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Producing Pure Platinum



Main picture: Damon Thomas and Harvey Mason Jr.

Insert picture (left-right): Damon Thomas, Ruben Studdard and Harvey Mason Jr.



The C200 provides Underdog with these powerful benefits:

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C200

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How I spent \$1.2 million...

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The NT2000 is not just the result of a steady model progression. The NT2000 represents a quantum leap in studio microphone design. That required courage, innovation, and a lot of money!

This is not just another mic, it's a **WORLD FIRST!**

PIONEERING SPIRIT

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The heart of the NT2000 is the Australian designed and manufactured HF1 capsule. Named in honor of my late father, Australian audio engineering legend, Henry Freedman.

These 1" transducers are hand assembled in the fashion of a fine Swiss watch using the best components money can buy.

Machined by computer accurate lathes and mills to tolerances approaching the limits of modern technology.

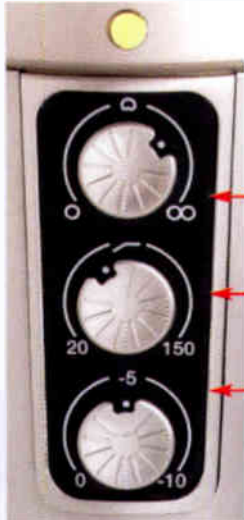
Once processed the acoustic back plates are polished flat to within one thousandths of a millimeter then cleaned in custom made ultrasonic baths.

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A superb transducer must be complemented by the best electronics. To ensure transparency and the highest fidelity, my brief to our engineers was, "I demand nothing!" RØDE's electronics designers set about designing a circuit that coupled the HF1 capsule in such a way as to add nothing. To pass the output of the capsule without coloration or distortion. I believe we have achieved that aim.

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The NT2000 is the world first superlative class 48 V FET microphone to have totally variable polar response, totally variable pad and totally variable filter all incorporated within the body of the microphone. **DEMAND RESULTS**

All this information is meaningless unless it delivers the promise. In the end its all about the sound, I am putting my reputation on the line here.

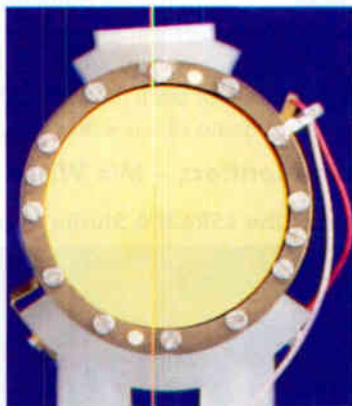
I am saying without fear of contradiction, the NT2000 is the best sounding and most versatile 1" FET studio microphone on the world market today, regardless of cost.

We broke new ground in 1990 with the release of the NT2, the NT2000 will revolutionize the industry again.

Peter Freedman
President
RØDE MICROPHONES
Sydney Australia

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World Radio History

MIX

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

April 2004, VOLUME 28, NUMBER 5



PAGE 30



PAGE 39



PAGE 50



PAGE 64

On the Cover: The first delivery of Digidesign's Integrated Console—ICON—went to Widget Post in Los Angeles. For more on the facility, visit www.widgetpost.com. For more on the console, see page 104. **Photo:** Bill Schwob. **Inset:** Steve Jennings.



features

30 Boom Times for TV Location Recordists

Capturing Production Sound on the Set or in the Streets

For TV production mixers, it's more than a day job. Often, they're on-locale or in a studio warehouse at dawn setting up the DAT, miking an actor or jostling between multiple cameras, vying for a clear sound through an action-packed scene. And their work is not finished until each sound is perfectly captured. Whether for a hit TV drama or any number of "reality" shows, location recordists are faced with numerous challenges. *Mix* spoke with *24*'s Bill Gocke and the *Amazing Race*'s Dave McJunkin to get a dose of location reality.

39 Production Music Libraries in 2004

When *Mix* last covered production music libraries, these companies were beginning to embrace the Internet, offering limited track downloads and focusing on digital watermarking. Today, these same companies are using the Internet as a business model, creating extensive internal search engines that allow users to browse, audition and download high-quality music, bringing production music into the hands of millions—right now. *Mix* bookmarks more than 40 libraries currently on the Net.

50 Grammy[®] Winners

If you didn't catch this year's Grammy Awards, you missed out on a slew of fantastic performances with cleverly conceived pairings, but little in the way of acceptance speeches. Each year, *Mix* takes you past the red carpet to talk with the engineers and producers behind this year's winners.

64 Building to Broadcast

While consumers are seemingly waiting in the wings for high-definition 5.1 TV, broadcasters have been busy piecing together the infrastructure necessary to pass multichannel signal around a next-generation facility. Mel Lambert talks to the new breed of systems integrators, those Renaissance technologists who break down the complex means of passing audio and video data around a facility so you can hear surround at home.

Check Out Mix Online! <http://www.mixonline.com>

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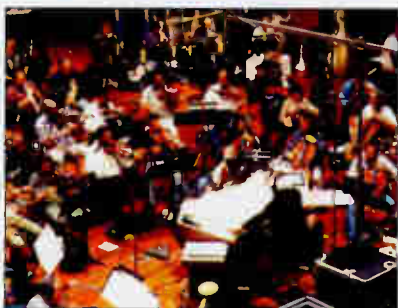
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MICROPHONES
JUST ADD TALENT

contents

sections

SOUND FOR PICTURE

- 72 **World Wrestling Entertainment**
- 73 **Composer Spotlight:** Paul Hartwig
- 73 **Facility Spotlight:** Serge Audio
- 74 **A Day in the Life at the Warner Bros. Scoring Stage**



PAGE 74

LIVE MIX

- 82 **Live Mix News**
- 86 **All Access:** Evanescence
by Steve Jennings
- 88 **Tour Profile:** Sarah Brightman
by Gaby Alter
- 94 **New Sound Reinforcement Products**

RECORDING NOTES

- 132 **Alanis Morissette** *by Matt Hurwitz*
- 133 **John McLaughlin** *by Chris J. Walker*



PAGE 132

- 134 **Classic Tracks:** Cyndi Lauper's "Girls Just Wanna Have Fun" *by Gaby Alter*

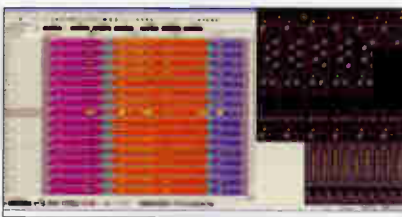
136 Cool Spins

COAST TO COAST

- 146 **L.A. Grapevine** *by Maureen Droney*
- 146 **Nashville Skyline** *by Rick Clark*
- 147 **N.Y. Metro Report** *by David Weiss*
- 148 **Sessions & Studio News**
by Breean Lingle

technology

- 100 **Tools of the Trade**
- 104 **Technology Spotlight:** Digidesign ICON
- 108 **Technology Spotlight:** Enhanced Dolby Digital



PAGE 110

- 110 **Field Test:** Pyramix 4.2 Scalable DSD/PCM Multitrack Recorder/Editor/Mastering System
- 116 **Field Test:** Sony Professional DMX-PO1 24/96 Mixer
- 118 **Field Test:** Neumann TLM 127 Condenser Microphone
- 120 **Field Test:** Genelec 7070A Subwoofer
- 122 **Field Test:** Thermionic Culture The Phoenix Variable-Mu Valve Compressor



PAGE 122

- 124 **Auditions:**
 - Hot House Six Hundred Amplifier
 - Serafine Sci-Fi Sound Effects Library
 - MBHO MBNM 440-CLS Mics
 - Seven Woods Audio SST-206 Space Station
 - B.L.U.E. Microphones Blue Ball Mic
 - SE Ghost Boom Stand
- 176 **Power Tools:** Sony Vegas/DVD Architect *by Joe Hannigan*

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EXTRAS

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for bonus materials on select
stories in this issue.

columns

- 22 **Fast Lane:** The Dumb Will Come Up Tomorrow *by Stephen St. Croix*
- 26 **Insider Audio:** Presenting the Grumpys—Awards You May Not Have Heard About...and for Good Reason *by Paul Lehrman*



PAGE 26

- 56 **Producer's Desk:** Jimmy Jam *by Heather Johnson*
- 62 **Project Studio:** Jim Chapdelaine *by Gary Eskow*
- 97 **Bitstream:** Alpha Geeks and Gadget Phreaks *by Oliver Masciarotte*
- 128 **Tech's Files:** DAT's Last Stand *by Eddie Ciletti*

departments

- 10 **From the Editor**
- 14 **Feedback:** Letters to *Mix*
- 16 **Current**
- 158 **Ad Index**
- 159 **Mix Marketplace**
- 164 **Classifieds**

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FOUNDED IN 1977 BY DAVID SCHWARTZ AND PENNY RIKER

Convergence...For Real This Time!

We've been hearing about the so-called "convergence" in the industry for so long that it's become a tired cliché. Even the word itself brings up memories of the 1987 "Harmonic Convergence," when everybody was supposed to come together and join hands in the spirit of hippie-dippyitude and feel our auras transcend the cosmos. But once convergence went from a movement to a marketing slogan, it was all over. First applied to "multimedia"—whatever that was—convergence was then affixed to interactive CD-ROMs (remember those?) and finally to the Internet. These days, it's hard to even use the "C" word without snickering, but perhaps this time, there's a reason for a comeback, and it's spelled D-V-D.

Taken beyond the "transferring-home-movies-to-convenient-disc-form" stage, DVDs combine motion video, stills, text, graphics, audio and any format of computer files in the best example of a universal format ever devised. The same DVD that plays in the home (in mono, stereo or surround, with or without multiple soundtrack capability) can just as easily be viewed in a backseat car deck or on a laptop, desktop PC or flip-top portable viewer. In short, there's a whole lotta media going on inside that 4.75-inch circle of plastic.

Consumers may see this new media as a convergence, but it's the production process in which a true convergence has finally brought everything together. Compared to the old days when audio for video required a multitrack recorder (minus one track for timecode), an outboard synchronizer and a clunky 3/4-inch U-matic deck, slick production tracks can be created on the desktop using little more than a Mac running Final Cut Pro with its new Soundtrack application offering rapid music creation. The whole shebang is priced far less than that Adams-Smith or BTX sync rig alone would have cost in the old days—and it tosses in fairly sophisticated picture editing capabilities as a bonus. Certainly, Apple's FCP is not the only player in town, but it's an outstanding example of a program that brings many disciplines together. And with other computer companies getting into audio, such as Pinnacle's purchase of Steinberg, Adobe Systems acquiring Syntrium and Sony taking on the digital assets of Sonic Foundry, there's a lot more of this on the horizon.

On the hardware side, things are heating up from an integration standpoint. Single-box solutions in the sound-for-picture realm are hardly new, ranging from SSL pioneering ScreenSound (1989) to Digidesign's new ICON, which debuts at NAB and is profiled in this issue. Meanwhile, the networked studio infrastructure has developed to a point where huge media files can be accessed, shared, searched and cataloged over many users/facilities and sent over long distances as easily as sending an e-mail.

So what's ahead? Improved codecs, ranging from H.264 on the video side or the new enhanced Dolby Digital for multichannel audio (also profiled in this issue), will bring streaming Internet broadcasting and video-on-demand ever closer to a consumer reality. These technologies will bring more increased demand for more product, and the savvy production facility will be ready to reap the benefits. Discovering more about the process is the first step, making this month's NAB the place to look, listen and learn.

See you there!

George Petersen
Editorial Director

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Oh, we forgot something.



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Letters to Mix



GEAR-SPECTIVE

As the guy who introduced Paul Lehrman to the MadPlayer, I was amused to see him lurch from praising its features to condemning it as the grim reaper of music (February 2004).

I bought my MadPlayer after watching the inventor's wonderful demo at the Project Bar-B-Q interactive music conference. It sounds different under his thumbs than mine, so obviously, "musical literacy"—in the broader sense of aesthetics—does play a part in the results that you get. (Incidentally, BBQ is held on a ranch near San Antonio, not Austin. See www.projectbarbq.com.)

What intrigued me about the MadPlayer was its ability to store and trigger up to 128 megabytes of nameable samples, all in a battery-powered device I can fit in a coat pocket. But the gadget really came alive when I attached the headset microphone. True, you can't squeeze much expression out of the onboard synthesizer with the MadPlayer's controls, but this tiny box is a blast for recording vocal ideas. I wish Paul could have seen our mutual friend, the cynical Grumpmeier (April 2003), almost drive his Jeep off the road with joyful distraction while rapping into a MadPlayer.

For that matter, I wish Paul could have seen the excitement when I demonstrated the MadPlayer and another electronic noisemaker, a Yamaha DJX, to four classes of first- and second-graders. I'm told quite a few of the kids went home that day and asked their parents to buy them musical keyboards.

And that's why I think decrying any sound-making device as a creativity killer is silly. Part of what makes the MadPlayer so appealing is its game-like interface. Traditional controllers like keyboards and mixers come with a mass of intimidating conceptual baggage, and so does the software that emulates them.

