horn players said they had to overblow, so I did a lot of research into finding out what rooms they liked—such as the Eastman School of Music and the Boston Symphony Hall—and then tried to re-create some of the qualities of those studios. Whatever it was we did—and I had a lot of help from

other people, of course—it seemed to work. There were no frills, no fancy furniture. Everything was designed for the technology, and the studio took off right away." It also helped that Bongiovi managed to lure some of the top young engineers in the city to his new facility, including future recording giants Bob Clearmountain and Neil Dorfsman.

Frank Filipetti hadn't gone full time into engineering yet in 1977, but spent the better part of six months as a producer-in-training at Bongiovi's new studio. He was a singer/songwriter in those days, as well as an early home recordist. Using a heavily modified TEAC 4-track, he made sophisticated demos that were good enough for him to win a $5,000 first prize in the 1975 American Songwriter's Festival (judged in part by Phil Ramone, who would become a lifelong friend later). Then he invested his winnings in even better equipment and made new demos that landed him a publishing deal with Capitol/Screengems and allowed him to move to New York (from Connecticut) three days before the big blackout.

"It was exciting because New York was truly a Mecca for musicians," Filipetti recalls during a break from sessions with Ann Murray at Legacy Studios that Ramone is producing. "The Church [a converted Armenian church on 30th Street] was still running at Columbia, Atlantic [Studios] was still going strong, and, of course, there was Mediasound, Electric Lady, Hit Factory, then Power Station. The recording scene was really thriving, so the recording studios were not only recording acts, they were also doing production deals with artists. You'd come in at the end of the day and you'd record your stuff after the big acts had left, and you'd have great engineers like Michael Barbiero and Jeffrey Lesser, Tony [Bongiovi]. It was a great community. There were lots of clubs and a fair amount of money was being spent on productions. Even the disco music, which a lot of people thumbed their noses at, was bringing in live orchestras. Looking back, you would never think that New York would slide into the situation it's in now, with so many studios closing. Back then, there were dozens and dozens of studios, dozens of clubs—rock clubs, jazz clubs, discos; just a tremendous live music scene, which is where so much of the studio work came from."

The recording projects described in this article detail not only a who's who of recording artists, producers and engineers of the day, but also an A-list of recording facilities: Mediasound, Sundragon, Record Plant, Electric Lady, Plaza Sound, A&R, Columbia, Sigma Sound, Hit Factory. Some

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of the other popular studios of the day included 24-track facilities such as Harry Hirsch's Soundmixers (a division of Sound One, the biggest post house of that era), A-1, Celebration, Latin Recording, C.I. (which was mostly jazz), East Side Sound, Secret Sound, Sound Ideas, RCA (mainly classical and pop), RPM and Bob Liftin's Regent Sound (lots of jazz, but also plenty of TV post work, including *Saturday Night Live*). Among the top 16-track rooms of the day were Sear Sound, Downtown Sound, Skyline and Dick Charles Recording.

Of course, then and now there was more to the recording industry than just music. Commercial advertising work had long been centered in Manhattan, and big and small jobs for radio and TV were spread out among numerous specialty studios, from tiny 4-track rooms to big 24-track facilities. One of the biggest in 1977 (and today) was Howard Schwartz Recording, founded in 1975 as a jingle house primarily, but grew steadily through the years to be able to incorporate major music recording and post work. (As fate would have it, Schwartz's studio was on the cover of the first issue of *Mix* to feature New York studio listings, from October 1979.)

"Nineteen seventy-seven was a bad year financially in the city of New York with the oil embargo and the prime rate through the roof, and we were planning on building two more studios because our first two studios were booked solid," recalls Schwartz, who had worked with Wally Heider in L.A. before moving to New York. "At that time, we were just working really hard. A lot of fantastic musicians in and out of the space every day—we were working with Ed Lubunski, who was a famous jingle guy, David Horowitz, who is still around. I was doing some Kiss albums at night—each guy was doing an individual album; I had Gene Simmons for four or five months."

When it came to the dance music craze, Schwartz says, "Disco was great because it was all cash. You sold your studio at night to the disco guys. If they didn't have the money, you didn't turn the power on. I learned that from someone else in the business, because all the slime was in the disco business. It was kind of payola-y.

"The late '70s was a time when if you were entrepreneurial at all, the cost of entry was only moderately high," he continues. "A good console cost $300,000, a tape machine was between $38,000 and $55,000. But you could make a living building and operating a recording studio because it was before the Synclavier, and it was before

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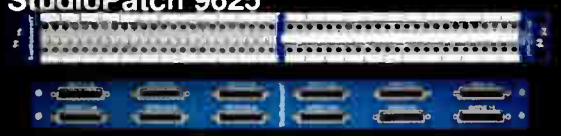

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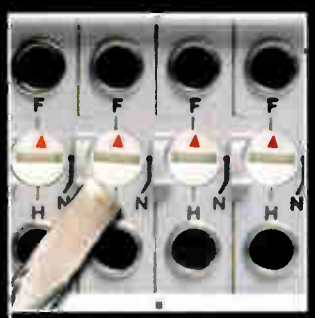

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home studios, so if people needed to make a record, they had to go to a recording studio and that was a wonderful thing."

In this pre-digital era, there were fewer gear choices for studio owners than there are today. There were a couple of different price points for 24-track rooms. The better-funded studios often combined Neve consoles and Studer multitracks. The more popular and economical choice, though, was probably MCI consoles and recorders. Trident, Harrison and API consoles filled some control rooms, and many studios also opted to go with 3M M79 multitracks or Ampex MM1200s tape machines. Crown and McIntosh monitor amps ruled the day, and outboard gear ran the gamut from pieces now considered "classic" (Pultec EQs, UREI limiters, Fairchilds, etc.) to the still newish (and expensive) Eventide H910 Harmonizer and the EMT 250 digital reverb. At the 16-track studio level, you'd find more Auditronics, Electrodyne, MCI, Allen & Heath and Tangent boards, along with a fair number of custom models; as well as MCI, Ampex, Tascam and Scully recorders.

Though Schwartz describes the New York recording scene in 1977 as "highly competitive" and "not particularly close-knit," he says he made many friends in the business during the years, "and as long as everyone was making money, everything was okay. I remember back then the AES show in New York was a *huge* week," Schwartz recalls. "Everyone would come to New York, and we used to fight over who got the tours. Personally, I didn't want the tire-kickers coming around looking at my studios. But I always wanted to go on a tour, especially to Sigma, to see how they EQ'd and compressed the bass drum, because it was the most amazing sound!" [Laughs]

"It was a business then, but it wasn't *just* a business then," Filipetti comments. "Now, it's almost exclusively a business. Everything is analyzed and second-guessed and bottom-lined and cross-checked and audited and previewed and post-viewed, whereas back then you made your music and everybody did what they could and there was a real camaraderie among people. There was competition, but also camaraderie. That's one of the things we're losing now with the home studio environment—that thing where you walk into a studio and there are six different acts working there and you all hang out in reception together and you talk about what you're doing and you get a vibe. It was really a happening thing. You felt it wherever you went. And for me, a kid from Connecticut, it was unbelievable." ■

Listening to MOVIES

TOP 10 Film Sound Experiences 1977-2007

BY LARRY BLAKE

According to my brother, Billy, both his baby brother's awareness of film sound and his need to *listen* to movies started in the early '60s, around the age of 6. I have no memory of the following incident, but both he and his then-girlfriend (Julie) recently confirmed that this really did happen at a showing of *The Mouse That Roared* in the Lakeview neighborhood of New Orleans.

Some guy behind us was talking, and when he didn't shut up as I had requested, I decided to turn my plea into a joke/riddle:

"Knock, knock," said I.

"Who's there?" replied the talking moviegoer.

"John."

"John who?"

"John the Baptist," at which point I spit at him to both reinforce the punch line and to clarify the moral of the story. I'll leave it to others to decide whether I've calmed down in my quest for the perfect film-going experience.

SHINE
Australian Film Finance Corporation
Director: Scott Hicks
Year of Release: 1996

TOUCH THE SOUND
Filmquadrat
Director: Thomas Riedelsheimer
Year of Release: 2004

ALTERED STATES
Warner Bros.
Director: Ken Russell
Year of Release: 1980

SAVING PRIVATE RYAN
Amblin/Dreamworks
Director: Steven Spielberg
Year of Release: 1998

EXPLORERS
Paramount Pictures
Director: Joe Dante
Year of Release: 1985

My first memory of film sound as "Film Sound" takes place a bit later, when my sister took me to see *Woodstock* in the summer of 1970. (I had a sibling escort because I was 15, and *Woodstock* was R-rated: naked hippie chicks!) I had the pleasure of experiencing, on the great sound system at the Martin's Cinerama theater on Tulane Avenue what I regard as the first rock 'n' roll film to benefit from a boutique stereo mix. Wow!

In a few short years, I would have a handful of other notable experiences that would whet my ear for good film sound: *That's Entertainment!* (1974) in 70mm 6-track mag (the orchestra sounded so real to me that

I fully expected to see players in the pit at Martin's Cinerama) and *Nashville* (1975) in 4-track mag for many Thursday "dollar nights" at the University Cinema in Baton Rouge.

And then, in 1977, two things happened: First, the modern era of Dolby Stereo film sound would present stereo sound to a wider audience—and, more importantly, to a wider range of *films*—than ever before. Second, *Mix* was founded in the San Francisco Bay Area.

While I admit to having been blissfully unaware of the second event at the time, I'm thrilled that the marking of that anniversary spurred my editor at *Mix* to ask that I write about my favorite film sound experiences (a term that has a very broad definition in this column) in these past 30 years.

An interesting note before I start: The only meaning of the word "digital" in most of these films is with regard to outboard gear; *sonmerique* was not used on any of the films listed here that were made before 1989. And by today's standards, all those films would sound positively tame in level compared to today's testosterone spectacles. Without further adieu, I present my list in chronological order:

***Star Wars*: Lakeside Cinema, Metairie, La.; June 1977**

To many moviegoers of my generation, *Star Wars* was the informal introduction to stereo sound, although I wouldn't see it in any such format—stereo optical or 70mm mag—for many years. However I might want to, I can't write about how thrilling it was to hear the ship go over my head on the opening shot, rattling the subwoofers and surround speakers. You see, the theater at the Lakeside shopping center where *Star Wars* opened in June 1977 for the greater New Orleans area played it in—mono. While I had to experience *Star Wars* without the visceral component afforded by the 70mm presentation, I take slight solace in the fact that Ben Burtt and George Lucas preferred the mono mix because they spent another week or so on that version. Unfortunately, consolation is not retroactive.

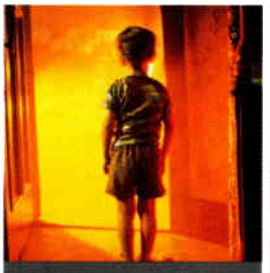
None of this really matters, as the genius behind the creation of Chewbacca and R2D2 doesn't need no stinkin' stereo sound. I don't think that any film since *King Kong* in 1933 has created the sound of non-human characters with such panache and wit.

***Close Encounters of the Third Kind*: Ziegfeld Theatre, New York City; November 16, 1977**

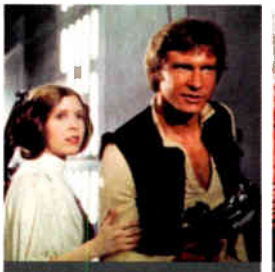
Because I had missed out on seeing *Star Wars* in stereo, I took every step to ensure that I would see *Close Encounters of the Third Kind*, the next film from the director of *Jaws*, not only properly projected, but also before anyone had a chance to spoil the film for me. The answer to both dilemmas was to fly to New York to see it on opening day as it was going to be in only a handful of 70mm engagements before going into wide distribution a month later.

I arrived at the theater a good hour-and-a-half ahead of the first showing, and got my seat right smack in the middle of the Ziegfeld. What I heard during the next two hours and 15 minutes popped my kick-ass, balls-to-the-wall, sound effects cherry once and forever. (This was probably the first "4.1"

DAS BOOT
Bavaria Film/
Columbia Pictures
Director:
Wolfgang Petersen
Year of Release: 1981

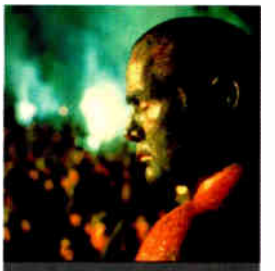


CLOSE ENCOUNTERS
Columbia Pictures
Director:
Steven Spielberg
Year of Release: 1977



STAR WARS
Lucasfilm/
20th Century Fox
Director:
George Lucas
Year of Release: 1977

FIGHT CLUB
Art Linson Productions/
20th Century Fox
Director:
David Fincher
Year of Release: 1999



APOCALYPSE NOW
Zoetrope Studios/
United Artists
Director:
Francis Ford Coppola
Year of Release: 1979

installation ever, as eight ShowCo subwoof- technical sense, but for the way the sound where—ever. The half-dozen sound design

LISTENING TO MOVIES

the company then known as Thundertracks, soon to be known as Screaming Lizard Productions and finally (and best known) as Weddington Productions. One of the company's principals, Mark Mangini, was creating sound design for *Explorers*, and he asked me to take a listen at what he was doing.

This was before the days of editing on workstations to video picture, and the design room at Thundertracks didn't have SMPTE timecode lock to videotape so I was "listening blind"—"MOP" (Mitt Out Picture) as it were. Mark played a spectacular piece of design off of a ¼-inch mixdown that he had made, having compiled the elements on the Otari ½-inch 8-track deck, and asked me to comment on what I was hearing. I said that it felt like I was traveling over a brightly lit electronic map of a city. The sound was so poetic, without sacrificing any dramatic clarity.

As it turns out, this is almost exactly what the sound was designed to go with (in the film, it's a dream sequence going over an electronic circuit board), and to this day I remain stunned that Mark's effect could make the scene so vivid.

If you get the DVD of *Explorers*, you can see what I heard about two minutes into Chapter 1. Thankfully, the "noises" (what certain composers have been known to call sound effects) made it into the film on their own, without the assistance of music.

Shine: Melbourne, Australia; June 1996

In June 1996, I was visiting my then-girlfriend in her hometown of Melbourne, Australia, and looked up an old re-recording mixer buddy, Roger Savage, who runs the Australian sound facility Soundfirm. Roger invited us to sit in with him while he checked the first print of a film that he had just finished mixing.

Though I had had a pretty good idea what I was in for, I was completely unprepared for what I heard that day in downtown Melbourne. First and foremost, of course, outside of the world of film sound, is the emotional impact of Scott Hicks' direction and the lead performance by Geoffrey Rush.

The work of Roger, musical director/composer David Hirschfelder and assistant music director/music editor Ricky Edwards is really a very carefully crafted sleight of hand, and the music track never stands up and begs for attention, in spite of months of painstaking work. You simply *believe* that Rush is playing the piano.

Fight Club: Los Angeles, 1999

The history of sound design, since its "inception" in the '70s, has seen many notable director/designer collaborations, beginning, of course, with Coppola and Murch, and both Murch and Burtt with Lucas. The latest and greatest in my book is the body of work that director David Fincher and his sound designer, Ren Klyce, are in the midst of creating. This is looking to be the best team since David Lynch and Alan Splet made such films as *Elephant Man* and, of course, *Eraserhead*.

I was first impressed by Ren's work on *Se7en* and had heard great things "on the street" regarding his chops. However, *Fight Club* was a jaw-dropping rollercoaster of sound design, telling the story almost as score.

My very nontechnical metric for judging sound jobs is how close they push me to wanting to give up film sound and take up plumbing, because I could never have thought of that cool sound. *Fight Club* had me reaching for the *Yellow Pages*.

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WAVES

***Saving Private Ryan*: Academy of Motion Picture Arts and Sciences Samuel Goldwyn Theater, Beverly Hills; February 1999**

Seeing *Saving Private Ryan* in a theater provoked two reactions from anyone who worked in film sound: Damn that sound designer Gary Rydstrom for getting placed in his lap the combination of a scene like the landing at Normandy along with a total absence of music; and damn fine sound job.

This feeling was made very clear when the Bake-Off reel for *Private Ryan* played at the Goldywn Theater. Next up was Mark Mangini, with his reel for *Lethal Weapon 4*, and instead of doing the usual "Bake-Off speech" routine of thanking his brilliant director and crew, Mark asked those assembled if anyone remembered the television debut of the acrobatic troupe Wells and the Four Fays. No one did, and as a hint he said that it was exactly 35 years ago on February 9, 1964.

Indeed, the metaphor of Wells and company's misfortune of following The Beatles on *The Ed Sullivan Show* was the closest way Mark could describe his feeling of following the invasion of Normandy. He said that the voting Academy members should right then and there give Gary (and his co-supervisor Richard Hymns) "the gold guy."

Some great sound jobs win Oscars and some other ones never get nominated. Other years, notably bad work wins. This was one year when the Academy, after going through the formal voting process (against Mark's wishes), got it right.

***Touch the Sound*: Pixar Screening Room, Emeryville, Calif.; August 20, 2005**

Once a year, I get together with a group of very nerdy friends for a weekend of fun, sun and film sound gossip. On Saturday afternoon, we try to see something illuminating, either a film sound classic or some new piece of work, often something that one of us has just finished.

In May 2005, I read about a film that played at the Tribeca Film Festival, *Touch the Sound*, about the Scottish musician Evelyn Glennie, who is profoundly deaf. Knowing nothing more than that, I called the U.S. distributor and asked if we could get a print of it to show at our Saturday afternoon screening, which that year was going to be at the main screening room at the Pixar headquarters, mere blocks from *Mix* in Emeryville, Calif.

From first frame to last, my colleagues and I were in a state of sonic rapture. When I say that I wanted to retire after seeing *Fight Club*, etc., at least I knew that there were great minds at work doing some really cool sound design,some of it literal, some of it functioning as music. What separates this work from the other films here is the role that stupendous production recordings play. If you look at any given shot of the film, you might think that you're listening to the best multichannel location recording you've ever heard. But then it morphs into the next shot seamlessly, and the next one, and the next one—how did they do that?

To me, director/editor/cinematographer Thomas Riedelsheimer and his sound team have the prize for the best sound job of this century. Any challengers should step up to the plate.

After almost five years away from this column, I'm happy to be back at *Mix*. As always, I can be reached at swelltone@aol.com. ■

Larry Blake is a sound editor/re-recording mixer who lives and works in New Orleans for reasons too numerous to mention, although these days the rebuilding of his hometown post-Katrina is at the top of the list.

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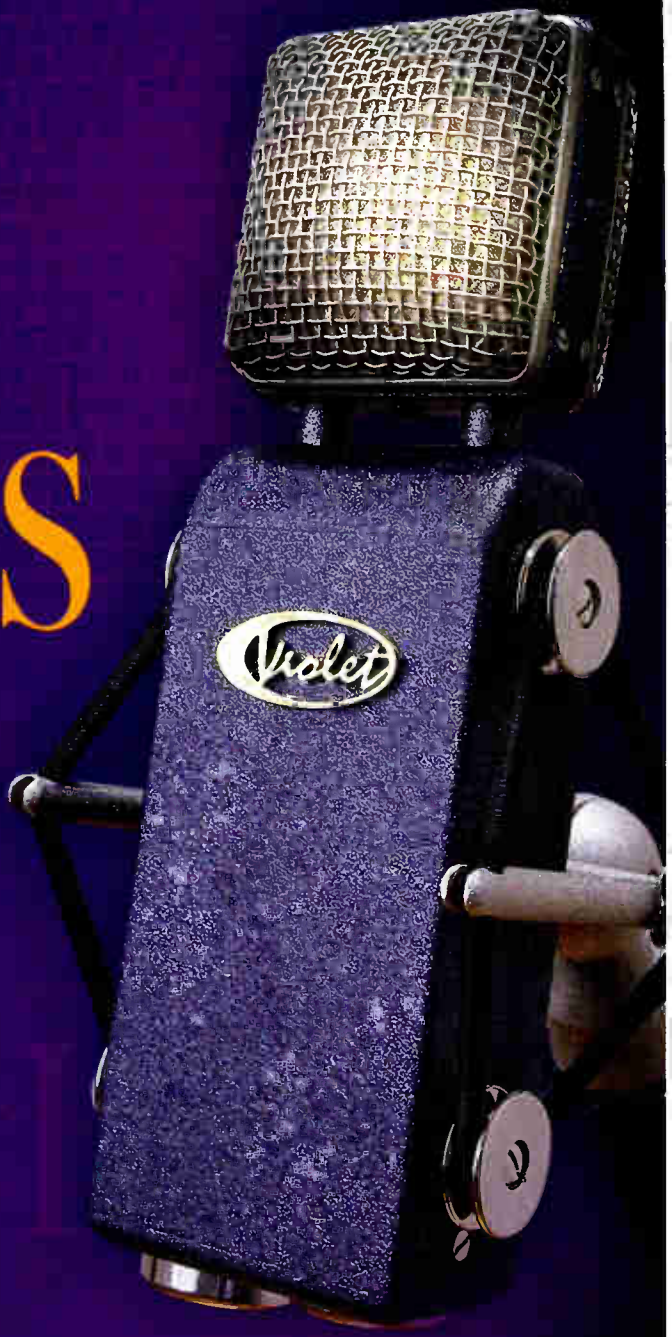

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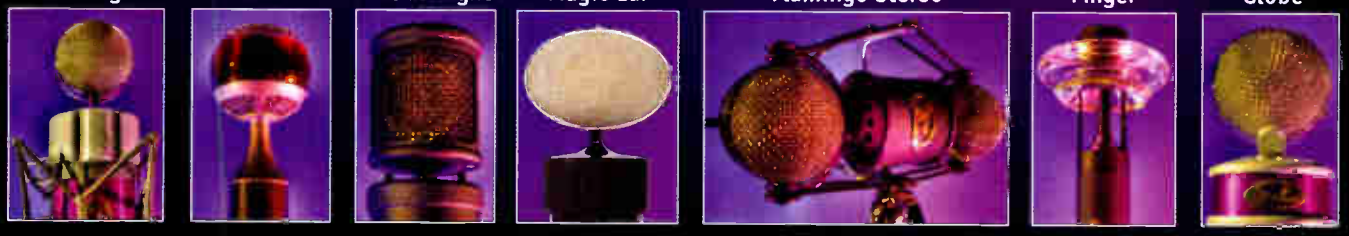

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—FROM PAGE 48

Linn introduced the LM-1 drum computer, the first programmable drum machine with sampled sounds. The term "drum machine" became part of the language, and jobs sprang up for drum machine "programmers." Other drum machines followed, and with MIDI sequencing, drum editing became easier than ever. Sampling drum machines with onboard sequencing, such as the E-mu SP12 and Akai's MPC60 (and others), opened up a world of music production to both players and nontraditional music creators.

Steinberg ReCycle (designed by Propellerhead Software) kicked off the software revolution in 1994, followed by programs such as Sonic Foundry's ACID (1999), Propellerhead's Reason (2000) and Ableton's Live (2001), each offering tools for looping. Interestingly, while these began as specialized applications for looping functions, some—like ACID and Live—later became more DAW-like. Meanwhile, the more traditional DAW programs—such as SONAR, Cubase, Logic, Digital Performer and Pro Tools—eventually responded to the market by adding more loop-production features.

Alesis CEO Russell Palmer (at right) and staff watch the first ADATs arrive in 1992.

THE RISE OF THE DAW

The digital audio workstation represents the most significant development in the history of digital pro audio. Yet from the earliest software and 8-bit D/A cards for the Apple II in 1977 from Micro Technology Unlimited, the evolution of the DAW was tied to the development of personal computer technology.

Digidesign wasn't the first company out with a DAW, but its launch of Pro Tools in 1991—priced from $5,995, a fraction of the $100,000-plus New England Digital Direct-to-Disk systems with which it competed—created a stir that continues to this day. Soon, companies such as Waves, Jupiter Systems and Arboretum Systems began developing software add-ons for DAWs. Eventually, the market exploded, with more companies and more supported platforms. Signal processing hasn't been the same since.

Modern workstations—native and hardware-based—combine high resolution and diversity, with a multitude of companies supplying components, both hardware (I/O devices, converters, console-style controllers and peripherals) and software. Ironically, the DAW—once an editing adjunct to the studio—in many cases has become the studio.

TURNING IT UP TO 11

We'd be remiss to ignore one development that isn't tied to any single technology—long-distance collaboration. T1 phone lines, fiber optics and satellite uplinks made it possible, and eventually broadband Internet made it convenient. These days, there are few limitations for doing anything long distance. It's a whole new world—although it's shrinking every minute. ■

The new studio: a Mac II, a MIDI synth, a JLCooper MixController, a Les Paul and a Pro Tools rig

MEMORIES FROM

Anything can—and will—happen on tour. Live sound engineers share their favorite tales.

STRANGER IN THE ROOM

While working as a sound designer on the Las Vegas production of *LOVE*, I was sitting in Abbey Road Studios listening with Sir George Martin and Giles Martin—if that was not enough already—to one of the new mixes that they had completed. While I listened, my eyes were closed, I was deeply moved and mentally transported through my memories as if on a roller-coaster ride. I heard the familiar yet amazing sounds leap from the studio speakers and enter my soul, producing child-like tears that ran down my cheek. I was in my heaven. When the music stopped, I turned in the swiveling, center-positioned chair to discover that Sir Paul McCartney had walked in, and I was asked, "So, what do you think?" This is my frozen moment.

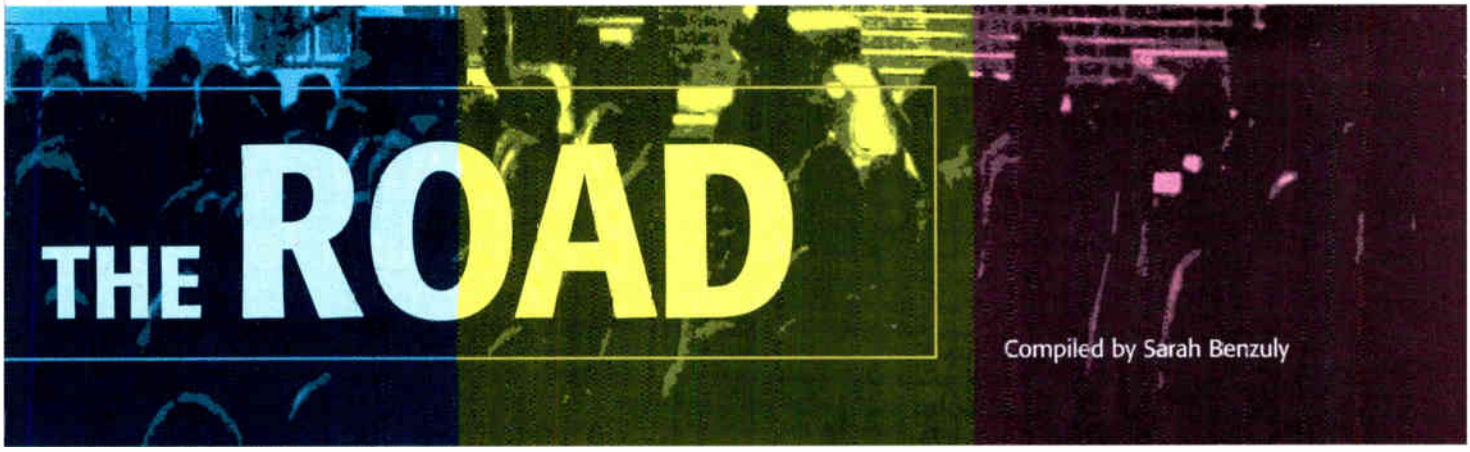
—Jonathan Deans

DUDE, YOU'RE IN THE BAND

I was out with Riders on the Storm (The Doors with Ian Astbury). It was April 22, 2006, Barcelona, Spain. We had just finished eight successful sold-out shows on a European leg and had one final ninth show. The day started as usual. We, the crew, came in at 11 a.m. for setup. Soundcheck commenced with all crew members, minus the band, at 4 p.m. On this leg, the band was rarely doing soundchecks, so once my FOH line check was finished, I went to the stage with the rest of the crew to complete the soundcheck, primarily checking monitors.

Drum tech Owen Goldman and I play in a Doors tribute band called Peace Frog at home in California and are well-versed with The Doors' catalog of music; therefore, we ran a handful of songs for the monitor check with myself on guitar. At 6 p.m., we completed soundcheck, at which point we all went for dinner. It was during dinner when the band's manager, Tom Vitorino, nervously took me aside and told me that guitarist Robbie Krieger was ill and had come down with a heavy bout of food poisoning. He then asked me if I really felt I could possibly take over and play the show in his place. Before I could even process the question, I anxiously replied, "Are you crazy?!" Then I nervously told him, "I believe I can." Tom told me to sit tight, wait for his phone call and that he was going back to the hotel to check on Robbie one last time and possibly see if he could get him to play.

While waiting for the call, the crew formulated a plan. Darren LaGroe, our monitor engineer/guitar tech, would take over FOH. Marco Moir, our production manager, would become my guitar tech. I would direct monitors through a transla-



THE ROAD

Compiled by Sarah Benzuly

tor to the house monitor guy. Twenty minutes to showtime, the call came in from Tom. "You're it!" was the sound on the other end. Ray Manzarek asked me if I wanted a guitar to practice, and I said no but that I do need to learn Robbie's pedal board. Darren showed me around the pedal board. At that point, I went backstage and strapped on Robbie's guitar. As the band and I approached the stage, a wave of adrenaline came over me. As I heard the crowd cheering and the house music fade, I launched into "Roadhouse Blues," two hours later ending with an encore of "Soul Kitchen." Backstage after the show, we were all high-five'ing and in great spirits.

—Robert Carsten

WHEN THE MANAGER COMES STROLLING BY...

I've had so many, many funny times after 32 years with Showco, but none funnier than the 14-plus years and 1,000 shows spent with ZZ Top. I never tire of them—characters, but consummate professionals, incredible musicians and wonderful people. We were rehearsing in Dallas at a large, expensive soundstage for a high-profile tour at the top of their popularity, but in normal ZZ fashion we did everything but rehearse: We would eat Mexican food, play golf and gamble on anything and everything, every day.

One day, the word circulated that the manager was coming to town, but in his typical way didn't tell anyone when he was coming, trying to catch them screwing around and poised to lecture them. All of the band and staff were on alert, but rather than actually get down to some serious rehearsing, they posted a roadie in the lobby with a walkie talkie. When their manager pulled up outside, the roadie called the signal, the band rushed to the stage and broke into the last three songs of the set. The manager walked in and saw their serious intensity in rehearsing. They finished the three songs and proudly proclaimed that they had just run the whole show two complete times. They received high praise from the manager, called the rehearsal for the day and the great entertainers walked out chuckling under their breath. The next day we played cards, flipped quarters and had Mexican brought in. We didn't rehearse that day—the manager had gone back to Houston.

—ML Procise III

STUDIO VS. LIVE MIXES

I was doing rehearsals for a band and we were in a soundstage/rehearsal facility where I was in a separate room with my console and monitors. The band would run through some songs and then come into my room to listen back. After one of these sessions, we got about two minutes into [playback] and one of the bandmembers stands up and says something to the effect of, "What we have here, Dave, is a perfect example of some very bad mixing!" I was sitting there with my mouth open for a second or two—completely stunned by the statement—before I could respond that we were listening to the playback of the actual album mixes that the band's manager had just arrived with and had given to me to play for them before they came into the control room.

Needless to say, rehearsals were canceled for a few days while the band reconvened with, I guess, the producer/engineer.

—Dave Natale

PHOTO: STEVE JENNINGS

WALKING DOWN MEMORY LANE

In 1983, my friend Brian and I loaded up our flat black Dodge Maxi-van and headed out with our entire P.A. system and as much beer as we could fit in the space left over to do sound for a laser show inside a tent at Steve Wozniac's U.S. festival. While there, running around before doors opened, we made our way out to the sound board of the main stage where system techs let us have a look around. Wow, 90 Clair S-4s per side, and I remember thinking, "Wow, this is what I want to do someday!"

Eleven years later, I found myself at Woodstock '94 mixing the Red Hot Chili Peppers on that same P.A., or at least a version of it.

Here I am a quarter-century later sitting at a sound board in Scotland staring at 96 V-DOSC boxes hanging from the main stage and 64 subs. Looking out, I realize that this is pretty much a normal P.A. for me to mix on, and whenever an aspiring soundie asks me if I would let him or her have a look around, I think back to that bright-eyed day and that favor from so long ago and smile, and answer, "Of course, come on up."

—Dave Rat, Rat Sound Systems

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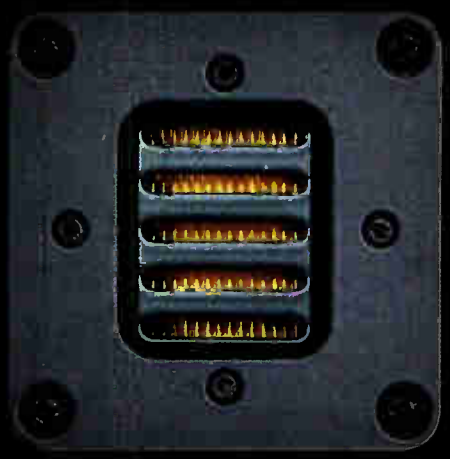

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MEMORIES FROM THE ROAD

WHOSE IS WHOSE?

It was 2001, and I was the monitor system tech for a huge stadium United We Stand festival in Washington, D.C. It was at RFK stadium, tons of acts: lots of boy bands, Aerosmith, Michael Jackson was headliner. Being the monitor tech means sometimes you have to mix for bands with no engineers, organizing their ear systems, wedges, wireless mics. In the case of 'N SYNC, they had an engineer and he was a little nervous dude, but I got him all set up and labeled all their ear packs and mics. He got them sorted with their packs, and I put the mics out just beside the monitor console so they could grab them on their way onstage. All the mics had their names on them. It was time, and here they come: The guys walk over, grab their mics and head out onstage to perform in front of 60,000 people. About 10 seconds into the first song, the guys are all looking over at monitor world, freaking out about their mixes, and then they all come running over at the same time, waving their mics at me. They had just randomly taken the mics without looking at the names on them. They were trying to hand the mics to me—all angry faces—and I just pointed to the names and shrugged my shoulders! I didn't know who was who; I had never worked with them before! Then they figured it out and started handing each other the proper mics. It was all good after that.

—Marty Strayer

WRONG BAND, WRONG SONG

I was mixing a week of Elton John concerts at Madison Square Garden. I had made a compilation cassette of Beatle songs, which I played for walk-in music before the start of the show. About an hour or so into Elton's set, he would play the very dramatic instrumental "Funeral for a Friend," which starts with soft wind sounds, bells and a complex synthesizer arrangement. It was difficult back then for the keyboard player to reproduce this intro live, so I would play it through the P.A. from the actual *Yellow Brick Road* cassette.

The lights dimmed, the dry ice and smoke swirled around the stage, the tension mounted, and I leaned over to my cassette player and hit Play. Normally, the atmospheric sounds would be heard straight away, but on this occasion I heard nothing. After a few seconds, I started to panic and pushed the playback fader up as far as it would go and—suddenly—at a deafening volume, "You say yes, I say no" came screaming out of the P.A.! It was The Beatles singing "Hello Goodbye." *Aaarrrgggh-hhh*! I'd forgotten to change the cassettes over at the start of the show. I was horrified, but luckily Elton and the band thought it was hilarious and burst into fits of laughter. With trembling hands, I managed to quickly swap cassettes and breathed a sigh of relief as the correct intro started to play. Thankfully, I never made the same mistake again—and I'm still here mixing Elton live after 35 years!

—Clive Franks

MEMORIES FROM THE ROAD

A HARD TRANSITION

One anonymous Grammy Award–winning singer with whom I was touring in 1987 was infamous for having a difficult time performing live. I was assisting the freshly hired replacement for myself as FOH mixer, when, after the monitors had been turned off at the singer's directive, said singer asked that the mixer and myself move "20 or 30 feet" away from the mixing desk as the sound had finally become acceptable.

After a few minutes, the decision was made to head out to the lobby bar. Shortly thereafter, we re-entered the theater to find the road manager seated at the mixer, wearing headphones "90 degrees out of phase" over his nose and the back of his head!

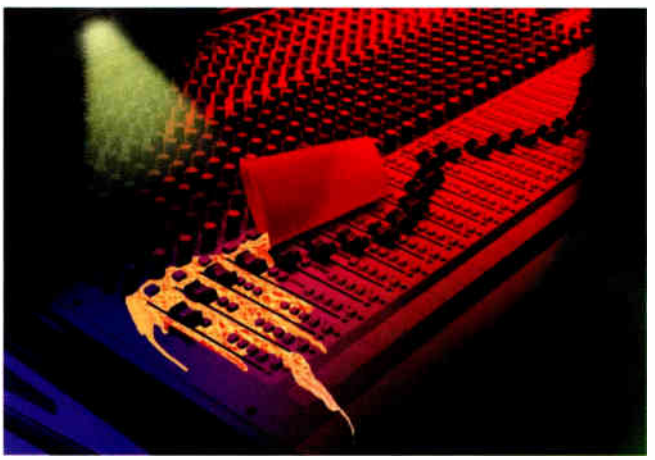
—Mark Hughes

THIS BEER'S ON ME

I was lucky enough to be a part of the Jason Sound audio team on Bryan Adams' European stadium tour back in the mid-'90s. At the Olympic Arena in Barcelona, Bryan was grinding through an amazing two-hour set when all hell broke loose. I have to preface this by saying that the FOH mix position was set up in a rather unusual location as per Jody Perpick (FOH mixer) and production's request—directly in front of one of the speaker arrays (100 feet from the stage). Jody felt that this position pulled himself out of the swimming center sub-zone and he mixed more accurately to the majority of the room, and production loved it as they didn't kill hundreds of fantastic center sight lines.

As we sat at the mix position enjoying the show, [crew chief/FOH tech] Dean Roney and I noticed something fly from the seats above us just out of our line of sight and sail directly for the console. In what seemed like a split-second, Jody was grabbing his eyes and flailing around, and we all noticed the sound in the left side of the sound system was starting to cough and sputter like a bad outboard motor. As we all recognized the familiar smell of beer, we realized that the console had been hit by an aerial "malt beverage" bomb.

The next couple of moments happened kind of like this: Jody was still wiping at his eyes trying to free them of the stinging beer, while we all stood momen-



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MEMORIES FROM THE ROAD

THE SHINING MOMENT

My most memorable moment, one that left a lasting imprint on me, was a run of shows I did with Tom Petty and The Heartbreakers pretty early in my tenure with him at the infamous Fillmore in San Francisco. We parked up there for a 22-night stand. Each show had its own character and feel to it, and nearly every show offered a different opening act: most of them legends or legends-to-be in the business—people like the late Carl Perkins, Bo Diddley, Roger McGuinn, Jakob Dylan, and on and on. At a certain point in each of the shows, the guest artist would join the band onstage and perform some of the guest's classic material. They would simply launch into a called-out song. It was rarely, if ever, rehearsed, and it really crystallized just how great this band had become in their 25 or so years together.