Instant-gratification instruments will increase the amount of bad music out there. But they'll also provide a stepping stone to tomorrow's musicians, who will bump up against their limitations soon enough and move on to more expressive instruments. In the meantime, they and I will be sharpening our ears and having fun with our MadPlayers, MusicBoys or whatever other disruptive doodads come along.

David Battino

GRAMMY WHAMMY

During my years of reading *Mix* magazine, I've always been fascinated with your features regarding the audio business. Your articles and profiles have been exhaustingly researched and informative. I also have found your coverage of the latest gear and technology educational. One aspect of your magazine always focuses on live sound and what it takes to set up and broadcast audio for the latest live road show, from Pavarotti to the Red Hot Chili Peppers.

With all of the talent in the business and all the technology that you talk about and advertise, why can't we get good sound from our audio guys who bring us the Super Bowl and the Grammys?

Even my mother, who doesn't know the first thing about mixing, called me the day of the Super Bowl and asked why she couldn't hear Kid Rock's vocal during the biggest live telecast of the year (though she heard the guitars and drums crystal clear).

I'm sure the sound engineers were thankful to Miss Jackson for her behavior; it distracted everyone from the botched sound job. Too bad the engineers for the Grammys weren't so lucky.

The Grammys started out with a slam dunk with Prince and Beyoncé doing their thing quite well (though there were some mix issues there, too). But to have Celine Dion standing in front of millions without a working microphone, have a stagehand walk out and hand her a new mic with a feed so bad that it brought on feedback, leading her to pull those highly respected ear monitors out and sing like a true pro?! I'm sure that Shure won't be talking about that in their next full-page ad with *Mix*.

With technology so advanced and productions so well practiced, why do we still experience major flaws in our audio productions at such high-profile shows? Broadway does it every day without a hitch. I understand that mistakes happen, especially on live TV, but are

high-end engineers mixing this stuff or what?

With all of the talented engineers out there who are not working, why don't the producers who bring us these spectacles come to their senses and get rid of these people who can't run a mixing board or piece of wireless equipment and hire someone who can?

Chris Arbisi

Chief engineer

Wax Music and Sound Design, New York City

Chris,

There is absolutely no excuse for handing a dead mic to a star performer with 25 million people watching. But the underlying problem goes far beyond miscues and sloppy mixes. Live mega-events like the Super Bowl or Grammy Awards can be pretty chaotic in terms of doing set changes. In the old days, everybody did lip sync and it always sounded okay, but many artists refuse to do that today because it's not "real." Yet production crunches often squeeze scheduling to the point where an adequate soundcheck is impossible. In such cases, the wise artist will have a lip sync CD ready as a backup. Unfortunately, these days, there are so many "all-important" production elements (lights, effects, sets, pyro, dancers, fog, etc.) going on that there's no time to get the audio right—a pretty sad situation when the whole idea of the program is supposed to be the music. —George Petersen

CONFESSIONS OF A NEW MIX SUBSCRIBER

I recently received a subscription to *Mix* as a Christmas present from my employer. I have been a reader for about two years now and find it to be the most informative and least-biased publication in the industry.

I just received my first copy (February 2004). I was very happy to see the article "Taking the G5 Live." I have heard many rumors of what the G5 can do, but I had not seen any proof (only the propaganda from Macintosh).

I have to say the test your magazine did on the G5 was amazing. I would have never even thought to take it to that level. I am glad to see that I can always count on your magazine to do a real-world test and convey the results in terms that I can understand.

Craig Williamson

Send Feedback to *Mix*
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World Radio History



SSL TAKES HOME TECH GRAMMY, DIGIDESIGN RECEIVES AN OSCAR

Solid State Logic received the 2004 Technical Grammy Award® at the 46th Annual ceremony for its design and production of audio mixing consoles, including the late-1970 SL 4000, the 1990 SuperAnalogue SL 9000, and the current XL 9000 K Series and C200.

Avid Technology's audio division, Digidesign, received an Academy Award® of Merit from the Academy of Motion Picture Arts and Sciences on February 14, 2004, for

its design, development and implementation of the Pro Tools digital audio workstation.

"Winning an Oscar for Pro Tools is an incredible honor for us," said David Lebolt, Avid VP and Digidesign general manager. "We've come this far thanks to the amazing dedication and hard work of our entire staff and third-party developers, and the incredibly valuable input we've received from the post community."

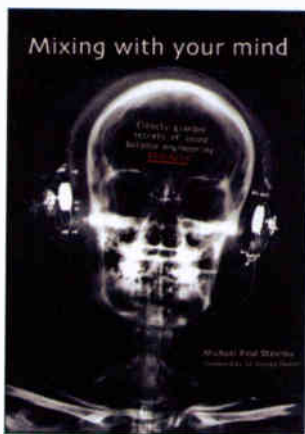


Above: Legendary producer/engineer Phil Ramone (center) presented Rick Plushner (left), Solid State Logic president, and Phil Wagner, senior VP at SSL, with this year's Technical Grammy at the 46th Annual Grammy Awards. Right: Dave Lebolt, Avid VP and Digidesign general manager



WHY SLEEP WHEN YOU CAN MIX?

Written for the sound engineer, by the sound engineer, Michael Paul Stavrou's (Joan Baez, Art Garfunkel, Paul McCartney, Cat Stevens, London Symphony Orchestra) *Mixing With Your Mind* offers a unique collection of techniques and mind games for a variety of sound engineering areas—speakers, microphones, drums, guitars, vocals, pianos, compressors, digital, production, etc.—to aid in that quest for the perfect sound. Foreword by Sir George Martin



and illustrations by Wayne Westbrook; www.mixingwithyourmind.com.



AVIOM MAKES SLAM DUNK



Jay Davidson (left), saxophonist/harmonica player for the Philadelphia 76ers House Band and The Funk Brothers, entertained the Wachovia Center crowd during a January 76ers game with the visiting L.A. Clippers. Right: The Aviom A-16 Personal Monitor Mixing System that Davidson installed for the group to distribute audio to individual bandmembers, giving each their own personal headphone mix and eliminating latency issues with the house speakers.

JAZZ CENTER SEEKS OPERATOR

Jazz at Lincoln Center is seeking an operator/tenant for the recording studio in its new performing arts facility, the 100,000-square-foot Frederick P. Rose Hall (shown), which will open October 2004. The new tenant will assist in integrating live music, recording, audio-for-video and asset management, as well as install all necessary professional audio equipment, provide experienced staffing and participate in all recording/archiving done on-site.

JALC will comprise three major venues: Rose Theater (1,000-plus capacity), The Allen Room (500-plus ca-

capacity) and Dizzy's Club Coca-Cola (140 capacity), in addition to the interactive Ertegun Jazz Hall of Fame. JALC's new recording facilities are being designed and completed by Sound of Jazz (SOJ), a partnership JALC formed that includes specialists from Artec Consultants Inc., the Walters-Storyk Design Group and architect Rafael Viñoly.

For more information, contact Chris Stone, World Studio Group, at 323/465-7697, rosehallrfp@jazzatlincolncenter.org or visit www.jazzatlincolncenter.org/rosehallrfp.



QUICK, GET A CAMERA!



Pictured from left: Soundelux Production sound librarian Mark Ormandy, supervising sound editor Per Hallberg, supervising sound editor Mark Stoeckinger and wolf-trainer Omar with ferocious female wolf Luna are pictured at Todd-AO West in Santa Monica, Calif., recording sounds for upcoming feature films Van Helsing, The Day After Tomorrow and The Chronicles of Riddick.

TEC AWARDS INTRODUCES TECHNOLOGY HALL OF FAME

The Mix Foundation for Excellence in Audio has announced that beginning this year, the TEC Awards Hall of Fame will recognize innovations and products that have had an important impact on audio technology. The initial inductees will be elected by a panel of approximately 50 noted experts from the pro audio industry and will



be announced prior to the 20th Annual TEC Awards in October 2004. In its first year, the Hall of Fame will induct 10 products or innovations introduced prior to 1950 and 15 introduced between 1950 and 1995. All of the inductees will be profiled in a special 20th Anniversary TEC Awards issue of *Mix* in August.

DATE SET FOR MIX L.A. OPEN

The Ninth Annual Mix L.A. Open, presented by the Mix Foundation, is scheduled for Monday, June 14, 2004, at the Malibu Country Club. Space is limited, so make your reservations early. For information about sponsorships or entry fees, visit www.mixfoundation.org or contact Karen Dunn at 925/939-6149.

L.A. OPERA GOES HI-DEF

The Los Angeles Opera recently employed Genex GX9048 digital multitrack systems to record its performance season for HDTV and DVD release. Producer Fred Vogler chose Genex recorders for their ability to record 24-bit/96kHz audio across 40 tracks continuously over 90 minutes; other equipment included 40 Schoeps, DPA, Sennheiser and Neumann mics, and Millennia and Grace preamps. A Yamaha PM2000 console was used for monitoring and to prepare a reference stereo mix for HDTV. Performances included the world premiere of Deborah Drattell's *Nicholas and Alexandra*, starring Plácido Domingo, and Berlioz' *La Damnation de Faust*.

L-R: assistant engineers Scott Sedillo and Tim Boot, music producer Fred Vogler (who also serves as head of recording for the L.A. Opera and sound designer at the Hollywood Bowl) and Genex president Kevin Brown

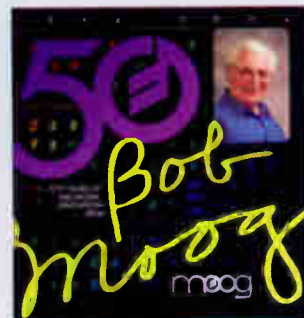


TIME FLIES WHEN YOU'RE BUILDING GEAR! MOOG MUSIC CELEBRATES 50 YEARS

Back in 1954, Bob Moog sat down with his father and began building theremins; after 10 years, Moog met experimental composer Herbert Deutsch, whose quest to find electronic sounds inspired Moog to build the first Moog Modular, which premiered at the October 1964 AES convention. By the time Moog received his Ph.D. in engineering physics in the summer of '65, the R. A. Moog Co. (later switched to Moog Music in 1971) had delivered several modular synthesizer systems, mostly to academic and experimental composers, including Wendy Carlos, who made extensive use of the unit on her landmark *Switched-On Bach*. In 1977, Moog left Moog Music to form Big Briar and later served as Kurzweil Music Systems' VP of new product research from 1984 through 1989. Last year, Moog reclaimed the rights to use the Moog Music and Minimoog trademarks and immediately

changed the name of Big Briar to Moog Music Inc. Commenting on his amazing run, Moog said, "Keeping in constant touch with musicians from all fields of music and from all over the world has enabled us to design instruments that have proven to have enduring music worth."

Check in next month's "Current" for more companies celebrating their milestones.



SEEN THROUGH THE WIDE-ANGLE LENS: A RATHER LARGE FAMILY



The Harman Pro Group, including JBL Professional, AKG, Crown, BSS, Soundcraft, DigiTech, dbx, Studer and Lexicon Pro, held its worldwide distributor meeting in late January at the Huntington Ritz-Carlton in

Pasadena, Calif. Pictured are the 400 reps and distributors, as well as members of the individual brands' staff and Harman Pro president Mark Terry, pictured in the front wearing an orange tie.

LIL JON BACK IN THE STUDIO

Working on the follow up to their multi-Platinum *Kings of Crunk* album, the Atlanta-based trio Lil Jon (pictured at the SSL board), Big Sam and Lil Bo (aka, Lil Jon & the East Side Boyz) packed up their Pro Tools rig and set up camp in a rented house in Miami; later in the recording, the group will head over to Circle House Studios (North Miami). Lil John is producing the album, which is scheduled to drop September/October 2004.



CINEMA AUDIO SOCIETY HONORS RYDSTROM

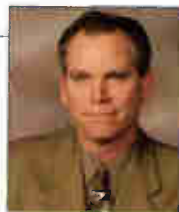
The Cinema Audio Society (C.A.S.) Board of Directors presented seven-time Oscar-winning re-recording mixer and sound designer Gary Rydstrom with the C.A.S. 2004 Career Achievement Award at its 40th anniversary awards banquet, February 21, 2004. The society also awarded Chris Jenkins (senior VP, Sound Services, Universal Studios), Ned Price (VP mastering, technical operations, Warner Bros.), Tom Regal (manager of audio restoration at Chace Productions) and Leon Vitali, director of Kubrick Restoration, for the



Gary Rydstrom (left) and CAS president Richard Lightstone

soundtrack restoration of classic Stanley Kubrick films, including *2001: A Space Odyssey*, *A Clockwork Orange*, *Barry Lyndon*, *Full Jacket* and *The Shining*.

INDUSTRY NEWS



Tim Schaeffer

Venue Services Group (Torrance, CA), a national systems integration firm that provides engineering, design and installations of television facilities, has hired sports television executive **Dave Shaw** as its new president...Former chairman/CEO of MCA Music Entertainment Group **Al Teller** has joined the board of directors of **INGrooves** (San Francisco), a digital label and distribution company...**Rainer Schmitz** was tapped as a new managing director of **TerraTec Electronic GmbH** (Nettetal, Germany)...**Gibson Guitar** (Nashville) announced that entertainment exec **Joel Cherry** is the company's general counsel, senior VP and corporate secretary...Video game composer **James Hannigan**, who works out of Pinewood Film Studios in London, has been signed to **Mojo Working International** (New York City)...Elkhart, Ind.-based **Crown International** has named **Larry Baker** as market director for portable P.A., recording and broadcast...Former VP, public-address business unit at **Klotz Digital America**, **Tim Schaeffer** joined **Allen & Heath USA** (Agoura Hills, CA) as director of sales...**Production Resource Group** (New Windsor, NY) announced that industry veteran **Phil Hall** has joined the company's integrated solutions division. Hall's hiring establishes a regional sales office for PRG in Alameda, Calif. He can be reached at 510/864-0204...**Ray Van Straten** has been promoted to **QSC's** (Costa Mesa, CA) new MI/retail market manager. In other company news, **Paul Gazarian** has been appointed to customer satisfaction manager...**Peter Eggleston** joined **Sonic Network** (Boston) as director of sales and marketing...**Stanton Magnetics** (Hollywood, FL) hired **Pablo La Rosa** as marketing manager...New distribution deals: **PreSonus Audio** (Baton Rouge, LA) has appointed **Hand in Hand Distribution** (Cornwall, England) as the exclusive distributor in the UK; **Wilson Audio Sales Inc.** (Nashville) will represent **Martin Audio** (Kitchener, Ontario) in the Southeastern states; **API Audio** (Jessup, MD) will be represented in Nashville by **Rack-N-Roll** (Nashville); **L-Acoustics US** (Oxnard, CA) expands its rep network with **BVC International** (Corpus Christi, TX) handling Texas, Louisiana, Oklahoma and Arkansas; **Tascam** (Montebello, CA) will exclusively distribute **AMG** (Fleet Hants, UK) loop libraries in the U.S.; and **Edirol North America** (Bellingham, WA) is the exclusive distributor for all Edirol-branded products in the U.S. and Canada.

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NOTES FROM THE NET

PETER GABRIEL, BRIAN ENO FORM MUSICIANS' UNION

"The relationship of artist to the [record] business has most often been one of contract and servitude," reads the MUDDA, Magnificent Union of Digitally Downloading Artists, Website (www.mudda.org). "We believe the way forward must be a partnership in which the artist can take a much bigger role in how their creations are sold, but also have the chance to stand at the front of the queue when payments are made instead of the traditional position of being paid long after everyone else." With this stance, rockers Peter Gabriel and Brian Eno have formed MUDDA to help fellow artists stand their ground in the digital-download age. Gabriel is no stranger to digital distribution, as he co-founded with Charles Grimsdale OD2 (On Demand Distribution), which hosts 300,000 tracks in MP3 and WMA formats. Details of the union were not provided.

SONY CONNECTS PORTABLE DEVICES WITH CONSUMERS ONLINE

Sony Corporation of America's new Connect™ online music service offers consumers a means to purchase music online and download to a wide variety of Sony portable devices, including Net MD™ Walkman recorders, Hi-MD Walkman recorders, ATRAC CD Walkman players and Network Walkman players. SCA has established a new subsidiary, Sony Connect Inc., to develop and manage its music service; it will be based in Santa Monica, Calif., un-

der the management of Jay Samit.

The new Connect service will come to market in phases. After a series of test trials for a limited number of users, it will officially launch this spring; upgraded software with more flexibility, features and tighter integration with Sony products will be released in the summer. At full launch, the Connect service will feature more than 500,000 tracks from the major labels and many independents. Singles will be available for \$0.99, and entire albums can be downloaded for \$9.95—without requiring a subscription. The service will feature ATRAC3 audio compression, in which music can be recorded and compressed to 132 kilobits per second, allowing consumers to store more high-fidelity audio on CD-R, MiniDisc, Hi-MD or Memory Stick media.

GROKSTER WILL NOT BOW DOWN

On the heels of a federal appeals court hearing over an entertainment industry appeal in MGM Studios v. Grokster, the P2P music-download site has launched Version 2.6.

"In this age of media monopolization and consolidation, it is critical to establish democratic and consumer-driven applications to preserve diversity of opinion and ideas," said Henry Wilson, Grokster founder. "Big media can be countered with technology, and the people can create their own alternative to the centralized sources that pervade the traditional mediums—right from their own desktops."

THEY GO TO 33



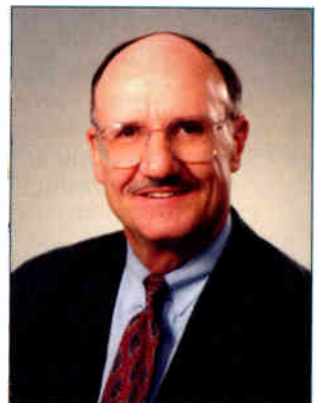
33 Hz (Outlook Music) returned to The Cutting Room's (New York City) Studio A to finish mixing their debut record with engineer Cyrille Taillandier (Mya, Lenny Kravitz) and assistants Steve Rakidzioski and Chris McGuinness. The Cutting Room also saw Boston-based rock group Rubikon recording and mixing their new record with producers Mark Jordan and Andy Sands, and engineer Dylan Margerum. For more information on The Cutting Room, check out www.thecuttingroom.com.

ANDREW BRAKHAN, 1936-2004

Andrew Brakhan, former president and CEO of Sennheiser Electronic Corporation, died Tuesday, February 10, 2004, at his home in Truro, Mass.

Brakhan joined the company in 1985 and led SEC as president from 1989 through 1998, making key decisions such as acquiring Neumann Microphones in 1991 and garnering the company an Emmy Award in 1996 for Outstanding Achievement in the Sciences of Television Technology. He continued his involvement with the company post-retirement as a consultant.

Sennheiser president John Falcone remembers Brakhan: "Andrew laid the foundation for the great company in which we all now work. Andrew's legacy in the pro audio



world is a great one. But more than that, Andrew will be remembered for his quick wit and sharp mind, his loyalty and his willingness to always lend a helping hand."

STRAIGHT FROM THE MOUTHS OF PEOPLE WHO KNOW.

WE TRUST THEM IMPLICITLY WITH ALL OUR MIXES. THEY'RE ACCURATE,

LOUD & PROUD



~ Steve Parr
~ Sharon Rose

"NBC OLYMPICS HAS USED NHTPRO SYSTEMS IN OUR MAIN AUDIO AND GRAPHICS AUDIO CONTROL ROOMS, PLUS OUR BROADCAST OPERATIONS CENTER FOR COVERAGE IN BOTH SYDNEY AND SALT LAKE CITY."
~ Bob Dixon

"THE SOUND I HEAR FROM THEM IS VERY PERSONAL. NO COLORATION. A TRULY DYNAMIC NEAR-FIELD MONITOR."
~ Jimmy Douglass

"I USE MY M-00'S IN THE MOST SEVERE MIX TEST-AT LOW LEVELS WHILE EDITING WITH NUENDO ON MY MAC. IT TRANSLATES EXACTLY PLAYED AT HIGH LEVELS ON MY BIG MONITORS."
~ Peter Frampton

"I HEARD THESE SPEAKERS IN AUSTRALIA AND I WAS BLOWN AWAY. I LOVE THESE *#*^ SPEAKERS."
~ Machine

"These speakers are just perfect. As in PERFECT Period."
~ Moira Marquis

"EVERYONE THAT HEARS MY 'M-00's' THINKS THEY ARE LISTENING TO BIG MONITORS BECAUSE THE FREQUENCY RESPONSE IS SO EXTENDED FOR SUCH A LITTLE GUY."
~ Chuck Ainlay

"I USE MY M-00'S A LOT AT HOME ON MY PRO TOOLS 001. NICE BOTTOM END AND THE TOP END IS JUST RIGHT."
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~ Bob Ezrin

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World Radio History

The Dumb Will Come Up Tomorrow

And I'll Be There With Digital Bells On

I've been listening to a lot of stuff recently. A lot. With a crushed left hand, there are no more 12-hour Harley rides, no more .40-caliber trigger pulls and no more three-hour guitar solos. Three of my favorite things, not to mention three of my loudest things. So now that my life has become somewhat less acoustically hazardous, I listen to music 6 dB below my long-time norm and feel that it's just about right.

I still mix loud as hell, but only for the last few passes. I listen carefully when I track, just like you, but I don't roll the other tracks as hot as I used to. I monitor the tracks I'm printing much hotter than the stuff I've already laid down, while I used to run my monitor mix a lot closer to the final mix, with all tracks pretty much at their final levels.

I am actually hearing more detail at a lower level. I thought the custom-fit earplugs I wore when riding and shooting were doing the job, but I guess energy is energy, and it's going to get into your skull however it can.

I can hear the liquid coolant hissing around in my laptop as I type this, while six months ago I didn't even know it *had* any.

And with my partially regained acuity, I have been listening to my semi-older gear and comparing it to new stuff to see what I still like and what is obsolete. In this context, obsolete means inferior to new offerings that either do the job better (i.e., eliminate some long-standing problem or rectify stupid features) or actually sound better.

To do this, of course, I have been bringing in a lot of new gear—new gear with new attitude.

And folks, I am here to testify that the Dummification of Amurca Act of 2000 has been wildly—and widely—successful. Not only have almost all nuclear power plants been replaced with nuclear ones, but most people say they could care less. Mmmmm. When I want to convey flaming apathy, I use the arcane variant: "I couldn't care less." But I guess I'm pissin' in the wind here. Oh, that reminds me. The majority of national TV newscasters have finally mastered the art of eliminating that pesky letter "g" from the end of such obscure words as going.

And some A/D designers have eliminated the entire "g" word—and the knob that went with it. Two of my new converters take "No pain, no gain" to a new level. Easy and painless to use, they have zero gain control. Onscreen sliders talk to the analog circuitry instead, doing the actual gain staging before conversion.

Of course I am keeping some of my A/D converters, the ones with 20 *real* knobs and 16 dither algorithms, even though some of the newer miniature USB toys do an amazingly good job of getting daily audio

into my computers. Less control, true, but much less money and much smaller. Cool. Dummer but funner. And isn't that what America is really all about? I mean, what other country could come up with *My Big Fat Obnoxious Fiancé* and *The Littlest Groom* on the same night?

There is a new facet to digital recording—this sort of fast and simple deal. In their early years, these kidlet toys sounded horrendous but were nevertheless entertaining. Kind of like a Speak-and-Spell or what seems to be one of the best kept technical secrets of rap today, the high-end spring reverb version of Mr. Microphone. I think it's the red one, but I'm not sure.

Then, as it seems all infant technologies are wont

And folks, I am here to testify
that the Dummification
of Amurca Act of 2000
has been wildly
—and widely—successful.

to do, a plethora of features appear, the price drops by half, but actual audio quality remains unbearable. Then, finally, every damn one of these features are removed, the price drops by 70 percent and the signal quality becomes acceptable. At this point, the gear is optimized and automatic. The trigger to reaching this level is when unit sales hit the magic number that makes it worth custom single-chip fabrication. It also means that aside from minor evolutionary tweaking, the product is done and will remain unchanged until end of life.

We are now in a time when many aspects of digital audio are "optimized and automatic"; they pretty much do their job, and they come with a four-page booklet composed entirely of large-mouthed Japanese children with giant heads warning of the dangers of operating said gear in the rain or under a moving truck. Well, I guess in all fairness, I should say that these little booklets do show you more, mostly that you should not really operate the gear on top of a steam radiator during a lightning storm. And that just about covers it. NINJA: No Instructions Needed, Japanese or American.

Real "consumer" music hardware, synths and software now define the edge, not the mainstream. You

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AKAI professional

damned near have to go to Wal-Mart, CompUSA or 7-Eleven to even find the stuff these days. The majority of equipment that attacks your senses when you walk into GC or any other big music chain is the new amorphous bridge gear that fills the void left when "prosumer" died. The New Mainstream stuff does in fact work, and often gives you more functionality than you can explore in a lifetime. Certainly more than you can find before it is obsoleted by the next rev.

Don't think prosumer is gone? Prosumer was the unfortunate name for gear that squeaked by in terms of audio performance and quality, was more cheaply built and had of course way too many features, none of which were available on the pro gear that it portended to be. Plastic for metal, 12-bit for 16, 70 dB for 90. Many, many more LEDs. It did everything you wanted, but was a bit painful to actually listen to. And it broke.

And even though the marketers have somehow missed the party, many of today's hardware offerings are starting to sound pretty decent while still delivering overwhelming feature sets. And they are actually built to be dropped a few inches

without going into a permanent coma. I know this empirically. All the bells and whistles of the kiddie pool toys combined with some of the serious performance adults enjoy in the deep end.

Innovative and entertaining MI features

it to two octaves of keys. The kid isn't too put off by how terrible it sounds; he just likes that he can do it at all. For the real pro guys to offer this, it has to actually *work*—and this is anywhere from hard as hell to not yet possible.

[Prosumer] did everything you wanted,
but was a bit painful to actually listen to.