PHOTO: ANDREA ROTONDO HOSPODOR

But when it was all said and done, I also realized something about myself. I identified this really pure place in me as a mixer and felt a rare connection to it musically that required very little conscious thought and effort on my part to mix those songs. I can't think of too many other instances like it over my time as a concert mixer. It felt like I knew every move that was coming just before it would happen. After that run of shows, I knew first-hand that it was not a passing comment; I knew I was right where I belonged at that point in time.

—Jim Yakabuski

tarily frozen as the left side of the P.A. fizzled and died. In the next moment, the right side of the P.A. roared to almost twice the volume and we finally broke our paralysis and reached for the master fader. Everything went quiet, and as expected the audience gave a sarcastic spattering of applause.

We quickly determined that the board was "cut off," so we quickly rolled the opening act console into place, did a quick XLR fan-out repatch and within 10 minutes we let the band know that they could start playing again, although it might be rough for a few minutes. We kind of split the 40 inputs up into three, and Dean, Jody and I each grabbed a handful of gain knobs and spun up a basic mix with no compressors, no gates, no FX—no frills. Jody continued mixing the show while Dean and I stepped back and looked at the sorry Soundcraft Europa.

When it was all said and done, we were amazed that a Solo cup full of beer could descend from the first concourse of seats at a perfect 45-degree angle and make it all the way to the console without losing much liquid on its trip down. The other thing I discovered was the power of a simple signal path, a great mixer and a legendary singer. I had always thought Bryan's amazing live vocal sound came from some of the cool tools Jody had inserted on the vocal channel, but that night I discovered that it was just that raspy voice straight into a 58, straight into the board.

—Jim Yakabuski ■

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BY BLAIR JACKSON

Quincy Jones

Uniting Our Musical Cultures

The storied, six-decade career of Quincy Jones has been so expansive it defies description: He is a true modern renaissance man who has seemingly done it all. Initially working as a trumpeter in successful touring jazz bands led by the likes of Lionel Hampton, Dizzy Gillespie and others, he became a top arranger and producer while still a young man, writing charts and running studio sessions for an incredible array of top talents of the '50s, including Count Basie, Dinah Washington, Tommy Dorsey, Louis Jordan, Cannonball Adderley, Ray Charles, Sarah Vaughan, Charles Aznavour and many more.

In the early '60s, Mercury Records made him the first high-level African American executive at a major American label, and he broadened his client list to include everyone from Leslie Gore to Frank Sinatra to Tony Bennett. Meanwhile, he branched into film music with *The Pawnbroker* in 1964, and went on to write many memorable scores for a wide variety of films, including *In the Heat of the Night*, *In Cold Blood*, *Cactus Flower*, *The Color Purple* and even 50 Cent's *Get Rich or Die Tryin'*; and for TV shows ranging from *Ironside* to *Sanford and Son* to the epic miniseries *Roots*. As a film and TV producer and executive producer, he's helped shepherd theatrical features like *The Color Purple* and *Steel*; documentaries on Duke Ellington, Tupac Shakur and *The History of Rock 'n' Roll* (still the definitive series on that subject); and network series including *The Fresh Prince of Bel-Air* and *Mad TV*.

PHOTO: RON WOLFSON

Jones with Ray Charles during sessions for Back on the Block

Jones had already been in music more than 30 years when he produced and arranged Michael Jackson's gazillion-selling 1982 album, *Thriller*, which was also a high-water mark in his long relationship with engineer Bruce Swedien, a legend himself. Jones and Swedien's association with Jackson also encompassed the albums *Off the Wall* and *Bad*, and included the historic 1985 all-star sessions for African famine relief, "We Are the World."

Jones' production and arranging career has soared as he's bridged nearly every musical style imaginable and worked with such greats as Paul Simon, Barbra Streisand, Miles Davis, Michael McDonald, James Ingram, the Isley Brothers, Aretha Franklin and countless others. Then there's his own recording career as a leader putting out records under his own name since the mid-'50s—again, the list long and extremely varied, including straight jazz, big band, R&B, orchestral, rap; you name it. The best known in the *Mix* magazine era (since '77) are probably *Roots*, *The Dude*, *Back on the Block* and *Q's Jook Joint*. He's won a whopping 26 Grammy Awards as an artist, producer and arranger, and given the fact that he shows no signs of slowing down at the age of 74, he may well have several more in him.

We caught up with the indefatigable Jones in late August to talk about a few issues of interest to *Mix* readers. We also buzzed Swedien to get some of his insights about his longtime friend and partner in great music.

What was the first really memorable and positive recording experience you ever had?

The first one I ever did, in 1951, was with Lionel Hampton. I was 18 years old, and I'd never been in a studio before. I was in Hamp's band, so we'd been playing a lot on the road. It was a great live band—at that time, Hampton was the biggest band out there; bigger than Louis Armstrong, bigger than Duke Ellington, Basie and all of them. He *always* worked. And that group was like one of the first rock 'n' roll bands; he had girls screaming! Louis Jordan was the other one who got that kind of reaction wherever he went.

Of course, I started with mono recording onto 78 [rpm] records. Back then, whatever you got went straight onto disk. You balanced it in the room, it had to be miked right and you couldn't mix it the way we do now, obviously. What you heard was what you got. But a lot of those records sounded

PHOTO: GREG GORMAN

really good, and still sound good when you put 'em up against modern records.

You started out mostly as a musician and an arranger. When did you first get interested in production?

The irony of it is that all the things I'd been doing as an arranger were actually part of the production process. For instance, I remember in 1955 I called Bobby Shad—who ran EmArcy Records, which was the jazz part of Mercury Records—and I told him I'd just met these two kids from Florida, an alto player and a trumpet player, who were unbelievable; the best I'd heard since Charlie Parker. This was Cannonball Adderley and Nat Adderley. They came down to my basement and we met. I asked them if they'd recorded and they pulled out a blue-label home recording on "Frankie & Johnny" and it was one of the best things I'd ever heard in my life. I told Bobby Shad, "You've got to hear them!" And he said, "I don't need to hear them—get the studio, get the musicians, write the arrangements and I'll see you on Tuesday." This was on a Thursday! So that was really a lot of what producing was about: knowing what engineer to call, knowing the studio—we went to Capitol Studios on 40th Street—and then figuring out tunes and arrangements. Then [Shad] comes in, and says, "Take one!" [Laughs] He was the producer; I did most of the work.

Are there producers from that period who influenced the way you worked?

Absolutely not. It didn't work that way. I thought most of them didn't know that much about music. They'd just come in, and say, "Take one." A lot of producers *liked* music but didn't know much. And some of them just weren't articulate when it came to music. Then there was a guy who used to come out [of the control room] to where the musicians were, and say, "I'm hearing something." We'd say, "What?" And he'd say, "*Mmm-mm*." [Laughs] It was something in the control room, I guess.

There were a few producers who knew music, like Don Costa and Hugo & Luigi and Mitch Miller, who was an oboe player. I never worked with him, but I used to go to his sessions just to learn.

It seems as though in those days, though, most were music people in some form; today, so many producers come over from engineering.

That happened back then, too, though

maybe not as much. You have to have at least one core skill—whether you're an engineer or a songwriter or musician or something—other than just being a big fan, and there were some of those, too.

Some of the engineers knew more about music than a lot of the producers. Like Tom Dowd, the legendary engineer with Atlantic Records. I worked with him a bit. In fact, I used to get paid $5 an hour to rehearse The Coasters and LaVern Baker in my basement with Ahmet Ertegun, and then Tom engineered a lot of those records.

What aspects of your personality helped make you a successful producer?

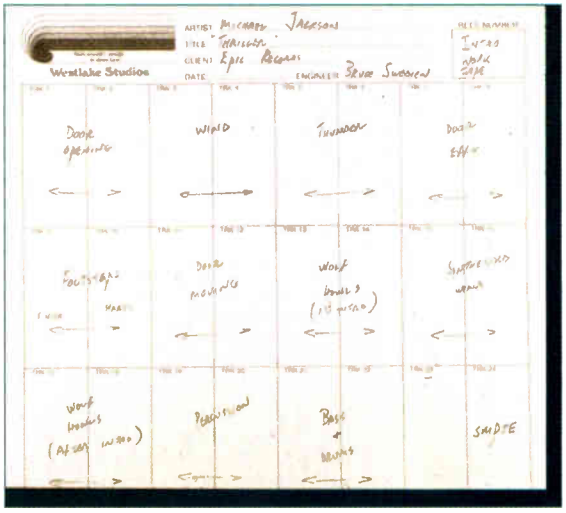
I don't think it's about personality. It's about judgment.

But you have to be able to deal with people...

Of course. You're part babysitter, part shrink. I'll tell you what it is—it's *love*. It's loving to work with people you respect. It's a serious love affair—that trust between a performer and a producer. Because sometimes what you're doing is like an emotional X-ray of the human being. And when you mess with someone like Billy Eckstine or Ray Charles or Sinatra, you better know what the f*** you're talking about 'cause they don't *play*, man! They don't take no prisoners. [Laughs] This is their career you're dealing with.

Were you ever intimidated by anyone?

Actually, the only one who really intimidated me was Bette Davis, the actress. I recorded a song with her called "Married I Can Always Get." I had known her so much as a movie star I was afraid to talk to her. We're in the studio, she starts smoking a cigarette, and says, "For God's sake, yell at me! I'm not used to people being so nice to me!" [Laughs] I said, "I'll yell at you; no problem!" She was nervous because she was out of her arena as a singer and she got intimidated, too. But once you start talking straight to any real artist, they get it.



The 24-track sheet for the intro to Michael Jackson's "Thriller"

Did multitrack recording change how you worked in the studio?

Oh God, yes! *Stereo* changed things! We used to sit in Phil Ramone's studio on 48th Street where we did one of the first stereo records, *The Genius of Ray Charles*, in 1958. It was all mono before then.

The hardest, a little later, was the voice-overs [vocal overdubs]. When I did Lesley Gore in 1963, Steve Lawrence had done it on "Go Away Little Girl," but it wasn't around much. It was hard because you had to do Sel-Sync [Selective Synchronous recording, developed by Ampex in 1955], which let you take a stereo track and then a separate mono track and manually put the two together. It used to take four hours to get one voice-over. I remember George Martin

Bruce Swedien on Quincy Jones

Engineer Bruce Swedien and Quincy Jones first worked together on a project at Universal Recording in Chicago in 1958, and through the years they've made great music together dozens of times, even as each has worked on literally hundreds of other projects separately. "I have ultimate respect for Quincy, on a musical and personal level, and I think he feels the same about me," Swedien once wrote in tribute to his good friend. "Quincy Jones is the kind of friend you could call in the middle of the night, with your most personal problem, either real or imagined, and he would come to your rescue...In addition, almost everything that I treasure, that I know from recording good music, I have learned from my pal Quincy Jones."

Reached by phone, the jocular Swedien is happy to talk about his longtime friend, "but I want you to mention prominently that he and I are nearly the same age—I'm 13 months younger!

"Quincy has always been a completely amazing guy," he continues. "It's not like he slowly became the person he is. Back when he was with Mercury Records, as the youngest vice president at a major label and also the only African American, he was kicking ass, just doing *great* work. He was pretty much unstoppable."

Swedien credits Quincy with being an early, important supporter of stereo records at a time "when none of the major labels believed in it. Stereo in the late '50s was almost a strangled infant in the crib, but Quincy believed in it and pushed it. At every step along the way, Quincy has been for whatever innovation has come along."

Of course, Jones and Swedien will forever be linked in the public mind for their work with Michael Jackson, and on that matter, Swedien comments, "What made that so good for me is I got nothing but total support from Quincy and Michael. I was trying all sorts of different things in the studio—like having Michael step back a few paces for the overdubs and doing a double pass to get the early reflections as part of his image, which nobody else was trying. No matter what I tried, Quincy and Michael were always saying, 'Do it! Go for it!'" That included Swedien working up 91 mixes of the song "Billie Jean." "We had half-inch tape up to the ceiling," he says, "and, of course, the one we eventually chose was mix 2!"

Swedien says he remains in awe of his friend's far-reaching talent and notes again that it was apparent from the beginning of their association. "An important part of his biography is that he studied with [composer] Nadia Boulanger in Paris [in 1957], because it says a lot about Quincy's musical standards, which are *extremely* high, and always have been. That's a real key.

"What can I say? Quincy is Quincy. He's one guy who really changed music. Of all the people I've worked with—and I've worked with everybody—I would say Quincy's closest comparison in music would be with Duke Ellington. I did a lot of work with Duke Ellington, and like him Quincy's instrument is the orchestra; there's a real parallel there. But also having talent in so many areas. It is so rare to find that."

—*Blair Jackson*

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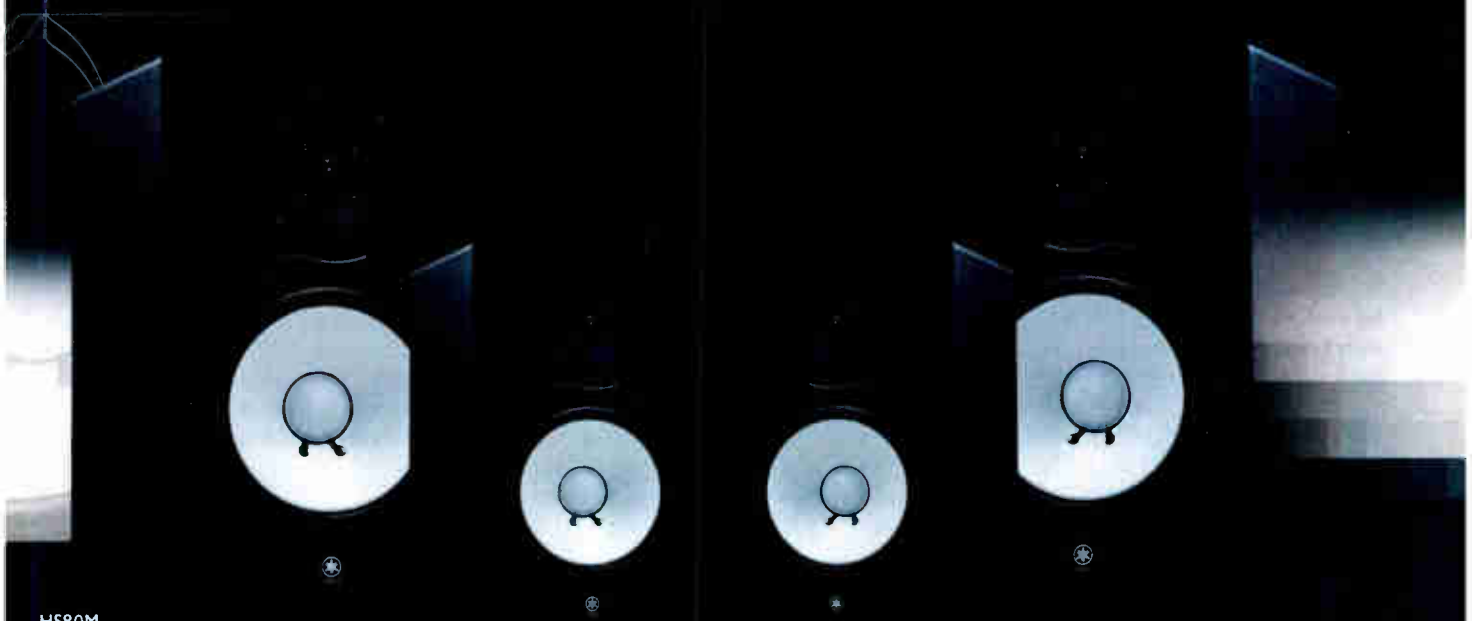

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This "All-Star Choir" gathered in Ocean Way Studio A to record backing vocals for Donna Summer's song "State of Independence" in 1982. Bruce Swedien, who engineered, says "No one else could have gotten that group together in one studio."

and I were friends then and we used to call each other during the Beatles sessions and we were breaking out the champagne over the phone, just happy to have gotten that one extra voice on there! [Laughs] Now, of course, you can do 200 voices if you want with no problem. But we had to figure out ways to do all this stuff.

We rode technology all the way through from 78 [rpm] discs to DATs.

As someone who cherished recording live, did you embrace the way people recorded in the '70s, cutting the rhythm section first, isolated in dead-sounding rooms?

Sure. You have to hope for some isolation because you can't change anything if you don't because all the instruments are leaking into each other's mics and you can't fix anything and you can't add anything. It was nice to get that flexibility.

Still, to me, nothing was better than being in the studio with Sinatra with him singing his ass off in front of a live band—it all happened right there. That was the best! A lot of people can't handle that. A lot of *singers* can't handle it—they can't get through a whole song. But we always did whatever worked the best, whether it was recording live in the studio or recording parts separately.

If you do it right and get the performances you need, it doesn't matter how you got there.

You have to know what you're aiming for and [be able to tell] when you're getting it.

When did you first work with Bruce?

We go back a long way. It was in Chicago in the mid-'50s [actually, 1958]. It was a record with Count Basie. Basie was at the Blue Note in Chicago. We also did a Dinah Washington album.

How important is it to have a good relationship with an engineer?

Oh man, are you kidding? It's like [Steven] Spielberg and a DP, director of photography. If he doesn't get it right, what you do doesn't mean a thing. They capture the moment. I look at recording and producing just like a film director. The script writer is the song, the cast are the musicians and singers, and your engineer is your DP. We'll talk, sonically, about what we're trying to do, and Bruce will always take it further than you might think of yourself. He developed some amazing things. Like he figured out a way to use SMPTE timecode to put together as many 24-tracks as you wanted so you could get all these strong stereo pairs of everything [and not run out of tracks].

Was working with Michael Jackson any different for you because of all the pop crossover expectations that came with the gig?

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Not at all. I've always done that. When I was 13 years old, during World War II, we were doing that in the nightclubs of Seattle with Ray Charles. We played everything: blues, strip music, R&B, pop music. Everything!

A lot of jazz people came down on me and were talking about how I was stretching out to do Michael Jackson. I said, "That's not a stretch. I've done this my whole life!" I loved Louis Jordan *and* Debussy, Dizzy Gillespie and Sinatra. I never did one style.

Did you record much live in the studio with Michael or was it mostly layered?

Well, we had great rhythm sections, which we did first. We did what we called Polaroids. We must've looked at 600 or 700 songs. When you get a song you feel you like, you put it down with a rhythm section to get it on its feet, and then you hear Michael sing a couple of takes on it, maybe with a couple of background lines to see how it holds up, so you can see what it might be and you're not just wasting your time. We called those Polaroids. Then, when something sticks, you develop it further, get into background lines and horns or synthesizers or whatever else you're going to be using.

***Was there a lot of experimentation on an album like* Thriller?**

Every album we did we experimented on. That's the fun part. Bruce is a creative guy and I am, too, and so is Michael, of course. He was always up for trying new things. I remember Michael sang through these long cardboard tubes to get a particular sound—that's something Michael came up with, I believe. But then you have Bruce there, too, knowing what every piece of equipment could do and being willing to push the limits. Everybody who was involved in those records had a hand in it. If someone had an idea, we'd try it.

You have to be open to ideas. Again, it's like a director. Spielberg said to me when we first worked together, "This has the chance to be everybody's film." And to me the most powerful records come from a collective creativity. You get good records when you let all the people who work on it put their personality in their particular area. With people like [Greg] Phillinganes on piano, or [horn player and arranger] Jerry Hey, or Paul Humphreys or Ndugu [Chancler] on drums, you get a lot of feeling and soul from all the people involved.

Have you tried to keep up with technology through the years?

How can you *not* keep up with technology? You sit in there watching the best guys in the world and you're going to learn. It's important to know what the vocabulary is in whatever you're doing. If you don't, you're very limited. But, obviously, Bruce can go inside there and take all the stuff out and then put it back in; I'm not into that. But at least understanding what everything does is important.

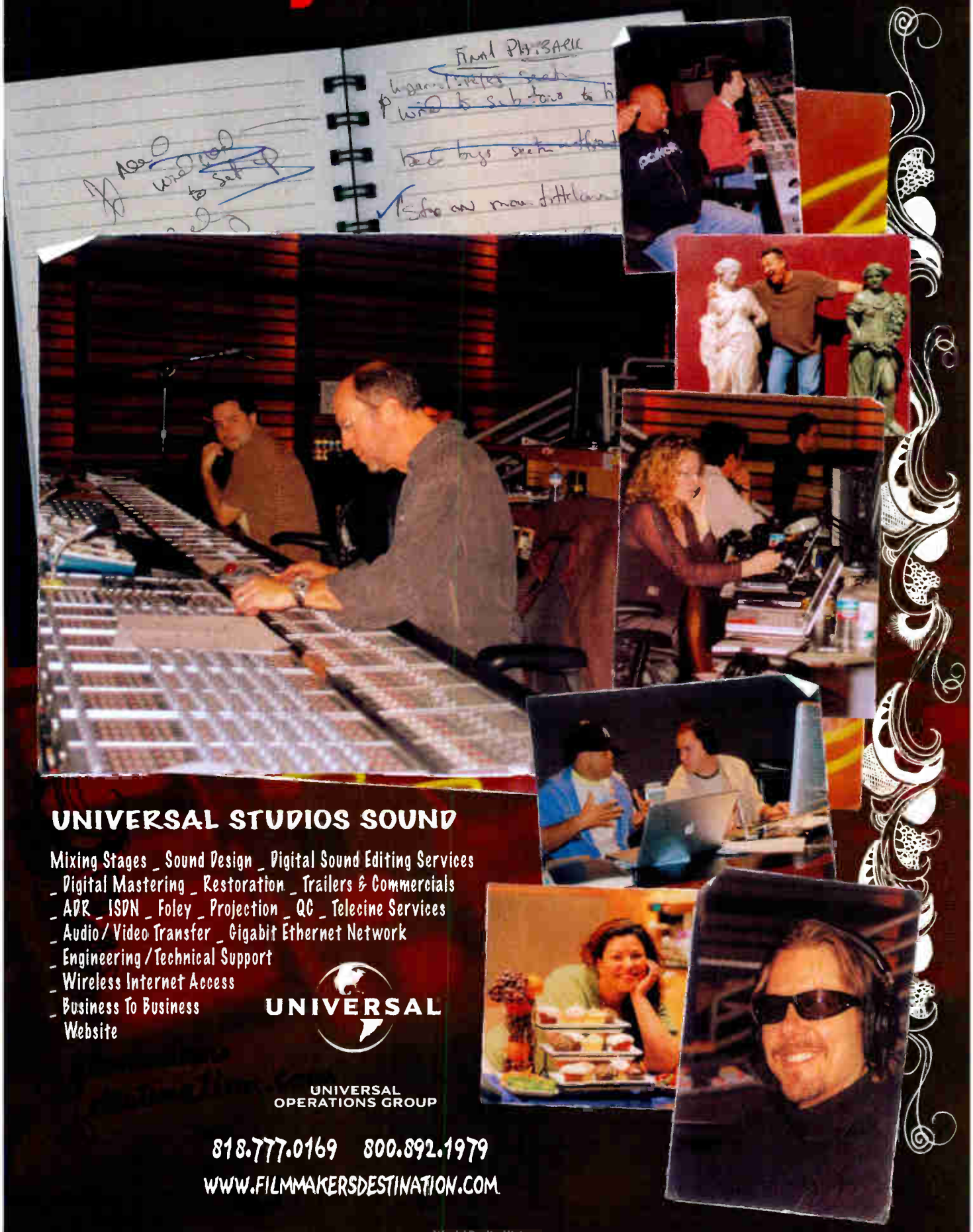
When it's your own album that you're working on, is it hard to wear all the different hats? Producer, arranger, artist?

It isn't really any different. I work with people I respect and with a team that works together a lot who all care a lot about what's up. One thing you don't want around you is a lot of yes-men that tell you everything is great all the time. That's bullshit. I want everyone to always feel free to say what they think. You weigh it and see if it's valid. A film director does the same thing.

Do you still get the same rush in the studio you did when you were 18?

Absolutely! I love recording studios. That's why I never had a studio in my home—to me a recording studio is a sacred, hallowed place. I used to have a saying: "Let's always leave some space to let God walk through the room." Because you're looking for very, very spiritual and special moments in a studio. It can't be just some place you hang

hear your vision



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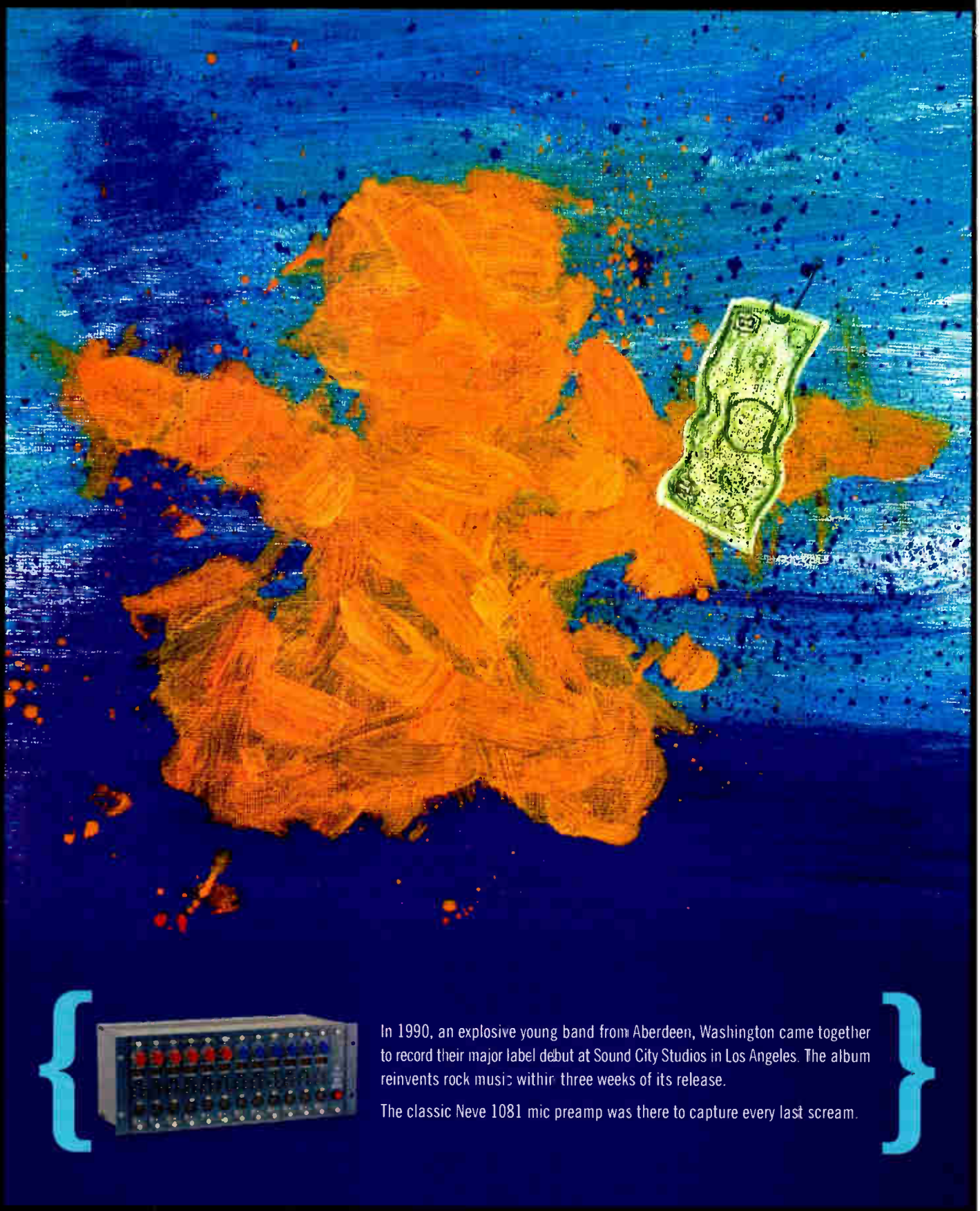

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out in and take for granted.

Are you worried about the future of the recording industry?

I'm worried about the distribution system, not the industry so much. Sometimes I worry about the audience being dumbed down a little bit musically. That part I don't like. I think especially American kids need to know more about the evolution of music and where the power in music comes from. I always say it's easier to get where you're going if you know where you came from. Every major artist in R&B has always been connected with jazz. Jazz is like the classical music of pop music.

How can we get kids interested in jazz?

Give them a copy of [Miles Davis'] *Kind of Blue*. I've given hundreds away. I say, "I want you to take this every day, like it's orange juice." Listen to Miles and Coltrane and Bill Evans and Cannonball. It's very important, because from Marvin Gaye to Donny Hathaway to Earth, Wind & Fire to Stevie Wonder to Michael Jackson, they all owe a debt to that tradition. Take a close look at "Baby Be Mine," the Rod Temperton song [on *Thriller*]. Rod is a genius. It goes [he scats], "*Deedle, dee-do-dee-dee-dee...*" That's Coltrane, man. It's got pop lyrics and a beat, but it's Coltrane. It all came from the same place.

And this music has been adapted by the entire planet. I've been around the world three times in the last year and a half, and everybody is playing that music—in most cases, pushing their own indigenous music aside to play our music. And guess who knows the least about our music? Our kids. I used to talk to Clinton and Gore about why we don't have a Minister of Culture. I got promoted to Commander of the Legion of Honor in France [in 2001]. They really care about that stuff over there, and it's crazy that a country like ours—that is emulated all over the world—doesn't have a Minister of Culture. And there's nothing going on in the schools, culturally.

In fact, they're cutting music in schools.

That's right. In Russia, from second grade all the way through university, they're studying [Dmitry] Shostakovich, [Nikolai] Rimsky-Korsakov, [Igor] Stravinsky. They're studying the Germans, like [Arnold] Schönberg, and our music. Europeans play jazz better than Americans do. It's a joke.

If you were going to recommend a few albums of your own music to people who might not be familiar with music you've written, where would you begin?

That's a tough one. Maybe *The Dude* [a 1980 disc that helped make James Ingram a star], *Walking in Space* [a great big band album loaded with top jazz players from 1969], *Back on the Block* [1989]. *Back on the Block* covers almost everything from the 60 years I've been in music, from gospel to Zulu music to bebop to hip hop. *Sinatra at the Sands* [a classic 1966 album of Sinatra and the Count Basie Orchestra, arranged and conducted by Quincy] was another of the great musical experiences of my life. "Fly Me to the Moon" was the first thing I [arranged] for Frank.

How much do you still write today?

I'm getting ready to do a piece I've been working on for something like 28 years. We may do a Cirque du Soleil thing with it. It's the genesis and evolution of jazz and blues, all the way from Africa, the Spanish Inquisition, the Moors, the middle passage, Brazil, Haiti, Puerto Rico, slave ships in Virginia.

You've been such an important guardian of African-American music and culture. Few people have attempted to tie it all together the way you have.

For me, it comes very naturally because I love all these types of music so much. Wynton's doing something with Willie Nelson now. It's all part of what I call the global gumbo. It's been great to see. ■

COAST

Most months, "Coast to Coast" showcases state-of-the-art studios and projects, from L.A. to Nashville to New York, and every place in between. In this issue, as part of Mix*'s 30th-anniversary celebration, we look back at the state of studios circa 1977.*

L.A. grapevine

by Bud Scoppa

The year 1977 was, shall we say, a "transitional period" around the L.A. music scene. On the plus side, the most popular studios were booked around the clock; however, the interiors of these studios quite often resembled insane asylums with the inmates in charge.

Some veterans look back on this turbulent time—with classic rock and R&B still going strong while punk and disco exploded—as the golden age of analog artistry; others greet questions about '77 with cringes, remembering it as a period when a lot of smart people did really dumb things, thanks in part to a veritable blizzard of cocaine. But even amid scenes of single-edge razors being used to cut lines and tape, gram scales sitting on near-field monitors and 3 a.m. runs for "maintenance," records somehow got made and a number of them have endured, along with some of the people who made them.

The late Geordie Hormel was photographed in the then-newly designed Studio D, which was built in 1977 to host Fleetwood Mac's* Tusk *sessions.

In '77, I worked as a product manager for A&M Records, but it seems like I spent as much time at the old Record Plant on West Third Street as I did on the A&M lot. The primary object of my attention—or obsession, to put it more bluntly—was The Tubes, who were locked up in the studio trying to finish their third album, *Now*, following the exit of producer John Anthony. Those were wild sessions, with Captain Beefheart popping in one day for some overdubs, his presence further amping up the sessions' surreal vibe, and guitarist Roger Steen coming up with the defining track "I'm Just a Mess," while bandleader/guitarist Bill Spooner and I engaged in an ongoing competition on the Bally Fireball in the pinball room.

I thought at the time that the band was making a landmark album, only to have a sobering conversation with Al Kooper, who had produced The Tubes' self-titled debut at the same studio in 1974. He pointed out that superior record-making required experience and clear heads, both of which were in short supply during those sessions. As it turned out, no one outside the band's inner circle greeted *Now* with much enthusiasm, and 30 years later I still lack any semblance of perspective; in fact, I avoid listening to it because every note brings back such intense memories. The album stiffed, but at least we survived the experience, and The Tubes went on to make strong records with Todd Rundgren and David Foster.

In '77, Rose Mann (now Cherney) was in her first full year of managing the Record Plant—a role she continues to play at the studio's current location in Hollywood, along with serving as president and co-owner. She describes the layout and appointments of 30 years ago: "There were three large studios, three bedrooms—they were called the Sissy Room, the Boat Room and the Rack Room—a Jacuzzi, sauna and pinball room. We had beer in the soda machines. There were API boards, loads of tube mics and Studer multitrack tape machines. I think they mixed to quarter-inch and used 4-track for slap. We also had two remote trucks; one of them was used to

—CONTINUED ON PAGE 92

nashville skyline

by Rick Clark

Nashville 1977: Stalwarts like George Jones, Mel Tillis, Loretta Lynn, Conway Twitty and Charley Pride were still cranking out Number One hits, as were plenty of crossover pop acts. Kenny Rogers dove straight into "a bar in Toledo" with the smash "Lucille," and Welsh belter Tom Jones stamped his patent grind on "Say You'll Stay Until Tomorrow." It was the year Elvis Presley enjoyed his last Number One country song with "Moody Blue," which was followed by his first posthumous Number One, "Way Down."

It was also a great year for the community's premier non-country music studio, Quadrophonic. Quadrophonic began in 1970 with the partnership of Norbert Putnam, session keyboardist David Briggs and producer Elliot Mazer (Linda Ronstadt, Neil Young, Gordon Lightfoot). What started as a place for Putnam and Briggs to set up a publishing house quickly turned into one of the hottest studios in the country, thanks to the influx of projects brought to the studio by Mazer. High-profile sessions included those with Neil Young, Dan Fogelberg, Jimmy Buffett, Grand Funk Railroad, the Jackson Five, Buffy Saint-Marie, the Pointer Sisters, Joe Walsh and The James Gang, Stephen Stills, Eric Anderson and many others.

"When we established Quad in 1970, we paid $35,000 for the house and the lot in back," Putnam recalls. "I remember David [Briggs] and I put together a budget with Elliot [Mazer]. I think we had a little over $100,000 to $125,000 involved in the Quad Eight console, the tape machine, all the mics, the piano—the entire ball of wax. By 1972 or '73, the studio was grossing $400,000 to $500,000 a year. So we paid back everything we had borrowed literally the first year. It was all profit after that. That's a good small business. I think Quad was probably the most profitable studio in Nashville in the '70s. Our day rate was $150 an hour until 6 o' clock in the evening, when it went to $165. And

TO COAST 1977

new york metro

by David Weiss

You'd be kidding yourself if you said the recording industry didn't look a lot different in 2007 from the way it did in 1977. The music output from the five boroughs remains huge, but there are gaping holes on the streets where major studios used to stand, and a gaping hole in the skyline that unquestionably had as big an impact on the studio business as it did on everything else in New York City.

"Recording has changed, but it's changed more in New York than in any other big recording city in the country," Elliot Scheiner says by phone from—where else?—L.A. "I think a lot of it has to do with 9/11. When that happened, I had an enormous amount of work booked and it all cancelled. People didn't want to be in New York City. It really hurt the city, and coupled with pirating and illegal downloading, people just couldn't afford to pay the prices of the studios."

Scheiner estimates that there were roughly 40 to 50 "mainstream" studios in New York City in 1977, but he notes that that number is down to less than 10 today. "Now Sony has closed, the Hit Factory is gone, A&R is gone," he says. "Today, it's hard to find a lot of individually owned production facilities. The ones that are still there include Clinton Recording, Right Track [now part of Legacy Studios], Avatar Studios, which used to be Power Station, Manhattan Center Productions, Quad Studios and Sear Sound."

Thirty years ago, Allan Schwartzberg was a hard-working session drummer, playing with everyone from Rod Stewart to Peter Gabriel, Kiss and Barbra Streisand, and even performing what's widely regarded as the first disco beat on Gloria Gaynor's "Never Can Say Goodbye." Today, he owns the room he usually records in; he's one of the current crop of facility proprietors who have found more ways to get things done affordably in a relatively small space. "The joke from the '70s, 'I could phone that in,' is applicable today because you literally can," he observes from his Times Square studio, Deep Diner.

Allan Schwartzberg (left) and business partner Bob Mann

According to Schwartzberg, it was one specific piece of gear—Linn Electronics' famous LinnDrum—that spelled the beginning of the end for many of New York City's large rooms. "It went from needing the ambience in the room that you built with your guts, blood, sweat and tears to, 'Oh, we have it here in this box,'" he recalls. "It records great, it sounds great and the effect is you don't need that big room; you don't need the whole joint. I think the studios pretty much didn't know what hit them. Howard Schwartz [of Howard Schwartz Recording] is a modern-thinking man who kept it going, and Ed Rak at Clinton also did that. I think overall people couldn't afford to reinvent themselves."

Jimmy Douglass, whose huge body of work spans from Aretha Franklin to Missy Elliot, Justin Timberlake, Timbaland and far beyond, looks back at each 10-year milestone within the 30-year stretch as its own particular place in time for New York City recording. "In 1977, I was at Atlantic Studios, ensconced in the middle of that rock renaissance working with acts like Foreigner," he says, relaxing in Manhattan Center Productions' Studio 4. "Like Woodstock, you just enjoyed it because it was there. Nineteen eighty-seven was when

—CONTINUED ON PAGE 98

on the weekend it was $165 all the time."

Quad was the first private studio to have Dolby A and the first to be set up for quadraphonic sound. The first substantial hit out of Quad was Putnam's first production, Joan Baez's 1971 version of Robbie Robertson's "The Night They Drove Old Dixie Down," which was quickly followed by Neil Young's *Harvest* and Dobie Gray's "Drift Away."

The Baez version of "The Night They Drove Old Dixie Down" was Putnam's first production, and it placed him squarely in the minds of label heavies like Clive Davis and Ahmet Ertegun as the go-to guy for delivering high-quality, commercially appealing projects from singer/songwriters and bands. "I was suddenly a guy in Nashville who produced a million-selling record and had gotten Clive Davis' attention, as well as the rest of the industry. That meant millions to me. Clive called me as soon as Baez was a hit," says Putnam. "When Clive Davis gave me my contract to do Dan Fogelberg, he gave me a $75,000 budget to make *Home Free* at Quad. That was an unheard-of budget for any production in Nashville at the time. That's what Joanie did for me."