And it broke.

have been slowly migrating into pro gear for years, but too friggin' slowly. I have long resented sitting in my full-tilt pro facility unable to do some stupid audio trick that my friend's daughter does with her K-Mart synth every day.

There are certainly reasons for this. All the "serious" pro companies are tiny little entities compared to the giants that develop and manufacture plastic synthesizers, for example, and it is real expensive for them to make changes. But more importantly, it's easy for a toy sampler-synth to time-slice a kid's voice so he can apply

But...while we have been waiting for high-end gear to catch up to the feature set of toys, the toys themselves started growing up and bringing the features along.

Low-cost, dedicated-chip DSP approaches are maturing, becoming more powerful and dramatically faster, while A/D and D/A hardware is happily following along.

DSP code itself is beginning to get downright impressive in some areas, and novel in areas that only a few years ago were sci-fi. Think about it. You can already

—CONTINUED ON PAGE 154



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Presenting the Grumpys

Awards You May Not Have Heard About and for Good Reason



ILLUSTRATION: JACK DAVIS

“Did you see that ridiculous thing last night?!” The thundering voice on the phone was familiar, reminding me that I was long overdue to get caller ID installed. It was, of course, my old friend Grumpmeier, not even bothering to say hello, calling me the morning after the Grammy® Awards telecast. “What a travesty!”

“Actually, I thought it was pretty good,” I replied meekly. “The production numbers were fun, and the costumes were unusual, like Sting in a dress and Prince in pants, and there were all those new and old artists performing together, and I got to see a lot of acts I wouldn’t know anything about otherwise. Boy, those White Stripes make a lot of noise for just two kids, don’t they?”

“The only good thing the whole night was that there wasn’t a single Jackson on the stage!” he snarled. “Where was all the music that I listen to? You know, the stuff that’s not just lame, but so unbelievably, fabulously lame that even the record companies won’t touch it. And how can they have a whole night dedicated to the record biz without honoring the real heroes, the folks none of us could do without—the executives and the accountants!?” By this point, I could tell he had gone over the wall, probably

from the gallon or so of Starbucks triple espresso he had drunk to keep himself from crashing at his usual 9:30 p.m.

“Well, what are you going to do about it?” I asked, immediately regretting the question. “Hah!” he retorted. “I got my own awards. And I got my own ceremony and even my own TV network. You’ll see them tonight. Of course, the scaredy-cat mainstream media won’t cover it, but you can watch it if you’ve got a satellite dish. Check it out!”

Which I did. Thanks to the production and distribution services of Greater Northwest Podunkville (Idaho) Community Access Television, which lent my friend their camera and allowed him to take over their studio late one night after the chickens were asleep, Grumpmeier’s little foray into celebrity television made its way onto the world’s airwaves right on the heels of NARAS’ widely viewed fête. Over an incessantly repeating dramatic loop from Apple’s Soundtrack library, the opening credits read: “To honor the artists, producers, companies and institutions that embody not the finest ideals and the highest art, but the worst, the dumbest and the most ridiculous achievements of the previous year and of years past.” The

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INSIDER AUDIO

trophies, made by the Stars & Stripes All-American USA Trophy Company (with manufacturing facilities in Bangladesh), depict a middle-age man (bearing a striking resemblance to Grumpmeier himself) with a microphone in one hand and a trash can in the other. He calls them, not surprisingly, "The Grumpy Awards."

His show's local ratings were phenomenal: The show rated a 100 share—that is, all three viewers who were still awake tuned into the broadcast, although when interviewed later, two of them thought they were watching Red Skelton reruns, and the third wanted to know where to send the \$20 so that someone would pray to cure his herpes. Nationally, the show didn't do quite so well,

chine with leaky power supply capacitors and lyrics culled randomly from the speeches of Dick Cheney to create what *Rolling Stone* critic Frink Lavorish Mothdung praised as, "Two uninspired hours of mindless droning, almost buried under 60Hz hum, which finally, mercifully, leads to virtual brain death." Its success was assured by Vivendi/Seagram/Philip Morris Classics' \$13 million "Classical Music Could Make You Less of an Idiot" campaign, the cost of which, unfortunately, precluded the labels' releasing anything else this year.

Most Misanthropic New Artist: Canadian thrash-metal-rapper Pe-en-pee (real name: Percival X. Pepperrhwaite IV, of the Calgary Pepperrhwaites), whose "I Hate My Mother,

"I want to thank all the great artists, alive and dead,
who contributed to this record, whether they knew it
or not," said Two Bit in his acceptance speech.

although the following week, several Southern congressmen declared their sponsorship of a bill banning future broadcasts of the program for being "Communist-inspired, anti-trade, terrorist-supporting and not enough commercials."

Because few—make that no—readers of this column got to see the show, I thought I would do a public service by reporting on the awards and the winners. So here they are: the 2004 Grumpys.

Most Original Record: "I'm the Realest," by Two Bit, was honored for its brilliant beats (originally recorded by Gene Krupa and Babatunde Olatunji), lush instrumentals (originally by Herb Alpert and The Tijuana Brass and Arturo Toscanini and The NBC Orchestra) and soaring vocals (originally by Roy Orbison, Yoko Ono, Wayne Newton, Nancy Sinatra, Minnie Riperton, Tiny Tim and the Mormon Tabernacle Choir). "I want to thank all the great artists, alive and dead, who contributed to this record, whether they knew it or not," said Two Bit in his acceptance speech, which was delivered on a satellite hookup from an undisclosed upstate New York location where he is serving a 10-year-to-life sentence for file sharing. "And when I get out of here, I'm going to track every one of you down and make you pay...I mean, pay you."

Most Obnoxious Crossover Record: "Glassrap," which fused the orchestral stylings of Philip Glass' interminable "Music in 12 Parts"—or Is It 120?—and Who Cares Anyway?" with a Roland TR-808 drum ma-

I Hate My Wife, I Hate My Kids and Now You're Getting to Be a Pain in the [Bleep]" b/w Why the [Bleep] Don't I Have Any Friends? featuring Charles Manson and the Helter Skelter Krew, topped the "R&B With Parental Warning Stickers" chart for 46 weeks.

The Why Do We Even Bother to Announce This? Award went to polka king Jimmy Sturr, who the night before had won his 537th consecutive Grammy, thereby earning more of those than Mickey Mantle had career home runs.

The award for Highest-Charting Album With the Smallest Budget: Li'l Wanker's *Nobody's Home So I Can Make All the Noyz I Wanna* was recorded entirely in his parents' bathroom, using a microphone borrowed from a neighbor's old Dictaphone machine, a computer that he found in a dumpster behind a defunct Web marketing company, a "really, it's legal!" copy of Sound Forge he bought on the Internet for \$6.95 complete with Chinese manual and a stack of CD-Rs his dad picked up at Lectronics Land during a Christmas promotion featuring a 100-percent rebate. Because the ceremony began long after Li'l Wanker's (real name: Melvin Schwartz) bedtime, he couldn't attend, but the award was accepted by the chairman of Humungus Records (The Entertainment Division of Engulf+Devour Inc.), who announced that in honor of the quadruple-Platinum status of the record, George Massenburg had been hired to mix the 5.1

—CONTINUED ON PAGE 155

Completely Amazing



Introducing the new Logic Pro 6, the most flexible, most advanced and best equipped music production software for the Mac. At an impressively low price you get all the highly praised professional software instruments and plug-ins from Emagic. Also included is the renowned EXS24 mkII software sampler. Plus you'll get incredibly realistic sounding vintage instruments such as the EVP88 electric piano, EVB3 organ and EVD6 clavinet, and a range of software synthesizers that provide amazing options for creative sound design. Even the new convolution reverb – Space Designer – is included. While Logic Pro 6 includes an outstanding array of impressive capabilities and options, if you're just looking to get started, check out Logic Express 6, an even lower cost way to experience the key benefits of Logic. Either choice will be music to your ears.



BOOM!

TIMES

FOR TV LOCATION RECORDISTS



Season four's *Amazing Race* competitors Monica and Sheree (right) on location in Venice



24's Jack Bauer (played by Kiefer Sutherland) and unidentified woman aid agent Tony Almeida (Carlos Bernard).

W

hen we talk about film and TV sound, we tend to gravitate toward the "sexier" disciplines of sound design and effects generation—recording those 18th-century muskets or supercharged hot rods, or combining whale noises with lions, wind and creaking wood to make the perfect dinosaur roar. But the production sound folks are among the hardest-working professionals in our business: They're on the set before shooting begins and after shooting ends each day, struggling to ply their craft in settings that are *always* more oriented toward the demands of the visual artisans than the audio specialists.

In television in particular, production of conventional dramatic series and situation comedies is down at the major networks, but with the rapid proliferation of cable channels, there are more shows of *every* genre being produced and broadcast than ever before, and hundreds more in development or at the pilot stage. And what's taken the place of those dramas and sitcoms at the big networks? Reality shows, which often require *multiple* teams of location recordists (though for shorter periods than a scripted full-season show).

Recently, we spoke to a pair of TV location sound pros—one on a network series, the other a veteran of numerous reality shows—to find out more about the demands and peculiarities of the job and (this being *Mix* and all) talk a bit about gear.

ALL IN A DAY'S WORK

Let's see: There's a deadly virus in the hands of mysterious evil-doers. A top senator is threatening President Palmer. We've had a calamitous prison riot and jailbreak, graphic torture, a suicide, a man shooting his own brother in the back but then being blown up himself, and agent Jack Bauer making out with the terrorist woman who killed his wife.

Capturing Production Sound on the Set or in the Street

And that's not the half of it! A lot happens in a "day" on the Fox show *24*, now nearing the end of its third action-packed season.

It's a clever concept: Each hour of the series depicts a single hour in one crisis-filled day in the life of the government's top-secret, L.A.-based Counter Terrorist Unit (CTU). There are usually half-a-dozen interweaving plots and subplots going at once, most of them, it seems, involving lots of running and driving around, gun battles and—*always*—talking on cell phones.

Bill Gocke has been the location mixer for the series since the pilot was shot in Canada nearly four years ago. Gocke has been involved in sound for more than 25 years. After apprenticing as a utility sound technician, he got into production work as a boom operator in the '70s working on the hit sci-fi series *Star Trek: The Next Generation*, among others. He worked as a mixer for the first time on *Star Trek: Deep Space Nine* and a number of feature films (including *A Soldier's Story* and *Best Friends*), but has mainly done television and now does *24* exclusively.

When I spoke with Gocke, it was the morning after a long afternoon evening shoot for the series. Because of the unusual "real-time" temporal framework of the series, production personnel go through long stretches when all of the exterior action (and there's plenty of it) is shot at night—say, if the episode takes place between one and two in the morning.

"There's definitely more night work than any other show I've been involved with,"

BY BLAIR JACKSON

Gocke says. "But they try to do splits, so we'll do some of the indoor work, like at CTU [headquarters], in the daytime and then go out at night. But it depends on the situation. A night might have a 4:30 p.m. call and then go all night in downtown L.A. Yesterday was an 11:30 [a.m.] call and we got off around midnight, 12:30. But it was inside a lot of the time. It's kind of rough, but you adjust."

"This year's show started differently than we have before—it started later in the 'day.' But at the other end, when we get ready to finish this year, it will be daylight on the show so we'll be shooting in the daytime more."

À LA CART

Like most location recordists/mixers, Gocke keeps his sonic world on a portable cart that goes with him wherever the show is shooting. "I use a Cooper 208 [8-input] mixer and I also have a [Cooper] 106 backup," he says. "They want DAT, so I use a Fostex PD-4 and I back it up with a Nagra IV, which is a great machine—it's the backbone. It's so dependable, so solid. We use Lectrosonics radio mics—I use the Lectrosonics 210s—as well as Sennheiser MKH 416s, MKH 50s and 60s, and also some Schoeps and Sanken lavs." Gocke says he appreciates that radio mics have come a long way, because they're using them on the show more than ever. Radio mics are particularly important on *24* because they are shooting with two cameras all of the time, one handheld and one on a dolly, usually for tighter shots. "This can create problems for us, because, obviously, you have



Dave McLunkin (far left) in action during the making of *The Real Roseanne Show*

two different perspectives to deal with, both in terms of the audio and, more practically, where I'll be during the scene," says Gocke. "If it's just one camera shooting, I can usually be right off to the side in the shadows, but with two, you have to pick your spot more carefully. Plus, there's a lot of movement—the actors are constantly moving and roaming around—so it makes it difficult for us to



24's location mixer, Bill Gocke, doing his part

get booms overhead some of the time. That's why the radio mics are a great tool. They have great range and the mics have gotten better and better." Typically, Gocke will have radio mics on all of the key players in a scene and, if possible, have some plant mics as well. "If there are five people, I try to separate [the mics] and keep them clean as much as possible, or at least aware of what overlaps there might be."

Gocke says he still prefers the sound captured by a boom as opposed to RF mics: "It has a more natural sound to me. It brings in some air, some ambience, which sounds prettier to me. There's more warmth. The radio mics are more trouble—putting them on people with different clothes, worrying about [clothes] rustle, all that stuff. But at this point, they're indispensable," he asserts. "We're not going to get in the cab of a truck with a boom mic. You need the radio mic. They have good range, so we have a presence [in the scene] even if we can't physically be in the truck. And if they can use some of that sound, they will; if not, they re-do it later on."

When he can, Gocke likes to blend the radio mics with the boom. He's used the same boom operator, Todd Overton, since their *Deep Space Nine* days, and he also works with a "third": Cory Wood, who's also a boom operator and assists in all manner of location sound needs. "It's a team effort," Gocke stresses. "They're extremely important. They both have to be paying total attention to what's going on, what the camera's doing."

In fact, Gocke says this camera consciousness is one of the most important aspects of his work: "A lot of this job is learning how to get a mic where it needs to be

with all the other things that are involved, from cameras to lighting...how to get to your spot. You have learning about lenses and what you can get away with soundwise with each lens. You need to know what the dolly is doing, what the handheld is doing. Are they zooming in? Are they staying tight or are they going wide? You have to always determine the perspective of each shot because the sound has to make sense for that perspective."

LOCATION, LOCATION, LOCATION

Alas, the sound department rarely gets much input into scouting locations, so Gocke and his team often have to make the best of some rather difficult settings. "They don't help us out that much," he says with a laugh. "The location people mostly care about the picture. They might say, 'Sorry about the freeway,' but then you just do the best you can with what they give you. They know it's a trade-off. They know a location won't always work for sound and that sometimes they'll have to replace stuff later."

Fortunately, a decent percentage of the show's action takes place on various warehouse soundstages—the CTU set is out in Woodland Hills, Calif., for example—or locations far removed from big city noises: Some canyons in Santa Clarita doubled for rural Mexico in the main story line.

Gocke says that *24* shoots two episodes at once during a 15-day cycle. "We'll jump back and forth between the two scripts because the story is always related," he says. "We'll shoot what's convenient in a given place and time. Doing two [shows] at once gives us some flexibility that way."

"It used to be that there was a big difference between the way feature films and TV were shot, but that's changed. TV used to be really fast—boom, boom, boom—but

now a lot of features have gotten that way, too. And now some shows are shot more like features. It's still fast-paced, but not to the degree they once were."

Gocke's gig on *24* takes up nine months of his year, from July through April. "Then I try to relax when the show's not going," he says. "You usually don't have much of a life when you're working. It's a lot of 12-hour days and then on weekends, you're just recovering."

"But it's a great show to work on," he continues. "The crew is fantastic, the actors are all excellent. There's just a little too much whispering," he confides with a laugh.


A DOSE OF REALITY

When Dave McJunkin returned my call for this story, he was sitting in the back of a van in L.A. during a shoot for the pilot of a prospective Bravo network reality series called *Underexposed*, which follows the fortunes of a number of young directors attempting to make a short (3.5-minute) film on a shoestring budget—sort of a low-rent *Project Greenlight* without the hostile producer. The directors are provided with equipment and \$2,000 to shoot about a three-page script in two 12-hour days. McJunkin and a cameraman were following one of the young directors as he went through his paces.

In a perfect world, McJunkin might have instead been in some exotic port-of-call following travelers on *The Amazing Race 5*, CBS' Emmy-winning reality series that documents a million-dollar race around the world by 12 pairs of contestants. McJunkin worked on the previous two editions of the show, but turned down season five to spend time in L.A. with his wife and new baby. (He also passed on a call for *Survivor: All-Stars* for the same reason; what a spouse!)


McJunkin has a long and varied background in film, having worked on features, television, commercials, corporate and documentaries since completing film school at L.A. Valley College in the early '80s. His documentary background was particularly valuable when he first got into the reality TV game, with MTV's *Real World 2* (in Venice Beach, south of L.A.). McJunkin has worked on several reality shows since his *Real World* days, including the short-lived *Real Roseanne Show*, with Roseanne Barr; Animal Planet's ongoing *Cell Dogs*, where pooches are trained by prisoners to be guide dogs and pets; and *The Residents* on the Discovery Health channel. When we spoke, he was about to head into L.A. for a stint working on *Fear Factor*.

Reality shows in general are incredibly demanding for location sound mixers (and camera crew). Because they are completely



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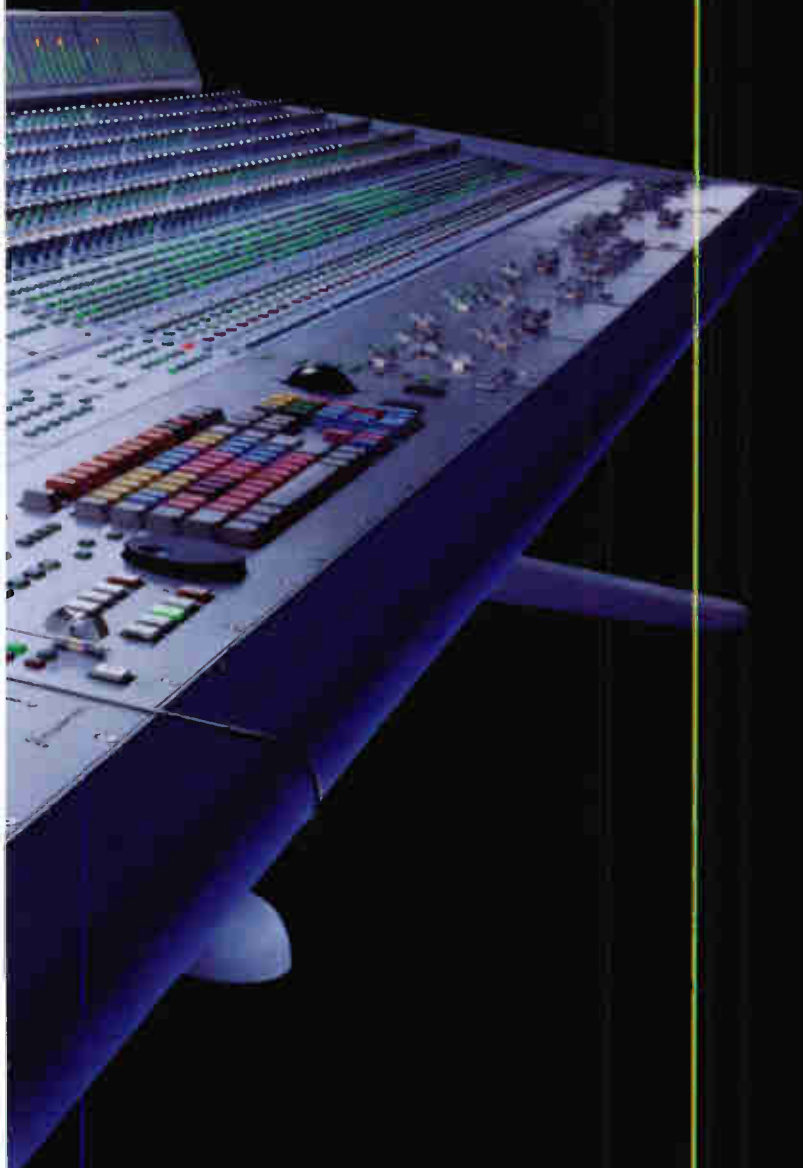


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unscripted, they have to constantly be at the ready to capture anything interesting that's going down. The camera crew has to be as unobtrusive as possible; ideally, they are completely invisible to the viewers. There's a lot of lying around on floors, or worse, being squashed into a car, perhaps holding a small boom mic if space allows, or at the very least listening to RF mics on headphones and mixing on the fly. One of the cardinal rules of reality television is that the crew does not get involved with the "characters," so the sound tech and camera person are really an isolated team of their own once they're out on location. "We become producers, in a way, since we're the only people out there most of the time," McJunkin says. There are often situations where multiple two-person sound/camera crews converge on some communal spot or event in a reality show, and that produces its own problems: Who, if anyone, lays out? Who's covering this or that aspect of this encounter? Given the sheer number of people required to handle the sound and visual aspects of most reality series, it's amazing that the people being shot seem as unself-conscious as they do.

THE RACE IS ON

For a fast-moving show like *The Amazing Race*, which might be in Vienna one day and in North Africa the next, the production teams have to travel as light as possible—McJunkin can't have an 8-channel mixer with Nagra backup. "Because we carry all our gear and our personal belongings with us, we have to keep the weight down. I was a runner and a tri-athlete for many years so I stay in pretty good shape. And you need to be in good shape for something like *The Amazing Race* because you're sometimes literally running around following these fiercely competitive people who are in really good shape and usually 10 years younger than me and carrying less weight. It's hard to keep up with them sometimes. Between the camera and sound gear—because the sound guy carries some of the camera batteries—it's about a 50-pound pack."

One of the roughest experiences McJunkin remembers on the last *Amazing Race* was "running around in Mexico City, which is a mile high, carrying all this weight, and we were running through this one square where everyone was cooking different foods on these little barbecues, and they were using anything to cook the food, including plastic and paper, and the fumes were unbelievable. It was hard not to be overcome by the fumes. Another time we spent a January night outside at a train station in Cortina, Italy, in the Alps, and it was below freezing. Then there was this other 24-



Father/son Amazing Race team Steve and Josh in Cortina, Italy, during season four

hour bus trip in Mexico where I got food poisoning. Fortunately, there was a bathroom on the bus. The producers had a replacement for me ready at the next destination."

Though McJunkin prefers to use his own top-quality portable equipment, he says some network reality shows prefer to get their audio and video equipment from the same rental house so they can save money on a package deal. Having multiple crews with the same equipment makes sense, though: Uniformity of formats is certainly preferable in the posting stage.

For *The Amazing Race 4*, "They rigged us with a Wendt X2, which is a little 2-channel mixer, and a couple of Lectrosonics 210 wireless," he says. "We have one wireless from a contestant member and one boom going to those two channels, and we also have a wireless send to the camera. The other contestant is on a wireless that goes straight to the camera. The booms you use are these collapsible carbon-fiber booms that can stretch anywhere from six to 11 feet, but might collapse down to only 20 inches. On *The Amazing Race*, they use Sennheiser MK60 shotguns. I'm not a big fan of the sound, but one of the nice things about all the Sennheiser RF condenser mics is they resist humidity and abuse really well. My own preference is a little Neumann KM100 preamp with the 50 hypercardioid capsule. I like to use that on interiors, and then I have either a Neumann KMR 82 or an Audio-Technica 4073, which is loosely based on a Neumann KMR 81 but is a little more directional. It's light and it has extremely high output, so it's good for exteriors. It also resists the humidity well."

For mobility and weight-distribution reasons, "I mount the mixer on my chest in a harness—a modified climber's harness that I got from REI," McJunkin says. "I try to make it so it evenly distributes the weight on my shoulders. I started having a problem with my back carrying a Nagra on my right shoulder for years and years. So far, the harness has worked really well."

Given the opportunity to use his own equipment on location, McJunkin has a different choice of mixer: "I use the Sound Devices 442 mixer, which I really just love. The only problem I had with the original PSC M4 mixer—now called the Wendt X4—which did sound great, is the controls were not laid out in an easy, logical way. The Sound Devices mixer is better designed—all the controls you need are on the front and the things you need less are on the side. Plus, the limiters in it are very good, which is a vital thing in a reality show because you

don't know when someone's going to start screaming," he says with a laugh. "The wireless I use are Lectrosonics 205s. A lot of reality shows like to use the Sennheiser wireless for the reason that the transmitter is so small and doesn't show through clothing a lot." (*Survivor* gets around that problem by going all-boom. Where would you put an RF mic on a buck-naked Richard Hatch?)

McJunkin also says that he's looking forward to trying out a new piece of gear: "Lectrosonics has this new transmitter, the M400, which is waterproof and runs off a single double-A and has an O-ring seal on the battery. One of the nice things about it is it will emulate the Sennheiser noise reduction; the compander in the Sennheiser. So if you have a show that has a lot of Sennheiser receivers, you can use one of these transmitters, in spite of it being from a different manufacturer. That's an interesting thing to do, because a lot of manufacturers want to set you up to only be able to buy their stuff."

Doing sound for reality shows requires special focus and self-discipline—it's clearly not for everybody. But the rewards can be great. Besides being a popular niche at the moment and thus a good source of work, the reality genre gives even the technical crew an ongoing glimpse of *humanity*, for better and worse. It can be instructive, cautionary, funny, sad, gross and pathetic. Just like real life. "I like to think that we're telling the story," McJunkin says of reality sound recordists. "After all, there are no writers. We're writing the story with our sound. Without that, all you have is pretty pictures." ■

Blair Jackson is Mix's senior editor.

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Production Music Libraries In 2004

BY SARAH BENZULY

You've heard production music libraries everywhere: in this year's Super Bowl television commercials, trailers for Hollywood blockbusters, dramatic themes on evolving Flash intros online, creative radio spots; you name it, they've been there.