—CONTINUED ON PAGE 94

Jimmy Buffet working on lyrics to "Margaritaville" in Quad Studios, 1977

the birth (and death) of ultrasonic studios

studio founders recall the way it was in new orleans

BY BARBARA SCHULTZ

Life is full of coincidences. It just so happens that 1977 was also the year that Jay Gallagher and George Hallowell founded Ultrasonic Studios in New Orleans. It also just so happens that the day we interviewed Gallagher and Hallowell about the early days of Ultrasonic was the second anniversary of the day Hurricane Katrina hit, swallowing the studio along with much of the city.

What were you guys doing before you started the studio?

Gallagher: We were in college before that. We were just kids. We built Ultrasonic ourselves, physically. It took nine months to build it, starting in '76 so we opened in '77.

How did you decide to start a studio?

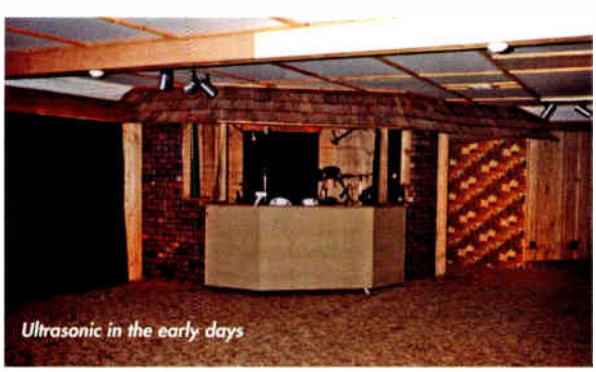
Gallagher: I had been recording people in college on a little 4-track system, and they started paying me in things they made, like wallets and things. We were both out of school and working in stereo stores, and I said, "Why don't we build a studio? We might make some money?" So we made a go of it. We started out small, 16-track, and every time we got the money, we'd expand.

Tell me about the building and location.

Gallagher: Once we decided that New Orleans was the place rather than Houston, which was a good idea—there were more musicians and less competition—we looked for three months and picked out 10 buildings that we thought were appropriate. We rated them each on a scale of one to 10, and the one we gave the highest rating was a 4,300-square-foot building—a tin-roof building; there's a mistake—on Washington Avenue, right across the street from Xavier University. It was a good location because it was close to the freeway, in what they call Mid-City, so it was easy to get to from all places. The roof was a problem in the early years. We eventually fixed that with acoustics, but that took awhile and money.

Other than the roof, all the renovations we did over the years were to make more paying space. In the end, we had a big A room, a B room we used for digital editing and voice-over work and some mastering, and we had offices, a green room, a kitchen and a machine room, all in the same building that went under in Katrina, and that's what ultimately killed Ultrasonic. The building got sold last year, and the new owners took a bulldozer to it from front to back.

What gear did you have when you first opened?



Ultrasonic in the early days

Young Jay Gallagher engineering a session, circa '77

Gallagher: When we opened, we decided to go with new MCI gear. They were sort of the up-and-coming, mass-market consoles and machines. We ended up buying a JH16 tape recorder and a 428 console, which was only fitted with 16 inputs at the time. It was a small console, but it allowed us to learn the craft and we made some fine recordings. We bought them from Audio Consultants in Nashville, and then we upgraded the console in 1986 or so to an automated 52-input MCI 652.

Who were some of your early clients?

Hallowell: We did a lot of R&B and Dixieland. Not necessarily anyone you would have heard of, but a lot of great players. Eventually, most everyone who ever recorded in New Orleans was in there at some point. Some notables were Aaron Neville, Linda Ronstadt, k.d. lang, Dave Stewart, Dr. John and Dolly Parton.

Who would have been your competition back then?

Gallagher: Allen Toussaint and Marshall Sehorn had their studio called Sea Saint [New Orleans' first state-of-the-art studio, built in 1973], and there was a very good Westlake facility called Studio in the Country that was built in 1973; that was in Bogalusa out in the woods, and that was run by Bill Evans at the time.

How long did you continue doing all the engineering at Ultrasonic?

Gallagher: George stayed six or seven years [before leaving to pursue studio architecture and acoustics], and I continued engineering, but a few years after George left I started hiring engineers. I hired Scott Goudeau, who was a great guitar player/engineer. Later I hired David Farrell from a competing studio, and that's when things really got going. Blacktop and Rounder were the two big clients in New Orleans, and they went with David, basically, so we got those two. Blacktop was local to New Orleans and Rounder was from Boston, and they both did a lot of indigenous music and R&B.

Steve Reynolds was also a great addition. He was fresh out of Full Sail but had been a professional musician prior to that. They took over all the engineering chores, and I got into advertising sound—first at the studio in one of our other rooms, and then I started a facility downtown, which later became the Swelltone film mix room where I linked up with [film sound editor/re-recording mixer, and *Mix* sound-for-picture editor] Larry Blake. In 1990 I started doing advertising full time, and then about 1999 I switched over to film full time.

In 2002, we sold the studio to Dave and Steve. I kept the building, but they kept the business. But when Katrina hit, they got wiped out.

Now, Steve is teaching at NOCCA, which is a prestigious creative arts high school in New Orleans, and Dave is doing engineering work at various studios around town. He's keeping busy, but he doesn't have a home base anymore.

They did salvage some of the equipment from Ultrasonic. By that time, they were Pro Tools–based, so that was a lot easier to move around than the 24-track was.

Hallowell: They have a nice 24-track Studer that's now a doorstop.

What was cool about having a recording studio in New Orleans in 1977?

Hallowell: It was a real learning experience and a lot of fun for us because we didn't know anything about studios, we didn't know anything about construction, we didn't know anything about business, and we had to sort of learn it all at the same time that I think New Orleans was coming of age, too, in terms of the studio business. There's always been a lot of live music and music history in New Orleans, but it all seemed to be coming together around the time we decided to open the studio. It was a really fun time. It was a little nerve-wracking at times, though, because we didn't really know what we were doing.

Gallagher: We really didn't!

What's next for each of you?

Gallagher: We've moved to North Carolina and formed a new company in Raleigh called Theater Design Labs. It's going to be a high-end home theater design firm.

In California, we get all our information about the post-Katrina recovery from the news. How do things look to you?

Gallagher: The sections that did not get wet are fine: the French Quarter, downtown, right along the river. But where things did get wet, things are not fine, and that's about 60 percent of the city, the places where people live.

Hallowell: It's hard to realize how much infrastructure is gone until you're there. It's not like someone can just buy a house cheap now and move in.

Gallagher: There are a lot of important things that are missing or seriously wounded.

Hallowell: The people of New Orleans have so much history and so much fortitude that I think it will come back, it's just going to take awhile. ■

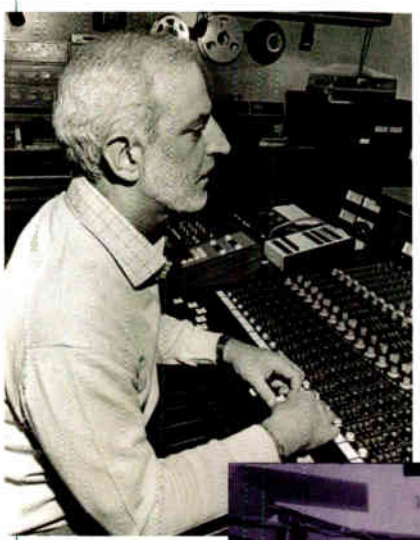
Barbara Schultz edits Mix*'s monthly "Coast to Coast" section.*

fleetwood mac at the record plant

Lindsey Buckingham (left) and Mick Fleetwood tracking for* Rumours *at The Record Plant (now The Plant) in Sausalito, Calif.

Initial sessions for Fleetwood Mac's smash *Rumours* album took place in Studio B of The Record Plant in Sausalito, Calif., in '76 and '77. Richard Dashut co-roduced with Wally Heider engineer Ken Caillat. Before *Rumours*, the bandmembers had done most of their recording in L.A., but as Dashut told *Mix* in 1999, "Mick [Fleetwood] thought that if he took us out of our homes, we'd all have to hang out together with very few distractions."

joe tarsia's sigma sound



In 1977, Joe Tarsia's Sigma Sound were going strong in Philadelphia and New York City. The photo of Tarsia (left) was taken in the Philadelphia Studio 4, which Tarsia says "was located in the office building belonging to Philadelphia International Records, the former home of Cameo Parkway Records, where I started my career with Chubby Checker, Bobby Rydell, Dee Dee Sharp, The Orlons and The Dovels, among others." Studio 4 was fitted with a custom MCI 400 console at that time, and some of the artists Tarsia worked with in the late '70s include Harold Melvin & The Blue Notes, Lou Rawls, The O'Jays, The Spinners, The Stylistics and Teddy Pendergrass.

PHOTOS: ARTHUR STOPPE

Sigma founder Joe Tarsia engineers an O'Jays session in Studio 4.

One of the frequent string sessions Sigma hosted in the '70s

record *Frampton Comes Alive*."

According to Mann-Cherney, among those working at the Record Plant around that time were Eddie Money, The Eagles, The Tubes, Frank Zappa, Donna Summer, Barry Manilow, the Moody Blues, CSN, Supertramp, Dan Fogelberg, Smokey Robinson, Stephen Stills, Rick Nelson, Al Kooper, The Kinks, Stevie Wonder and her "old pals" Rod Stewart and Bill Withers.

"It was a good year, 1977," says Mann-Cherney, "'Gucci, Pucci, Fiorucci,' to quote Steven Tyler. Record execs hung out every night—you never knew who was going to pop in for a visit. Every deal was done on a handshake. Tom Werman, John Boylan, Ron Nevison and Andy Johns would all book a year in advance. Major labels not only put us on the guest list at the Roxy, they gave us unlimited drink tickets. We roller-skated at Flippers, hung out at the Rainbow Bar and Grill, La Scala and Le Dome—so much fun. In those days, a backstage pass was really a backstage pass."

A mile or so north on Fairfax, two-year-old Cherokee Studios also had it going on in 1977. The facility, owned and operated by the three Robb brothers, was the site of work on Rod Stewart's *Footloose and Fancy Free*, Bob Seger's *Night Moves*, Barbra Streisand's *Evergreen*, and the soundtracks to the *Sgt. Pepper* movie and *Saturday Night Fever*. Also in session around that time were the Bay City Rollers, Kiss, Ted Nugent, The O'Jays, Natalie Cole, Foreigner, Hall & Oates, Andy Gibb, Lynyrd Skynyrd, Donna Summer and Barry Manilow (those two apparently got around in '77).

"It was unbelievable," says Bruce Robb of that period. "You could wake up at 3 in the morning, go into Cherokee and it was like the biggest, most exciting nightclub in town. It was around the clock, with the most insane things going on in the rooms. We'd have Barry Manilow in one room, Kiss in another room and Frank Sinatra in *another* room. And Bob Crewe was just crankin' with disco. There were two sessions a day in each room; one would stop at 8 p.m., the next would start at 9 and go to the next morning. At one point, Joe and I were doing Sinatra, and Dee was doing [David] Bowie. Bowie would stroll into our session and invite Sinatra back into his session. We'd have Jeff Beck in doing *Wired*, and he'd go up to a Rod Stewart session—'Lemme play a solo on this track.' There was a lot of that then; nowadays, it's a little more closed off, more driven toward the market and the brand of the group. It was more about music than marketing back then, and the artists were still leading the trends. We

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catered to the artist rather than the label, because those are the guys who made the records. And you know what? That's still the way we feel."

When I mention that I don't remember a lot of details about that period, Bruce Robb lets out a hearty laugh. "I don't either," he says, "but people tell me I had a great time."

After 32 years, Cherokee closed at the end of August of this year. The old site on Fairfax is being converted to a facility containing a dozen "musicians' lofts," including home studios and living quarters. The Robbs are moving to Culver City, where they'll set up a two-room operation using much of their prized vintage gear, including a pair of Trident A-Range boards. "After all these years," says Bruce Robb, "I still can't think of anything I'd rather do."

Over on the West Side, the Village Recorder—Geordie Hormel's eccentrically designed and technically advanced operation—spent much of '77 hosting one high-end client and anticipating the arrival of another.

Day after day, week after week, Carol Farhat, who'd worked at the studio since a few months after it opened and was now managing the joint, watched the comings and goings of Donald Fagen, Walter Becker and their shifting lineup of hot-shot hired guns through the one-way glass of her office. They were back in Studio A, where they'd cut their first four albums, working painstakingly on what would be their magnum opus, *Aja*. "They would block out A for six months to a year," she says. "They loved it because it was a really live room. Steely Dan had a lot of money for recording by then, and the label *expected* them to take that long to do an album. They'd go in, have a good time and finally get down to business when it got closer to deadline."

While the Dan were laboriously painting their masterpiece, Hormel was busily fulfilling a commitment he'd made to the newly rich and famous Fleetwood Mac to build them a room of their own at the Village. So while Big Mac toured the planet behind *Rumours* (see page 91 for photos of The Plant sessions for that album), Hormel did his magic—and when the band gathered back in L.A. to start work on *Tusk*, Hormel proudly led them into the warm and gleaming environs of brand-new Studio D.

Also passing through the wall-of-mirrors lobby around that time—and sometimes walking into walls trying to find the door (Hormel loved optical illusions)—were Joe Cocker, Bonnie Raitt, Alice Coltrane and the young members of Kiss. "They came in without their makeup," says Farhat, "and they were really cute young guys; really innocent and sweet. One of them had his favorite guitar stolen and he came in my office crying."

Even then, says Farhat—and current Village top dog Jeff Greenberg confirms it—the Village was haunted by what both refer to as the "phantom bass player." But that's a story for another time.

Clarification: In my September column, I not only failed to point out that Gussie Miller makes constant use of Logic Pro 7 and his Pro Tools HD system, I also managed to typo the name of Miller's home studio—it's Artis Musicai. My apologies—make that mea culpa. ■

Send L.A. news to Bud Scoppa: bs7777@aol.com.

NASHVILLE SKYLINE FROM PAGE 89

By 1977, even Putnam was having to squeeze in time for his productions, because Quad was so busy. Gene Eichelberger, who was in on the ground floor of Quad's creation as the one responsible for wiring and maintaining the facility, engineered numerous projects at Quad. "At that time, Quad was really happening," he recalls. "The

Norbert Putnam engineers while Joan Baez sleeps at Quad Studios.

rooms worked great for strings. Everything just worked. It was a very non-scientific way of creating those spaces. It just was burlap and rock wool and insulation. We were never done wiring and changing things, because right after that we went 24-track and I rewired the whole console and turned a 16-track console into a 28-track console."

The studio had quite a rep for its party room—partially out of Putnam and Briggs' desire to be on the edge of what was available in the Nashville studio scene. If Combine Music, down the street, had free beer at 5 p.m., then Quad would have a full-time ongoing bar. "We were constantly having to go upstairs and tell the drunks to turn the stereo down," Putnam says, "cause the chandelier would be shaking downstairs and we were trying to track. You'd hear them playing Donna Summer 'Love to Love You, Baby' and stuff like that. [Laughs] And this also goes to prove my theory about studio design, because when you'd turn the big monitors up in our control room, the floor would shake and it would vibrate with the beat of the kick drum and the bass. Gene Eichelberger told me that at a certain vibration he knew the bass was right on the record because he could feel it in his toes. If he couldn't feel it in his toes, he knew he didn't have enough bass on the record. Everything about Quad was a moving membrane."

Putnam's production career went into serious overdrive in '77, thanks to two career-defining album projects: Buffett's *Changes in Attitudes Changes in Latitudes* (featuring "Margaritaville") and Fogelberg's *Netherlands*.

Buffet began tracking at Criteria in Miami and finished at Quad. "With artists like Jimmy, I tried to get as much of the vocal off the floor as I could," Putnam says.

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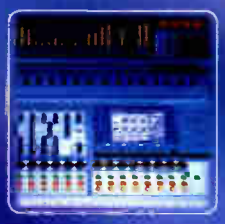

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It may be hard to believe, but not too long ago, pro audio *wasn't* dominated by huge corporations. Manufacturers created short runs of products designed for the exact needs of customers, rather than a one-size-fits-all mentality. And in those days of yore, audio gear was either designed by studio owners themselves or from small companies that took a old-world craft approach to creating quality products that were meant to last longer than a year or two. And audio dealers were a trusted advisors, offering knowledgeable information that users could rely on.

Today, with audio production studios moving into the realm of the digital audio workstation, much of the individuality and personality—"vibe," if you will—has been lost to a lot of me-too facilities with the same recording rig, the same plug-in suites and little to set them apart from every other room. Fortunately, an investment in a few high-performance items—whether a new mic, a quality preamp, a bit of acoustical treatment and an ergonomically-designed housing to keep everything within arm's reach—can set you apart from the rest of the pack. Meanwhile, if this investment improves productivity and makes your tracks sound better, so much the better.

With that in mind, we created this special advertorial supplement to spotlight some niche businesses offering the right combination of quality products with personal attention to individual customer needs—all vital factors to serious pro users. So check it out, enjoy and if you find something here of interest, give them a call and tell 'em you saw it in *Mix*.

George Petersen
Editorial Director

Table of Contents

Auralex®
acoustics

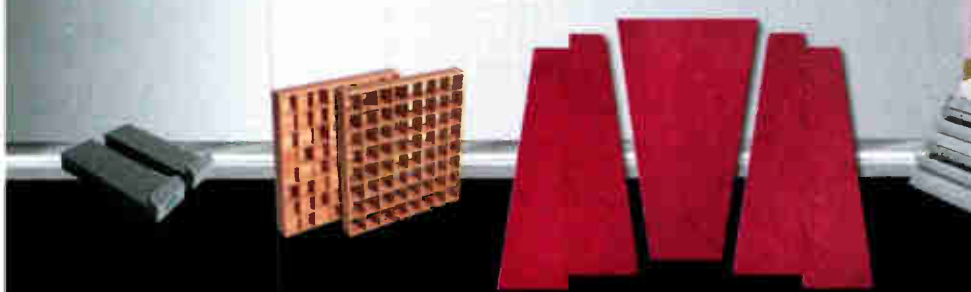
Perfecting Sound For 30 Years.

"The **SpaceArray** diffusors work great, look great, and they're less expensive than anything else on the market."

Hal Winer
Bi-Coastal Music, New York

- Control Rooms
- Project Studios
- Radio & Television Studios
- Live Rooms
- Houses of Worship
- Stages/Live Performance
- Home Theater
- Vocal Booths

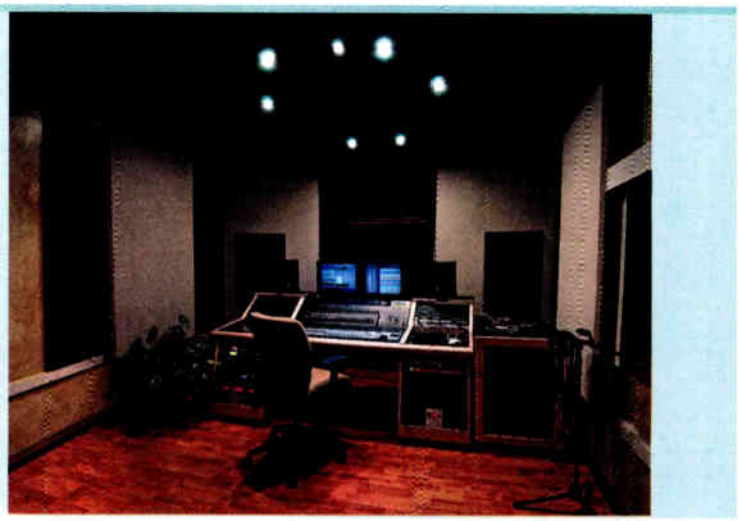
Auralex Acoustics is the industry leader in acoustical treatment products, including acoustical absorbers, diffusors, sound barriers, construction materials, isolation platforms and complete room treatment kits.



1-800-959-3343 | www.auralex.com | auralexinfo@auralex.com

AURALEX ACOUSTICS

Auralex® Acoustics is the industry leader in acoustical treatment products, including Elite ProPanel™ acoustical absorbers, TruTrap™ Broadband Absorption Systems, LENRD® bass traps, Studiofoam® panels, the pArtScience™ product line designed by famed studio designer Russ Berger, T-Fusor™ and Q-Fusor™ diffusors, sound barriers and construction materials, MoPAD™ and GRAMMA® isolation platforms, and complete room treatment kits—virtually everything necessary to sound better and achieve world-class acoustics in any room.



Performance Shaped by Experience

Having been in the acoustics business for 30 years, we have a great feel for what is needed, what really works. Drawing upon that experience, we've continued to fine-tune our offerings to the point of having solid, proven products to solve virtually every acoustical problem—regardless of room size, shape or function. Auralex offers innovative products combined with solid advice from acoustical experts so you can rest assured that the total solution for your sound dilemma is the best that it can be.

Our Products Offer the Best Performance Regardless of Price

With Auralex, quality is not fixed on a sliding scale that rises or falls depending on the budget. Whatever price you have in mind, Auralex quality is the market's best. This way of doing business has earned us countless loyal customers, who in turn spread the word and bring new customers our way. By sticking to this quality commitment, we get more repeat business and referrals than any business textbook says a company should.

The Golden Rule Is Alive and Well at Auralex

It's one thing to say you have your customer's best interest at heart; it is another thing to prove it every day. For instance, we go above and beyond our competitors by providing you with your own personalized room analysis. Because we spec your room, we know exactly what it needs. End result? The most accurate, best-sounding acoustics possible. Unlike others, we use independent acoustical laboratories to make sure all our products deliver outstanding and predictable performance. Working with our valued Auralex Dealers, we make sure you get only the materials you need—nothing more—while providing friendly service and honest, expert advice. In short, you can have total confidence that the system you install is the best your money can buy.

Engineered Listening Environments

When it comes to recording and broadcast studios, houses of worship, live performance venues or any other critical recording or listening environment, Auralex brings it all together: total sound control with pleasing aesthetics, custom-engineered with your specific room in mind.

While others may offer decorative alternatives that may have some effect on the acoustics, Auralex focuses first on making the sound accurate then incorporates the desired décor into the design.

AURALEX ACOUSTICS

6853 Hillsdale Court
Indianapolis, IN 46250
Tel. 1 800 959-3343
www.auralex.com

Auralex® acoustics

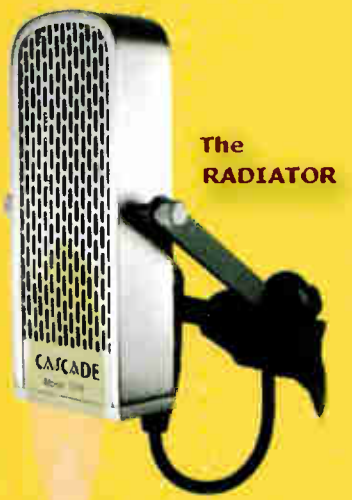
VICTOR: $169.00
Long Element Ribbon

FAT HEAD II: $199.00
Single Element Ribbon

ELROY: $299.00
Tube Multi-Pattern LC

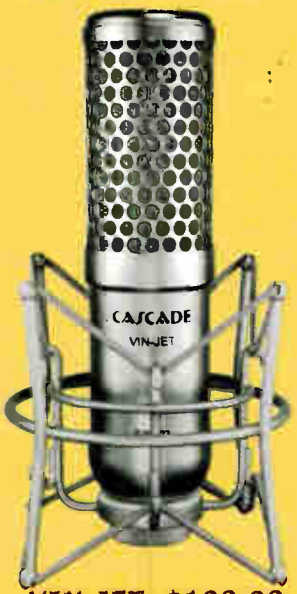
FAT HEAD: $159.00
Single Element Ribbon

X-15: $499.00
Stereo Single Element Ribbons



The **RADIATOR**

731R: $299.00
Dual Element Ribbon



VIN-JET: $199.00
Long Element Ribbon

DR2-S: $599.00
Stereo Dual Element Ribbons

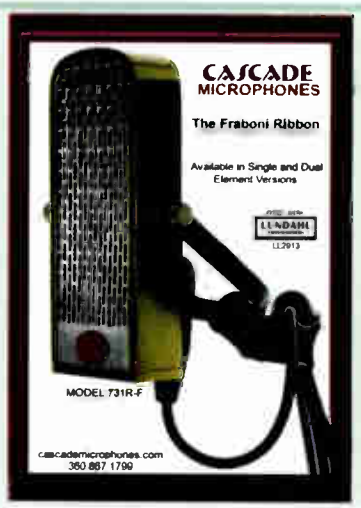
L2: $399.00
Stereo Multi-Pattern LC

Custom Fitted
LUNDAHL TRANSFORMERS
Available

CASCADE MICROPHONES

About Cascade Microphones

The Cascade Microphone Company is located in Olympia Washington, over-looking the beautiful Puget Sound. The name, inspired by the Cascade Mountain range, is fast becoming recognized in the Pro Audio industry. Since its inception, Cascade Microphones' goal has been to offer high-quality product at an exceptional value. Cascade Microphones are hand-built and are represented by a line of high quality professional studio-grade condensers, vacuum tubes, and ribbon microphones that rival the best of the best. The Cascade model line-up features the ELROY, M20u, M39, FAT HEAD, FAT HEAD II, VICTOR, L2, V57, X-15, DR-2, DR-2S, VIN-JET and 731R microphones.



New Facility

Cascade Microphones recently moved to a new facility to accommodate the exponential growth it has experienced over the last year. In addition to the capacity for expansion, the new space also allows for a service department, specializing in microphone modifications such as custom-fitted Lundahl and Cinemag transformers and custom cables, just to name a few.

Buy Direct

When you buy a Cascade microphone, you are buying direct. There is no additional mark-up to cover the usual expenses that are associated with a typical retail sale.

Accurate Specifications

Cascade Microphones stands behind each and every microphone we sell. We want our customers to have the best information available to help them make informed decisions about their purchases. To verify that the most accurate information is being presented, each model is shipped to Cross-Spectrum Labs where audio calibrations are conducted to ensure that our specifications and measurements are precise and correct.

Quality Control

We closely and diligently work with our manufacturing team on a day-to-day basis. Our product designs and modifications are what make Cascade Microphones stand out from the rest. Each microphone receives a final inspection by our service department before it leaves our facility.

No questions asked Return Policy

We want our customers to be completely satisfied and comfortable with their purchase. And if for any reason (no questions asked) you choose not to keep your purchase, you are welcome to return it for a full refund within the first 30 days. All you have to do is call or email us and we will promptly handle the rest. Thank you for considering our quality products and we look forward to doing business with you.

AES Booth #568

Sincerely,

Michael Chiriac – CEO

CASCADE MICROPHONES

3720 Gravelly Beach Loop NW
Olympia, WA 98502
Tel. 360-867-1799
http://cascademicrophones.com

47 Flavo s And Then Some

Distributed in the U.S. by Vintage King Audio

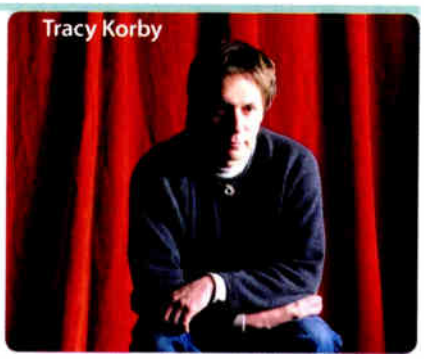
www.korbyaudio.com | email: sales@korbyaudio.com | tel: 615 383 8797

KORBY AUDIO TECHNOLOGIES

For the past two decades, Korby Audio Technologies' world renowned Restore *Vintage Microphones Program* ***(REVAMP™)*** has repaired, restored and otherwise resurrected the most revered microphones in history for some of the finest names in audio on the planet.

KAT Blue, KAT FET and KAT Red

It is this legacy that has allowed **Tracy Korby** the unparalleled opportunity to scrutinize hundreds of vintage microphones and compare the characteristics and limitations that make them great – and then take those qualities and build on them.



Though steeped in the heritage of legendary classics, these are unique, new products. Each and every proprietary capsule and microphone is handmade and hand-assembled from start to finish in the Korby facility in Nashville. Korby's current product roster includes three new microphones **(The KAT Blue, KAT Red, KAT White and KAT FET)** as well as the critically acclaimed ***KAT Hot-Swappable Capsule System*** that lists Peter Gabriel, David Gray, Kid Rock and Kelly Clarkson among its many owners.

Korby Audio Technologies products aren't sold just anywhere. Vintage King has carried our entire product line since its inception and serves as our exclusive U.S. distributor. Every product Korby Audio offers is hand-tuned and customized to the specific needs of the client. A service you won't get from a catalog mic.

Want to learn more about the microphones that many of the world's most respected producers and engineers rate as their secret weapon? Or about the Korby ***REVAMP™*** process for vintage microphones? Visit us online at **www.korbyaudio.com** or give us a call at our Nashville office – 615/383-8797

KORBY AUDIO TECHNOLOGIES

2805 Bransford Avenue
Nashville, TN 37204
Tel. 615 383 8797
sales@korbyaudio.com

KORBY
AUDIO TECHNOLOGIES

NO SLEEP 'TIL BROOKLYN

TONY WILSON C2 TECHNOLOGISTS: 718-554-7203

BILL "BT" THOMAS METHOD AUDIO: 708-671-9996

WWW.MERCENARY.COM

MERCENARY AUDIO

At Mercenary Audio we are ever expanding and ever changing. This year we welcome 4 key additions that support our strengths. Tony Wilson of C2 Technologists is our new consulting engineer in Brooklyn, NY and Bill Thomas of Method Audio is our consulting engineer in Chicago, IL. Adam Brass has joined the Mercenary Boston crew as our digital audio guru, and Ken Berger has taken the daunting task of being our new C.E.O.

Tony is an absolute Apple/Logic "Jedi", who has worked with the Rolling Stones and Wu Tang's "RZA", Hall and Oats, and Katreese Barnes [Music Director, Saturday Night Live Band] to name but a few. Adam is also a master of digital connectivity who can configure the perfect DAW solution for any possible situation. Bill "BT" Thomas in Chicago has an exceptionally firm grasp of both analog and digital solutions and is an absolute master at helping our Chicago friends create the perfect environment and tool set with which they can create the finest music possible.

We're still the same selective curmudgeons we've always been, only offering the absolute finest products and service... but with these additions come new opinions and new offerings from the Mercenary roster.

Our "it ain't over 'til its perfect" return policy will never change... our doubling of most warrantees will never change, but our affiliation with Apple and Logic are new.

We will continue to explore new tools and products that are worthy of the Mercenary seal of excellence; discovering and evaluating new products that are more than just the "fashion of the moment" which die after a well marketed internet hyped feeding frenzy.

We have continued the Mercenary Edition "seal of approval" with the addition of the Crowley and Tripp "El Diablo", an indestructible ribbon microphone (!!), and have introduced our first product under the Mercenary Audio label. A small diaphragm condenser mic called the "KM-69" is now available in the US and soon to be available across Europe and Asia.

In the months to come we'll be coming up with the most comprehensive set of product evaluation and application notes available anywhere on the internet. Notes that are generated on real recording sessions in our in house studio "The Methods and Applications Laboratory" will be made available for your further education and product evaluation.

Our staff and focus may be quite a bit more diverse than in previous years... but our superior knowledge and service will never wane.

MERCENARY AUDIO

www.mercenary.com

ACOUSTILOCK™

HEAR YOURSELF THINK

Superior Noise Reduction and Heat Removal for Computer Equipment

Noren Products Inc. has been producing *noise reduction and heat removal cabinets* for computer equipment used in professional Audio/Video Studios, Home Studios, Entertainment Centers, IT/Server Rooms and Offices.

A separate equipment room is no longer necessary. ***Acoustilock*** cabinets allow you to work in the same room as your noisy equipment, reducing the noise level while removing the equipment's waste heat.

Offering cabinets for single towers up to 24u of rack mountable equipment, you can choose the cabinet that fits your needs...

"HEAR YOURSELF THINK DIFFERENT"

NOREN PRODUCTS INCORPORATED

www.norenproducts.com | tel: 866.936.6736 | fax: 650.324.1384

NOREN PRODUCTS, INC.

AcoustiLock Cabinets Offer Superior Noise Reduction and Heat Removal for Computer Equipment

NOT JUST A BOX WITH FOAM!

For years Noren Products, Inc. has been producing noise reduction and heat removal cabinets for computer equipment used in professional Audio/ Video Studios, Home Rooms and Offices.

A separate equipment room is no longer necessary. ***ACOUSTILOCK*** cabinets allow you to work in the same room as your noisy equipment, reducing the noise level while removing the equipment's waste heat.

Offering cabinets for single towers up to 24u of rack mountable equipment, you can choose the cabinet that fits your needs. Now with FREE SHIPPING (curb to curb), your noise solution is even more affordable than ever.

Available in two standard finishes, BLACK or MAPLE, these units can be accessorized with optional temperature meters, internal lighting, locking doors and slide-out racks and drawers. ***ACOUSTILOCKS*** are truly space savers and allow you to "Hear yourself think different."

Many cabinets reduce noise from 71 dBA and 67 dBA to 35 and 33 dBA. The unique airflow system allows for the mixing and discharge of the heat while the air stream that carries the noise goes through the entire system dissipating the noise down to a low dBA. The ***ACOUSTILOCK*** uses the finest materials from triple barrier form and composite melamine to the best gasket material available as part of the design that some say is the finest noise reduction cabinet in the world.

The ***ACOUSTILOCK*** began with Pro-audio, the Digidesign world, and was a partner for the last few years. Then the video post world found ***ACOUSTILOCK*** and this spread from companies like Walt Disney Animation and Sony Pictures to Lucas Films as users of the ***ACOUSTILOCK***.

As the popularity continues to spread, we find companies like Bose Corp, Electronic Arts, The Canadian Broadcasting Corp, Hewlett Packard's Halo Project and many universities in North America using the ***ACOUSTILOCK*** noise reduction and heat removal cabinets.

NOREN PRODUCTS, INC

1010 O'Brien Drive
Menlo Park, CA 94025
Tel. 866-936 6736
www.norenproducts.com

NOREN PRODUCTS INCORPORATED

OMNIRAX *Technical Furniture that Inspires*

Music Production and Audio / Video Workstations

Omnirax studio furniture has evolved into a completely integrated modular furniture system perfectly suitable for professional music and audio/video production, whether at home or in a commercial studio.
Our line includes over 50 individual models, some of which are designed for a specific piece of equipment, such as a mixer, while others are more generic and suitable for a wide range of uses: music production, mixing, mastering, composing and video editing.
Our signature design concept - people-friendly, ergonomic furniture with a unique and innovative blend of style, function and solid construction - has established Omnirax as the nationally recognized premier line of modular studio furniture made in the USA today.
Our philosophy is simple: build a high quality product at a price people can afford, provide unsurpassed client care and and back it up with 100% Guaranteed Client Satisfaction.


Force 12 MP


Force 36 MF


Presto 4 MP

The Quantum Series

The Quantum Series introduces a new look and feel to Omnirax, combining our signature curved work surfaces with newly designed metal legs and riser posts, curved modesty panels and our hot new 3D wrap-around laminate. This beautiful and elegant finish allows us to provide you with a unique blend of soft touch feel, practical durability and stunning sheen. This seamless 3D Laminate wraps completely around the top and side of the surfaces creating a solid, one-piece look.
We are currently offering models in the following finishes: Satin White, Gloss Black, Mahogany, and Soft Touch Charcoal. Also available in our standard Black Melamine Laminate as well as in patterned High Pressure Laminates with matching T-moulding.

Home Furnishings

We have all seen how the advent of the computer and the digital age has changed the requirements for studio furniture in the music and broadcast industries. The requirements for home furnishings have changed as well, as people have embraced the digital lifestyle. Bringing mass produced office furniture designed 20 years ago into the home doesn't solve the problem. What's required are solutions that are aesthetically pleasing and tailored to the technology that surrounds us. This is just what we've been doing for years in the music and broadcast industries. We are now turning to the home office, and are committed to continuously fine tune our unique blend of style, function and ergonomics. Whether you need a home office, a home [illegible] just a mirror, Omnirax Home Furnishings are made for you.

Call now and let us help you find the right solution for your furniture needs, in the studio, classroom, broadcast facility or in the home.

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OMNIRAX

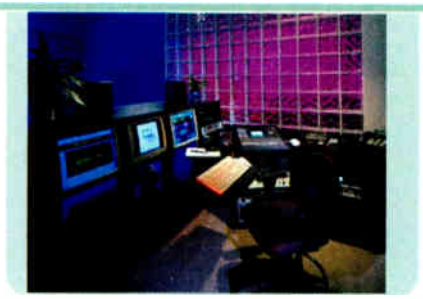
What differentiates Omnirax from other furniture manufacturers is our uniquely balanced blend of style, functionality and ergonomics, our excellent collaborative custom design ability and our fanatical attention to detail. Omnirax works directly with Chief Engineers, Program Directors, Architects and Station Owners to provide intuitive and custom solutions at near-production prices.

At Omnirax our products and services speak for themselves. We let our customers do the talking.

"Our furniture from you not only fit into our budget and timeline, it was very well constructed and looked beautiful. I expect to be outfitting many more facilities with Omnirax..." *

"... The Omnirax design makes these studios incredible for talent and operators on both sides of the console." *

"... I was impressed with the exceptional care given packaging for shipment. A few very large and potentially fragile components made it cross-country completely unscathed" *



"I'm blown away" - Dave Williams, Director of Engineering, Clear Channel San Francisco

"...Ease of installation is important and we got that with Omnirax. Customer service was superior to almost any other vendor we deal with." - Conrad Trautman, SVP Engineering and Technology Westwood One, Inc.

"... I wholeheartedly recommend Omnirax to everyone." *

*References available upon request.

CUSTOM DESIGNS

Have you ever been looking for something and not be able to find it?

Or found something close, but not close enough? Been told that what you see is what you get? We're sure it's happened to everyone. It happened to us, and that's when we started Omnirax.

As you can see on these pages, we have tackled a wide variety of projects and have produced a wide range of products in many different markets. In fact, there isn't enough room here to showcase them all – like Educational, Public Safety Communications and Forensics to name a few.

Custom solutions are a natural outgrowth of our design and manufacturing processes.

Since every project is fully realized in the computer before it is built, and each completed piece is archived into an ever-expanding library – it is easy for us to stretch, shrink – customize anything in our line.

We are especially adept at ground up design. Not bound by pre-conceived ideas, but with a keen eye for style, ergonomic expertise, and with years of production and packaging logistics experience – we're a natural source for those in search of new and different.

Whether it's one or 101, Omnirax is perfectly positioned for custom design. Since we scale so easily and have been doing so for decades, we can readily provide custom solutions at production prices.