Production music libraries are big business, bringing in top-tiered talents (composers, musicians, orchestrators, arrangers, engineers, producers and the like) and cashing in on up-and-coming artists, producing at big-name studios or the company's own state-of-the-art facility, recording at 24-bit/96k and taking full advantage of the quick accessibility of the Internet. The last time we visited production music libraries, watermarking and licensing were at the forefront of these companies' minds. While these issues remain a part of business, library creators are embracing the Internet, providing editors with quick access to searchable databases, auditioning files and downloading—right there and then in the midst of a heated editing session: no more waiting for FedEx to arrive. Moreover, library collections are expanding to include thousands of styles, ranging from mainstream rock/pop, rap/hip hop/classical/children's themes to wacky/off-the-wall atmospheric/*Star Wars*-influenced/comedic categories that can be used in anything from demos, records, remixes, commercials, jingles, post-production apps, soundtracks for film, theater, musicals, live performance, computer games and multimedia productions. We scoured the top libraries to bring you some examples of your options.

Geared toward the filmmaker, broadcaster, multimedia developer and video producer, 615 Music (www.615music.com) releases three to six new discs each quarter, with the content based on current styles and client feedback. Each disc offers 12 to 17 themes in addition to alternate mixes—which feature less melody, thinner texture and/or no vocals—



One of 615 Music's new releases out this month



Don't forget to pour yourself a cocktail when listening to Extreme Music's acid lounge.

FINDING THE RIGHT TRACK CAN BE AS SIMPLE AS SURFING THE WEB



East-West Symphonic Orchestra powered by Native Instruments' Kompakt

for narrative and underscore applications. Recordings are created in its brand-new 615 Studios. (Take a tour at www.615custom.com.) Online, Mac and PC users can search, preview and download the company's entire 175-CD library (including edits and alternate versions). 615 Music expands on its fully orchestrated film score-styled Hollywood Premieres with Volume 2. Other new releases include Techno Dance/Remix, an all-live Big Band and Hip Hop.

Produced by Soundtrack Recording Studios (Boston and New York City), Aircraft Music Library's (www.aircraftmusiclibrary.com) newest releases include The Latin Compilation, Ads Up! (designed for retail), American Music Series (a seven-CD collection chronicling the States' musical heritage), Cinematic, designed specifically for the long-format producer, and Rock Sweepers and Ids to add a hot rock riff and effect to any production. Now seating CDs 65 and higher, these releases offer Co-Pilot, a slew

of submixes to create custom combinations of instruments, taking out the melody, bringing in the strings, etc. Connecting Flights, found on each CD's inside cover, displays notes connecting the user to other cuts in the library with complementary tracks. Editors can search for tracks and titles online; auditioning requires RealPlayer and a 58kbps or faster connection.

Like The Turban's quirky rendition of "Jingle Bells" on *Six Feet Under*? Boutique production house Amusicom Records' (www.amusicom.com) recently renovated studio has also hosted Rudy & The Surf Kings, the Top Hatters and Swingin' Steve Lucky, among other top-notch musicians contributing to the company's more than 1,000 available pieces of music. The library's entire catalog can be easily searched by genre, style, instrumentation and description



Sabrason from APM's West One Music was recorded live in Havana, Cuba.

via the Online Music Search System; auditioning requires the Windows Media Player.

This month, APM (www.apmmusic.com) launches its MyAPM, an expanded online music-management portal where users can choose from 54 main categories that break down to 2,018 subcategories—accessing more than 175,000 different tracks (more than 20 libraries) for use in film, television, radio and new-media production. In addition to recordings by Ireland harpist Turlough Carolan from West One Music; libraries from major labels, including EMI Group and BMG; the surround-ready Sonoton; flavors from across the globe, such as the French-infused Kosinus, Australia's Castle and German-based Gerhard Trede; sports programming on NFL Films Music Library; and the Producer's Music Library, which offers contemporary cues created by Emmy Award-winning and Academy Award-nominated composer Barry DeVorzon and conductor Richard Hazard, APM adds about 25 collections to its library each month. New releases from the catalog include Sabrason, featuring



This Bob's Music Cafe four-CD library is designed for radio and commercial productions.

Cuban recording artists; the ambient, progressive Mesmerise; and recordings from composers Patrick Murdoch, Michael Rheault and Tim Willis on Route 66.

Focusing on radio customers, Bob Mithoff's Bob's Music Café (www.musicforradio.com) offers the four-CD 101 Classic Themes: Broadcast Edition, which is divided up into 14 categories (rock, blues, wacko, jazz, pop, etc.). With voice-over, promo and "theater of the mind" productions, each track was created with subtlety in mind. While Net surfers can only audition 30 of the library's tracks, interested buyers must contend with snail mail to receive their set.

Utilizing the talents of outside composers and musicians and third-party studios, Canary Music's (www.canarymusic.com) library is geared for radio and television/video production, educational purposes,



CSS Music's UltraEdit hard drive system

music-on-hold and new media. The ubiquitous yellow discs are available as an audio CD or Mac/PC hybrid CD-ROM (free with audio CD), and the library is updated with five to 10 new CDs every six months. Users can only preview the audio online.

Targeting specific demographics, budgets and producer needs, CSS Music's (www.cssmusic.com, www.dawnmusic.com) 17 li-

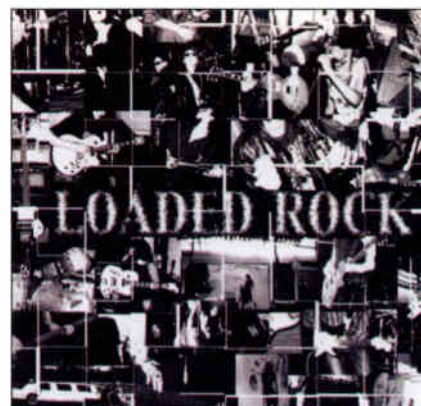
braries are available on CD-ROM, single-track or bulk downloads, or the company's UltraEdit hard drive system (Mac/PC), where editors can perform a search via an onboard database, instantly play a selection, locate the file, build a custom playlist, burn a CD and create cue sheets—all in one handheld Plug-n-Play Avid-friendly system. UltraEdit comes in MP4 (AAC) or .WAV versions; CSS



Sustained Encounters: the first volume in Cycling '74's new Ron MacLeod-created Cycle Series

also offers MP4 files in its Q-Tune-format CD-ROMs (225 CDs' worth on 26 CD-ROMs with a keyword database). Both CSS Websites feature a keyword database and full-length, low-resolution streamed samples, including the new David Wurst-composed Super Themes Library for film and TV.

The first volume in the Cycle Series from Cycling '74 (www.cycling74.com), the dual-disc Sustained Encounters was produced/curated by Ron MacLeod (creator of the Poke in the Ear libraries) and features long, evolving environments and unfolding at-



One of nine new DeWolfe releases: Loaded Rock

mospheres. The library's 24-bit/48k .WAV files are prepared for film, DV and multimedia productions; 44.1k versions are included. The high-capacity DVD-ROM and standard audio CD release also includes a sampling of 5.1 multichannel pieces. The files are seamlessly looped end-to-end for laying



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down beds that are imported directly to a DAW, playback in loop sequencers or manipulation by samplers.

Tapping the state-of-the-art equipment at Angel Studios (London), DeWolfe Music Library (www.dewolfemusic.com) offers the DeWolfe, Rouge, Hudson, Millenium, DeWolfe USA and Commercial Breaks catalogs, with more than 45 different categories. Online, editors can search, sample and order music from the entire catalog, including nine new releases such as the spiritually infused Classically Chilled, which was composed by Troy Banarzi.

Founded in 1988 by Doug Rogers (Gold and Platinum-winning engineer, as well as "Recording Engineer of the Year" Award), East-West (www.soundsonline.com) has amassed a library of more than 500,000 titles from such artist/producer/engineers as Prince's rhythm section, Bob Clearmountain, Jeff "Skunk" Baxter, Aerosmith drummer Joey Kramer and Public Enemy. In addition to its catalog, East-West represents leading sound developers including Audio Adventures, Audio Icons, Best Service (Germany), DUBLAB (Denmark), Embrace the Future, Numerical Sound (Canada), Power FX (Sweden), Toontrack Music (Sweden), Uberschall (Germany), Quantum Leap, XSample (Germany) and Zero-G (UK). Online, users can browse and download libraries, including the new Symphonic Orchestra (co-produced by Rogers and Quantum Leap's Nick Phoenix), which was recorded at a state-of-the-art \$125 million concert hall with custom-built recording equipment by Professor Keith O. Johnson. This is the company's first 24-bit orchestral sample library to include three simultaneous stereo mic setups (close, stage, hall), so users can mix together any combination of mic positions to control tone and ambience. Each volume comes as a virtual instrument powered by Native Instruments' Kontakt audio engine.

Bringing in top composers such as Hans Zimmer, Klaus Badelt, Dweezil Zappa, Dave Stewart, John Digweed and Sasha's Maven and Fluke, Extreme Music's (www.extrememusic.com) eight libraries (X-Series, Royal Philharmonic, Classical, Opera, Directors Cuts, Twisted, White Label, Easy Listening, Passport) are all recorded at the company's London-based in-house studios. Information and tracks can be searched for and downloaded online; music supervision is supplied via the company's IMS, also on the site. By mid-year, all tracks will be available on DVD, with the entire catalog of 7,500 songs storable on just five DVDs. The latest and brightest releases are Extreme Music's collaboration with One Electronic and

the DJ-intensive Series, White Label.

Boasting 15 libraries, 17,000 CDs and 34,000-plus compositions, Firstcom Music (www.firstcom.com) releases 100 new CDs a year, including its new Surround Sound Series on DVD-A/Video and DVD-ROM, Elizabethan & Baroque Drama (played on authentic instruments), the X-geners Youth Nation and martini-infused Electro Lounge. At the top of its heap is the Master Series Collection, which features talent from Larry Carlton, Charlie Clouser, Jack D. Elliot, Brian Tarquin and Wendy Waldman, to name a handful. Its MusiQuick® Online allows users to search, audition and download tracks (256kpbs MP3 or full-res .AIFF files), and the QuickTrax™ and LiquidTrax* Fast gives user the ability to custom-size their productions.

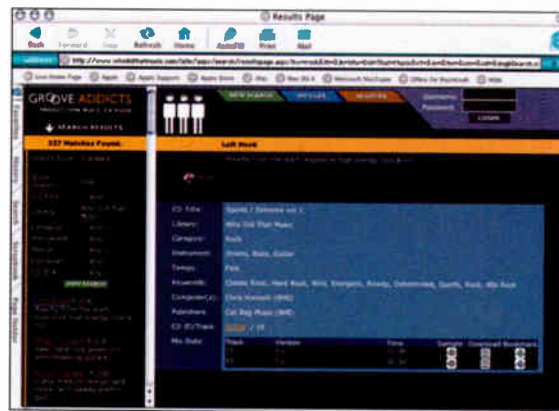
Producer/creative director/chief engineer Wes Talbot can be found ensconced in



One of Gene Michael Productions' growing catalogs

Fresh Music's (www.freshmusic.com) in-house studio working on the company's three main libraries: the 92-CD Fresh Music general library, the 42-volume AirTime for broadcasters and the 12-CD Sound Effects/Production Elements. Recent projects for Talbot include the two-CD Solo/Acoustic Piano Moods 1 and 2; the beer-drinkin', toe-tappin' Backroad Country; and the jazz fusion Jam Band, which offers numerous underscoring. Users can search, audition and download any theme (.WAV, .AIFF, MP3) online, some of which are offered in full, 60-second, 30-second and underscore versions.

Gene Michael Productions (www.gene-michaelproductions.com) boasts more than 190 CDs crammed with production music, production elements and sound effects. Among other licensing/purchasing options, users can create a custom CD-R with individual cuts from multiple CDs. The com-



Log on to Groove Addicts' Web-based search engine

pany's Production Elements Series features sweeps, strings, drones, explosions, pads, sprays, sparkles, etc., as well as true acoustic musical transitions. Editors can hop online for a full-length audition and download within minutes.

Groove Addicts (www.grooveaddicts.com) represents domestic and international libraries, including Who Did That Music? (created by Grammy, Oscar, Emmy and CLIO-winning artists), Ignite (techno-rock, drama, comedy, morning show, news), Gravity (hard rock to atmospheric soundscapes), Revolution (to add some Latin heat), MindBenders (off-center production elements), the UK's Lift Music, Unity and Tuff, and other European flavors such as the Czech Republic-originated Fontana,



JRT Music's Blue Funk fuses classic funk with jazz

Poland's Sound-Pol and Eastern Europe's Sound-Pol Classic Collection. The company offers Web-based accounts to search, sample and download more than 60,000 CD-quality tracks.

In addition to its T.H.E. Music Library and the award-winning Wild Whirled Music Library, Hollywood Edge (www.hollywoodedge.com) recently released the first six CDs of Soundelux Music. Opting not to rely on staff composers, arrangers or musicians,

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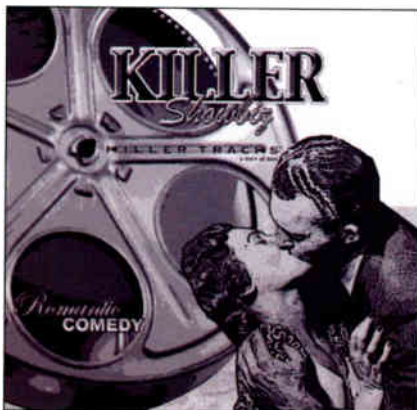
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each disc features a single composer. The latest releases include Bill Brown, Filippo Trecca, Dave Pelman, Spencer Neilsen, Kevin Teasley and David Mann.