OMNIRAX

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Sausalito CA 94966
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www.omnirax.com

OMNIRAX

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PRICED RIGHT

Peluso

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ask the experts at:

sound pure

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MENTION THIS SPOTLIGHT FOR **FREE** ANECHOIC-SCOPE MATCHING BY PELUSO ON ANY PAIR PURCHASED FROM SOUND PURE

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Over one hundred manufacturers in stock!

Sound Pure's new 8000 sq ft Pro Audio Sales Facility including boutique showroom and class-A recording studio, featuring the finest lines in Pro Audio.

D.W. FEARN RME dynaudio VINTECH EquiTech great River PreSonus Pendulum CharterOak ~Sebatron~

SOUND PURE AND PELUSO

Peluso is quickly becoming one of the most prolific builders of high-end vintage-style microphones in the world, with four new products just added. These include the TR14 Tube Ribbon, the SR14 Stereo Ribbon, the P Stereo Solid State Condenser, and the sonically-modern VTB Vacuum Tube Bottle Microphone. These microphones and the rest of the Peluso line are immediately available for demo and purchase through Sound Pure.

At Sound Pure Pro Audio, our experts, always just a phone call away, are real, working, professional recording engineers and concert musicians. We extend the best pricing around, but more importantly, we help make your recordings the best they can be. We obsess about the sound of everything we carry, and thoroughly test as much gear as possible to determine the gear we want to represent. Sound Pure specializes in characteristic high-end manufacturers, but represents many boutique brands that aren't available at "superstores." In our constant pursuit of the finest boutique manufacturers, we were very fortunate to find Peluso Microphone Lab.

John Peluso is no stranger to microphones, with 28 years in the vintage microphone rebuilding and capsule restoration business. Over the years, he has collected the best-of-the-best vintage mics, including five Telefunken 251s, thirteen AKG C12s, and four U47s to name just a few (sorry, not for sale!)—benchmarks for the Peluso mics built today.

In his restoration business, Peluso found himself replacing so many parts on these aging vintage mics that sometimes little remained original. Peluso backward-engineered these vintage microphones so that one day, when the market for decent originals dried up, he would be able to replicate them perfectly. A lifetime project, Peluso has developed microphones that perfectly capture the inner workings of many of these classic mics. While the vintage mic market has become outrageously pricey at the same time that mics are painfully aging, Peluso has been revealing, over the past several years, his impeccable line of amazing vintage recreations through dealers like Sound Pure.

Peluso not only has an ear for excellence, decades of practice, and the finest microphones in the world as benchmarks, he also has a real cost-consciousness. Peluso purchases some components like flight cases and metalwork overseas to save customers money, but components making up the sonic signature of the mics are without compromise. Mylar, capacitors, and resistors originate from Germany, Holland, or the U.S. and the mics are assembled and hand-tuned in Virginia, where John puts them through stringent testing and true anechoic scoping. What you get is an incredible value—no compromise taken at any part of the signal path, but substantial savings made where they can be.

Visit the new www.soundpure.com website for numerous sound clips of Pelusos in action, contact Sound Pure today toll free at 888-528-9703, or e-mail sales@soundpure.com for advice, to setup your Peluso demo, or for any other pro-audio need. Contact Sound Pure now to secure your tickets to the upcoming grand opening of the huge new Sound Pure facility with boutique audio showroom and recording studio, where you will have the opportunity to meet industry legends like John Peluso, and demo hundreds of pieces of new gear.

SOUND PURE

312 N. Buchanan Blvd., Suite 206
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www.soundpure.com

sound pure

Vintech Audio

Life Sounds Beautiful!

The X73i

We put this piece head to head with vintage Neve 1073's at this year's AES show. It is 100% guaranteed to meet your expectations and is an incredible value.

The X73

The Vintech X73 features custom hand wired concentric style switches with gold plated pins, Swiss made military grade attenuator switch, custom input and output transformers, machined knobs.

The Model 473

The 473 features four class A, all discrete microphone preamplifiers with "essential" high and low shelving eq adjustments on each channel. Other features include: balanced line level input, instrument D.I. and impedance switching.

The "X81 CLASS A"

The X81 is built with the same microphone preamplifier as the X73 but with a more comprehensive four band equalizer section. Users include Eddie Kramer, Chuck Ainlay and Gary Paczosa.

The 609CA

Utilizing three transformers per channel, the Vintech 609CA contains plenty of iron in the signal path. This all discrete, class A compressor limiter goes a long way toward warming up digital tracks.

The Model 273

All of the features of the model 473 in a one rack space two channel package. An incredible value that features direct instrument inputs and "essential eq" adjustments.

"I've used both the Neve 1073 and the Vintech X73i and I love my Vintech! I love the quality of them, I like the way they're built and I love the sound! I used five X73i's and one X81 to record all of Carlos Santana's guitar tracks for both the "Shaman" and "All that I am" albums .

Jim Gaines, Engineer for Carlos Santana and Stevie Ray Vaughn

"I want to let you know how much I like the X73. I use it for recording Patti Scialfa and Bruce Springsteen in their home studio. I've found it great for warming up vocals and other instruments."

Toby Scott, Engineer for Bruce Springsteen

"I used the Vintech X73 exclusively on Rusty Anderson's electric guitar tracks for both the stereo and 5.1 mixes of Paul McCartney's "Back in the U.S. Live 2002" album and DVD."

Michael Brauer, has worked the Rolling Stones, Bob Dylan, Michael Jackson, etc.

www.vintech-audio.com 1-877-4-MIC-PRE

VINTECH AUDIO

Observing the skyrocketing cost of vintage recording gear and sensing a need for alternatives, we began Vintech Audio to offer high-quality equipment at reasonable prices. Using Class-A, all-discrete, transformer-balanced circuitry based on classic designs, we produce preamps, equalizers and compressor/limiters for professional users.

All of our design, manufacturing and testing takes place in our small facility near Tampa, Fla. Many of our staff have worked as musicians and/or recording engineers, and help evaluate our products in real-world applications.

We've made many industry friends over the years. Some are well-known, professional recording engineers; others are just getting started with a home recording rig. But whether someone's buying our top-of-the-line X81 or one of our more cost-effective models, the quality is always there.

Chuck Ainlay (left) and Eddie Kramer at Vintech booth, AES.


Vintech employees

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"Jimmy had a little bit of trouble singing with headphones. A lot of people do. When I got Jimmy to Quad, I said, 'Let's put up some speakers.' We used 604es with Mastering Labs crossovers that Doug Sax's brothers had put together. It smoothed out the midrange. We set them up close together, with Jimmy standing in the center. I put the U87 just within so that Jimmy's ear was about level with the edge of the speakers. I had them play it back and it was about the best stereo you ever heard. [We had] these 15-inch 604es with a horn, and Jimmy just loved it.

"My thing with Buffett was, 'If Buffett gives me a great feeling vocal, that's the one!' I've never had anyone say to me, 'Why didn't you get Buffett a little more in tune?' When Buffett got the feeling right, he was like Elvis."

Putnam also has great praise for Fogelberg's vocals. "Dan Fogelberg was the best singer and player and, for the style of song he wrote, one of the best writers I ever came in contact with," he says. "You'd set the mic up, get a level, do a little compression just to be careful, and that first take was just breathtaking. His records were quicker, faster and more joyful than anything I ever did."

Engineer Marty Lewis worked with Putnam on the Fogelberg projects. "Marty was brilliant with EQ and panning," Putnam says. "For example, one thing you recognize about Fogelberg are those beautiful-sounding acoustic guitars on his records. He might take the B string and drop it just a hair, but not touch the rest of it and a little something would happen. You'd get this cool little phase thing. This was partly because Marty Lewis was not only a great engineer, he was also a fine musician, primarily guitar and percussion.

"One of the great things about being a record producer at that time in the 70s," Putnam continues, "was that you had a lot of great people running labels like Clive and Ahmet who loved music and artists. If I made a record for Clive and I took it to him, he never looked at me, and said, 'Norbert, I think it's good, but we need to run it past our committee here and we might want to do some testing on it.' Clive would say, 'Norbert, you've got it and we are gonna make this happen.' That was also true of Ahmet.

"And another thing: Nobody was allowed to come to the studio from the record label on my projects unless I invited them. I never had to worry about some junior A&R guy coming through the door, hearing a rough mix and going back and starting negative comments at the label. So I think it's more difficult today with the passing of those great record guys. I had an easy go of it in the '70s. I had great budgets, they left me alone and I was able to do what I wanted to do. It was a time of great freedom." ■

Send Nashville news to Rick Clark at mrblurge@mac.com.

NEW YORK METRO FROM PAGE 89

digital started to show up. I was watching the end of an era at that time and no one understood what was going on, but it was the beginning of the end of the big studios. Suddenly, the engineer didn't have to be an engineer—a guy who could work a sampler became the new God in town. When I think 1997, there's a buzz in the air: Hip hop is just beginning to get live, and I'm getting goose bumps just thinking about it. There were a lot of great engineers, and we were having a good time enjoying it.

"[This year] is a very, very different picture. Something happened that saddens me a little. Now, A&R guys can play with

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things at home, and they have opinions about things that have nothing to do with selling records. In the '70s and '80s, they would wait for you to be done with your project because they wanted to work with you. Now they want you to do what you do, but they want you to do it their way—they don't understand that those two things don't go together."

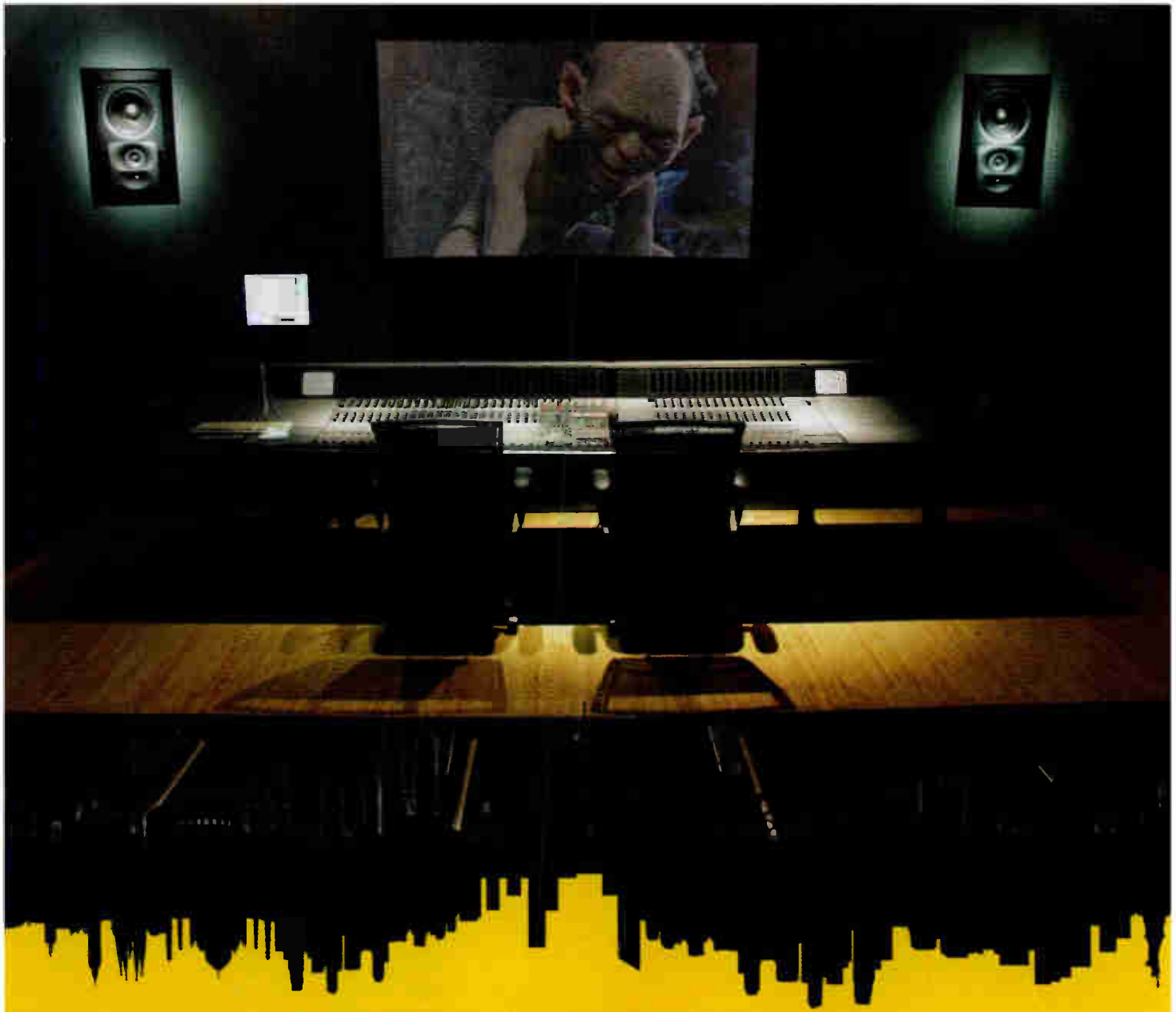
While his own sector may also be feeling embattled, mastering engineer Greg Calbi—whose illustrious career started with the likes of John Lennon's *Mind Games*, David Bowie's *Young Americans* and Bruce Springsteen's *Born to Run*—sees a lot of reasons why mastering in New York City remains much the same as it was in 1977. He also sees why it's a lot better, with no love lost over mastering for cassettes or vinyl. "The thing that's the same," Calbi says from Studio M3 at Sterling Sound, "is that the mastering guy is a partner to the creative team who comes in at the end. You basically judge the work in terms of sonics, and you're relied upon to give your opinion of the sound quality of what the client is doing.

"Today, because of the tools that we have, the computer has made it so you can really tear apart a mix and reconstitute it in mastering. In 1977, you cut the master in real time, making a cue sheet of what you'd be doing inside the mixes, and I'd have to do it six or eight times for the different plants. It was also a live side and you had to do it in one shot, so I'd spend days and nights doing the same thing again and again without making a mistake. So when people say to me, 'Do you miss cutting vinyl?' I say, 'No way!'"

After his own long journey from sideman to "main man" in the studio, Schwartzberg has a firm handle on the comparisons and contrasts between New York City's successful facilities of today and yesteryear. "The big difference today is the efficiency of the studio and how fast you get [the project] out the door," he says. "Now you have a guy moving numbers—zeros and ones—but people were more patient then because you had to cut a piece of tape. Life was definitely easier in those days. Now you have to be a musician, producer and studio owner. Then, I just had to bring a stick bag and make sure I played in time.

"Definitely, the sound has always got to be good," he continues. "The importance of the vibe and the way it sounds will not change—ever. Studios in the year 3000 will have to feel and sound good, and the end product is, 'Wow, it sounds better than live. I like looking at this place and the way it feels here. I like the people that run it.'" ■

Send New York news to david@dwords.com.



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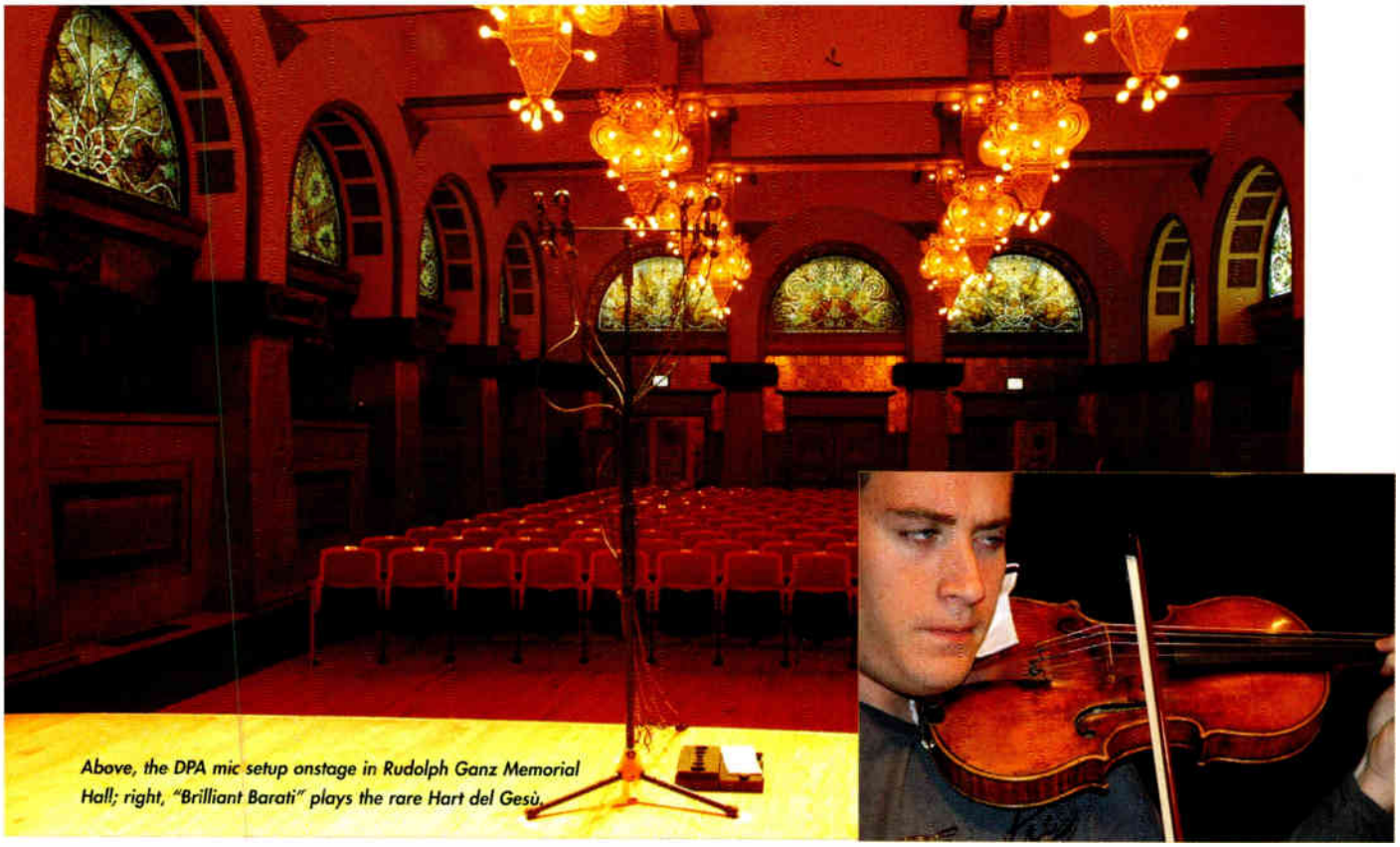

Above, the DPA mic setup onstage in Rudolph Ganz Memorial Hall; right, "Brilliant Barati" plays the rare Hart del Gesù.

ALL PHOTOS BRUCE MYERS

The Maestro & The Masterpiece

Stradivari Society Captures A Rare Violin Treasure

BY NICK PAGANO

Excitement rippled through the world of classical music as news spread of the discovery of the long-lost 1735 Hart Giuseppe Guarneri del Gesù violin. It was discovered in the French countryside last year and brought to the Stradivari Society in Chicago for authentication and restoration.

"The finding of this violin is the most important discovery in our field in the last 50 years," says Geoffrey Fushi, chairman of the society, which arranges loans of exceptional violins to promising young artists to help showcase their talents. "It is a glorious and spiritual violin of the highest order. We thought to rename this instrument the 'Oh, my God' violin because every fine violinist, after playing it for some seconds, would generally exclaim, 'Oh, my God!' It is the single greatest-sounding violin that the Stradivari Society has ever encountered."

While rare instruments are often used in performance, passed down from violinist to violinist in the cherished tradition of string playing, many violins have been lost, stolen, silenced behind glass in museums or kept out of reach in private collections. The Stradivari Society is as committed to documenting and recording the sound of the great instruments as they are to getting them into the hands of promising young musicians. "We are not doing history justice," says Stradivari Society audio/visual director Larry Kapson, "if we let these rare instruments pass through our hands and not capture them."

In 1998, Robert Bein and Fushi (as Bein & Fushi) published *The Miracle Makers*, a three-CD recording that captured the voices of 15 Stradivari and 15 Guarneri violins, accompanied by a book of pictures and the histories of each. The recording was designed to allow the listener to compare the tonal qualities of each instrument, offering a remarkably natural and vivid sound quality.

When the restoration of the Hart Guarneri was completed this past fall, Fushi wanted to document the instrument's incredible sound in case it was lost or destroyed, or put out of reach in a private collection or museum. Faced with the challenge of capturing the violin's ethereal and magical voice, Fushi contacted Bruce Myers, president of DPA Microphones.

"I have found that DPA microphones give a mirror image of the sound," says Fushi. "When we are able to record at the highest fidelity with all the nuance of

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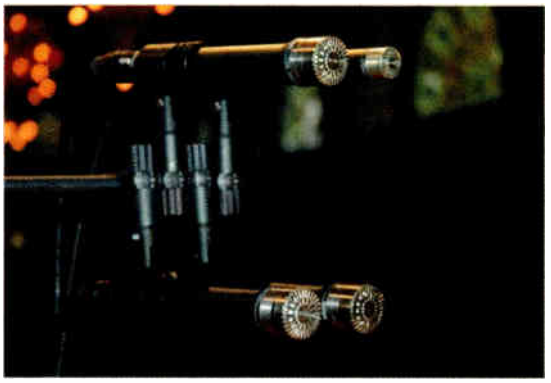
sound and color, that's what we want so we have a document of how each instrument sounds." DPA Microphones has collaborated with the Stradivari Society on several projects around the world, including a recital at the Forbidden City in China and Hungarian violinist Kristof Barati performing with a full orchestra at St. Peter's church in Zurich, Switzerland. Immediately recognizing this project's historic importance, Myers agreed to provide all of the equipment and expertise necessary as long as the Society could provide a venue and a violinist.

Fushi quickly secured the breathtaking Rudolph Ganz Memorial Hall, located a few doors down from the Stradivari Society. Ganz Hall is housed within the Auditorium Building on Roosevelt University's Chicago campus. The venue is one of Chicago's ultimate examples of artistic and architectural collaboration, featuring the work of Albert Fleury; Louis Millet and George Healy; and Louis Sullivan, Dankmar Adler and their then-apprentice, Frank Lloyd Wright. The small hall is an ideal space for solo violin, and its unique suspension system greatly reduces outside noise intrusion. With the venue decided, the search was on for a musician.

A PERFECT MUSICAL PAIRING

A spectacular recital was held in January 2000 at Ganz Hall to introduce Hungarian violinist Kristof Barati to Chicago. Barati has been described as one of the most talented violinists of many generations, combining virtuosity with a deep musical sensibility. "Brilliant Barati," as he has been nicknamed by the press, is one of the most exciting personalities to emerge out of Europe's new generation of violinists.

Barati has performed in the concert halls of Venezuela, France, Hungary, the U.S. and Japan, winning international awards. He won his first international competition at age 16 at Italy's Gorizia Competition, before going to Paris to study with Professor Eduard Wulfson, who was a pupil of Yehudi Menuhin. In 1997, Barati won third prize and the Prize of the Public at the Queen Elizabeth Competition in Brussels, Belgium. The special performance for solo violin in 2000 at Ganz Hall was planned by Wulfson in collaboration with the Stradivari Society.



Close-up view of the DPA microphone array onstage: Custom stereo bars held four pairs of mics at one time.

To pair these young musicians with extraordinary instruments, the society finds buyers for rare Stradivaris and Guarneris, administers loans, arranges for insurance and maintenance of the instruments, and acts as liaison between artist and patron. One condition of the agreement is that the patrons are each rewarded with an annual concert by the artist to whom they have loaned an instrument. Under the loan program, Barati has the privilege to play on a 1703 Stradivari named "The Lady Harmsworth" (estimated value $4 million). When Barati made his annual trip to the Stradivari Society to bring

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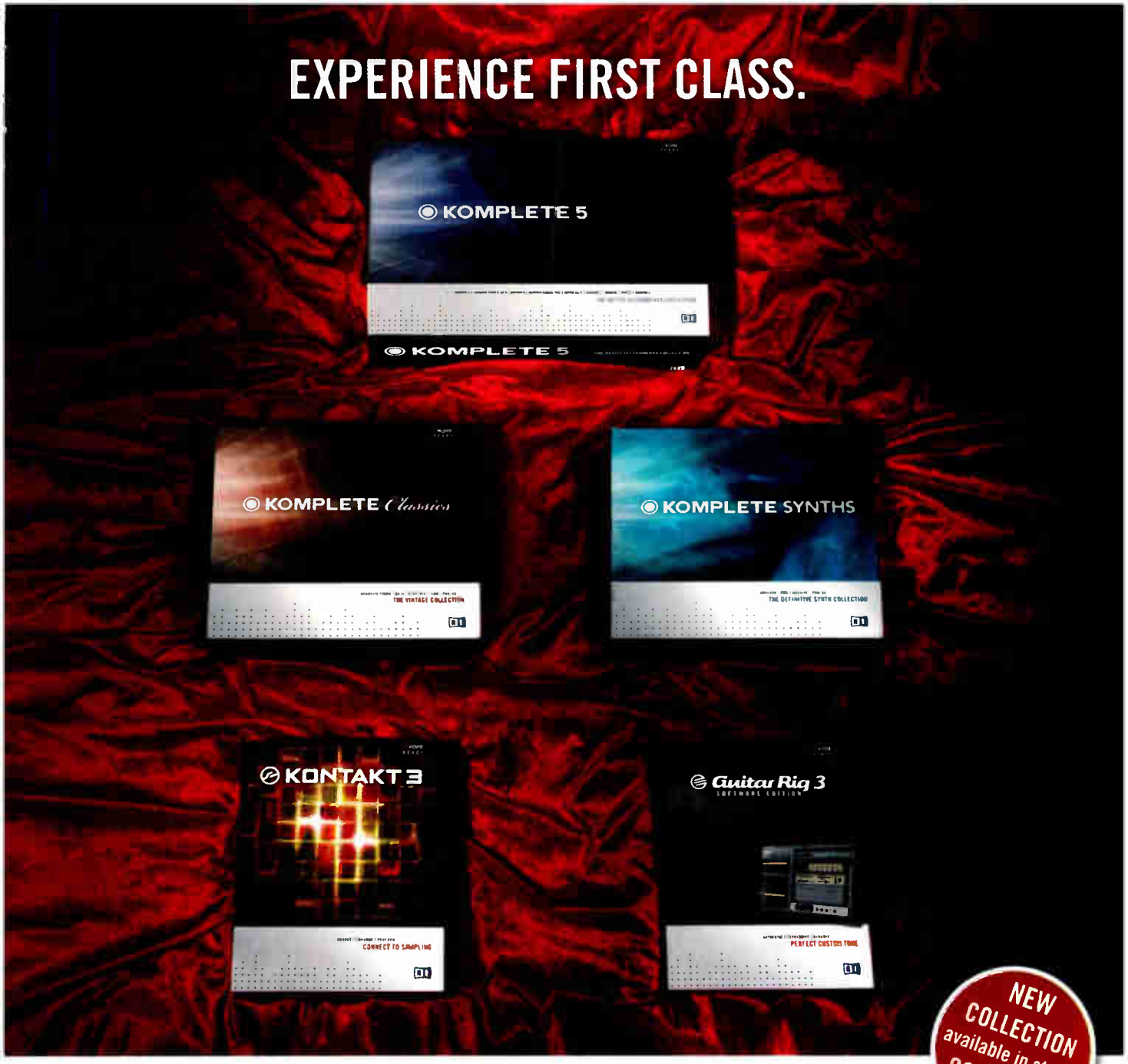

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THE FUTURE OF SOUND

in the instrument for maintenance, the restoration of the Hart del Gesù in Chicago had just been completed. At the request of Fushi, Barati agreed to play the Hart Guarneri for this historic recording in Ganz Hall.

RECORD-READY

Now that the stage was set, the focus turned toward recording equipment. Matched pairs of 14 different DPA microphones were assembled. DPA HMA5000 mic preamps were chosen (with HTP4000 48-volt converters where required) because they're designed to offer the same high-resolution, uncolored sonic signature that mirrors the DPA microphones. For conversion, Digital Audio Denmark (DAD) ADDA 2408 8-channel, 24-bit/96kHz models were selected for their "nondigital" sound and high level of detail. To keep the 24/96k signal chain as streamlined as possible, the team chose Steinberg Nuendo because they felt that the application left the signal untouched beyond pure level adjustment. An HP Pavillion zv6000 (XP Pro) laptop ran Nuendo 3, and gear was powered by a balanced AC unit designed and built by Mike Morgan.

Engineering assistance was provided

The Instrument, The Legacy

Giuseppe Guarneri del Gesù (1698–1744) is the only luthier to rival Antonio Stradivari with regard to the respect and reverence accorded his instruments. (He is known as del Gesù because the labels he put inside his instruments incorporated the Christian *nomina sacra* I.H.S. and a Roman cross.) His instruments diverged significantly from family tradition, becoming uniquely his own style. They are generally considered equal in quality only to those of Stradivari, and some argue that they are superior. Guarneri's instruments are certainly more rare, as only approximately 140 of them still survive, as compared to approximately 650 Stradivaris. The recently discovered instrument is considered the best of the early period of del Gesù violins and is one of the Top 10 best examples of Guarneri's overall production. Its condition is remarkable because it was kept within a single family for more than 100 years; its current value is estimated at $6.5 million.

Well-known violinists such as Eugène Ysaÿe, Jascha Heifetz, Isaac Stern, Itzhak Perlman and Sarah Chang have played del Gesùs at one point in their career, or even exclusively. The famed violin virtuoso Niccolò Paganini's favorite instrument, Il Cannone Guarnerius, was a Guarneri del Gesù violin of 1742, and the Lord Wilton Guarneri del Gesù violin, also made in 1742, was once owned by violinist/conductor Yehudi Menuhin.

"The violins of Stradivari and Guarneri have been enchanting to both violinists and audiences alike for over two centuries," says Geoffrey Fushi. "Works of art unto themselves, these instruments remain unrivaled in their beauty of craftsmanship and broad palette of tonal color. The instruments of these legendary violin-makers are at the heart of a mythology of almost biblical proportions. And the mystery surrounding the creation of these rare and precious instruments that cannot be reproduced furthers our fascination with their magical tonal qualities, charm and power." —*Nick Pagano*

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by Gary Baldassari, technical consultant to DPA. "Overall, this was the most minimalistic signal path that we could achieve, giving us a recording completely devoid of limiting, compressing or any kind of signal processing," Baldassari says. "All that will be heard in these recordings is the fundamental difference in sonic signature of the microphones themselves."

The recording's purpose had become twofold: not only to make the finest recording possible to capture the violin for history, but also to create a set of discs that allow the comparison and evaluation of the entire line of DPA recording microphones. The recordings offer a side-by-side comparison of the effects of the seven acoustic modifiers used with DPA's 16mm omni capsule, as well as the ability to compare cardioids to wide cardioids, 130V models to traditional 48V versions, and solid-state to tube-version large-diaphragm 4041 models.

Mics were placed onstage, about two meters from the performer, at instrument height. During recording, the number of mics that could be used for each take had to be limited to avoid phase inconsistencies caused by the mics not being placed in the same relative space, so special stereo bars were developed to hold four pairs of mics at one time. Mics were placed 40 cm apart on the bar, on-axis. The same pair of "reference" mics was used in each recording to maintain a baseline, while the other three pairs changed for each take. Fifty-foot cable ran to the recording rig, which was racked in a flight case located in the foyer for isolation. Monitoring also took place in the foyer, out of Nuendo into a Mytek 24/96 D/A/headphone amp powering Ultrasone PROline 750 and Grado Signature headphones.

Once all of the recording equipment was in place, the only change between takes would be the swapping of the stereo bars. Barati stood before the stereo pairs and presented the piece over and over again onstage.

THE HISTORIC CONCERT

For Barati, returning to Ganz Hall—where he had first played for the Chicago patrons—was like a homecoming. He entered with his musical advisor, Wulfson. Myers asked Barati to select a piece that would show off the violin's attributes—the projection, dynamics and soft, sweet tones. It would have to be a piece that he could play over and over again, and he chose Johann Sebastian Bach's "Gavotte" from the E-major Partita BWV 1006. Barati had to play 14 takes to allow all of the different microphone models to be recorded.

Barati stood alone on the stage, his only audience the four cameras stationed around the hall, and the sound and video crew who was there to record him. He played the passage over and over, with passion for the music and feeling for the instrument that was palatable to the few who were privileged to witness his performance. His purity of tone and commanding depth of sound filled the hall with warm, wonderful music.

The final recording session, which took place late in a day that had become much longer than planned, was again a selection by Barati. He wanted to perform Bach's "Chaconne" from the D-minor Partita BWV 1004, a piece that showed off the Guarneri in all of its glory, as well as Barati's virtuosity. Brahms once said of this Bach piece: "If I imagined that I could have created, even conceived the piece, I am quite certain that the excess of excitement and earth-shattering experience would have driven me out of my mind."

This final performance was captured with the reference set of DPA 4006TLs that had been included with each group of four mics used throughout the day. Even those who had watched Barati play all day long were left breathless by his performance of the incredibly difficult piece. His fingers flew up and down the instrument, notes rippling and darting under his almost gymnastic handling of the bow and violin.

The recordings were processed into a two-CD set of comparison recordings by DPA Microphones. Also included is the bonus track of Barati's final recording of the "Chaconne" piece and a video DVD of his performance at Ganz Hall, filmed by Kapson.

"It is a pleasure to know that the recording session will be in print," Barati says of the project. "It was a great experience to record Bach's "Gavotte" each time in the same way, with minimum alteration on the interpretation. I hope all professionals can utilize the recordings of this very special session."

"We were honored to work with the Stradivari Society and an incredible talent like Kristof," said Myers of the finished product. "Not only do we have an invaluable tool to offer our customers to help them understand the subtle differences in the models, but we have also captured a virtuoso performance on a historic instrument that has brought a tear to the eye of many who are fortunate enough to watch it."

Shortly after the recording was made, the Hart Guarneri was purchased by a wealthy Russian industrialist, and it is currently in Germany on loan to a Russian violinist. ■

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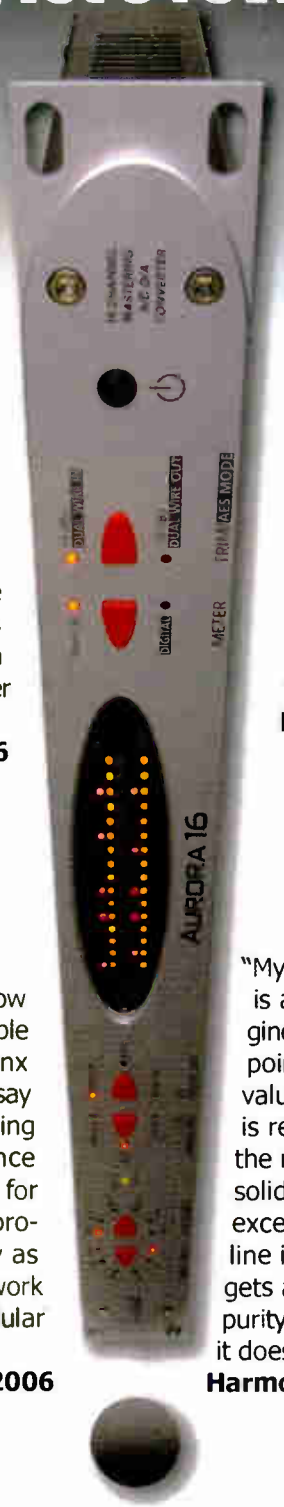

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Harmony Central, April 2007

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Lynx STUDIO TECHNOLOGY

PHOTO: JOAN MARCUS

Engineer Richard King (left) and producer Steve Epstein

Capturing the Stage Soundscape

The Broadway Cast Recording of Grey Gardens

BY GARY ESKOW

At first glance, a deranged elderly woman and her equally afflicted middle-aged daughter might not seem the likeliest central characters in a musical, but *Grey Gardens* has drawn rave reviews from both high-minded critics and a flock of Broadway theatergoers.

Based on the 1975 documentary film of the same name by Albert and David Maysles, *Grey Gardens* explores dementia and family dysfunctionality with wit and humor. Its creators—Michael Korie (lyrics), Doug Wright (book) and Scott Frankel (music)—also flesh out the story of how Edith Ewing Bouvier Beale, the aunt of Jacqueline Kennedy Onassis, and her daughter (also named Edith) fell into squalor in their once magnificent Long Island mansion. Treated with compassion, but also viewed from an intellectually dispassionate perspective, the characters disintegrate before our eyes but manage to retain our affection.

Frankel grew up being attracted to some of the great dramatic composers—Mahler, Strauss, Puccini—as well as Earth, Wind & Fire, Steely Dan and Blood, Sweat & Tears. He attended Yale University, which is where he met Wright. After graduating from Yale, Frankel moved to Manhattan and became a session keyboard player and accompanist. Prior to *Grey Gardens*, Frankel and Korie had collaborated on two musicals: *Doll* and *Meet Mister Future*. "Michael and I almost always write songs by the 'lyric first' model," says Frankel. "His lyrics are incredibly specific and attuned to the dramaturgical needs of the scene and the character. That said, I know that Michael does at least attempt to create a lyric or two that has the potential to be lifted from the show and exist independently from it."

For financial reasons, the powers that be mandated that Frankel and orchestrator Bruce Coughlin work with a pit orchestra of only nine players. The palette of colors that Frankel and Coughlin were able to draw out of this diminutive ensemble is remarkable. Rather than turn over simple lead sheets, Frankel sketched out detailed arrangement ideas across five staves and handed them off to Coughlin.

"When you've got full sections of brass, strings and winds, you can write in blocks of harmony," Frankel says, "but with so few players, it's more about individual lines. I had to make sure each interval was satisfying. The result is something of a chamber opera piece, where the band envelops the singer to create a sense of size. Otherwise, the band can feel tiny."

IN SESSION

The original off-Broadway cast album for *Grey Gardens* was produced by Tommy Krasker and released on his label, PS Classics. Several new songs were written for the Broadway run, others deleted, and the decision was made to return to Avatar Studios in New York to track

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the new material with Steve Epstein as producer. Epstein's longtime colleague Richard King recorded these songs and remixed the entire album.

"I met Scott when I was invited to see the show for the first time," says Epstein. "I had already listened to the recording of the off-Broadway version by that time and found it very affecting. Scott has the rare talent to write music of substance that is nonetheless appealing to a wide audience."

The producer and composer needed to first make sure they were in sync. "Cast recordings are a hybrid between pop and classical," says Epstein. "When you record a musical, you have to make some decisions. Cast albums often end up sounding like karaoke, with a singer slapped on top of an arrangement. Opera recordings, on the other hand, allow the singers to be cushioned against the orchestra, and at times be enveloped by its textures. When opera singers get 'lost' in the orchestra, the result is often heightened excitement.

"Operas are generally recorded in a hall, and the environment plays a great part in the overall picture of the final product," Epstein continues. "When you step into a studio to record a cast album, especially with the slender number of players we used, you're tasked with the assignment of creating the soundscape."

Performer placement was key to fulfilling this goal. "Before we conduct a recording session, I like to attend as many performances of a show as possible to get a sense of what's happening onstage," Epstein explains. "I take notes in the dark with a tiny flashlight during each tune, scribbling stage activity notes that will help me recall the movement taking place onstage. When we record the performances—and later during the mix—I refer to these notes."

Matching the sonic environment of the earlier recordings was essential. "We studied the mic lists from the earlier sessions and recorded the new material using the same setup," says King. "We used a tube [Neumann] U47 on the main soloists. It's an extremely versatile mic that works well on both male and female singers, as well as the younger performers. We placed a pair of AKG 414s to capture the piano, used [Sennheiser] MKH40s on the strings and a DPA 4011 for the room pickup. We used RCA ribbon mics on the trumpet and French horn."

Musicians were positioned in the studio in a configuration similar to their stage positions. "When we mix, we incorporate very slow and subtle pan moves—so slow that you're not aware of the movement," says Epstein. "Bad panning is like the overly zealous use of a zoom lens on a video camera. It may be tempting to go back and forth from long shots to close-ups while you're shooting, but the result can be a piece of footage that's impossible to watch! The same thing can happen with panning. We're always keeping in mind the positioning of the actors as they appear onstage and balancing our desire to have the recording reflect the original performance against the fundamental requirement to create a satisfying stereo image."

"Bruce Coughlin's orchestrations for this show are terrific," King adds. "That helps the mix process. We had to make sure that the left-to-right image was filled at all times, and with so few instruments that can be difficult. In a typical cast album, you might have 16 first violins to spread across the stereo field, but we only had three strings in total to work with!"

"Tommy Krasker drew some beautiful performances out of the cast during the initial recording sessions, which were also conducted at Avatar," says Epstein. "Speaking of conducting, it needs to be pointed out that Lawrence Yurman is the musical director and conductor in the pit and on the sessions, and his contribution to the establishment of proper balance was important."

> When you record a cast album, especially with the slender number of players we used, you're tasked with creating the soundscape.
>
> —*Steve Epstein*

The team recorded in Avatar's Studio C, site of the original recordings, to establish a continuous sound. "C's a small room—I generally work in larger spaces—but it's a good-sounding room," says Epstein. "It has several iso booths, and we placed Tim McLafferty's drums and percussion instruments in one of them, and the singers in another.

"I don't like to use isolation booths as a rule. They add an unpleasant resonance, even when you add loads of reverb—which introduces another problem—to cover it up," Epstein continues. "But we close-miked the singers and it worked quite well. We gobo'd Christine Ebersole and Mary Louise Wilson, who had extensive solo parts."

King tracked the new material onto a Pro Tools system that was operated by Bart Migal. "We usually record at 24/88.2, but this time we worked at 24/44.1 because the original takes were recorded to these specifications," says Epstein. "Scott, Bruce and I chose takes after the session, and Bart edited them in an offline session. Richard and I mixed all of the material, new and old, on a Neve MMT console in Room 311 of the now-defunct Sony Studios."

King used the console mic pre's on all vocals. "The Neve VR in Studio C has excellent mic pre's," says King. "We were looking to get a clean signal path into Pro Tools, knowing that our main work would be handled in Room 311 on a Neve MMT. Steve and I like that board a lot. It has a bit of color; some of the classic Neve analog sound was written into the algorithms somehow."

King says the mix approach starts with getting the band balance. "Next, we balance the vocals against the orchestra, making sure each vocal line is balanced. We essentially use Pro Tools as a recording/playback machine, although we did use the Serato Pitch N' Time plug-in to make a few slight pitch corrections. All in all, I'd say we made no more than half-a-dozen pitch redraws.

"Step three is where we look for places where we can bring the band up to have it hug the singers closely," King continues. "We always work this way, but it was doubly important that we not lose the presence of this small band."

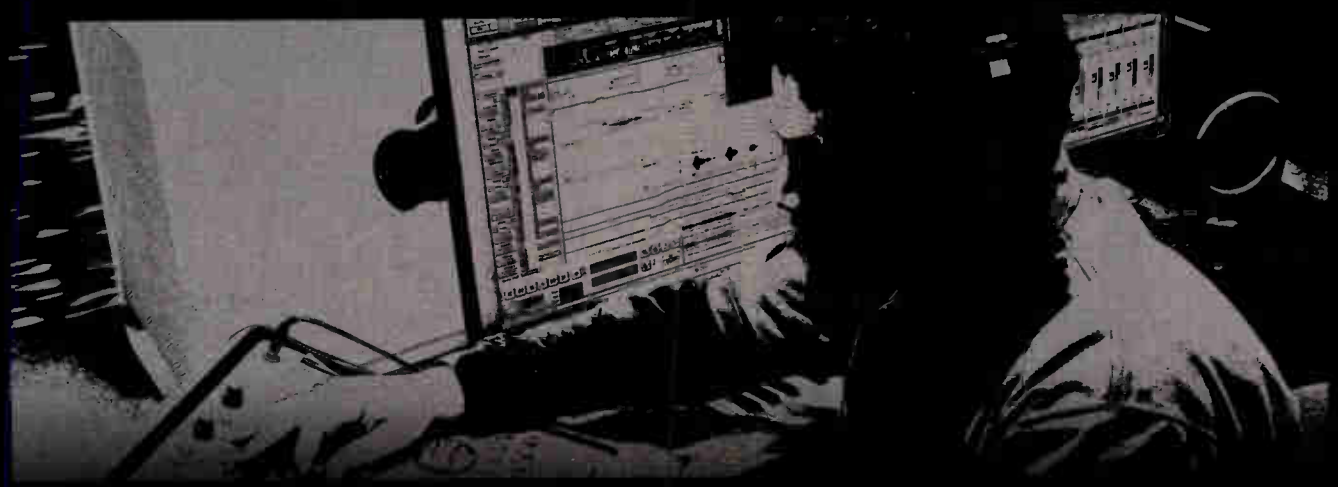
PUTTING ON THE FINISHING TOUCHES

While mastering, Epstein and King handle compression and limiting with great care. "We got about 3 dB of compression of the mix bus of the Neve MMT," says King. "Then, when a piece had been mixed to everyone's satisfaction, we dropped the stereo image into a Pyramix system, where we assembled and mastered the final product."

"We used a Weiss DS1 compressor/limiter to raise the level slightly. I believe the final gain attenuation was +4.7 dB. We listen very closely at this final stage of the process," says Epstein. "Although we are going after level, as soon as we hear any audio limiting effect we back off the Weiss."

"Steve Epstein is a dream," says Frankel, "a record producer who is sensitive, musical, tasteful and very much interested in the composer's viewpoint and intent. I consider myself tremendously fortunate that he is a passionate advocate of the score to *Grey Gardens*." ■

Gary Eskow is a contributing editor to Mix.



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THE BEASTIE BOYS

Photos & Text by Steve Jennings

Mike "Mike D" Diamond, Adam "MCA" Yauch and Adam "Ad-Rock" Horovitz—otherwise known as the Beastie Boys—released their seventh studio album this year; *The Mix-Up* is a completely instrumental release that also features keyboardist Money Mark and percussionist Alfredo Ortiz. The scratch-heavy group are touring in support of this release, mixing it up night from night, playing either their sample-pleasing hits or cuts from the instrumental release. *Mix* caught up with the tour during a two-night stand in the San Francisco Bay Area: the more intimate "instrumental show" at the Warfield Theater and their bigger show at Berkeley's Greek Theatre.

From left: monitor engineer Sean Sturge, FOH tech Dan Klocker, stage-left P.A. tech Demetrius Moore, stage-right P.A. tech Bryan Procuk and monitor tech Patrick Lavelle

MONITOR ENGINEER SEAN STURGE

Monitor engineer Sean Sturge is manning a Digidesign VENUE board for this tour, using onboard effects that include the All Access Pack with Drawmer TourBuss, Focusrite and TC Electronic DVR2. Front-of-house engineer Tim Colvard (who was unavailable for comment) is on a DiGiCo D5.

"For vocal mics," Sturge says, "Ad-Rock, MCA and Mike D are on Sennheiser SKM5000, and for in-ears we have Sensaphonic ProPhonic 2X-S."

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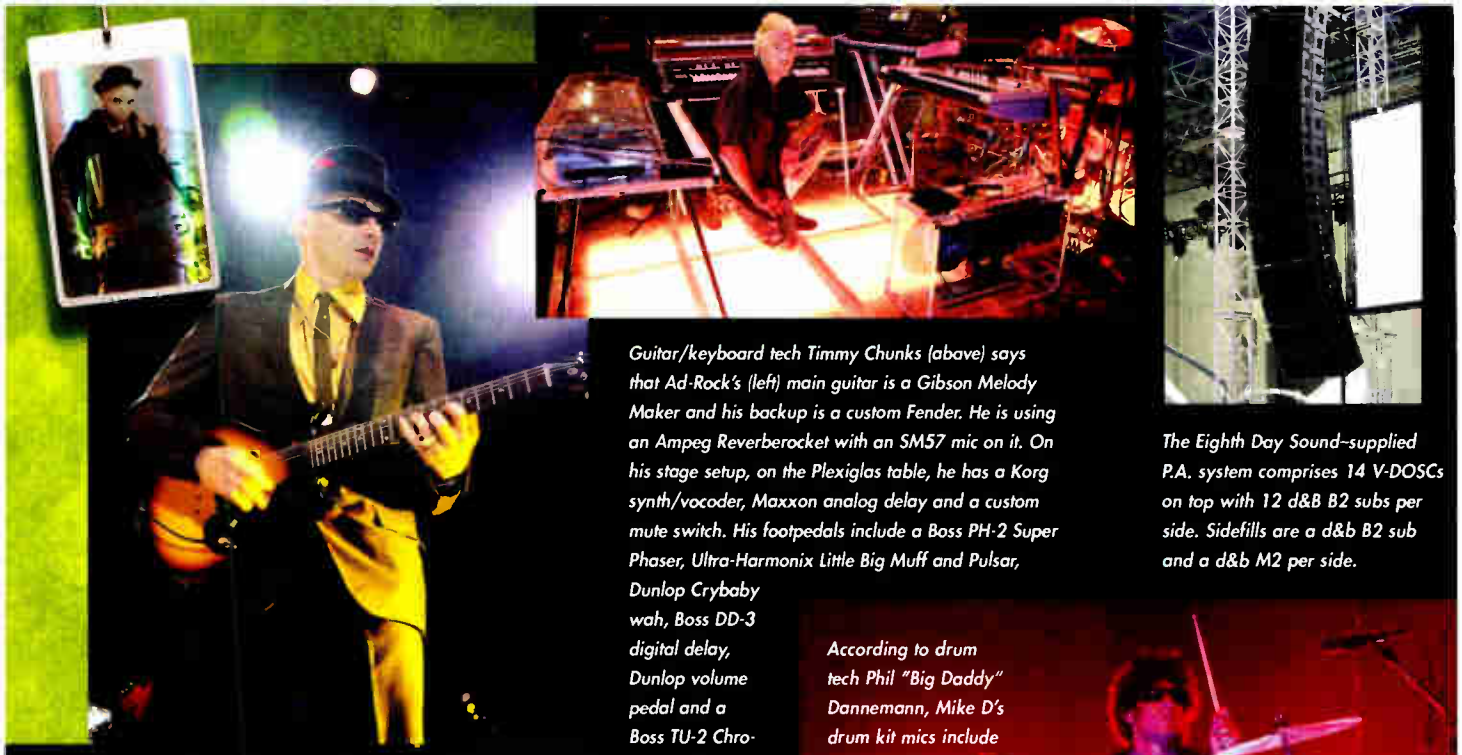
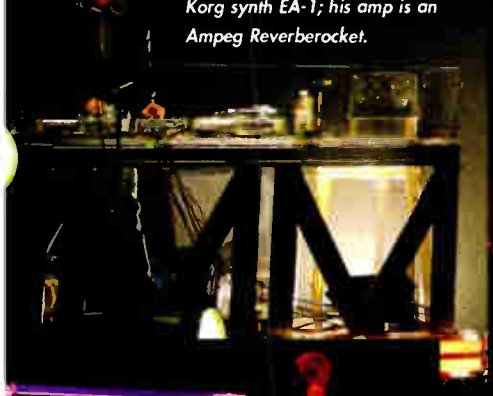


Guitar/keyboard tech Timmy Chunks (above) says that Ad-Rock's (left) main guitar is a Gibson Melody Maker and his backup is a custom Fender. He is using an Ampeg Reverberocket with an SM57 mic on it. On his stage setup, on the Plexiglas table, he has a Korg synth/vocoder, Maxxon analog delay and a custom mute switch. His footpedals include a Boss PH-2 Super Phaser, Ultra-Harmonix Little Big Muff and Pulsar, Dunlop Crybaby wah, Boss DD-3 digital delay, Dunlop volume pedal and a Boss TU-2 Chromatic Tuner.

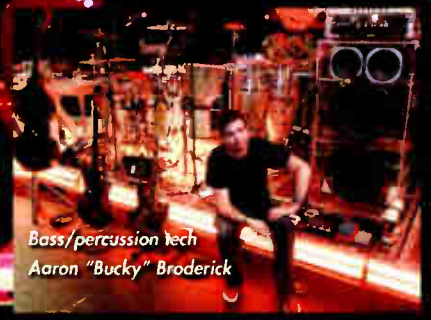
The Eighth Day Sound–supplied P.A. system comprises 14 V-DOSCs on top with 12 d&B B2 subs per side. Sidefills are a d&b B2 sub and a d&b M2 per side.

Money Mark Nishita's setup comprises a Korg CX-3 organ, clavinet, Fender Rhodes, Moog Voyager, Farfisa and a Korg synth EA-1; his amp is an Ampeg Reverberocket.

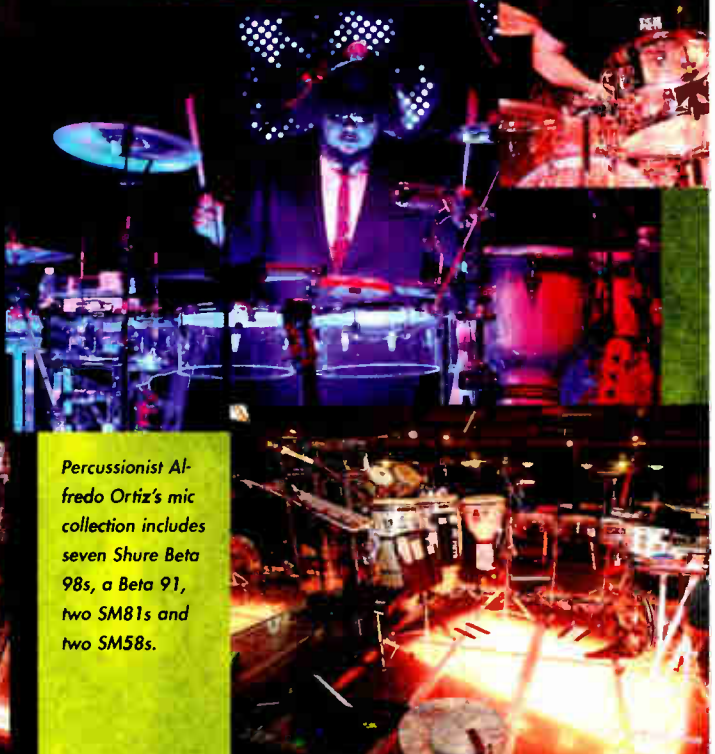


According to drum tech Phil "Big Daddy" Dannemann, Mike D's drum kit mics include a Beyer M88, a Shure Beta 91, two SM57s, an AKG 451, three Shure Beta 98s, two AKG C-414s, a Sennheiser 409 and an SM81.

"MCA [Adam Yauch] has three stage basses: an early '70s Fender Jazz, and two Ampeg classics—an upright Baby Bass and a Scroller," bass/percussion tech Aaron "Bucky" Broderick says. "For his amp, he's running an Ampeg SVT Classic amp and a custom cab 2x10 with 2x15 Electro-Voice Radial DI. His amp mic is a Beyer M88."



Bass/percussion tech Aaron "Bucky" Broderick



Percussionist Alfredo Ortiz's mic collection includes seven Shure Beta 98s, a Beta 91, two SM81s and two SM58s.

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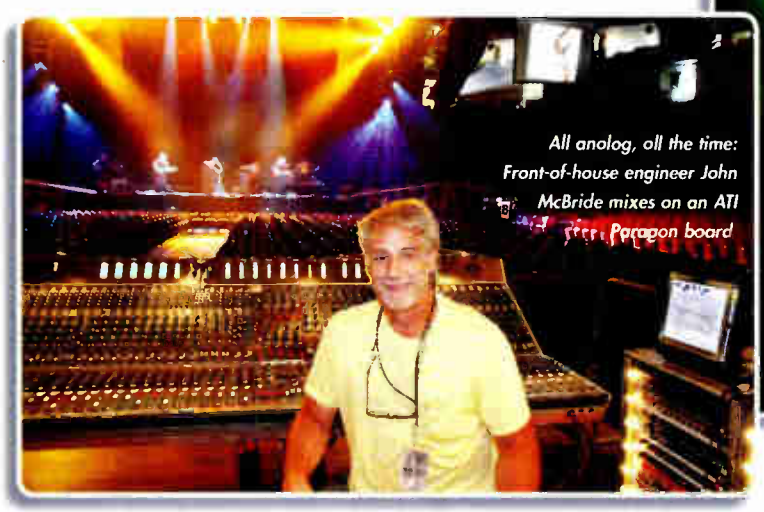
PHOTOS: STEVE JENNINGS

At Home, On the Road, It's a Family Affair

By Heather Johnson

Life on the road as a touring artist or an in-demand engineer can wreak havoc on one's personal life—if that person gets to have one at all—for the sake of 200-plus touring dates a year. But country artist Martina McBride and her front-of-house engineer husband, John McBride, have managed to balance rewarding careers with family life, and they extend that work/life balance to their loyal crew, which has become a family of its own after working together for many years.

During Martina McBride's current arena tour, held in support of the recently released *Waking Up Laughing*, the stunning performer and mother of three makes sure to schedule no more than two weeks on the road in a row so that her crew and band don't spend too



All analog, all the time: Front-of-house engineer John McBride mixes on an ATI Paragon board

much time away from their families. When it comes to her own children, she and John McBride often bring them along. "We're very fortunate that we get to travel with our kids," says John McBride. "We love having them out here. We're not one of those couples that can leave the kids at home." Heck, Martina McBride's brother, Marty Schiff, has been playing acoustic guitar with the band for 15 years; he sings with his sister on "Trying to Find a Reason," a duet she originally recorded with Keith Urban.

Of course, there are some drawbacks to working with your spouse. When John McBride assumes the FOH position, which he's done for the artist for the past 15 years, he knows he must give his best effort every night, which is what they expect of everyone else. But with a career that includes forming one of Nashville's most successful sound reinforcement companies, MD Systems, in 1980 (which merged with Clair Bros. in 1997); a lengthy stint as Garth Brooks' production manager; and most recently, co-owner (with Martina McBride) of Nashville's Blackbird Studio, there's little danger of him mixing a lackluster show. The FOH engineer, monitor engineer Robert Bull, Clair Bros. systems tech Arpad Sayko and the rest of the audio team certainly lived up to their boss' high standards when Martina McBride headlined the Oracle Arena in Oakland, Calif., where *Mix* caught up with the crew.

WORKING THE GIG

The audience that night obviously approved of what they heard as the vocalist led them through a streamlined set of old favorites, new hits and well-chosen covers. Her approachable demeanor and confident stage presence made even those in the upper balcony feel included (the large video screens helped) as they sang along to country radio standards such as "Independence Day" and "My Baby Loves Me," as well as more recent hits such as "This One's for the Girls" and her latest single, "How I Feel." An A-list band—Greg Harrington, drums; Glen Snow, bass; Wayne Dahl, pedal steel; Jim Medlin, piano; Greg Foresman, electric guitar; Jennifer Wrinkle, fiddle and mandolin; and Schiff on acoustic guitar—backed the petite yet charismatic singer.

To power this premier ensemble, John McBride's P.A. of choice remains the Clair Bros. i4 line array system. The system includes left and right arrays of 16 i4 loudspeakers each, with additional arrays of eight i3s each for sidefill. At the start of the tour, Clair Bros. also supplied i4B subs, which were flown next to the i4 arrays. "I opted to get rid of those subs and just use the low end that comes out of the P.A.," the engineer explains. "I feel like it gives the most accurate sound for this type of show. We're not a loud, hard-rock show, but we're not a quiet show either; it's pretty dynamic. There's a lot of kick drum and a solid low end, but we don't need 60 subwoofers to blur everyone's vision. After spending so much time in the studio, I really like accuracy, which is hard to get in a large arena. But the i4 has been by far the best P.A. I've heard to get the job done."

To compensate for the Oracle Arena's boomy acoustics, an issue shared by many sports arenas doubling as concert venues, systems tech Sayko uses his ears, as well as the basic functions of Lake's SmaartLive

Production manager Michael "Meesha" Kosciolek (left) and monitor engineer Robert Bull

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software installed on a tablet PC, to tune the room. Additionally, John McBride employs the Lake Contour digital speaker controller and its Contour Controller software for crossover management.

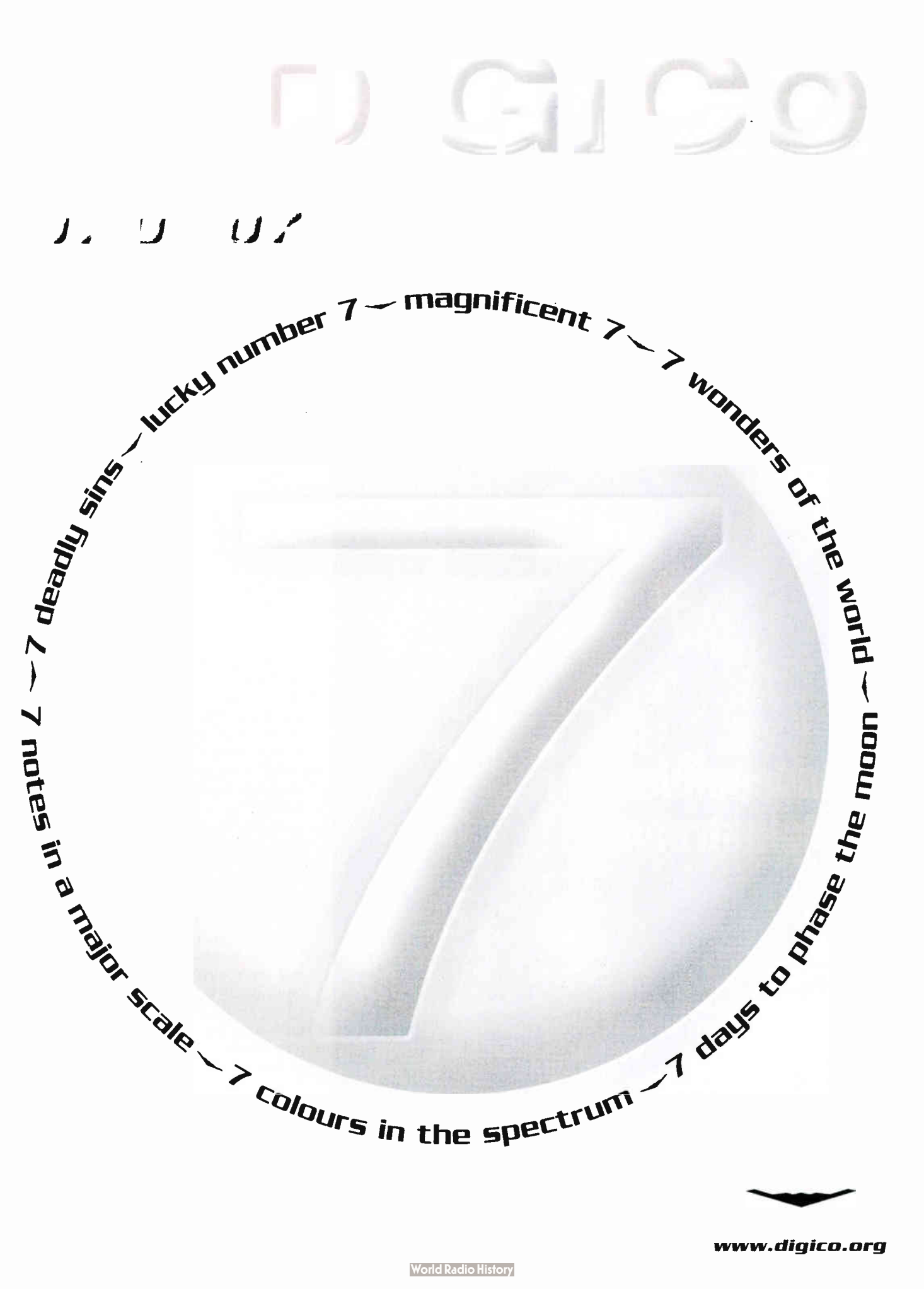
A self-professed "analog guy," John McBride mixes on an ATI Paragon console using about 38 inputs from the stage. In conjunction with the ATI board, he uses API 500 Series mic pre's on every input, some of them borrowed from his Nashville studio. "As good as the ATI mic pre's sound, the APIs sound better," he says. Considering the vast resources of gear available from Blackbird Studio (the studio's mic list alone contains more than 800 vintage models), John McBride keeps his live setup relatively spartan.

He uses an SPL Transient Designer dynamics processor on drums, bass, piano and acoustic guitar; a BBE Sonic Maximizer on the kick and snare; and an innerTube Audio Atomic Squeezebox dual-analog compressor for Martina McBride's vocals, which he pairs with an API pre and an ATI Pro 6 channel strip. Electric and upright bass and fiddle all run direct, while the Hammond B3 organ's Leslie cabinet, the electric guitar and all vocalists (including the artist and four background singers) are miked with an assortment of Shure models. Martina McBride's powerful pipes take a Shure UHF-R wireless with an SM58 capsule. "An SM58 with the right mic pre is a match made in heaven for her," says John McBride. "I recommend it for any female vocalist to start out with."

CONTINUING THE "FAMILY" TREE

Just as Martina McBride sings through a no-nonsense microphone, she also listens through standard Clair Bros. stage monitor wedges. "She doesn't want all of the gadgetry," says Bull, who joined the McBride "family" in 1997. "She just wants to be able to sing and go." What she hears through the wedges varies from song to song—more standup bass on the traditional country numbers, more acoustic guitar and drums on other songs—but she's always acutely aware of what she's hearing and plays an active role in improving it.

"She knows her frequencies," says Bull. "She knows what phase is, and she knows how she wants things to sound. We work really well together; sometimes we work through the whole show to get things right. Once, we worked until the very last song. During that song, she looked at me and gave me the thumbs up, like, 'I knew you wouldn't give up.' It's a team effort between her, myself and John. As a monitor engi-



www.digico.org

neer, it means a lot to know that the artist believes in you."

With the exception of electric guitarist Foresman, who also uses wedges, the rest of the band listens through Shure wireless ear systems with Shure E5 earphones. Bull mixes on an ATI Paragon II, the first one to hit the road when ATI introduced the board in 1997. "It does everything I need it to do, immediately," he says. Sharing John McBride's preferences, Bull's "monitor land" leans heavily toward analog gear, save for one digital reverb. He, too, keeps his toolbox pared down to the necessities.

Most signals run from the mic through the ATI EQs and straight to the wedges. For musicians who use in-ears, he adds a Purple Audio MC76 FET limiter, "because when she's really hammering down, her vocals won't bury the mix."

As with any successful musical collaboration, constant communication between artist, band and engineers ensures a quality show night after night, no matter how challenging the venue. And as the top female touring act this year for many weeks (falling second to Gwen Stefani) according to *Pollstar*, their hard work has certainly paid off. While talent also factors high into the equation, John McBride is quick to acknowledge the importance of teamwork and camaraderie. "We have a great crew, and attitude with me is 99 percent of the gig—always," he says. "We have between 50 and 60 people out on the road with us, and for those that don't have the right attitude it becomes apparent quickly, and we change that by finding somebody else that fits."

During these summer jaunts, does John McBride ever get homesick for his studio and its vast contents of gear? "Not really," he replies. As much as he loves collecting and using multitudes of ribbon mics and Fairchild compressors, "I love touring, I love the road," he says. "There's immediate gratification. You sing these songs, people clap, you go on to the next place. It's unbelievable. In the studio, I'm working on a song that's not going to see the light of day for nine months. That's hard, but you're also looking forward to the future because you know what's coming out before anyone else does, and that's great. I love the studio and I love the road. But the road pays better. [Laughs] So we do both, and it works out well." ■

Heather Johnson is a San Francisco–based freelance writer.

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AES New Product Preview

FAIRLIGHT XYNERGI

The groundbreaking Xynergi media production center from Fairlight (www.fairlightau.com) organizes and delivers a suite of media-processing tools for high-end audio-for-video production in all widely used surround formats. Xynergi is based around a completely new concept in tactile control via a unique implementation of self-labeling key switches that can display full-color image/icon/text, for intelligent control over the entire recording/editing/mixing process. Eight touch-sensitive rotary controllers and multiple soft-keys support Xynergi's sophisticated mix automation system and offer precise control over signal processing, including multiband EQs, 3-stage dynamics, multidimensional panning and aux sends. AES Booth #142.

CAKEWALK SONAR 7

New features in Cakewalk's (www.cakewalk.com) SONAR 7 ($619) include enhanced MIDI editing with functions for splitting/gluing/muting notes, MIDI Magnifier, MIDI Colorizer and MIDI Meters. For advanced DSP of critical applications are internal sidechaining for a variety of plug-ins and the LP-64 EQ and LP-64 multiband linear phase mastering effects. Additionally, interfacing with outboard gear is simplified by an external hardware effects insert with automatic plug-in delay compensation and automated ±24dB send and return gain trim. Other extras include the Z3TA+ wave-shaping synth, Dimension LE (featuring Garritan Pocket Orchestra), Rapture LE, DropZone and Roland V-Vocal™ Version 1.5, now with pitch-to-MIDI conversion. For the final step, Cakewalk Publisher offers tools for publishing and presenting music online. AES Booth #818.

BRAINWORX M/S TOOLS

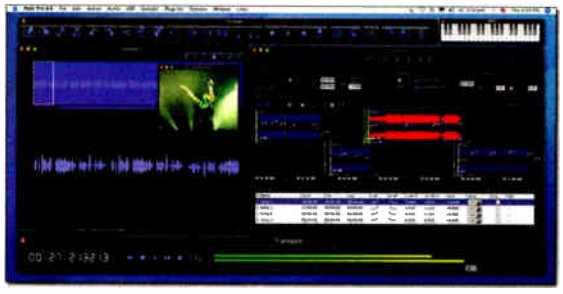
Two new plugs from Brainworx (www.brainworx-music.de) remove the guesswork from working with M/S signals within a DAW. The freeware bx_solo offers L/R flip, solo buttons that phase-correct the L/R/M/S outputs on both speakers and stepped stereo-width control. The companion bx_control ($98, RTAS/VST bundle; $198, TDM) provides the same features as bx-solo and adds individual switches for input and output, balance control and a "mono-maker" that sums your stereo signal and is adjustable from 20 Hz up to 26 kHz. It also has a balance meter, phase-correlation meter and high-resolution LED meters in L/R or M/S with switchable peak hold. AES Booth TBA.

EXTREMESTORE-ITRAX

Globalstor's (www.globalstor.com) über-storage system is equipped with a solid-state, 64-bit iSCSI and NAS operating system, offering flexible, secure storage for multiroom recording facilities. The iTrax appears as a local disk drive on any computer connected to the LAN or WAN. Once iSCSI initiators are loaded, every host system on the network can see and share all stored data, so engineers on separate workstations can simultaneously edit and mix different sessions stored on any iTrax server. Servers range from an 8-drive system with RAID protection to a 36-drive version with multiple levels of RAID redundancy. Prices start at $4,995, with 1 TB of usable storage. AES Booth #1140.

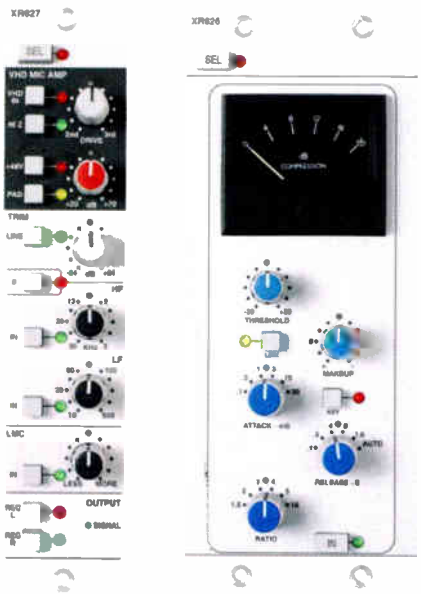
BIAS PEAK PRO 6

In addition to a completely redesigned GUI, Peak Pro 6 editing/processing/mastering/delivery software from BIAS (www.bias-inc.com) features enhancements to the playlist, including new crossfades, iTunes and podcast integration, and more. Among its new DSP features are voice-over ducking, Perpetual Looper (for perfect "beat-free" sustained loops of single-line instrument samples), Pitch Envelope (offering pitch control via a user-customizable envelope) and Convolve Envelope (with dynamic control over the convolution applied over time). Functionality tweaks include customizable real-time volume envelopes, sample-level zooming/editing, overlap/gap or centered crossfades for either mastering or "classical"-style workflows. AES Booth #726.



LAB.GRUPPEN PLM 10000Q

This first in the PLM Series of powered loudspeaker-management systems was created by Lab.gruppen (www.labgruppen.com) and Dolby Labs, and seamlessly integrates the functions of crossover, delay, EQ, limiting and 10 kW of power amplification in a single chassis with an accompanying software controller for a complete drive system. This affords an unprecedented level of user control, reconfiguration flexibility and precise system tuning with load verification/monitoring features to ensure extended reliability for all system components, including loudspeakers. Price $8,995. AES Booth #331.



SSL EXPANDS XLOGIC X-RACK

Solid State Logic (www.solid-state-logic.com) expands its modular XLogic X-Rack system with the $995 VHD Input Module, which combines an E-Series console mic preamp, Listen Mic Compressor and the SSL Variable Harmonic Drive (VHD) system that provides blends of second- or third-harmonic distortion to the mix. The $1,995 Stereo Bus Compressor Module offers the center section compressor from the G Series console in a two-slot unit. AES Booth #126.

DIGIDESIGN STRUCTURE LE/FREE

Following the launch of its Structure™ pro sampler software for Pro Tools users, Digidesign (www.digidesign.com) intros Structure LE and Structure Free, providing many of the same features found in the pro package. Structure Free offers Structure sample playback at no charge. The $149 Structure LE RTAS sample player lets you quickly integrate and tweak a wide range of sounds into Pro Tools sessions and includes a pro 3GB sound library of acoustic and electronic instruments and sounds. All versions support playback of native Structure files, as well as unencrypted SampleCell (1 and 2), Kontakt (1 and 2) and EXS24 sound libraries, and an integrated REX player that plays REX 1 and 2 files. AES Booth #701.

NEW SENNHEISER MKH 8000 MICS

Sennheiser (www.sennheiserusa.com) has added three MKH 8000 Series mics. Priced at $1,299/each, the omni MKH 8020, cardioid MKH 8040 and supercardioid MKH 8050 each comprise a microphone head and separate XLR module, with bandwidth ranging from 10 to 60 kHz, depending on the capsule. For use in tight spaces, the XLR module is removable, with the mic head attached to an optional remote capsule accessory to create a compact mic assembly. Other accessories include floor stands, extension tubes, shock-mounts, remote cables, table stands, ceiling mounts, clamps and more. AES Booth #418.

AUDIX EXPANDS MICROS

Audix (www.audixusa.com) expands its ultra-compact Micros Series condenser mics—now with more than 20 models. The new M1250 (2-inch body) and 3.5-inch body M1280 have a 40 to 20k Hz response and feature greater immunity to RF interference caused by cell phones and GSM devices. Each model has four interchangeable capsules from which to choose (cardioid, hypercardioid, omni and shotgun/supercardioid). The mics ship with proprietary 25-foot cable (XLRm-to-mini-XLRf), hanging clip, stand adapter and windscreen. Accessories include MicroPods (integrated 6/12/18-inch goosenecks), MicroBooms (50-inch, 2.5-ounce carbon-fiber boom), various instrument mount clips and more. AES Booth #436.

K+H O 410 MIDFIELD MONITOR

Designed specifically for midfield monitoring, Klein + Hummel's (www.klein-hummel.com) O 410 is a tri-amped, three-way loudspeaker featuring mag-shielded drivers (10-inch LF, 3-inch soft-dome mid and 1-inch tweeter). Onboard 340/180/160-watt, hybrid, Class-A/B amplifiers in the vented enclosure extends bass to 34 Hz. Electronically balanced analog inputs are standard; optional are transformer-balanced and 192kHz/24-bit digital inputs. AES Booth #418.

EUPHONIX EMIX 3 FOR SYSTEM 5

Euphonix (www.euphonix.com) announces the third generation of its eMix management software for System 5 digital consoles. eMix 3 includes new features such as scene automation and dual spill zones, which enable two operators working on the console to independently spill out stereo or 5.1 masters to their component parts on each side of the console. eMix 3 also supports all of the new DSP SuperCore hardware features, including bus processing and longer delays of up to two seconds on every channel. AES Booth #718.

COLEMAN 7.1SW SWITCHER

Coleman Audio (www.colemanaudio.com) introduces the 7.1SW balanced

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And ready to go. The Tn Series of amplifiers from Yamaha have the power needed to drive your speakers the distance. With a 2 Ohm UL approved rating, these amps are set to get to work using a NEXO system or any other line array. With Yamaha's own EEEngine technology, power consumption is reduced by up to 50%. Additional features include removable handles, easy air-filter maintenance and robust construction. Network control capability wraps up the package and superior sound quality ships it out the door.

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audio switcher. You can select any one of four 8-channel balanced audio inputs and route them to an 8-channel balanced output. As a passive switcher, it's bidirectional and can be wired to send one input to any of four places. The balanced 8-channel I/Os are on Tascam-format DB-25 connectors. Applications include backup switching for DSP outputs feeding the crossover system in live sound, A/B'ing between four mixes in film/video post/surround music production, and simultaneously switching 5.1 *and* stereo mixes in broadcast, authoring, game sound, etc. AES Booth #1023.

ALLEN & HEATH ZED MIXERS

ZED from Allen & Heath (www.allen-heath.com/zed) is a series of small-format, USB-equipped mixers for live performance, recording and production. The ZED-14 has six mono channels (with 3-band, swept-mid EQ) and four stereo channels (with 2-band EQ) and provides 13 independent sources to the mix, 10 independent outs, two pre-fade/two post-fade aux sends, and a USB send and return for PC/Mac recording/playback/effects. The first of the ZED Series (four more models are planned), ZED-14 ships with Cakewalk SONAR LE Windows Vista/XP recording software. AES Booth #136.