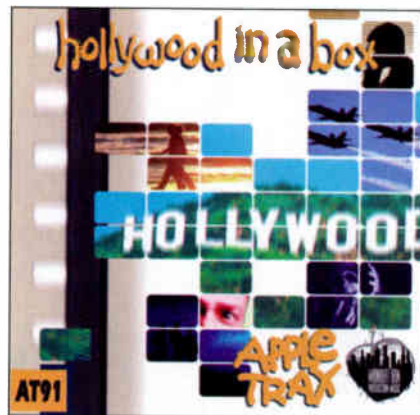
JRT Music (www.jrtmusic.com) represents the Tele Music Library, which offers music in a broad range of styles. While the libraries originate in Paris and highlight French composers, the library also spotlights those from Germany, the UK, Holland and the Prague Symphony Orchestra, which will be featured in an upcoming CD. A fully searchable Website is in development and is expected to launch in late 2004. While you wait, check out newly released Blue Funk (classic funk with a twist of modern house/reggae/R&B/jazz), XXL Jingles Volumes 1 and 2, Movie Magic, featuring epic symphonic themes, and Electro Break, where electroclash meets big beat.

Killer Tracks (www.killertracks.com) has expanded its library with Killer Edge, which spotlights promos, sports, electronica, news,



One of three CDs in Killer Tracks' Showbiz Package

drama, and light and alternative rock. Moving a bit left-of-center is Chronix Trax for a more "youthful" twinge to your production—think *Austin Powers*. Looking for something a bit more mainstream? Check out NJJ, which uses very few synthesized sounds, focusing instead on piano and acoustic instruments. Killer Tracks also offers sub-libraries, surround and sound effects titles, as well as distributing the Atmosphere, Match, Koka, BMG Production Music and Cezame foreign libraries. The newly revamped Website features user-friendly search and browse functions, immediate auditions and downloads of any track, online license requests and usage reports. Its newest release, Killer Showbiz Package, brings the sounds of Broadway, action/thriller, romantic comedy and heroism on a double-disc CD; veteran musician John Cavas composed the Broadway CD, while composer Don Wilkerson manned the other three titles.



Manhattan Production Music Apple Trax

Manhattan Production Music's (www.mpmmusic.com) relationship with the Grammy-winning audiophile label Chesky Records provides access to some of the finest producers, engineers and musicians, whose work can be heard on five libraries and more than 300 CDs. The company licenses the Chesky catalog for use in film and television, including SACD titles such as *The Planets* (Gustav Holst), *Wagner and Verdi: Great Opera Choruses* and, most recently, the DVD-A/Video *Dr. Chesky's 5.1 Surround Show*. At NAB, MPM will preview its newest library, Live Trax, which comprises music performed entirely by studio musicians and comes with lyrics. The company's Apple Trax music library includes the exclusive Split/Trax feature, a 2-channel system that allows producers to create their own custom mix by putting the melody and lead instru-



Get groovy with Megatrax's Atomic Lounge

ment on one track and the rhythm section on the other.

Top film/TV composers, orchestrators and arrangers—including Grammy Award-winning composer/arranger Jorge Calandrelli, producer Byron Brizuela, hip hop artist Howie T., Emmy Award-winning composer Brian Tarquin and composer/arranger Harvey Cohen, among many others—regularly record for Megatrax's ([**TELEFUNKEN**
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megatrax.com) 150-plus library at the company's state-of-the-art live and electronic studios, working with chief engineer Eddie King and audio engineer Derek Jones. Comprising its library for film, broadcast, advertising and multimedia are Intervox, a European library; Amusicom, produced by film/TV composer Danny Pelfrey; Mega Latin, a six-CD Latin se-

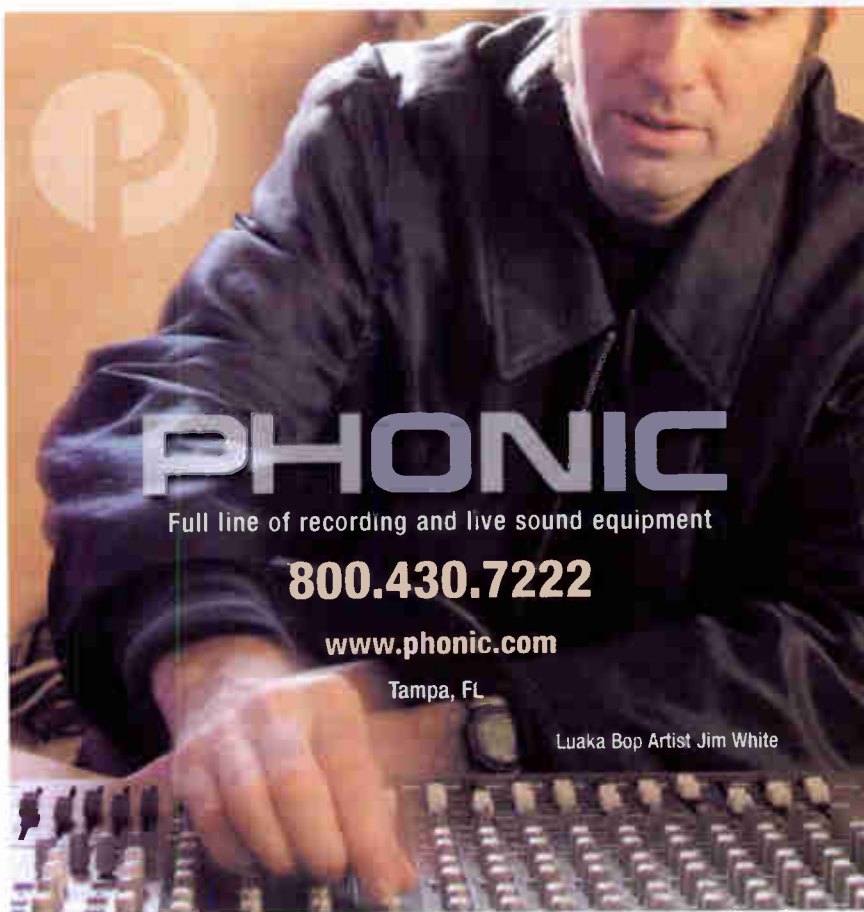


Metro Music Productions has just released a brand-new demo of its Metro Music library.

ries (available next month); and Megasonics, a new four-CD sound design series produced by top Hollywood and video game sound designers (also available next month). Megatrax offers two different online search systems: Musicsource and PLAY Musicfinder, where clients can search, preview, license and download tracks in .AIFF and .WAV formats (MP3 on the PLAY system).

Metro Music Productions' (www.metro-musicinc.com) 62-CD catalog of contemporary styles is geared toward on-air promotion and programming production for network and cable TV, radio and film; the company also represents the Hungaraton Label, a classical catalog. The library comprises a large degree of live performances featuring top New York City studio musicians. The Metro catalog, produced in-house, features film, TV, jingle and song composers. The majority of the tracks are recorded in 24-bit digital via Pro Tools or Logic Audio; occasionally, the company reverts to its trusty 2-inch/24-track for jazz, blues and big-band projects. The company's Website features the Music Source search engine, which provides access to every cut for auditioning, plus a brief montage of each disc; downloadable music will be available in the near future. New releases include Lounge & Kitsch '62 (recorded live) and the brand-new Metro Music Library demo, which has been redesigned for easier search by using general usage genres and subcategories.

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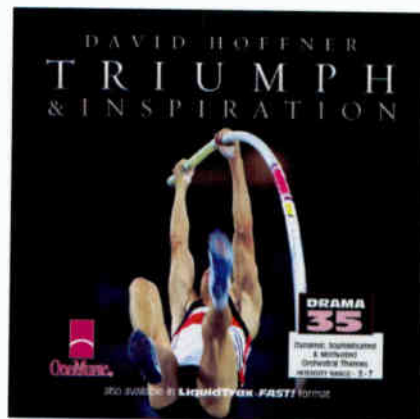
ments, and produced by a team of award-winning composers. In addition to its slew of CDs—including a categorized Thematic and Variety releases—Music Bakery also offers the StudioCutz, MediaTone and WinkMusic collections. Users can select tracks for training and motivation, education, sales and advertising, and industrial projects, as well as pick up crisp background beds for narration and high-profile themes to add image and emotion. Online, editors can audition online demos in numerous categories, search via an extensive style description or by tempo type and download MP3s instantaneously. The company also offers a CD subscription program in which it will automatically ship one new issue each month for \$59 per CD; Music Bakery will pay for shipping.

Aimed toward broadcast jingle writing, Network Music (www.networkmusic.com) offers a full musical spectrum, specializing in high-quality productions involving full-scale orchestras with award-winning composers while maintaining a “boutique” sensibility. New products include SLAM!, Essential Series and UBM libraries. Look out for a brand-new Website with download capabilities and real-time auditioning.

Adding to its collection of orchestral and dramatic themes, Non-Stop Music Library

(www.nonstopmusic.com) added the Producer Series collection, in which each disc is packed with more than 25 different themes that are grouped into production categories for more productive searches. Non-Stop also represents the Groovers Music Library, Media Music, Countdown Media, Point Music Library, J.W. Media Music and Cavendish Music Library, all searchable online for preview. The company’s L.A. East Studios (Salt Lake City) is housed in a turn-of-the-century church building with a wide range of acoustic spaces, including the unique “chapel” scoring stage and Studio A’s high-ceiling rooms, for a variety of recording environments.

OGM Production Music’s (www.ogm-music.com) wide variety of libraries for video, cable, CD-ROM, multimedia, Internet, film, corporate and broadcast can be easily organized via its downloadable Tune-Finer (Windows only), which allows editors to search for a particular type of music or do a general track audition. Users can also search for music on the site, including the company’s High-Tech (The Blue Line), Contemporary (The Red Line), Special (The Red Line), Classical (The Classical Line), Optional (The Gold Line) and Archives (The Orange Line) of professional and premium



OneMusic's LiquidTrax include Triumph & Inspiration

titles. OGM's The Best of Media Music is now available in a limited edition to existing clients and will soon be online at www.OGMmusic.com/MEDIA.

Omnimusic (www.omnimusic.com) was one of America's first independent music libraries, issuing its first LP in 1976. Since then, the company has added more than 85 award-winning composers to its credits, creating 150 discs in numerous musical and production styles. It also offers the ultracontemporary CDM library from France and Flash•Point, a library of cutting-edge reality

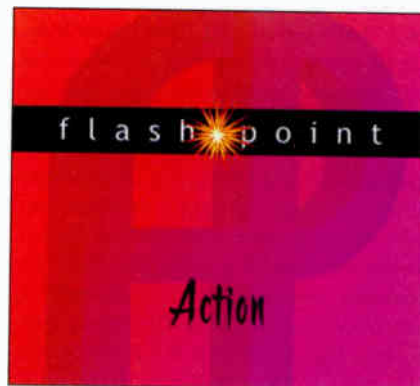
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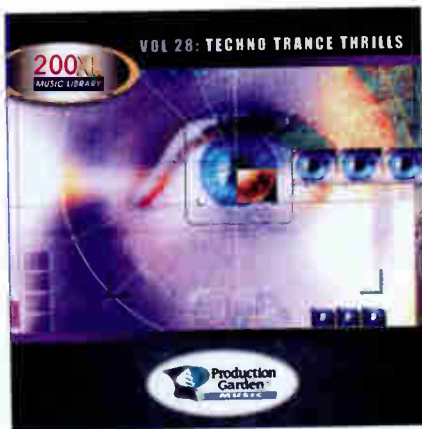
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Flash•Point, OmniMusic's cutting-edge reality music

music produced in the company's New York City studio. Broadcasters can dip into Blue Dot with its thousands of tracks for fast spot design and production. Omnimusic produces high-impact, fully orchestrated tracks with New York's top musicians, as well as contemporary pop, urban and techno tracks typically produced by composers using their own studios. Online, users can access Sparky, a virtual search hound, to locate and audition tracks from any of the libraries; plans for full download capability are in the works for a spring release.

In business since 1997, OneMusic (www.onemusic.com) has 330 discs in 21 music categories, adding 30 discs annually—some of which can be heard on *A Beautiful Mind*, *Friends* and HBO's *The Wire*. LiquidTrax pro-



Titles from this Production Garden Music release include "Turbo Soara" and "Race to the Edge."

vides music editors with the ability to mix their own custom score using four stems from a stock piece of music. In 2001, LiquidTrax was converted to LiquidTrax-Fast on CD-ROM; each set of stems is now provided in PC- and Mac-compatible .AIFF files. New releases this month include Swing Era 2 by Matt Catingub, Classic R&B 2 by Nichols & Allen, Triumph & Inspiration by David Hoffner and Harmonies & Underscores by Hayes & Smith.