REALTRAPS CEILING TILES

The RealTraps (www.realtraps.com) Ceiling Tiles line includes eight models of ceiling tiles ($49.99 to $99.99) offered as an affordable, attractive alternative to hanging bass traps and RFZ panels from a grid ceiling. Normal home/office-style ceiling tiles are too reflective at mids and highs, and too thin to offer a useful bass trapping. RealTraps Ceiling Tiles solve the dilemma of treating first-reflection points and adding additional bass trapping to grid-based dropped ceilings. The tiles are available in 2x2- and 2x4-foot sizes, in thicknesses of 1.5 inches (for control of MF/HF reflections) or 3 inches for bass trapping. AES Booth #949.

CHANDLER GERMANIUM

Now shipping, the Germanium Series compressor from Chandler (www.chandlerlimited.com) has a Class-A amp, transformer balancing and a FET gain-reduction element. Features include a wet/dry mix (for "submixing" tracks within the comp), Comp Curve (to select the knee using various diode combinations), Clean/Dirty Comp and sidechain filter. All Germanium units require the company's PSU-1 power supply. A Germanium compressor mastering version is also offered. AES Booth #162.

GHOST ACOUSTICS

The Ghost Acoustics (dist. by Sonic Distribution, www.sonicus.net) line features a unique layered design of highly compressed glass fiber and layers of micro-thin, flexible aluminum. This unique combination provides superior broadband absorption and is well-suited for the problematic low-frequency area. The absorptive layers are housed in an aluminum-and-steel inner frame and mounted to the wall via a detachable metal frame. The product line includes various sizes, shapes and two color options. AES Booth #664.

GRACE DESIGN M201

The m201 is Grace Design's (www.gracedesign.com) redesigned 2-channel mic preamplifier. Features include ribbon mic mode, M+S encoder and dual-parallel XLR outputs on each channel. Options include 130V mic powering and latest-generation onboard 192kHz A/D converters. AES Booth #739.

MEYER MM4-XP MINI-SPEAKER

Meyer Sound's (www.meyersound.com) self-powered MM-4XP miniature loudspeaker (only 4 inches square) is the self-powered version of the company's MM-4. The MM-4XP has all amplification and corrective processing onboard, and receives 48 VDC from an external power supply on a 5-pin EN3 connector that also carries balanced audio. The unit's high intelligibility and flat phase/frequency response are geared for applications where space is limited or visibility is a factor, such as fill and spot coverage, or installation in steps and other hidden locations, as well as in touring applications like stage lip frontfill and small portable P.A. Its 4-inch driver is capable of a 113dB max peak SPLs with a 120 to 18k Hz response. AES Booth #336.

CROWLEY AND TRIPP EL DIABLO

A ribbon mic tough enough for close-in kick drum miking, el Diablo—Mercenary Edition uses Crowley and Tripp's (dist. by Soundwave Research, www.soundwaveresearch.com) ultratough Roswellite™ ribbon material and is said to have the aggression of the 421 with the size of the 47 FET without any of the phase issues that often occur when using two mics on a single source. Shipping begins this month. AES Booth #772.

YAMAHA MG SERIES

Yamaha (www.yamaha.com/proaudio) releases six upgraded MG Series analog mixers, adding to the four shown earlier this year. Single-knob input compressors help you quickly set up a mix. Other features include redesigned fader/EQ/preamps and high-output LED meters readable even in bright daylight. Two models (MG16/6CX and MG16/6CX-USB) offer digital SPX multi-effects; three (MG16/6CX-USB, MG16/6C-USB and MG20/6C-USB) include USB ports designed to simplify live recording. The three also ship with Cubase AI4 production and recording software. Prices range from $449 to $799. AES Booth #318. ■

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BY SARAH JONES

Roland RSS V-Mixing System

Digital Systems for Live Sound at a Breakthrough Price

These days in live sound, making the jump to a 48-channel digital mixing system has been well outside the financial reach of many regional sound companies, houses of worship, schools and smaller performing arts centers. Those on a low to midrange budget will definitely be interested in Roland Systems Group's RSS V-Mixing system, which brings the digital entry point down to the $9k to $13k mark—not just for the console, but for a complete system that includes digital snakes, mic pre's and split ability for recording, monitor or broadcast positions.

"We are excited to bring a breakthrough, integrated digital solution to the market at an even more affordable price point," says John Broadbend, director of technology at the Roland Systems Group, the division of Roland that develops products for the commercial and performance A/V industries, including houses of worship, club/casinos, performing arts centers, and rental and staging companies. "The A/V integrator market is where audio and video are starting to come together more and more, and churches are a prime example of that."

Although the console is targeted mainly toward the church/school market, the system is just as easily at home with regional companies handling corporate gigs and local music events.

THE V-SYSTEM

The RSS V-Mixing System, which debuted last month at the PLASA show in London, incorporates the 48-channel RSS M-400 V-Mixer digital console, a choice of configurable digital snakes with remote-controlled mic pre's and the ability to conduct multitrack recording via Cakewalk SONAR. The brains of the system is the M-400 V-Mixer, which offers 24 100mm, motorized, touch-sensitive faders; 16 buses, plus main L/R; dedicated knobs for EQ, pan and gain; and an 800x480 TFT screen—all within a clean, intuitive layout that was clearly influenced by Roland's years of effects development. Also onboard are gating, compression and a host of other effects derived from VS technology. System headroom is 18 dB.

Built-in stereo WAV recording and playback are accessible either internally or via USB key. But for those who want to take production to the next level, the system can integrate with Cakewalk's SONAR REAC, which lets users record 40 tracks of audio using a Windows Gigabit Ethernet port. (Roland's REAC Ethernet protocol carries 40 channels of 24-bit/96kHz audio, plus MIDI and remote-control data, over Cat-5.) Run Cat-5 cable from the REAC split port directly into your PC and start mixing instantly. As for system redundancy, the S-4000 32-channel snake offers redundant REAC signal via dual Cat-5 cables, a redundant power supply option and a redundant splitter.

With the V-Mixing system, Roland says it is addressing what it calls the "building blocks of any live event"—from inputs onstage to console, to splits to recording, monitoring or broadcast, and back to the stage. "That's the system approach that we're taking, thinking about all of those building blocks," says Tom Stephenson, RSS director of technology. "We're not selling a mixer, console or desk; we're providing an integrated system solution."

THE CAT-5 ADVANTAGE

There are clear sonic advantages to running Cat-5: no high-frequency losses over long cable runs, no induced hums or buzzes, no ground loops. An added bonus for growing churches, schools, etc., is that as their systems expand, they won't need to tear up concrete to install bulky copper. And there's the portability factor: You can carry a skinny little 300-foot reel of Cat-5 cable in one hand. Because a split port is already built into the mixer, the system can be split for monitoring, recording or broadcast.

FROM NOVICE TO PRO

The system is designed to function for any level of user. Extensive onboard help starts out simple (i.e., "What is a gate?") for the beginner and goes deep for the seasoned pro. Custom profiles accessible via user log-in permissions (which can be loaded by a USB key) allow different levels of access to the board. For example, a weekend volunteer running audio for a funeral might only be able to adjust, say, two fader levels; someone mixing front of house for a small church ensemble might also have access to EQ and compression, while the system designer has complete access. In addition, the system allows real-time PC remote control using Remote Desktop, even over the Internet—which might save that designer an unexpected trip back to the venue to troubleshoot. And total system recall means the system can instantly be re-patched and reset back to stored settings.

Beyond these features, the system offers plenty of format flexibility—snake modules can integrate with other analog systems via breakout box, and console I/Os include AES/EBU for a complete digital setup. In addition, the M-400 V-Mixer can be integrated with Edirol video products such as the V-440HD video mixer for live performances where audio-follows-video is needed.

V-Mixing System prices range from $9,295 to $13,795, depending on configuration (from 16 to 48 inputs onstage). For more information, visit www.rolandsystemsgroup.net. ■

Sarah Jones is the editor of Mix.

BY TONY NUNES

Steinberg Nuendo 4

Powerhouse DAW for Studio Recording and Post-Production

In the three years since its release, Steinberg's Nuendo 3 workstation has become renowned for its flexibility, intuitiveness and high-quality audio engine. With Nuendo 4, Steinberg takes definitive steps in making the version upgrade its premier DAW for audio post-production, multimedia production and studio/live recording.

The developers have made Nuendo 4 more efficient by removing some of the core music composition features that were mirrored in Cubase. Consequently, Cubase 4 will handle music composition, songwriting and recording. This reallocation of features is accompanied by a price reduction for Nuendo ($1,799). But don't fret, songwriters: If you require Nuendo's production features and Cubase's composition tools, Steinberg now offers the Nuendo Expansion Pack (NEK); more on this later.

IT'S ALL ABOUT THE WORKFLOW

Nuendo's recording, editing and mixing workflow has been improved with a slew of new features. Steinberg completely redesigned the automation system in Nuendo 4 by synthesizing traditional console automation with the flexibility of modern DAWs. Nuendo's automation panel provides access to functions and parameters, including new features such as individual punch-out modes per channel, a Preview mode and Automation Suspend for read and write modes. To assist with writing automation, Nuendo 4 also includes Fill commands that will write automation to end, start, punch or loop. Efficiency and speed in post editing are also improved with 20 new editing commands and tool modifiers, such as Cut Head and Cut Tail to aid in aligning events.

Workflow is further enhanced with MediaBay, a new file-management system that streamlines searching and retrieving audio, MIDI, video, and presets for plug-ins and virtual instruments. MediaBay will prove to be a huge time-saver for those of you who work with huge sample, loop and effects libraries. The Track Presets feature works directly with MediaBay, allowing you to manage and categorize audio, MIDI and instrument track data—including EQ, insert effect and MIDI port/channel information—from within MediaBay. The ability to take snapshots of any track and use them as templates for other session/tracks, or simply to copy plug-in settings, is priceless. Nuendo's new Quick Controls provide eight user-customized controllers to Nuendo's Track Inspector for making quick parameter adjustments. MIDI Learn capability allows external controllers to be set up for instant, convenient control over any parameters. As a pleasant surprise, Mac users who have an infrared Apple Remote can use it in Nuendo's Device Setup window and program it with hundreds of functions.

Nuendo 4 adds plug-ins, improves workflow and removes music tools—at a new, lower price.

SURROUNDED BY PLUG-INS

Thirty-eight new surround-capable VST3 plug-ins bring Nuendo's stock count to more than 60. Highlights include a 4-band parametric EQ available on every audio track and a Post Filter with standard high/low-pass filters, including narrow-band notch filters to remove undesirable noise. For added plug-in convenience, the Nuendo 4 mixer adds drag-and-drop functionality and a color-coded system to easily identify plug-in types.

Selected VST3 plug-ins can now work with sidechain processing. For example, you can route channel sends or track outputs to drive modulation effects, ducking or frequency-based dynamics. Nuendo 4 also allows you to send signals from audio tracks pre/post-fader from the output tab to groups and effects returns, with the ability to re-route signals of summing objects onto audio tracks and record them in real time. With so many routing options, it's possible to create some dangerous combinations; to prevent feedback loops, Nuendo 4 detects hazardous routing configurations and disables them.

NUENDO EXPANSION KIT (NEK)

Nuendo 4 users who need the extra composition tools that were moved from Nuendo to Cubase 4 can purchase the Nuendo Expansion Kit (NEK) for $299. NEK offers Cubase's music tools for Nuendo 4, including its Score Editor, Drum Editor and additional VST instruments, including HALion One, Prologue, Spector and a new synthesizer instrument, Mystic. To accommodate virtual instruments more easily, Nuendo 4 includes instrument tracks to set up audio/MIDI routing with just a few clicks. Because the NEK is a separate license on the Steinberg Key, its functionality is portable to other Nuendo 4 systems.

Like its predecessors, Nuendo 4 continues to be cross-platform-capable between Windows- and Mac-based machines. While it continues to support Windows XP and Apple PowerPCs, Nuendo 4 charges forward with full integration of 32-bit Windows Vista and Intel-based Macs. For 64-bit Vista users, Nuendo 4 code offers 64-bit support but some components such as Quicktime and ReWire have no 64-bit capabilities yet. To help with the 64-bit transition, Nuendo ships with a VST Plug-In Bridge, which translates plug-ins built for 32-bit Windows or Mac PowerPC to run smoothly on 64-bit Vista or Intel-based Macs.

Whether used with a laptop and FireWire interface, or with a full-blown MADI system, Nuendo 4's new features accompanied by NEK's composition tools give users a complete DAW solution. ■

Tony Nunes is a Phoenix-based audio engineer.

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fullsail.com

BY GEORGE PETERSEN

Adobe Audition 3

Recording, Editing, Mixing and Mastering Software

Adobe Audition has an impressive lineage, going back to its 1995 roots as Syntrillium Software's Cool Edit program. A shareware version of the full-on Cool Edit Pro, Cool Edit was one of the most popular PC audio editing programs and developed an exceedingly loyal following over the years. So when Syntrillium's assets were acquired by Adobe in 2003, there was some concern that the program—rechristened as Adobe Audition—would be neglected or disappear.

Thankfully, this has not been the case. In fact, just three weeks ago at the IBC broadcast show in Amsterdam, Adobe continued its commitment to this audio software with the unveiling of the third-generation Audition 3. The program doesn't officially ship until Q4 2007, but we got a sneak preview of a late beta version, which was fairly close to the genuine article, save for some (mostly) cosmetic tweaks.

MAJOR MULTITRACK EDITING

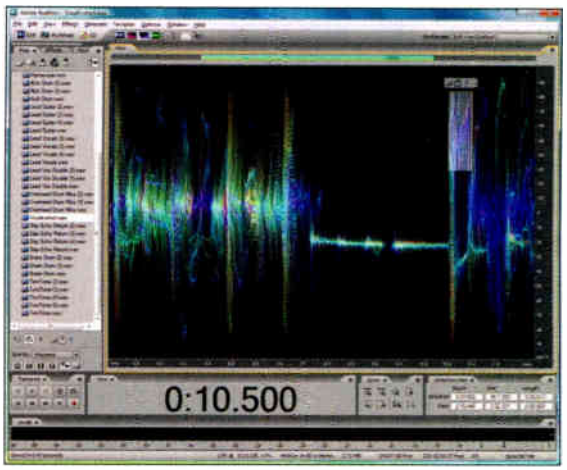
Perhaps one of Audition 3's strongest suits is the ease with which it edits multitrack files. Combining/comping multichannel drum tracks from different takes or re-using a verse or chorus section can be problematic, simply due to matching slight volume changes or leftover decays from cymbal hits, etc. Audition 3 allows you to convert any number of tracks into clips, make the standard cut/copy/paste moves and then assign crossfades (automated or manual) across two multitrack clips. Once done, "handles" on either side of the transition can be pulled in either direction to tweak the edit point; dragging the (linear or nonlinear) crossfade envelopes creates a seamless edit across all grouped tracks.

TOPS AND TAILS

On the 2-track side, Audition 3 adds Top/Tail Views, a clever new mode for zooming into a file where only the beginning and end of a section are magnified, while the view of the center portion remains small. In music editing, this could provide a detailed look at a song's head and ending, where the relative levels of the files (or fade lengths, etc.) can be visually compared within a screen view. This feature has obvious appeal in other apps, such as mastering or dialog/voice-over editing.

SPECTRAL EDITING

One intriguing and useful feature in Audition 3 lets you select problem areas within a frequency display window and use the Spot Healing Brush to eliminate noises, like pops and clicks. This power is taken to the next step in the Spectral Pan display, which applies colors to the onscreen file to identify various characteristics of the sound, such as frequency, amplitude, panning and phase. An offending sound—i.e., a distant car horn during a dialog take or a squeaky piano bench—can be quickly isolated based on any of those colorized parameters and eliminated without disturbing adjacent frequencies. In fact, a Spectral Bitmap option even lets users export the screen file to Adobe Photoshop, make the change and import the result back into Audition 3.



In the Spectral Pan display, colors can be used to identify various audio characteristics, such as frequency, panning and amplitude.

For unwanted sonic problems that evolve over time, Audition 3 adds an adaptive noise-reduction tool that intelligently removes noise, while automatic phase correction can calculate and apply the optimal delay to align stereo waveforms. And a graphic panner function looks at two channels and corrects any frequency-dependent phase differences.

INSTRUMENTALLY YOURS

Audition 3 adds full support for VSTi virtual instruments, as well as a MIDI sequencer with a piano roll–style editor for tweaking note, velocity or controller values. And keyboard players don't get all the fun: Although not exactly a typical feature in most audio editing programs, Audition 3's Guitar Suite offers analog guitar amp/effects modeling with filters, compression, distortion and cabinet modeling.

DSP AND BEYOND

In all, Audition 3 provides more than 50 DSP tools and effects, mastering and analysis tools and audio restoration features, in addition to supporting third-party VST and DirectX plug-ins. Along with old favorites—such as echo, flange, graphic and parametric EQs—are new effects, including a tube-modeled compressor, analog delay and a Surround Encoder for exporting a multitrack mix as an interleaved file for use with Adobe Premiere Pro.

Highlights in the new DSP goodies department include a convolution reverb and radius time stretching. Developed by iZotope, the latter applies a high-quality time expansion/compression algorithm that allows you to change tempo accurately without changing pitch, or alter pitch without tempo distortion

THE FINE PRINT

Audition 3 offers a lot of power, but needs a decent PC to back it up. Minimum system requirements include an Intel Pentium 4 (1.4 GHz for DV, 3.4 GHz for HDV); Intel Centrino; Intel Xeon (dual Xeon 2.8GHz processors for HD); or Intel Core Duo or compatible processor (SSE2-enabled processor required for AMD systems) and at least 512 MB of RAM, with 1 GB for DV playback, 2 GB for HDV and HD playback.

A major upgrade optimized for both Windows XP and Vista with tons of new features, Audition 3 is a powerhouse—a serious audio tool by anyone's standards, especially at its projected street price of $349. Upgrades are also available for existing Audition owners.

For more information, visit www.adobe.com/audition. ■

FREEDOM TO RECORD

GRAMMY AWARD-WINNING PRODUCER GREG LADAYNI and his latest band LIGION are both using the FireStudio + MSR. Greg has a rig in his studio and Ligion has one on tour recording their shows.

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BY KEVIN BECKA

Studio Network Solutions Postmap

Digital Asset Management, File Tagging on a Mac or PC Network

The ability to house and reliably share audio on a wide variety of storage formats has been a boon for audio pros working in post, game production, mastering and recording. And as digital storage has become both inexpensive and ubiquitous, sessions and audio assets can arrive on anything from an A/V drive to CD, DVD, a modem or even an iPod.

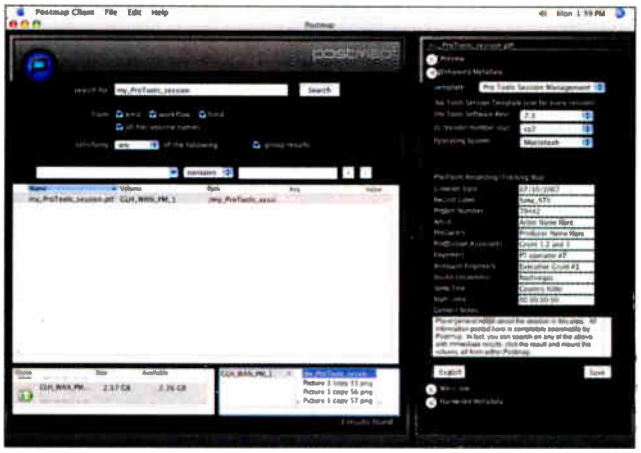
But what's on that drive or device? A mastering engineer's nightmare is to receive a CD's worth of session files, each from different producers, with no notes about sample rate, bit rate, DAW format or file type. And that's just the beginning. In film work, being able to search out and quickly spot multiple takes from a Foley session done in another studio can be a deadline-maker. The situation is similar in game audio, where hundreds of alternate dialog takes recorded weeks ago must be readily available for input into middleware by a third party.

Searching for your audio is just one aspect of digital audio workflow. Once you identify your assets, adding notes, track sheets and other info to these resources creates an ideal scenario. Armed with such information, up/downstream users can easily find what they're looking for, determine when they've done work, get some direction and be able to make educated decisions as to *their* next step. It's called documentation, people—don't forget it.

Studio Network Solutions (www.studionetworksolutions.com) has released its newly redesigned Postmap application, now available both as a $429 freestanding application *and* soon a Win/Mac Pro Tools plug-in for TDM or RTAS. Postmap can search a variety of media, including SANmp, Xsan, Xserve and Windows file servers; FireWire/USB drives; CD/DVD; and Flash devices. It offers a customizable platform of features that can be tailored to the needs of any-sized network. Helping users quickly locate files and folders, Postmap offers enhanced workflow and metadata management for classifying specific data and lets a team share production notes and organize projects and media.

INSIDE POSTMAP

The system's scanning process creates a database of file and folder metadata (file name, location, author, etc.). This metadata store is accessible for all Postmap users to query—even if the scanned storage is offline, read-only or remote. To run Postmap, you need at least one OS X Tiger system. Minimum operating system requirements for the Postmap Client are Mac OS 10.3.9 or higher, or Windows XP Service Pack 2.



A large body of user-generated data is searchable in Studio Network Solutions' Postmap, even in offline volumes.

A file hunt begins with the Online Media Preview Dock, which previews and auditions media clips and search results directly within the Postmap application, without needing to launch other applications. Users can search using a variety of criteria, including file/volume names, enhanced metadata, harvested metadata, workflow and a user-generated list of "if/then" variables. SNS says the volume browser has been enhanced and is now more intuitively integrated within the Client application, saving time for users who need to navigate the directory structure of offline volumes.

Once the search is complete, Postmap offers full transport control within the collapsible client, including scrub, fast-forward, rewind, play and stop. After auditioning files (even offline files), the user can then decide to open the file, drag it into Pro Tools, launch an associated application or reveal the file in the Mac Finder or Windows Explorer.

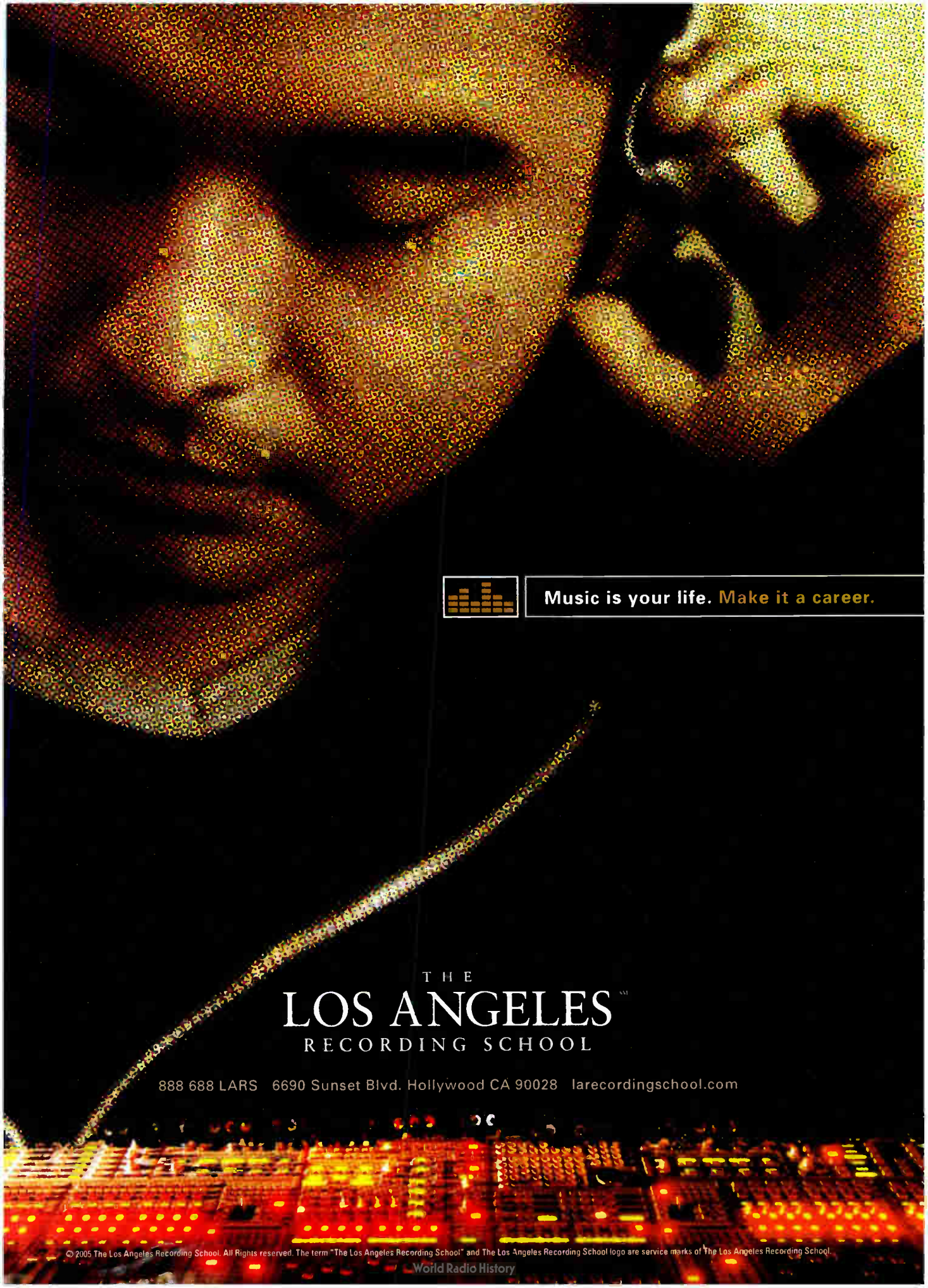
Having chosen a file, the File Info, Metadata and Workflow panels can be employed to customize and add documentation to the resources as independently collapsible docks within the Client app. Info fields include project number, record label, engineers, assistants, notes, start time and more. For even more detail, the addition of metadata to project files, folders and clips gives users infinite search options. A form-building engine provides the ability to create templates to contain the custom metadata. Templates can comprise free text fields, numbers, keywords, hyperlinks and other options. These templates can be used by all Postmap users to add descriptive, structured information to files and folders. This info is entered into Postmap's database and can be queried by any user at any time.

A Workflow panel lets users define and track each step of the production process. As each phase is completed, e-mail notifications can be sent to anyone who needs updates on a project's status. Postmap's form-building engine can define the steps within any number of custom workflow scenarios. Custom workflow templates can also be used by all Postmap users to identify the status of a project file as it progresses through predefined steps.

The ability to add this kind of detail in documentation, search the assets meticulously, then mark steps in the production process and notify other users where the production stands makes Postmap a valuable tool. It's scalable from one user to many, as it can be distributed across multiple computers on any network.

As our digital audio world has expanded, the need for meticulous documentation and search options has become essential. As in all business, in audio time *is* money and the fewer questions you have to ask about your assets, the faster you can work. To this end, Postmap fills the bill and then some. ■

Kevin Becka is Mix's technical editor.



BY DEVON SPRINGFIELD

Apple Logic Studio

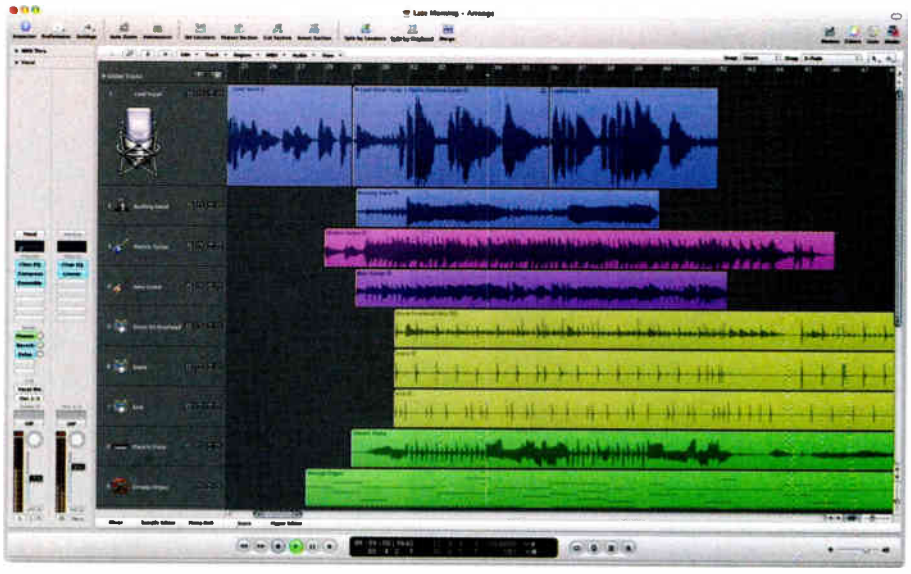
Suite Adds Live App, Plug-Ins, Jam Packs, Soundtrack Pro

If Moore's Law could be extrapolated into software, it would never hold truer than with the release of Apple's Logic Studio. The new bundle includes the highly retooled and much anticipated Logic Pro 8, plus a host of extras including MainStage, a new application targeted toward live performers, and Final Cut Studio's Soundtrack Pro 2. If that weren't enough, Apple has thrown in an array of Jam Packs—including Rhythm Section, Remix Tools, World Music and Symphony Orchestra—along with an impressive group of plug-ins, including the new 5.1-capable Delay Designer, a 26-tap delay in which each tap has its own independent volume, filter, pan and pitch settings. And you get all this for $499.

If you already have Logic Pro 7, the upgrade will cost you a mere $199. Logic Studio is dongle-free, and will work on the new Mac Intel, G5 or G4 computers—leaving no one out of the mix. If you're a new buyer and you're not ready to make the full jump to Logic Studio with all of its bundled apps, you can choose Logic Express ($199), which is basically the same as Logic Pro 8 with a few exceptions: It has no surround features and it offers a few different plug-ins, but the package includes UltraBeat and other instrument plug-ins, and is no longer a stripped-down version of Logic.

Because Logic Studio is such a robust collection, we're going to use this space to highlight some of the cooler improvements in Logic Pro 8, along with MainStage; we'll leave an in-depth view of Soundtrack Pro 2 for the next issue. Logic Studio is not the "Digi-killer" that people have been anticipating; it's a suite of applications geared toward music creation, live performance and post. If there were one word to describe the changes in Logic Pro 8, it would be "context." The new user interface is much easier to get around and the terminology has been greatly streamlined. For instance, the cryptic SPL (Song Position Line) is now the Playhead, and Matrix Editor is now Piano Roll Editor.

Apple has also addressed long-sought–after features such as sample-accurate editing in the main Arrange window and the availability of multi-mono plug-ins. In addition, in the past you couldn't record an audio track from a bus, only via a live input.



Apple has distilled the Logic interface into a single streamlined screen.

That issue is now fixed. For those who like to mix things live and knock it down to a 2-track mix, this is a lifesaver.

THE LAY OF THE LAND

So far, this is a lot of information, but if you had to break it down into a concept that's easy to grasp, it is this: For the first time, you can see less Emagic and more Apple in Logic. One of the biggest improvements is that Apple has distilled the interface into one screen. You still have the ability to have screen sets, but all functions are now just one touch away. And as before, Logic offers the Arrange window with waveforms, MIDI or other timeline information, but this functionality can now be expanded to contain everything else you need to run your session. For example, Logic's new Inspector displays two channels: One shows the channel containing the instruments, plug-ins, etc. The second is a contextual output channel strip. The Mixer window has various options for viewing channel information. A great new feature is Single view, in which Logic displays the entire signal flow for the selected channel, including buses, subgroups and master faders, for instance.

Multitake recording, which bowed in GarageBand in iLife '08, has been enhanced in Logic Pro 8. For starters, you can now record multiple takes that automatically fall into a Take folder. The main waveform displays a triangle that will break all of your takes vertically into a series of "lanes." A pull-down menu displays your takes on a list, along with some other options including New Comp, Rename Comp, Delete Comp and Flatten Comp. By using Quick Swipe in the Lane view, you can quickly comp to your main waveform by selecting areas from any of the lanes, after which the main waveform automatically reflects those changes. You can also audition similar sections of different lanes by making a selection and then clicking on the next lane. Your section will then jump to the next lane, letting you hear that portion of the take in your comp. From there, you can create new comp presets and multiple comp versions with different names, and jump between them in the pull-down menu. Keep in mind that all of this functionality exists within the original region and that it applies a temporary default crossfade. However, if you want to edit further, you can flatten the entire comp, which builds the comp from separate regions, allowing you to alter crossfades and the timing of individual edits.

Several new surround options include the ability to address a stereo output in the surround panner. Surround 5.1 metering is now

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built-in, and you can record a 5.1 track. As mentioned earlier, when choosing plug-ins in a 5.1 track, you have multi-mono options, as well as true surround plug-ins, such as the newly enhanced Space Designer. Apple has also supplied surround impulses from concert halls and rooms around the world, and a free-standing app that allows you to create your own impulses. A new binaural plug-in lets you create a surround experience optimized for speaker or headphone listening.

The new MainStage application is geared toward live performers.

TAKING LOGIC TO THE STAGE

MainStage is Apple's new live performance app that contains elements of Logic Pro and a lot of fresh ideas. It's not a loop program; it's geared more toward live performers such as guitarists, keyboardists and singer/songwriters. MainStage lets you integrate any combination of Logic studio instruments, effects or third-party Audio Units into a roadworthy, hardware-controllable package.

The Mainstage heirarchy starts with a concert, which contains patches, combinations of software instruments or channel strips, plus information on screen control mapping. The interface offers three groups of templates to get you started: Guitars, Keyboards and Others. Under each of these is a list of styles such as country, blues, rock and more. You simply choose which style you want to create, and that determines which plug-ins and associated settings reside on the channel. You can then customize and save these patches for your own live use.

MainStage lets you overcome a DAW's clumsiness in trying to address specific parameters in one interface by letting you map any parameter to a central layout that lets you adjust the plug-in parameters on your strip without being burdened by the plug-in interface.

All screen controls can be mapped to a MIDI-capable hardware controller via the hardware assignment page. If your controller has a variety of buttons, knobs, meters or faders, then you can have your GUI reflect this. You can customize the GUI by adjusting the size and color and number of your screen controls, and even add custom images. Once you've created and edited your concerts, the actual GUI can be full-screen for performance.

This is only the tip of the iceberg in reference to new features, looks and functionality. One thing rings through in Logic Studio: It's a powerhouse upgrade at a breakthrough price point.

For more information, visit www.apple.com. ■

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The powerful new EXO studio monitoring system from Blue Sky delivers true, full range sound, so you'll hear every detail of your music.

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BY MICHAEL COOPER

Solid State Logic XLogic Alpha Channel

Preamp and EQ With S/PDIF Output Dishes Out Big Sounds

In the past couple of years, manufacturers such as Solid State Logic (SSL) and Neve have recognized the pent-up demand in mid-level markets for the sound of their large-format consoles and, as such, have issued affordable modules that incorporate those boards' key features. The SSL XLogic X-Rack—reviewed in the September 2006 issue of *Mix*—is but one example of this growing trend.

Now, SSL is at it again with its XLogic Alpha Channel, a 1RU channel strip that

mates a preamp based on the company's Duality console with a soft-clip limiter, 3-band equalizer and other goodies—all at an affordable $1,995 list.

CHANNEL SURFING

An XLR/TRS combo jack located on the front panel accepts balanced mic or line, or unbalanced instrument input. This input feeds the VHD™ (Variable Harmonic Drive) preamp, which is key to Alpha Channel's glorious sound. The pre's continuously variable, rotary input gain control provides 20 to 76 dB of gain for mic/line input and 26 to 82 dB of gain for instrument input. High signal levels—whether caused by a hot input signal or by cranking the input gain control for quieter signals—cause the preamp's VHD circuit to add harmonic distortion to the signal; lower signal levels don't excite the VHD circuitry, which allows for a more pristine sound. Whereas the company's Duality console and E Signature channel strips provide a switch for turning VHD circuitry on and off, VHD is always in circuit in Alpha Channel.

A continuously variable, rotary VHD control adds second-harmonic distortion (similar to what tube circuits produce) to the audio path when it is set fully counterclockwise. As the knob is turned clockwise, the distortion increases and becomes progressively dominated by third-harmonic distortion, producing the trashy sound of transistors overloading when the knob is at full-clockwise position.

Four push-button switches also serve the VHD preamp section. An input impedance switch provides low impedance for mic input and high impedance for instrument or line-level input. A pad switch provides 20dB attenuation; SSL recommends its use on line-level input signals, but I often broke that rule, as you'll soon read. Switches for 48-volt phantom power and polarity inversion are also provided.

Following the VHD preamp section are three switches that govern the use of balanced, ¼-inch TRS insert send and return jacks located on the rear panel. One switch puts the inserts in or out of circuit, another places the unit's 3-band EQ pre/post-inserts, and the third switch sums the send signal with the return signal for applications such as parallel compression. In addition to patching the inserts to external processors, you can use the insert send as a headphone feed before DAW input to avoid monitoring latency. You can also route a prerecorded track to the insert return to access Alpha Channel's equalizer cleanly while bypassing the VHD section.

PUSH MY BUTTONS

Two push-button switches act in combination to kick in a highpass filter and set its corner frequency to 40, 80 or 120 Hz. Another switch activates the equalizer section, which offers three overlapping bands. The low-frequency band can be switched to provide either shelving or bell-curve response (the latter with a fixed Q of 1.4), while the mid-frequency band is fully parametric (including a rotary Q control) and the high-frequency band is shelving type. Each of the bands provides separate, continuously variable frequency and boost/cut controls, with the latter offering detents at unity gain. Depending on the band, a maximum boost/cut of 15 to 19 dB is afforded.

A continuously variable, rotary, output gain control follows the EQ section. It provides ±20 dB of gain adjustment and a 0dB detent. The output gain feeds a defeatable soft-clip limiter dubbed Lite Limit.

All of Alpha Channel's push-button switches light up when activated. Additionally, the pad switch glows red to indicate when the VHD pre overloads (often a good thing!), and the Lite Limit switch's backlighting changes from green (active status) to orange to red as levels feeding the limiter get hotter.

A six-segment LED meter on the front panel shows the output level before the Alpha Channel's built-in A/D. Digital output is via an S/PDIF connector on the rear panel. A main analog output is also provided on a balanced ¼-inch TRS jack. The S/PDIF output's left channel delivers the same signal as the main analog output, while its right channel yields the pre-insert send signal.

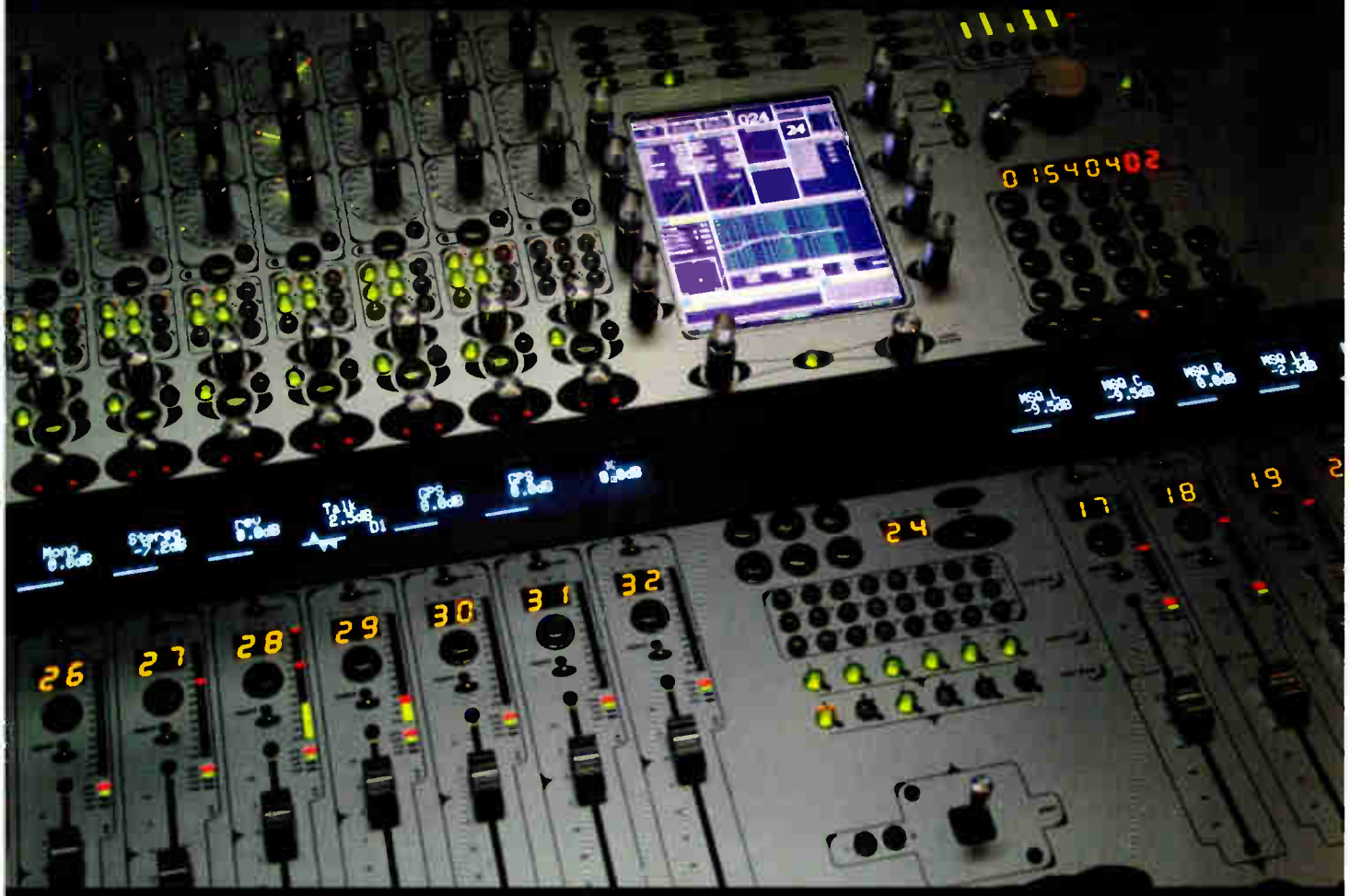
The S/PDIF output will synchronize to an external clock signal at its S/PDIF input, accepting sampling rates from 32 to 192 kHz. When no external S/PDIF signal is provided, the A/D converter free-runs at a fixed 44.1kHz rate. An LED lights on Alpha Channel's front panel to indicate that its A/D has locked with an external clock. SSL chose S/PDIF synchronization in lieu of providing a word clock input to keep Alpha Channel's list price down. In addition to the previously mentioned insert jacks, the rear panel also offers RCA jacks—wired in parallel—to daisy-chain the limiters of multiple Alpha Channels.

Ramses MSC
Console Control System

The Alternate Alternative

Ramses MSC is a new fully intergrated recording, editing, processing and fully automated mixing system that has all the functionality of a large format digital console. Ramses MSC is fully configurable for film / television post-production and multitrack recording applications, and incorporates Merging's new real-time MassCore mix engine technology capable of operating at sample rates from 44.1 kHz to 384 kHz as well as DXD/DSD.

The system is scalable from 16 to 256 simultaneous input and output channels (512 combined channels) with 256 recording/editing tracks with the option of integrated standard and high-definition video. Project and session interchange formats with all mainstream audio and video systems including Protools, Nuendo, Fairlight, Avid, Final Cut Pro and more with new total control over VST plug-ins on any bus with automation. Find out more by visiting www.merging.com.



Pyramix Version 6 MassCore
Digital Audio Workstation

DSD DXD

Version 6 MassCore is a deterministic real-time engine that does not rely on the Windows or Macintosh operating systems, thus avoiding the inherent latencies and processing restrictions. MassCore expands the channel and buss count to 256 resulting in the world's first 48 channel DXD/DSD editing and processing system. VST plugins are supported on channels and busses with full latency compensation.

INDEPENDENT AUDIO

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SUBSTANCE ABUSE

My first test of Alpha Channel was on a Strat plugged directly into the unit's instrument input. I got nice, clean tones with low input gain and the VHD control set counterclockwise. Then I started to intentionally abuse the unit. I cranked the input gain to overdrive the pre, set the VHD knob clockwise for transistor-style distortion and drove the Lite Limit hard to make it saturate and pump. The guitar sounded incredible, brimming with colorful and full-bodied overtones and warm sustain.

Miking up a guitar cabinet with the backside of a Royer R-122 and routed to Alpha Channel's mic input (with phase flipped), I got a wide variety of tones—all of them absolutely superb—by using various I/O gain and VHD settings with and without Lite Limit. Patching Alpha Channel's inserts to my Universal Audio LA-2A and summing send and return signals created a parallel compression scheme that yielded the perfect blend of density and nuance.

Next, I routed a pre-recorded kick drum track to Alpha Channel's line input. I left the input-impedance switch in low position (1 kilohm) to soften the top end and left the pad switch out to overdrive the VHD circuit while lowering the input and output gain controls to compensate for the drastic input levels. With the VHD knob set to about 11:30 o'clock for a blend of second- and third-harmonic distortion, and Lite Limit switched in (and smashed) to round off the peaks, the sound was absolutely phenomenal. The kick's attack was now brighter and tighter, and had the perfect balance of meat and thwack.

Using similar settings to process pre-recorded electric bass added grit and overtones that made it sound much richer. I also got superb results processing pre-recorded snare drum, this time with Lite Limit bypassed and high-input impedance selected. Adding a little Waves TransX processing and gated reverb created an awesome gunshot snare.

On miked acoustic guitar, I got the cleanest sound by boosting Alpha Channel's output close to max and using only as much input gain as was needed to hit 0 dBFS. Alpha Channel delivered open, detailed recordings of both acoustic guitar and male vocals. But clearly, the unit's calling is dishing out rippin' drums, bass and electric guitar tracks.

THE FINAL ANALYSIS

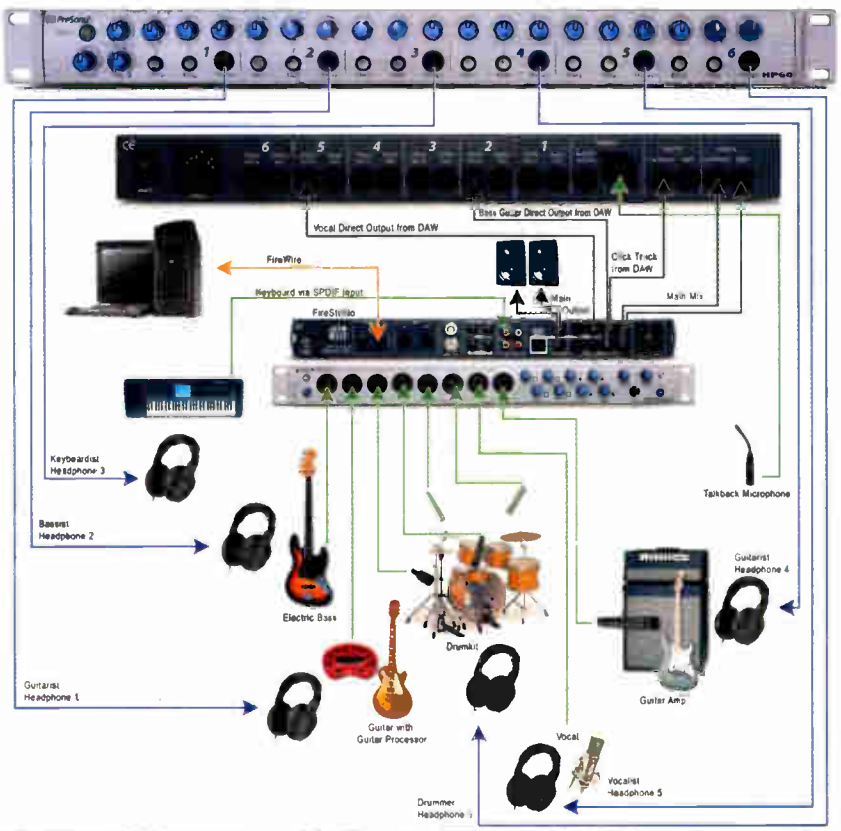
In an A/B test, my Apogee Rosetta offered a little more depth than Alpha Channel's high-quality A/D. Unfortunately, the latter's external synchronization via S/PDIF input may require you to sacrifice an entire DAW I/O bank for each Alpha Channel used (unless the unit's main analog outputs are employed). And while I found the quality of Alpha Channel's EQ to be on par with that of other midpriced channel strips, the omission of markings for intermediate frequency-knob settings often made deliberate tonal sculpting tedious and difficult. In fact, all of the unit's rotary controls have titling for only minimum and maximum settings, and SSL's cursory owner's manual and Website offer no additional documentation to help here.

Despite these shortcomings, Alpha Channel is a big winner sonically. For positively huge drum, bass and electric guitar tracks that shout "hit record," this box delivers in spades.

Solid State Logic, 212/315-1111, www.solid-state-logic.com. ■

Mix *contributing editor Michael Cooper is the owner of Michael Cooper Recording in Sisters, Ore. Visit him online at www.myspace.com/michaelcooperrecording.*

HP60 Six-Channel Headphone Mixing System



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PreSonus

BY KEVIN BECKA

Blue Woodpecker Active Ribbon Mic

High Output, Extended Top End, No Impedance Worries

You've got to hand it to Blue Microphones. Hands down, this company has changed the face of audio's front end with mic designs that use plenty of color, whimsical product names and, of course, great sound. For its first foray into the active ribbon mic category, Blue introduces the Woodpecker. The 1.6-pound, figure-8 pattern mic comes in a warm wood-grain finish with gold-plated exterior hardware. The sturdy grille, base, solid brass shockmount and even the cherry wood box in which it ships all speak of quality and craftsmanship. As an active ribbon, it drinks phantom power without a hiccup, handles SPLs up to 136 dB and exhibits a very uncharacteristic bump from 5 to 10 kHz.

LET'S NOT DELAY

When I used the Woodpecker to record an acoustic guitar, it exhibited an even tone with plenty of string jangle and pick definition. It was placed just above the soundhole where the body meets the neck, about five inches from the front of the instrument. A ribbon mic's performance is not usually the strongest at the high end of the spectrum, but the Woodpecker was surprisingly open. Due to its active design, I could get plenty of level onto tape or into a DAW with little gain from the mic preamp, thus keeping the noise floor low.

Next, I used the mic on a Nashville-tuned acoustic that sat almost equal in the mix with the previously mentioned acoustic guitar track. Once again, and especially with the altered tuning, the higher frequencies and pick definition were excellent. When the player hit the guitar hard, the ribbon tamed the transients nicely as ribbons tend to do, smoothing out any peaks with a pleasant roundness that was easy on the ears.

On the same session, I used the mic on a male lead vocal with great results. The singer was about six to eight inches from the mic, which exhibited plenty of silky highs and a bottom that was in perfect proportion. Once again, I needed very little gain from the SSL 4000 G+ preamps. With no pad engaged, the preamp was barely turned up and provided plenty of clean gain to the Studer 827. This particular singer's favorite vocal mic is the Shure SM7 because it flatters his voice. The Woodpecker easily beat out that large-capsule, moving-coil dynamic mic, providing a better top, smoother transient response and a warm, full-sounding bottom end.

I next used the Woodpecker for re-amping a distorted guitar track that had been laid down in a previous session. The original guitar was recorded on two tracks using a Shure SM57 and a Sennheiser MD-421. One of the guitar tracks was sent out to a Fender Super-Sonic amplifier using a re-amplifying DI and then re-recorded with an Old School Audio Vistaphone mic (reviewed in the January 2007 issue) and the Blue Woodpecker. I placed both mics about eight inches back from the grille cloth and just above the center of the speaker's dust cap. In this case, the Woodpecker added lower midrange and bottom end at about 200 to 400 Hz, which really beefed up an existing track that sounded a bit thin. Once I heard the Woodpecker with the original mics in the track, it became indispensable in the final mix.

During a live tracking session, I used the Woodpecker to record the same Fender Super-Sonic amp with a Shure SM57. The Woodpecker provided more low end, lower midrange and high end than the SM57, and pairing the two mics yielded the ultimate combination of the 57's grit with the broader-sounding Woodpecker.

The mic excelled when it was used to record an upright bass. The transient definition flattered the track, exhibiting a nice roundness when the player plucked the string. The bottom end was thick, warm and delicious when tucked into the mix, behind the kick drum and strummed acoustic guitar.

On soprano sax, the Woodpecker produced an even tone and cut out the harsh edge often associated with this instrument. However, in the same session this mic failed to make first-call on a tenor sax recorded, which needed a mic with more extended top end and a faster transient response.

WOULD YOU LIKE THIS?

Blue Microphones is known as a condenser mic company that isn't afraid to venture into new territory with original design, color and features. With the Woodpecker, the company nailed its first foray into the ribbon category. It rendered nearly anything that I threw at it with such personality and tone that it practically gave me shivers. And I like the fact that an active ribbon mic removes any worries about impedance mismatches between the preamp and mic, and eliminates the need to have a specialized mic preamp to provide tons of clean gain. In my tests, I used the Woodpecker with both low- and high-end preamps with great results. Its output was so hot that I barely had to gas the mic at all to get plenty of level to the recorder.

What's most amazing is the price: The $1,299 retail for an active ribbon of this quality is unprecedented. If you've never owned an active ribbon, now's the time to make the jump: This Woodpecker rocks.

Blue Microphones, 818/879-5200, www.bluemic.com. ■

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BY KEVIN BECKA

Holophone H3-D Surround Microphone

Affordable, Compact, Portable Multichannel Recording

Since debuting the H2-PRO 7.1 microphone in 2004, Holophone has released two other surround mics, both 5.1 with embedded LFE transducers: the H4 SuperMINI for on-camera use and the H3-D reviewed here. Billed as the "world's most inexpensive surround mic," the $1,695 H3-D offers all the portability and setup ease of the H2-PRO, though with fewer possibilities above 5.1.

The H3-D's 8x6-inch, 3-pound, egg-shaped "head" has five full-bandwidth mics strategically embedded around its perimeter (L/R/C/Ls/Rs) combined with an internal LFE capsule that covers the 20 to 100Hz range. The head is supported by a sturdy, aluminum swivel standmount, which is adjustable from two knobs at either side and allows for cable passage. The top of the head offers an LED that glows when the necessary phantom power is applied. The head's underside has a permanently attached, 15-foot cable that terminates in six Neutrik XLR connectors, with all cables well-labeled to identify their corresponding mic. The unit ships in an extra-sturdy, foam-lined case with locking latches. You can also purchase a pistol grip ($250) and windscreen ($350) for field use.

HEAD GAMES

I used the H3-D on a number of sessions in both surround and stereo. One notable problem I encountered throughout the review involved my use of certain mic preamps with the H3-D. My first three sessions involved using the mic with SM Pro Audio PR8 preamps, Focusrite Control | 24 preamps and a MOTU 8pre. When using the H3-D with all three of these units, I heard a low-end "motorboat" drone across all channels that was quite audible. The only time I got a clean signal that I would consider usable was when I went with preamps from an SSL 4000 G or a Toft Audio Designs ATB16 console. I checked with Holophone, and the company confirmed my results with tests at its facility: You absolutely *must* provide full 48-volt phantom power to the H3-D for optimal results.

I first used the H3-D set up dead-center in a large studio with 18-foot ceilings and ran it into a Pro Tools HD rig through Focusrite Control | 24 preamps. I then did a session involving surround overdubs with a percussionist and a guitarist/vocalist. Despite having noise problems with the preamps, the surround image and microphones sounded excellent, providing balanced, full-range coverage of all instruments.

I next used it over a drum kit through the SSL 4000 G preamps. I panned the front three mics left, center and right in my stereo mix, and used the rear capsules as rear mics facing the 18-foot ceiling. This particular cut was a Latin tune in which the drummer played lightly with sticks and brushes so there was a lot of nuance. The Holophone "glued" the kit together, unifying the separate drums with a natural sound that I hadn't previously heard with this drum kit and player.

Notably, the Holophone's stereo "view" is unlike anything you'd get from a spaced pair or X/Y mic setup. The meter deflection shows much more interplay between the channels than you'd get from the other setups, which is attributable to the way the "head" funnels stereo information around itself to the mics, which are in fact miniature omnis. (I couldn't find this information in the documentation.) Collectively, they offer another flavor of stereo or surround that is less discrete than what you get from separate mics, which have no mass between them. This construction allows the sound to wrap around and reach the other transducers before it dissipates. It sounds more like a stereo X/Y pair of omni mics, but more discrete.

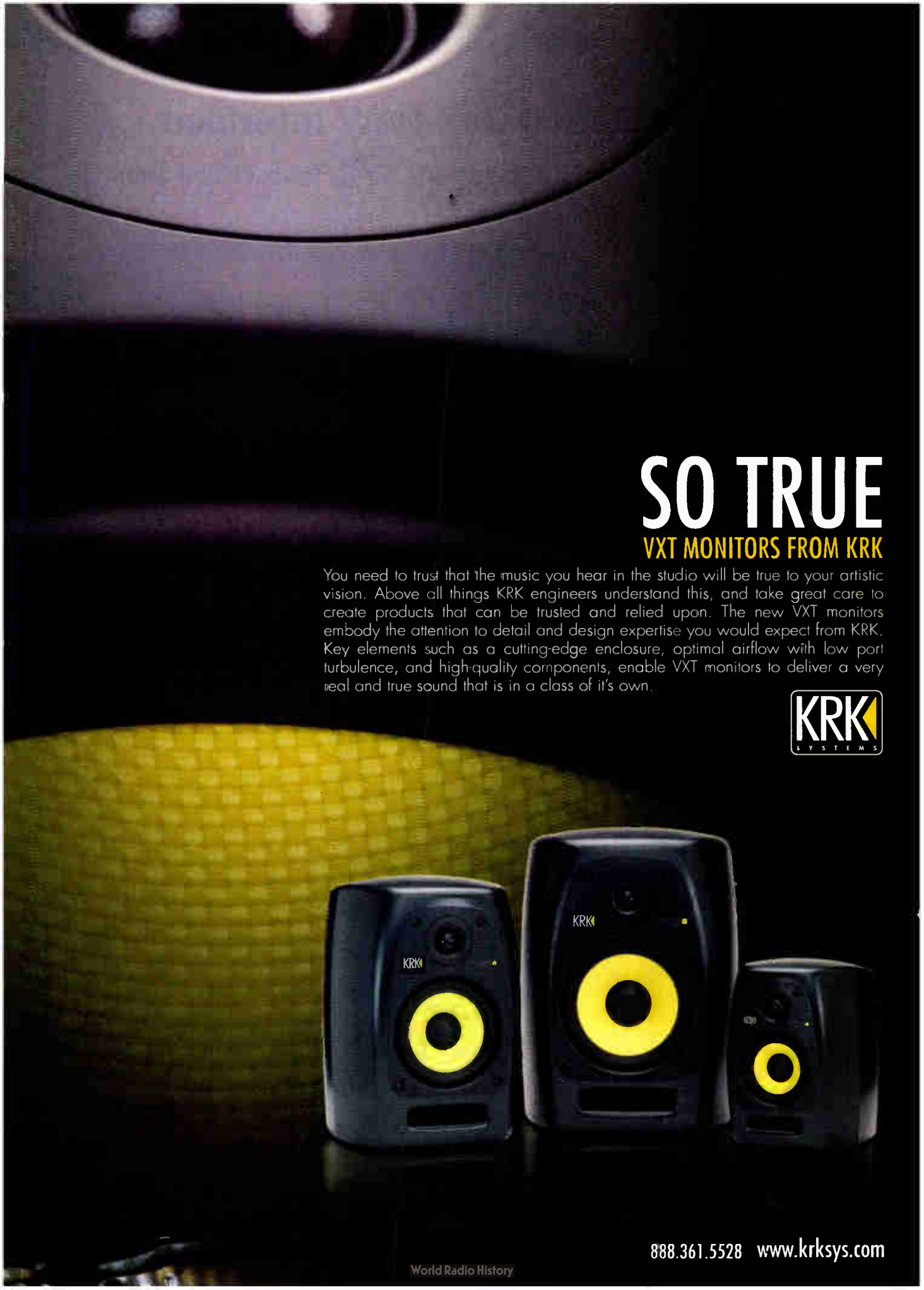
I next applied the H3-D as a knee-high drum mic placed about six feet back from the front of the kit. I panned the front three mics across the stereo field, which yielded great detail in the cymbals, toms and snare with ample, solid low frequencies—even without using the LFE mic. I used the H3-D's LFE feed to record the bottom of a Leslie cabinet. Two Neumann U87s were employed in stereo at the top rotor and provided most of the stereo information. The H3-D LFE was panned center and brought up in the mix, offering plenty of punch and low-end definition for this bass/organ/drum trio track.

MORE THAN A ONE-TRICK PONY

I can't say enough about how easy it is to place this mic and get a great sound. Although I used the H3-D in a number of surround sessions, I have to say that like most engineers I used it more frequently in stereo applications. For instance, it excels as a drum overhead and a room mic when you choose just the L/C/R panned across the stereo field, and adding the rear mics for room ambience is an extra bonus.

It's easy to set up over a kit or out in front as a knee-high or room mic(s). Once again, be sure that you use mic preamps with full 48V phantom power, as the H3-D produced an unusable "motorboat" effect when phantom power was flagging. Other than that, I highly recommend the H3-D as a sweet and unique addition to any mic locker.

Holophone, 416/362-7790, www.holophone.com. ■



BY BARRY RUDOLPH

Dangerous Music D-Box DAW Interface

"Best-Of" Unit With Monitor Switching, DAC, Talkback and Summing

The Dangerous Music D-Box is a "greatest-hits" compilation that distills the company's existing product line into a single-rackspace unit. Designed for pro studios or compact/portable DAW rigs that require an all-in-one control center, D-Box combines an 8-channel analog summing system (input via DB-25 connectors), a stereo audio source monitor-speaker switcher/controller, separate headphone system, talkback system and a mastering-quality digital-to-analog converter for all incoming digital audio.

Even with all of those features, the D-Box is priced at a reasonable $1,699, yet there are no corners cut. It uses the same THAT Corp. audio input receiver and output driver chips, the same Burr-Brown BB OPA134 op amps, hermetically sealed Aromat relays with silver contacts for switching audio and the same headphone power amps found in other Dangerous Music products.

D-BOX CONTROLS

The summing section has eight signal-present LEDs, one per channel, that glow even when low, -28dBu signals are present. The first six summing channels' stereo bus pan positions are fixed: Channels 1, 3 and 5 are assigned to the left side, while channels 2, 4 and 6 are assigned to the right side of the stereo summing bus. Channels 7 and 8 both have panpots for manual placement in the center, using the center-detent or anywhere else across the stereo field. A Sum Output Trim control attenuates up to -12 dB of the stereo summing bus output.

For communication between studio and control room, the D-Box offers two front panel headphone jacks, each with a separate level control. However, there is no rear panel line-level output for driving an external headphone amplifier. The built-in talkback mic features front panel level control and a rear panel jack for remote operation. For monitoring, the D-Box has a L+R channel-summing switch and accommodates two sets of monitors, but it has no dedicated speaker mute button. You can de-select the input, but this mutes both speakers and headphones. In one-room studio setups, muting while keeping the same monitor level is handy when quickly changing between overdubbing using headphones and doing speaker playbacks.

LED-illuminated push buttons select between four stereo audio inputs. A Sum control monitors the internal 8-channel summing bus, while Analog switches to any external +4dBu or -10dBv source. DAW and CD switches route to external digital inputs.

HIDDEN FEATURES

Simultaneously holding both the Mono and Alt Spkr buttons puts the D-Box in Setup mode, which lets you use two hidden features. In Setup mode, you can monitor multiple stereo audio sources at once, which is useful during ADR/Foley sessions when you want to listen to your DAW's audio with the production sound arriving on the analog input. You can also add 11.7 dB of gain to the external stereo analog source input (normally set to +4 dBu) for using consumer-grade -10dBv devices.

ON THE ROAD WITH D-BOX

Instead of testing the D-Box's studio applications, I took a nontraditional approach for this review by installing D-Box in a Pro Tools road rig that I use to record playback loops and keyboard pads in a live show. The test rig comprised an Apple Mac Pro, Digidesign HD2 Accel system and a 192 I/O interface, clocked by an Apogee Big Ben. Installation went perfectly with the unit working as advertised the first time.

As this was a live mobile application, I used the 8-channel summing system differently. For certain songs, I mixed pre-recorded stems to feed our front-of-house and monitor mixing consoles. A DB-25 "Y" cord is required to feed the snake cable to FOH and monitor consoles and the D-Box at the same time.

Using aux sends in Pro Tools, I sent a stereo mix of two drum loops from the 192 I/O's outputs 3 and 4. Outputs 5 and 6 ran a mix of two keyboard pads with effects, and output 7 had a count-off/click track for the drummer. I used output 8 to separate the boomy bass drum in the loops for mixing control, depending on the particular low-frequency capabilities of each venue's installed P.A. system.

I could quickly hear a rough monitor mix of the band using the stereo digital path. Then by pushing Sum, I could hear and adjust (after solo'ing each stem) the individual mixes of the loops, pads, count-off/click and the loop's bass drum. The front panel headphone monitor is ideal for this: Even on a noisy stage, I had plenty of level when driving my 55-ohm AKG K271 headphones.

Using D-Box in this arrangement worked better than I thought. The D-Box has a clear sound with plenty of headroom; as hot as I like to print levels in Pro Tools, the summing inputs never distorted. All the controls and buttons worked smoothly without clicks or pops. The talkback system has an unusual clarity and presence with no loud popping when you push the button.

IT'S D-LICIOUS

Despite its flawless operation in my nontraditional application, I need to mention some very minor criticisms. For easier operation and confidence in any scenario, it would be nice to have a stereo audio signal-present LED indicator, a larger master volume knob and a power-on/off switch. But with its small size, transparent sound, elegant design, and simple hookup and operation, D-Box is packed with everything you need for studio or mobile apps, and even some things you don't need.

Dangerous Music, 607/965-8011, www.dangerousmusic.com. ■

Barry Rudolph is an L.A.-based recording engineer. Visit him online at www.barryrudolph.com.

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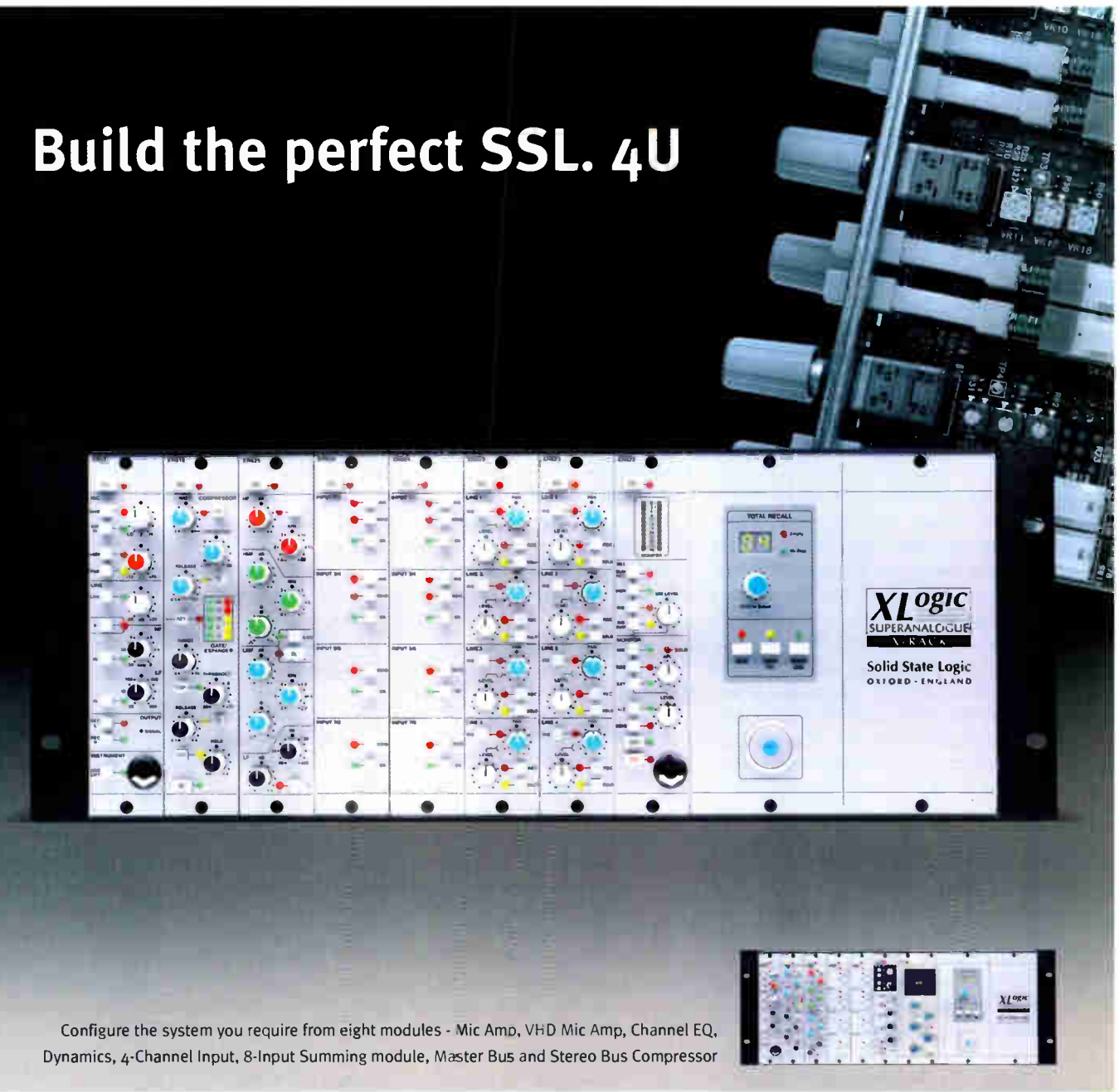

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BY MICHAEL COOPER

Inward Connections VacRac TSL-3 Limiter

Opto-Dynamic Control With Warm, Transparent Tone

In 1995, Steve Firlotte and Steve Barker designed the Inward Connections all-tube VacRac, a modular system that integrated the company's TMP mic preamp, TLM-1 limiter and TEQ equalizer, both with external power supplies, in a 19-inch, rackmountable Lunchbox-type chassis. The TLM-1 mono opto-limiter proved to be the biggest hit of the three modules, and many pros were disappointed when the VacRac was discontinued around the year 2000. Hopes were renewed a couple years ago, however, when Inward Connections resurrected its favored limiter in a stand-alone, dual-channel design made for Vintage King Audio, the company's current distributor. And so the VacRac TSL-3 tube stereo limiter was on the market.

Housed in a well-ventilated, gorgeous, 3U steel chassis sporting large knobs and VU meters, it's the TSL-3's onboard power supply that actually deserves the headline. The high-power (300-volt), tube-regulated supply immaculately preserves audio transients, which factors largely into the TSL-3's beautiful, signature sound.

NO-BRAINER OPERATION

Like vintage dynamics processors built around opto-electronic gain-control elements, the TSL-3's front panel sports few controls, making the unit's operation exceedingly straightforward and lightning-fast. Each of the two channels have continuously variable reduction controls that feed light-dependent resistors (LDRs) to adjust the depth of compression up to 40 dB. A continuously variable, rotary gain makeup control for each channel supplies up to 14 dB of gain and is active even when its associated channel-bypass button is engaged; this lets you run audio through the unit's all-tube audio path without any dynamics processing. The gain makeup control serves a 12BH7A tube in the output stage and does not feed back into the gain-reduction circuitry. Each channel's input stage features fixed gain from a 6072A tube.

Two large (3x3-inch), backlit VU meters—one for each channel—can be independently switched to show either gain reduction or output level (the latter setting referenced to +4 dBm and zero'ed using recessed trims). A stereo-link button and rocker-style power switch finish off the spacious front panel. All switches are backlit with LEDs when active.

The rear panel features XLR I/O connectors, an IEC receptacle for the detachable AC cord and a voltage selector accommodating either 120- or 240VAC operation. Inputs are transformer balanced and rated to handle levels up to +20 dBm. Outputs are unbalanced (pin 2 is hot, and pins 1 and 3 are ground) and specified to handle up to +20 dBm at 600 ohms or +34 dBm at 10 kilohms. Output transformers are optional, although not a single customer has ordered them. Frequency response is stated to be 20 to 20k Hz, ±0.5 dB.

IT'S CRUNCH TIME

The TSL-3's action at its "knee" is noticeably firmer than that offered by my Universal Audio LA-2A tube compressor, another opto-compressor. On some sources, such as vocals, compression depth swung from 0 to 10 or 20 dB with fairly small adjustments of the TSL-3's reduction knob and only moderate swings in input level above threshold. Even with such deep compression, however, the unit's sound remained remarkably transparent. The TSL-3 put a firm yet clear lid on triple-tracked, two-part background vocals recorded with a Lawson L251 mic and Millennia HV-3D preamp, preventing a submix pileup and delivering a rich and present tone for the group.

The TSL-3 sounded incredible on strummed acoustic guitar. With swings in gain reduction between 1- and 7 dB, the unit dramatically tightened up the instrument's bottom end while treating the top with kid gloves, creating a leaner and more sparkly track that needed less EQ cut to reduce boominess. Similarly, applying a moderate amount of gain reduction to a kick drum track reduced the amplitude of shell decay to produce a sound that popped more.

Next up was a Strat playing palm-mute diads through a Roland Micro Cube amp miked with a Royer R-122. The TSL-3 transparently controlled the track's level so that it neither dominated nor disappeared into a dense Southern-rock arrangement. Placed on the stereo tracks for overhead drum mics, the TSL-3 gently moderated peaks and shaved off some low end on bleed from the traps. Even with 20 dB of gain reduction on peaks, I couldn't get the TSL-3 to pump; for the bombastic sound of John Bonham–style drums, another limiter would be a better choice. Results on electric bass guitar were also fairly pedestrian, although perfectly usable.

Despite its conservative headroom specs, the TSL-3 handled the 26.5dBu output of my Yamaha 02R mixer's stereo bus outputs without distorting. In a 2-bus application, the TSL-3 lent the mix a more velvety sound and tighter bottom end (not necessarily appropriate for this thumping R&B production). The unit's attack time proved to be too slow to dramatically reduce peaks, leading me to conclude that the TSL-3 is not the best choice for increasing the loudness of a mix.

TAKE IT TO THE LIMITER

My only criticism of the TSL-3's build is that the XLR input connectors don't latch. The $4,500 list price is high, but premium-quality tube gear doesn't come cheap. What matters is the sound. The unit's sonic character tends toward modern and pristine rather than vintage and highly colored. Yet the all-tube audio path certainly adds a warm, velvety touch to digital tracks. If you're looking for an ultratransparent tube limiter with a sweet tone, the TSL-3 is worth considering.

Inward Connections, dist. by Vintage King Audio, 248/591-9276, www.vintageking.com. ■

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PAUL MCCARTNEY

MEMORY—TRACK BY TRACK

By Matt Hurwitz

Few producers get a second round recording Paul McCartney; other than George Martin, that distinction belongs to David Kahne (Sugar Ray, Sublime, Kelly Clarkson). Kahne produced McCartney's 2001 effort, *Driving Rain*, and a host of live recordings since then. Most recently, Kahne was at the helm for *Memory Almost Full*, the debut release from Starbucks' Hear Music label.

McCartney, Kahne and the ex-Beatle's touring band (guitarist Rusty Anderson, guitarist-bassist Brian Ray, drummer Abe Laboriel Jr. and keyboardist Paul "Wix" Wickens) did most of the tracking for *Memory* at McCartney's The Mill home studio and at McCartney's "old home," EMI's Abbey Road Studios No. 2. Additional recording and overdubbing took place at Henson Recording Studios in Los Angeles and the producer's See Squared Studio in New York City.

Kahne engineered much of the project himself, as he did on *Driving Rain*, though some engineering at the Abbey Road sessions was handled by Beatles/McCartney veteran Geoff Emerick and by Paul Hicks (The Beatles' *Love*). At The Mill, Kahne was assisted by either Adam Noble or Steve Orchard, and elsewhere by Keith Bolster and Kevin Mills. The producer records to a custom PC running Steinberg Cubase Studio 4. His particular gear preferences include Violet Design microphones, Roger Nichols Digital plug-ins, and Fairchild 670 and Federal AM-864 tube compressor/limiters. "The Federals are older than the Fairchilds," Kahne notes. "Mine are old Army gear—they say 'Signal Corps.' on them!"

Kahne says that the process for recording McCartney changes, of course, depending on the track and on whether Kahne is recording McCartney with his band or alone. "On the work with the band, he'll usually play it on an acoustic guitar and show everybody the song, and then work out the arrangement," Kahne says. For solo recordings, "There is no 'typical.'" However, Kahne notes that McCartney's trademark melodic lines are ever present. "Paul always has lines going, which is great because I've always analyzed music that way. What's going on with the bass line and the voice at any particular moment? It's more of a classical approach. The arrangement is just a question of what is the part supposed to do, and then choosing the instrument, amp or whatever. That's how I approach it, and it turns out that's what he does, which is one reason why we get along.

"There's an emotional journey to the whole record," Kahne continues. "He's made an amazing album, as good as anything he's ever done. Listen to it over and over again." Track by track, Kahne shares some of the moments from the journey he shared with McCartney in making *Memory Almost Full*.

"Dance Tonight": "That kick drum sound you hear at the beginning and throughout the track is actually Paul stomping on a piece of wood with his foot," Kahne recalls. The mandolin-based track was recorded in January 2007 at RAK Studios in London. It was the last song recorded for the album and features McCartney on mandolin (an instrument he mastered for this recording), bass, auto-harp, drums, fuzz bass, keyboard and electric guitar.

"Ever Present Past": Although it sounds like

—CONTINUED ON PAGE 166

THE WHITE STRIPES

TWO MUSICIANS, GIANT SOUND

By David John Farinella

Working with two musicians and 16 analog tracks sounded like heaven to engineer/producer Joe Chiccarelli when he first got the call to work on the White Stripes' latest offering, *Icky Thump*. But he forgot about one thing.

"We're so used to these pumped-up albums that are big sounding and punchy that when you hear just two instruments *au naturale*, it doesn't sound like enough," he says. "I thought I could take a simple approach at first, that I could make it sound real and big and gorgeous and all that. But you have to work hard to fill up the space, not in a way that it sounds congested or over-produced, but in a way that it sounds full and complete."

The White Stripes—Jack and Meg White—have made a name for themselves thanks to their interesting blend of blues and rock with alternative music energy. The duo, with Jack White on guitar and vocals and Meg White on drums, met up with Chiccarelli at Blackbird Studios to record these songs after spending a month or so working on songs at Jack White's Nashville home.

The White Stripes' brother and sister team, Meg and Jack White, demonstrate Cat's Cradle.

According to Chiccarelli, the recording dates took two to three weeks. "It went down pretty quickly. Jack likes to record fast. He's an intuitive, fly-by-the-seat-of-his-pants kind of guy. He trusts his gut and that's the thing I love about him—there isn't a whole lot of indecision. That's the way that I like to work, as well."

That said, the pair of musicians, Chiccarelli and assistant engineer Lowell Reynolds set up in Blackbird's Studio D. The room boasts a Trident 80 console, and Chiccarelli used an extensive list of vintage analog outboard gear and, rare in this day and age, a 2-inch tape

—CONTINUED ON PAGE 168

PERRY FARRELL

SATELLITE PARTY WANTS TO SAVE THE WORLD

By Chris J. Walker

Perry Farrell thinks big. The former front man for the ground-breaking and highly influential Jane's Addiction and, later, Porno for Pyros always thinks large-scale and beyond the immediate. A case in point is Lollapalooza, which was originally planned as a farewell tour for Jane's Addiction in 1991. Farrell instead envisioned a grander scheme, enlisting other like-minded, cutting-edge bands and their fans for multiband festivals in large venues around the country. At the time, it seemed far-fetched, but it actually generated mainstream popularity for many alternative bands and paved the way for countless other traveling fests. Today, the scaled-back Lollapalooza exists as single, annual three-day event in Chicago, but is still considered cool, like Farrell himself. As for the impresario/alt-rock leader, he's spearheaded various Jane's Addiction reunions with varying degrees of success and put out one solo album under his own name, *Song Yet to Be Sung*, in 2001; it was a very personal work that included lyrics inspired by Jewish mysticism and exhibited a distinct social consciousness. It turns out Farrell wants to save the world.

Farrell's latest project, a group called Satellite Party, has made one album so far called *Ultra Payloaded*. Musically, it spans several different genres—alternative, classic rock, funk and electronica—and features a wide-ranging roster of intriguing players, including the great guitarist Nuno Bettencourt. A deep concept album (with a fairly confusing storyline explained in the liner notes), it voices Farrell's utopian vision and his strong concerns about the (ill) health of the planet. "First and foremost, I'm a musician," he declares by phone from Manchester, England, while on tour with the band, "but I'm also an environmentalist and a parent. So if you're clever and creative, you can kind of weave those things into what you really love about your life. We do, and it's a way of having it all—playing music, having fun and making the world a better place."

Satellite Party developed over a number of years, but coalesced into something more formal only fairly recently. Farrell says it began in 2004 as a "house record" created in his garage with engineer Marc VanGool. Initially, it was dominated by samples and beats recorded to Pro Tools through a Mackie board, with Farrell mostly working

—CONTINUED ON PAGE 170

drums, a mic and a direct box on the bass, and one mic on the guitar," recalls Dodson. "I probably would've been using some U87s, a D-12 on the bass drum and some SM57s. That's probably about it." He says the SM57s would have been on the snare and the toms; the U87s on the bass, guitar, for drum overheads and for vocals.

"I Want Candy" was recorded in just two or three takes, with overdubs done after. The drums basically stayed the same, and adjustments were made to the bass and guitar tracks. Lwin's guide vocal was replaced by new singing, which was done with other members out of the room because, as Gorman recalls, she was a bit nervous.

On the flip side, Laguna turned Gorman's bass overdub session into a rock star moment. Gorman explains that Laguna took the bassist's entire rig—including six 8x10 Mesa Boogie cabinets and 250W amps—and set it up in the back of the studio with an array of lights and mics to make it seem like he was onstage. Then Laguna corralled Joan Jett, The Blackhearts, Dodson and anyone else he could find into the control room to cheer the bassist on. "It was such a big event, like I was onstage, so I just turned everything up to 11 and went for it. I knocked it out. That was the bass take. I don't know if they even used that take, but they made it fun for me."

After redoing the bass and guitar, Laguna "had a great production idea that was very subtle," remarks Gorman. "I'd never seen anything like it before. He played piano underneath the guitar, and you can't hear it. But when he took it away, the guitar sounded thin." Laguna had reportedly used this technique on Jett's anthem "I Love Rock and Roll," which was then climbing the charts. "[Kenny] was so in sync with what Matthew played that you can't tell," Laguna says. "It just gives a round, bell-like aura to each note and a thickness to the guitar chords and makes Matthew sound kind of wild."

After the Criteria sessions, Laguna and Dodson went to the Power Station in New York to mix "Candy" and three other songs with Glen Kolotkin, who had worked with Santana and on Jett's second album, *I Love Rock and Roll*. "I remember that the Power Station was so amazing because they had big, natural echo rooms," says Laguna. "Everything was very natural in that session. There were no machines—nothing. It was just recording. Taking it out of the [playback] echo and giving it the natural echo in these huge rooms, on the tom-toms and what not made a big difference."

While "I Want Candy" did not quite crack the U.S. Top 40 (and the group disbanded in 1983), the combination of extensive new

wave radio airplay and its MTV popularity definitely created a major buzz for the band, and it is the song most associated with the group to this day. Guitarist Ashman passed away in 1995, but the remaining members of the group have toured as Bow Wow Wow since 1997, and both "Candy" and "Aphrodisiac" (from the group's 1983 Mike Chapman–produced follow-up album) were used effectively in Sofia Coppola's offbeat film *Marie Antoinette*. ■

PAUL MCCARTNEY

FROM PAGE 162

electronica, this track is all McCartney on real instruments, though heavily processed. "He showed it to me on piano, and then we started recording with electric guitar, recorded to a drum loop, and then he put down a work vocal and then he recorded his drums," Kahne recalls.

McCartney played his Epiphone Casino, first heard in 1965 on The Beatles' "The Night Before." Kahne says he plays it through a Vox AC30, the same type the Fab Four used in the '60s, although McCartney's current amp is a reissue. The bass is his famous Hofner, and the drums are McCartney's black Ludwig kit, similar to Ringo Starr's in that the two, both left-handers, play right-handed kits. The song also features harpsichord and flugelhorn by McCartney—the latter heard as a solid note through the pre-chorus.

"See Your Sunshine": Kahne says this track features "Paul playing bass at his absolute best. There was a bass fix that we needed to do, right before the bridge, which I asked him to do. He played it and was just goofing around—he was playing all over the place, like only he can play; just amazing stuff. So I asked him, 'Can you play from the beginning of the song the same way?' And he goes, 'Sure,' which he did. When we were done, I said, 'Well, that could be the bass part,' and he said, 'I don't know...' He thought it was too busy, but after he listened to it, he said, 'That's really cool.'"

The two also spent a good amount of time on drums. "We just kept doing more and more drums and loops," Kahne says, "just getting the groove right and the tempo. We gave it several tempo changes." A few hours' work also generated the song's wonderfully soulful background vocals. "It's a voicing of the piano part, so it's really an orchestration rather than a brand-new part."

"Only Mama Knows": The first Abbey Road band track heard on the album, this song was recorded live. As was the case whenever McCartney played guitar or piano during tracking, bandmember Brian Ray played bass and McCartney would later replace that part. "Paul's a good bass player," Kahne winks. The rocker opens with a sad string section—actually, a complement of samples, Mellotron and live strings.

"You Tell Me": "'You Tell Me' is maybe the saddest song he's ever written," Kahne says. McCartney wrote the song in Long Island, and is, as he describes, "a tribute to golden summers." The mostly acoustic number opens with some forward and backward organ, along with Laboriel playing a drum pad triggering some drum samples. McCartney's vocal was recorded in a single pass, joined by beautiful vocals from the bandmembers. The backward/forward organ, used to create a mood, is followed by a quiet count-in from McCartney. "I was really happy he let me include the count-in. It's iconic."

"Mr. Bellamy": This track is about a fellow who climbed up a building and won't come down. Recorded in March of '06 at The Mill, it is one of four songs that were tracked that day. Instrumentation-wise, McCartney built the song following the lyrics. McCartney sang two vocal lines during the song's second bridge, a favorite of Kahne's. "The vocal from the first 'B' section comes in halfway through, and it really makes a good counterpoint vocal," Kahne recalls. "Concert-quality double melody, and you can hear them both very clearly. They cross each other, but you can still hear them."

For drums during the song's "B" sections, McCartney chose to play his kick in an unusual manner. "He wanted this kick pattern that was real quick. He was thinking it, but he couldn't get his foot to do it the right way. So he jumped off the drum kit and undid the beater of the bass drum, and he got on his knees and played it by hand." The drums are played normally during the rest of the song, creating a dynamic contrast.

One other detail was kept in from the original session: "We were recording, and there was a guy there doing a photo shoot, taking some pictures. You can actually hear

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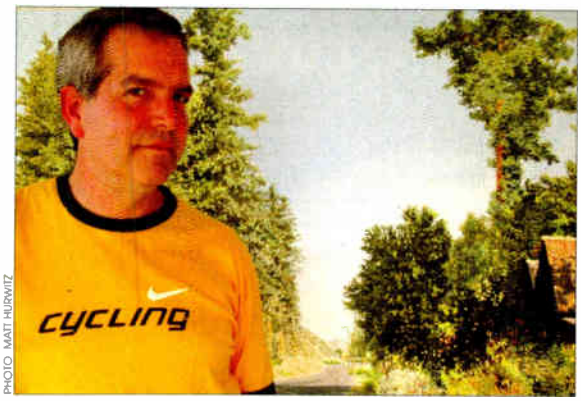


PHOTO: MATT HURWITZ

***Producer David Kohne also engineered much of* Memory Almost Full.**

his shutter snap on the song, which I left in the intro because the guy in the song is sort of in that situation, which fit."

"Gratitude": Another soul song recorded the same day as "Ever Present Past," this track features McCartney on piano, bass and drums, live orchestra, horn samples (on the bridge) and loads of background vocals. Kahne says of McCartney's performance on the track, "He really sings his heart."

"Medley": The latter half of the album is made up mostly of a five-song medley, McCartney's first since his "Little Lamb Dragonfly" medley on the 1973 *Red Rose Speedway*. "He said one day that it was the only song he ever wrote the words to first, except for 'All My Loving,'" Kahne says.

Basic track recording for those five songs, which were recorded separately, was done with the band at Abbey Road, though overdubbing continued for long after at The Mill, Henson and at Kahne's studio in New York City. Transitions between songs were recorded either during tracking of a song or as a pickup later.

"Vintage Clothes," with its unusual tempo changes, features McCartney on piano and acoustic guitar, with Anderson playing electric. "I like some of the electric guitar sounds because it's evocative of some of the sounds they achieved at Abbey Road like on the 'Sgt. Pepper' reprise," Kahne notes. Background vocals are, as Kahne puts it, "stacks of Paul." McCartney's Mellotron—captured from Abbey Road long ago—is the same one featured doing the "flute" opening on "Strawberry Fields Forever," and he is, in fact, playing that very setting on this recording.

"That Was Me": The very *Ram*-like "That Was Me" again features McCartney and the band, mostly on acoustic guitars. During the third verse, after the guitar solo, McCartney added a little something extra. "We were talking about that part needing a lift, and he said, 'Well, maybe I'll sing it up an octave,' doubling the guitar line. He went out, and that's the second pass. He kind of figured it out and just ripped it."

"Feet in the Clouds": On the third "Medley" track, most of the original band tracking was replaced early in 2007, with the exception of Anderson's guitar line and the group backing vocals. McCartney's vocal in one section was treated to Celemony Melodyne Studio signal processing software. "I had about 36 tracks of vocals," Kahne says. "I chose different lines to flatten out to get rid of the vibrato. Then in the mix, I kind of pitched them a little bit, which took a fairly long time. Melodyne does what Auto-Tune does, but better."

"House of Wax": The climactic "House of Wax," which McCartney played live on his handful of "secret gig" shows supporting the album, again features the band, with McCartney providing the crying blues guitar solo. "The solos were a big deal for me," Kahne recalls. "Those sections were blank; we didn't know what we were going to put there. I heard 'Taxman' on the radio, for which he'd done the solo, and I thought how great it would be if he would just rip in those big breaks. So I asked, 'Instead of making a more complex part, can you just play guitar solos?' He said, 'Okay,' sat in the control room with his Casino plugged into the Vox and just whipped it up, and literally, a half-hour later, they were done. I've never heard him play guitar like that. He just pushes the notes sharp perfectly at the right time."

"End of the End": McCartney sings about what he'd like to see one day at his funeral. He is playing the "Mrs. Mills piano," as it is known at Abbey Road—the same one used on "Lady Madonna" 35 years earlier. "He did quite a few takes, and he was wearing headphones," Kahne says, "when he suddenly realized, 'Oh, wait, I don't need to wear headphones,' because he was singing and playing live. So he took them off, and then it had a different sort of feel to it." The song also features a double quartet of strings.

"Nod Your Head": Though the recording sounds like a band, it's all McCartney. The recording started on piano, followed by drums, and then bass and guitars. The drums featured a Violet Design Flamingo mic capturing room sound, which was compressed. "I just crushed it and kept moving it around until I was getting the air I wanted in a room mic while he was warming up. And that sound has a lot to do with the sound of the mic," Kahne says. "Also, the take wasn't coming together, and we redid it, and did it, and did it, and it wasn't working. It got a little tense, and then the next take he got it. But he started goofing around, and he started yelling while he was playing, and that yelling is still a really cool part of the song." ■

THE WHITE STRIPES

FROM PAGE 163

machine. Tracking in analog helped fill some of the sonics that the band may have been missing. "I felt like we got an extra bump on the bottom end, and there was a warmth to the tracks," the producer says.

Although the gear was vintage, the attitude was modern. "Jack wanted to do something that had a hand in the classic tone that he loves and that some of his recordings have had, but have a modern edge and punch to it," Chiccarelli reports. "When we first talked about working on [the release], he said he wanted to do an album that had a lot of Pro Tools–style editing that wasn't done in Pro Tools. In other words, there was a lot of cutting and pasting without concern for tempo or tone consistency. A lot of it was like, 'We need a bridge? Okay, here you go. Oh, all the sounds are different? That's okay.' That gave a lot of dramatic scene changes to the record."

The key during the recording process was to make sure that the red light was always on. "In all honesty, the process was so fast and quick that we didn't really spend a lot of time getting sounds," Chiccarelli admits. "If I spent 30 seconds on a guitar sound, that was a lot. It was really get the stuff up and go, because when they were feeling it and wanted to go they gotta record. The first day was me experimenting with where to put the drums and how to mike them, but after that it was go."

A small drum kit was put in one of the room's seven recording spaces, Jack White's guitar amps were in another space and a Hammond B3 was in another. It was important to have the guitar amps as isolated as possible. "There's so much passion in his playing and the way he hits the guitar strings has so much attack that the [Fender] Twin was uncomfortably loud," Chiccarelli says

The Twin was one of two amps that Jack White used, the other being a rare Silvertone piggyback amp. Chiccarelli used an assortment of ribbon mics on the amps, including an AEA R84, a Royer 121 and a Coles. He

would also put a Neumann 67 back in the room for ambient tracks. As far as outboard gear, Neve 1073 preamps and UREI 1176 compressor/limiters were typically used, with a Fairchild compressor also being employed occasionally.

Chiccarelli was careful with the track's loudness. "I don't record extra-hot levels to tape," he explains. "I like to have headroom and the openness, so stuff was not overly distorted to tape. I prefer having the transience left intact, and if I need to overdrive something, I'll do it with an outboard box."

In the studio's main room was a larger drum kit for Meg White and space enough for Jack White to play and sing nearby. There were a number of songs, Chiccarelli points out, where the doors to the iso booths were thrown open and the two played without headphones. "We let all the guitar amps bleed into the drum mics and into the drum room mics because the best performance was when they didn't hear themselves on headphones and when it was real live and off the floor. Some of the bluesy, big, open songs are like that," he says. "They don't use a click, so it's very much dependent on their feel and their timing together. So them being close to each other and Jack not being isolated off was really important."

One of the appealing features in Blackbird's Studio D is its live echo chamber. "It's one of the better live chambers I've ever heard," Chiccarelli says. "It's a very dark-sounding chamber, but has a lot of character. I wouldn't say it's a classic reverb like a Capitol Records echo, but it has a vibe. We used that on a lot of things, even recording some vocals inside the chamber or standing outside the chamber."

As far as miking Meg White's kit, Chiccarelli kept things straight ahead: An AKG D-12 on the kick and a U47 as an overhead run through a Fairchild compressor. It was rare that he miked the snare, but when he did it was a U47 through a Fairchild. When she used a bigger kit, Chiccarelli put a 57 on the snare top and a Sennheiser 441 on the bottom. The toms were not miked, but he used an assortment of mics as overheads and in the room. "I set up a lot of different room mics, maybe eight," Chiccarelli explains. "Depending on the song, I could go smaller, tighter and punchier, or wide and open. Sometimes, I would use old funky cheap mics as room mics and distort them. Other times, it was a pair of Coles, maybe combined with a pair of 87s far up in the room. We did things with drums like pumping them through the reverb chamber or pumping them through guitar amps."

While the Stripes sound has its foundation in a guitar and drum combination, there were a handful of songs on *Icky Thump* that included some new instrument choices. For instance, the title track features a vintage Univox synthesizer that Jack White purchased in New Zealand. The keyboard doesn't have a direct out like most keyboards; it has a built in speaker, so Chiccarelli put an 87 about five feet away from it. "It had so much personality that you didn't want to put a mic inches away from it—you really wanted to capture how it sounded in the room."

A pair of songs—"I'm Slowly Turning Into You" and "You Don't Know What Love Is (You Just Do as You're Told)"—show off Jack White's B3 talents. Chiccarelli miked the B3's Leslie with a tube U47 on the bottom and a pair of KM84s on top. He also had a U67 in the room to capture some of the organ's ambience. "Sometimes we took a direct out of the organ and sent that through a guitar amp to get a little more edge and bite," he adds.

On the song "Prickly Thorn, But Sweetly Worn," the band added bagpipes, mandolin, thigh slaps and hand percussion to the mix. "Meg did two different bass drum tracks, playing the bass drum with a mallet, and then the tracks switch between sections of the song. It started with a dead-er bass drum, then opened up to an almost parade drum sound," he explains. "That song was interesting, because after we recorded it we decided that it didn't sound like it was done [live] in the studio enough. Jack is very keen on it sounding honest and like people in a room playing, so we took the mandolin and vocals and pumped them back through the studio loudspeakers and miked the room [with a C24 stereo mic]."

Getting Jack White's vocal tracks for these songs went slowly, Chiccarelli reports, but not because of any performance issues. "We spent a lot of time with each song, trying to find the right character," he says, "whether it was choosing an old ribbon mic or a big condenser, distorting a preamp or overcompressing something or putting it through a guitar amp."

Most of the vocals were recorded on a RCA 77DX ribbon microphone, but a U47 and an old Altec 633 salt shaker mic were also pressed into service. Processing, depending on the track, included a Telefunken V76 tube preamp, an 1176, an LA-3A, a Fairchild and a Chandler Limited EMI TG2 compressor. "Sometimes the vocal went through a guitar amp, sometimes through a Neve module with a preamp turned all the way up," he says. "He's great about working the distortion, knowing how to sing to a certain microphone. He knows how to back way off and come way in when he needs to. The vocal is different on every single song.

"There was no vocal comping," Chiccarelli continues. "If he didn't like a line, we'd erase it and redo it. It was totally old school, like you're down to track 15 and that's the lead vocal track so make the performance count. A couple of songs were tricky, but he's really good about diving in and working really hard to get the stuff to be what he wants. He's fearless and that's a quality I always look for in an artist." ■

PERRY FARRELL

FROM PAGE 163

alone and occasionally with Red Hot Chili Peppers bassist Flea (a longtime friend who even toured in one Janes Addiction reunion group). However, about a year later, nothing was gelling. At that point, Farrell's wife, Etty, urged him to breathe new life into the songs by adding more live instrumentation.

As fate would have it, shortly after this Farrell met Bettencourt, former lead guitarist for Extreme, at a birthday party for Rage Against the Machine/Audioslave guitarist

Tom Morrello, and the two hit it off. "The following day, Nuno came to the garage and brought one small amplifier and a guitar, and we began to come up with polyphonic, contrary melodies," Farrell relates. "Guitarists in rock bands usually start with the idea of coming up with a riff, but in this case we started with [the existing] drum programs and synth sounds." The duo added more layers at their home studios, and the once-crude basic tracks were starting to be dynamically transformed. Then to take things to the next level, they decided to start drawing from the talents of other musicians.

Farrell comments, "The hardest thing for me was taking it out of a garage and beginning to bring in live players. It was very exciting and adventurous, and not only that, the sounds were out of our typical realm. Also, we were working with people outside our own clique, like Peter Hook [of New Order] from Manchester. We got bass lines from him and drumming from Thievery Corporation in Washington, D.C.," along with contributions from the Chili Peppers' Flea and John Frusciante, and Black Eyed Peas singer Fergie, as well as new bandmembers Kevin Figueiredo on drums, Carl Restivo on bass and Etty Farrell on vocals. Farrell continues, "We were getting inspiration from different parts of the world brought to us via an FTP site." Producer/engineer Anthony Resta tweaked some of the tracks at his Studio Bopnique in Boston.

"It wasn't an ego-driven record, with the guitarist or bass player having to get their stuff in," Bettencourt adds. "It was as if the songs, as they grew, dictated where we were going; like we did the right thing for a song or the spirit of it."

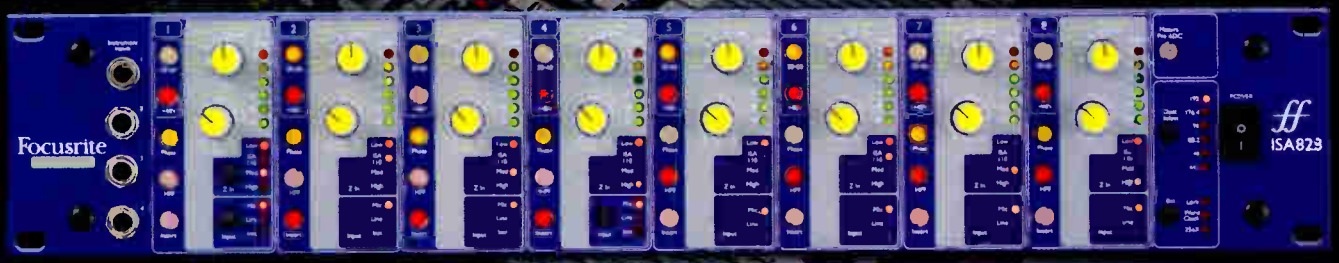
Once the project gained momentum, Farrell and Bettencourt moved around to various studios, including Henson Recording, The Village, Fox's soundstage and Academy Award–nominated film composer Harry Gregson-Williams' studio, all in Los Angeles. First up was Henson (formerly A&M), and in comparison to the garage and home settings the facility was quite a change, with its high ceilings, secluded vocal booths and ample space. For three months in late 2005 and early 2006, it became Farrell and Bettencourt's base of operations as they incorporated various guitar, bass and vocal overdubs. Engineer Richard "Jake" Davies worked with them to "up the quality of the tracks and move everything forward," Davies says. Davies' credit list includes such adventurous artists as U2, Björk and William Orbit, so he's used to working in unconventional ways on unusual music.

"What I inherited from Marc [VanGool] was in great shape," he says. "He did a stellar job and Perry's vocals were already sounding fantastic. So my role was to facilitate him, explore all his creative suggestions and make sure when he came to mix it all the options were there for him and [mixer] Steve Lillywhite." (Actually, as he did the tracking and demo mixes with Farrell and Bettencourt, Davies didn't know who the final mixer would be.) Sessions were tracked through both SSL J and G Series consoles direct to Pro Tools. Davies says he preferred the G because he felt it could be driven harder and could produced desirable distortion.

The next stage of the evolution of Satellite Party occurred at The Village, where Farrell and Bettencourt reviewed their tracks and added strings to some. However, when Gregson-Williams heard the orchestrated tracks at his studio, he said, "'Man, I would love to jump in and lay some arrangements on there,'" Farrell relates. "We were very fortunate and he had a little bit of a window. It took him about three weeks to write some string lines for us. Then we went over to Fox Studios, and in one afternoon Harry nailed five tracks."

One selection certain to pique interest and possibly controversy is "Woman in the Window." It's built around an unreleased Jim Morrison vocal track that the late singer's estate gave Farrell permission to use. In fact, it's the first unheard Morrison performance in many years. Farrell says he was especially

Like father, like son.



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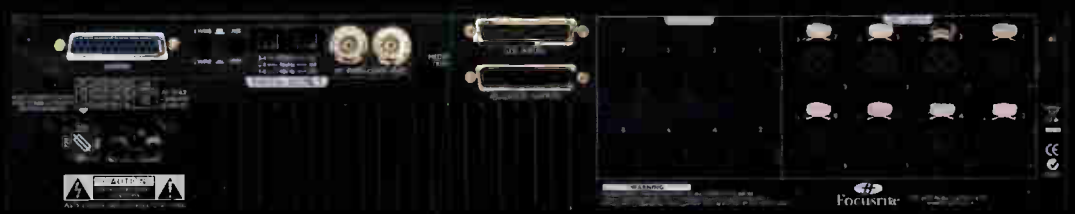

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struck by one of its lines: "Just try and stop us/We're going to love."

"I was involved with that," Davies comments, "but Nuno really rearranged it in a manner that brought it to life. He and Perry put an amazing [musical] track behind it that was very true to the integrity of Jim's voice and arrangement. It was really long, though, and between Nuno and Perry they created a more condensed version that sustained better."

Toward the end of March 2006, the engineer and musicians toiled away furiously for 10 days at Williams' studio, which is equipped with Pro Tools and an ICON board. Davies recounts, "We mixed everything because they wanted to present the whole album. It was more of a decision-making process of trying to finalize what was going to be in and nailing arrangements. After that, I imagine Steve [Lillywhite] picked the best tracks and they worked on those."

Upon hearing the album, Lillywhite, then an executive at Columbia, signed the duo and set up extensive mixing sessions at the Cutting Room in New York. His involvement was short-lived, though. As Farrell describes, "We couldn't have been happier getting signed to Columbia by Steve. Then we began mixing and got a tap on the shoulder telling us that Donny Ienner had resigned from Columbia. So there goes the president, and Steve says, 'Don't worry, everything is going to be okay with you guys.' About three weeks later, I get another tap on the shoulder of news that Steve Lillywhite was out. He had begun doing the mixes with us, was so much fun to work with and such an amazing, great guy. So Nuno and I were left with the mission of having to finish the record."

"Which we embraced," Bettencourt interjects, "and we were kind of like inmates running it. It was nice: We sat on the Pro Tools rig and just kind of conducted it, turned things up, did all our rides and made it a very dynamic record."

Farrell continues, "There was so much density of sound, with all the tracks going and a 30-piece orchestra and choir. You want to make them all adhere and blend with each other and not oversaturate, so mixing was definitely very difficult." Farrell's background as a DJ also helped guide them. "From years as a DJ, I understand that things have to develop and you can't just stack your best songs in the front."

"Perry is such a creative guy and he's so far ahead of everybody else that he has to wait for everyone to catch up to him and come around to his way of thinking," Davies concludes. "As you listen to his music you start realizing the genius in it." ■

COOL SPINS

The Mix Staff Members Pick Their Current Favorites

Bettye Lavette

The Scene of the Crime
(Anti)

We last heard from Bettye Lavette in '05 when she released her Anti debut, *I've Got My Own Hell to Raise*. Producer Joe Henry helped capture Lavette's magnificent soul singing and brought the artist the attention she has deserved since Atlantic shelved the album she made for that label in 1972.

The Scene of the Crime matches Lavette with southern rockers the Drive-By Truckers, and two of the bandmembers, David Barbe and Patterson Hood, co-produced with Lavette. This may seem an unlikely combination, but Hood and Lavette actually have a shared past: Hood's father, David, is a longtime session guitarist who played on Lavette's long-neglected Atlantic debut. David Hood plays on *Scene of the Crime*, as does the great Muscle Shoals keyboard player Spooner Oldham. Combine these elements with the fact that Lavette and company recorded at FAME Studios, and the bridge from Lavette's early '70s soul to today's Truckers is complete.

The sound that results after connecting these dots is nothing short of magical. *Return* is first and foremost a soul album with Lavette's passionate voice—as raw as Tina Turner, as heartfelt as Mavis Staples—at its core. Also out-front is Oldham's gospel-tinged piano and organ work. The Truckers take a gracious back seat to the mature artists on this album, but their presence is always felt, especially on up-tempo cuts like "Before the Money Came (The Battle of Bettye Lavette)," a song that Hood says he "co-wrote" with Lavette by noting her remarks in the studio and then setting her words to music. Are they going to tour together? We can only hope.

Producers: David Barbe, Patterson Hood, Bettye Lavette. Engineer: David Barbe. Studio: FAME Studios (Muscle Shoals, Ala.). Mastering: Gene Grimaldi/Oasis Mastering (Burbank, Calif.).

—Barbara Schultz

Sixx: A.M.

The Heroin Diaries Soundtrack
(Eleven Seven Music)

About six years after Mötley Crüe churned out its tell-all autobiography *The Dirt*, founding member/bassist Nikki Sixx turns the metal community on its head with his no-holds-barred *Heroin Diaries: A Year in the Life of a Shattered Rock Star* book (MTV/VH1 Pocket Books) and accompanying sonic diary. As for this "book soundtrack," it illuminates Sixx's battle with a heroin addiction and much-publicized near-death experience. Interspersed with the circus-like rhythms of "Intermission" and more hardcore rock anthems such as "Tomorrow" are musings from Sixx that retrace the steps from his self-destructive behavior to self-proclaimed redemption. Dark and brooding, this audio companion will send shivers up anyone's arms, whether or not you're a Mötley Crüe /Sixx fan.

Producers: Sixx, James Michael, DJ Ashba. Engineering: Michael, DJ Ashba. Mixing: Michael. Mastering: Dave Donnelly/DNA Mastering.

—Sarah Benzuly

Joni Mitchell

Shine
(Hear Music)

There are a few artists who are vastly praised for their songwriting, but whose songs are so singular and personal that no one else can really pull them off. I think Joni Mitchell is one of these, which must be why I found the recent *A Tribute to Joni Mitchell* album vaguely disappointing. On the other hand, Mitchell's latest studio album—her first as the second artist signed to Starbucks' Hear Music label—comes from deep at the source. Mitchell embodies her songs: the syncopated rhythms, the ethereal jazz overtones, the velvet twists and turns of her singing. On *Shine*, the lyrics focus on Mitchell's concern for the planet, even including an update of "Big Yellow Taxi." Mitchell is a national treasure, and with luck her Hear Music alliance will bring her songs to a new generation of coffee drinkers.

Producer: Joni Mitchell. Engineer: Dan Marnien. Studio: Studio Castle Oaks Productions (Calabasas, Calif.). Mastering: Bernie Grundman/Grundman Mastering (Hollywood).

—Barbara Schultz

Corrado Rustici

Deconstruction of a Postmodern Musician
(Sugar Music)

After 15 years of finding and producing top Italian artists, Corrado Rustici returns with a spectacular solo effort of his own. Perhaps best known to American listeners as a sideman whose brilliant guitar work has graced tracks such as Aretha Franklin's "Freeway of Love," among many others, Rustici's latest combines vocal and instrumental tracks in what he calls "integral music." I'm not sure about that label, but the music speaks for itself, incorporating rock, jazz and ambient stylings into a seamless, enjoyable blend. The recording is pristine, the mix warm and rich. Rustici also brings in familiar session players, including Steve Smith, Allan Holdsworth and Michael Manring, Peter Vettese and the Solis String Quartet.

Producer: Corrado Rustici. Engineers: David Frazer, Luca Rustici. Studios: Fantasy (Berkeley, Calif.); Mulino Recording, LnR and Alari Park (all in Italy). Mastering: George Marino/Sterling Sound (New York City). *—George Petersen*

Luca

Fractions
(Funzalo)

The fine Tuscon band Luca has been moving increasingly into hook-heavy rock the past couple of years with always intriguing results. Frontman Nick Luca loves to vary guitar tones, amp colors and keyboard textures track to track, so there's lots of sonic variety. Though there's no denying the appeal of Luca's catchy and buoyant rock riffs, I actually prefer the moodier tracks here, such as "Bitten," "Fires Burning" and the faithful but still very cool take on "Walk on the Wild Side." The other cover is a real delight, too: Jonathan Richman's disco "I Was Dancing in a Lesbian Bar" will have you singing along the first time through! The one track that veers away from guitar-rock is also one of the best: The piano-driven "Down" is this album's unexpected gem.

Producer: Sean Slade. Engineers: Mike Prado and Slade. Mixed by Craig Schumacher. Studio: WaveLab (Tuscon). Mastering: Jeff Lipton/Peerless Mastering (Newtonville, Mass.).

—Blair Jackson ■

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32GB of instruments and loops

MOTU MachFive 2 is a universal sampler that includes a whopping 32GB of instrument sounds and loops to get you laying down tracks in no time. Got libraries of your own? MachFive 2 reads all major sampler library and audio file formats directly, with no time-consuming importing or conversions — even advanced Giga libraries with multi-layer "dimension" presets. MachFive 2 delivers tons of advanced features, including unlimited parts, pop-out full-screen editors, Loop Lab beat-slice editing, integrated synthesis and much more.

Waves native processing

Waves has long been synonymous with quality plug-ins, and the Waves Platinum Bundle contains a huge range of top-quality Waves processing for your DP5 studio. The Platinum Bundle now includes Waves Tune LT, L3 Ultramaximizer, and IR-L Convolution Reverb as well as all the plug-ins found in the Waves Gold and Masters bundles. Platinum brings extraordinary signal processing power to DP5, for tracking, mixing, mastering, and sound design. From dynamics processing, equalization, and reverb to pitch correction, spatial imaging, and beyond, Waves Platinum Bundle is a must-have for every MOTU studio.

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Legendary grooves & drumkits

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Multi-pattern condenser mic

The flagship of the KSM line — and the new must-have mic for any multitrack MOTU studio, the Sure KSM 44 multi-pattern condenser microphone has an extended frequency response specially tailored for critical studio vocal tracking. Its ultra-thin, externally biased, large dual diaphragms provide precise articulation; extremely low self-noise (7 dBA) ensures that the KSM44 captures only the sound of the performance. Inside, the three polar patterns — Cardioid, Omnidirectional and Bidirectional — offer greater flexibility and uniformity in a wide variety of critical recording applications. Class A, transformerless preamplifier circuitry provides extremely fast transient response and no crossover distortion for improved linearity across the full frequency range.

Komplete control

For DP5 users who want it all: Reaktor5, Kontakt2, Guitar Rig 2 software, Absynth4, Battery3, FM8, B4II, Akoustik Piano, Elektrik Piano, Vokator, Spektral Delay and Pro-53 in a unified interface with hands-on control — Native Instruments KOMPLETE 4 and KORE put an infinite universe of sound at your finger tips. Every preset included in NI KOMPLETE 4, more than 8,500 in total, has been preconfigured and categorized in KORE with searchable musical attributes and hands-on controller assignments. This seamless integration of software and hardware turns Native Instrument's award winning synthesizers and samplers into tactile instruments. If you purchase today, you'll receive the KORE 2 software update FREE when it ships later this year!

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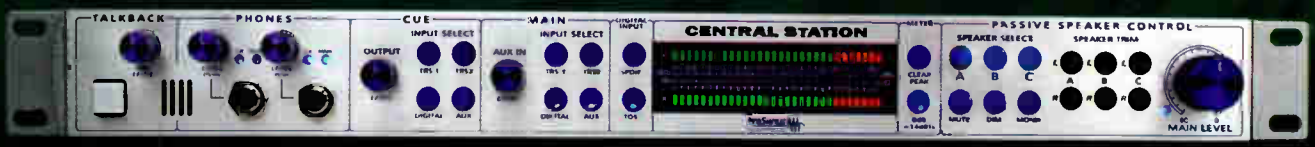

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The PreSonus Central Station is the missing link between your MDTU recording interface, studio monitors, input sources and the artist. Featuring 5 sets of stereo inputs (3 analog and 2 digital with 192kHz D/A conversion), the Central Station allows 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 controlroom and more. The Central Station brings all of your inputs and outputs together to work in harmony to enhance the creative music production process.

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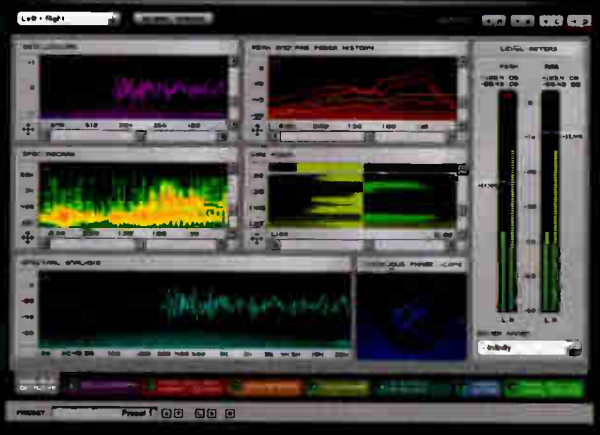

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New Mackie monitoring

The high-resolution Mackie HR824mk2 active studio reference monitor sounds as smooth as it looks. The new Zero Edge Baffle™ minimizes diffraction for a crystal clear image of your Digital Performer mix, and controls sound waves for wide, even dispersion. The rear-firing, mass-loaded passive radiator ensures tight, detailed bass extension, down to 35Hz. And thanks to remarkably linear frequency response, you always get accurate mix translation. Acoustic Space, LF roll-off and HF controls let you tailor the sound to suit your MOTU studio space—and your taste. With all this and more, the HR824mk2 turns your Digital Performer desktop studio's sweet spot into a full-on sweet zone.

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The new Mackie Control Universal Pro control surface gives you ultimate hands-on control of your Digital Performer desktop studio. Nine motorized, touch-sensitive Penny + Giles faders, eight V-Pots and more than 50 master buttons let you tweak parameters to your heart's content. Unlike generic MIDI controllers, the MCU Pro employs a sophisticated communication protocol that delivers ultra-precise control, makes setup easy - no mapping required - and enables you to see your mix in action with real-time visual feedback via the huge backlit LCD and eight LED rings. Apply the custom overlay for Digital Performer for dedicated labeling of DP-specific functions. The MCU Pro is the ultimate way to mix in DP5!

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BY GEORGE PETERSEN

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