Why select one track from one of the company's library and another track from a different library when you can customize your own CD? Production Garden Music's (www.productiongarden.com) 10 catalogs are available separately or in mix-and-match combinations. A favorite among producers is the 100-CD 4M collection, which features the Metro, Manchester, Music Street and MSE libraries, created by different teams of writers and producers in different parts of the country, which can only be previewed; purchases are delivered via snail mail. Other recent releases include Vol. 22: Americana Suites With Full Orchestra, featuring the 72-

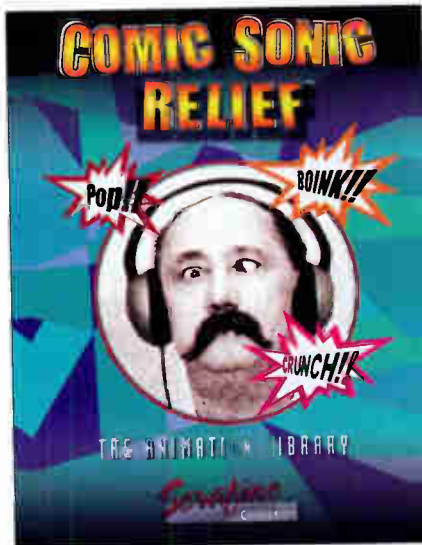


Combining musical elements from the past five decades—Selectracks' Fun & Funky

piece Czech Philharmonic Orchestra performing in the historic Dvorak Hall (Prague); Xtreme Mix; Entrepreneurial Spirit; Nu Un-

derscores; and Air Assault Promo Beds. Digital effects and elements are also available with the complete line of Sound Ideas' sound effect libraries.

Since 1987, Promusic's (www.promusic-inc.com) library has grown to more than 2,000 discs, resulting in 25 libraries from around the globe, including its in-house library, Abaco Music. On the Net, the company offers search, 30-second Windows Media clips to audition and CD-quality (.WAV and .AIFF) download features. While surfing on its site, check out Abaco 120 Urban Culture, bringing the hip hop, R&B and funk



Find cartoon-y sounds in Serafine's new 10-disc set

sounds of the inner city to any music editor.

Founded in 2000 by TV and film composer Steven Stern and jazz recording artist/entrepreneur Stuart Hart, Selectracks (www.selectracks.com) offers a catalog that will surpass 40 CDs by the end of this year, including new releases Fun and Funky, Jazztronica and Rock for the Masses. Selectracks' eight staff composers can be found immersed in the company's recording facility, which can hold a 40-piece orchestra and features Pro Tools and Steinberg VST- and Nuendo-based suites. The Selectracks catalog is available online using the music source and music cart system.

With more than 25 years of Hollywood experience in sound design on major blockbuster movies, not only has Frank Serafine (www.serafine.com) created realistic sound effects libraries, but he also has a keen sense for creating music, including two music library discs for a large European music library company, JW Media Music (UK). The Serafine Collection has recently added the 20 disc Ambience 5.1 to its collection, which was recorded in surround (24-bit/96k) via a Tamura Quolle Izm-125 field mixer. Serafine

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Symphonic Brass: Sonic Implants' high-end offering

is currently working with a company called Sounddogs for one-off downloads. Recently, the company signed a co-distribution deal with Hollywood Edge.

The name of the game for Sonic Implants (www.sonicimplants.com) is "playability," "responsiveness" and "organic sounds"—all driven by the sound design process developed by 18-year sound design veteran Jennifer Hruska. The process includes concentrating on the aspects of recording that are unique to sampling; i.e., getting musicians to break down their playing into a set of samples, focusing on using high-end equipment and keeping the signal chain as small and clean as possible. While the company houses a good-quality recording room, many projects are taken to various outside studios, including the high-end 24-bit Symphonic Collection Series and the surround Symphonic Brass, which features the world-class Boston Pops Orchestra recorded at The Sonic Temple (Roslindale, Mass.), with production handled by Hruska, and engineers Antonio Oliart and John Bono. For editors in the midst of a heated session, Sonic Implants sells its catalog in both CD and downloadable formats.

The Mix Broadcast Music Library from Sound Ideas (www.sound-ideas.com) now includes 10 separate releases, totaling 84 CDs with more than 85 hours of audio. Honing in on all major musical styles, the CDs are offered in broadcast lengths, full-length tracks, rhythm tracks and production elements, and is packaged in a compact storage binder with full track and index listing. Online, the company boasts its SuperSearch, an electronic catalog to easily search for music and keep track of how you use it.

With more than 50,000 selections, TRF Production Music Libraries (www.trfmusic.com) includes Bravo, Cobra, Dennis, Kool Kat, MP 2000, Musictrack, PowerSound, Pyramid, Spain is Music, Stock, Supraphon and the PAN library of authentic interna-

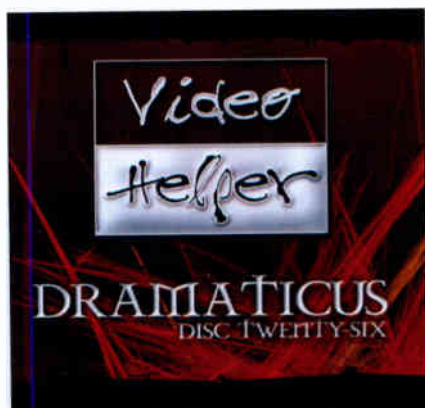


Westar Music's library continues to multiply

tional/ethnic music. The newest member to this catalog is ADRENALIN, fusing futuristic, urban, pop, chill-out and ambient grooves with sports, rock, jazz fusion and alt. rock. This month, 10 new releases were added to the Kool Kat Production Music Library, bringing its number up to 70 CDs; 50 new offerings were added to the Bravo, Cobra, Dennis, Pyramid and Stock Production libraries, while 60 new classical and ethnic music CDs join the Supraphon Classical Library and PAN. Online searches will be available soon.

Valentino's (www.tvmusic.com) self-named and Evergreen libraries total more than 210 CDs with 43 separate style/subject categories and more than 115 composers represented. All catalogs are available online as Excel or PDF files for downloading; regularly released new material is offered in CD, MP3 and .WAV formats for broadcast and Internet applications.

A production music library designed by producers, for producers: Video Helper's (www.videohelper.com) staff includes former network on-air promo producers and



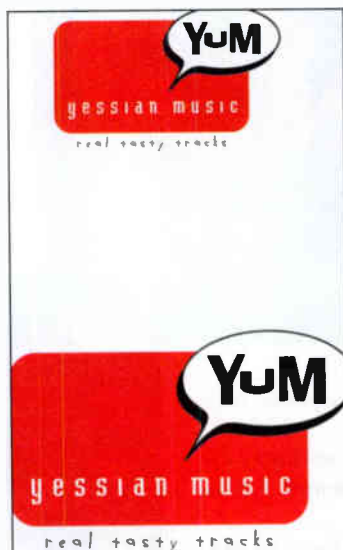
Each VideoHelper library comes with a detailed booklet on the who, what, when, where and why.

in-house composers who are familiar with daily spot deadlines. Track cuts maintain tempo and key for easy editing, with multiple sections built in. At the company's 5,000-square-foot in-house studio (Manhattan), the creators rely on various digital and analog boards, a 24/96 Pro Tools|HD Accel and other state-of-the-art gear. The company's site lets users search, audition and download cuts, including remixes, alternate versions and experimental cuts. These

demos are available for free, but a one-time approval from the staff to download broadcast-quality tracks is required. For those without Internet access, Video Helper will soon launch its "Look & Load" search engine DVD-ROM, in which users can search from more than 2,000-plus titles (with 55 different themes), audition and access the company's entire catalog, functioning much in the same vein as its Web-based search engine. With the DVD-ROM, clients can drag-and-drop the desired cuts onto their hard drives in 256kbps MP3 format. New release to search for: Dramaticus is a collection of more than 59 "over-the-top" dramatic cuts designed for movie trailers and promos and boasts live orchestral sections (recorded in 24/96 at Nashville's Classic Sound).

Westar Music's (www.westarmusic.com) multiple CD-release program offers new music several times a year. To search for audio demos for every category and CD online, the company offers its MusicSource search engine; each selection can be downloaded in full for immediate use, and users can quickly apply for licensing. This month, Westar releases eight new CDs with a total of 16 new CDs for 2004.

The Yessian Music Search site (www.yessianmusic.com/search) is a multicategor-



Yessian Music's tracks can be tasted online.

ical search database with more than 2,300 original compositions. Each composition is mixed and mastered at its in-house state-of-the-art studio facilities and may be downloaded as .AIFF, MP3 or RealPlayer files. Visitors can search using a variety of options including keyword, tempo, style, composer and orchestration, just to name a few. ■

Sarah Benzuly is Mix's associate editor.

Ross says



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

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



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#2 in a series



THE 46TH GRAMMY® AWARDS

By Blair Jackson

A SALUTE TO THE WINNING PRODUCERS AND ENGINEERS

Is it just me, or does it seem as though every year, fewer trophies are handed out during the Grammy® Awards telecast? Believe it or not, I sort of miss seeing the speeches. Of course, the “up” side of the paucity of actual awards is that the program is now nearly wall-to-wall performances and they are reliably good.

Is there anyone who wasn't knocked out by the Prince-Beyoncé pairing that opened this year's show? Talk about a dynamic duo—now *that* would be a great tour! And how about the Black Eyed Peas? Big fun with a cool message. We salute the show's producers for a number of interesting pairings: Sting with the charismatic, if incomprehensible, rapper Sean Paul; the Foo Fighters with Chick Corea; and Justin Timberlake and Arturo Sandoval. We offer our condolences to Alicia Keys and Celine Dion, who were vexed by rare, but inexcusable, technical gremlins during their performances. And controversial or not, we dug OutKast's Native American-themed production number on “Hey Ya!” Finally, shame on the U.S. government for its misguided and cowardly decision not to let Cuban musicians such as Ibrahim Ferrer and Manuel Galbán attend the Grammys. Both won!

The actual awards didn't provide many surprises, save for Evanescence's victory in the Best New Artist category. Beyoncé, as expected, was the big winner of the night, taking home five awards—better get used to her, because you're going to be seeing her up there for years to come. OutKast also scored big, but there was plenty of glory to go around for everyone from the White Stripes to Metallica, Wayne Shorter to the Blind Boys of Alabama, Weird Al Yankovic to Luther Vandross, George Harrison to Pink. With a whopping 105 categories, there was no shortage of trophy recipients. For a complete list of the winners and lots more photos from the show, go to www.grammy.com.

However, each year, we at *Mix* like to single out and salute the engineers and producers who triumphed at the Grammys, and we had a chance to chat with a couple of 'em. Record of the Year—Coldplay: “Clocks”; Coldplay and Ken Nelson, producers; Coldplay, Nelson and Mark Phythian, engineers/mixers.

Such are the vagaries of Grammy eligibility that Coldplay's *A Rush of Blood to the Head* album earned Grammys for the group both last year and this year. “Clocks” was ubiquitous in 2003, and its victory was only a mild surprise in what was, as always, a very strong category. Album of the Year—OutKast: *Speakerboxxx/The Love Below*; André “3000” Benjamin, Carl Mo and Antwan “Big Boi” Patton, producers; Vincent Alexander, Chris Carmouche, Terrence Cash, Kevin “KD” Davis, Reggie Dozier, John Frye, Robert Hannon, Padraic Kernin, Moka Nagatani, Pete Novak, Brian Paturalski, Neal Pogue, Dexter Simmons, Matt Still and Darrell Thorp, engineers/mixers;

Brian Gardner and Bernie Grundman, mastering engineers.

Propelled by the infectious smash single “Hey Ya!” this album—featuring one disc by André 3000 and another by Big Boi—continues to sell like hotcakes. It was recorded mostly in Atlanta at the duo's Stankonia Studios (see *Mix*, December 2003 for details), but also mixed in Los Angeles and New York. After the Grammys, we spoke with longtime OutKast associate Neal Pogue, who mixed seven songs on the André disc, including “Hey Ya!” and current single “Roses,” and came away from the Staples Center with his first Grammy (after four nominations). Currently working with Boyz II Men on an album of '70s and '80s soul classics, as well as new artist Bobby V., Pogue says he knew “Hey Ya!” was a hit “right outta the box! When I first heard that song, Dre and I were riding around in L.A. in his car. He put on that song, which at that point just had one verse

and the chorus, and I was like, ‘That's it! That's the single! You've gotta finish that song!’ He was saying, ‘Really, you think so?’ ‘Yeah, man—this is the one; this is gonna knock everyone out.’ Well, it took him months to finish the second verse and the rest of the song—the breakdowns and all that—but eventually he did, of course, and it *blew up*; it's history now.” Pogue and André mixed the single at The Hit Factory in New York on an SSL 9000 K; the other six tunes that Pogue mixed were done at Larrabee North in L.A. on an SSL 9000 J.

André stirred up controversy with his get-up for “Hey Ya!” (pictured, left), while the Prince and Beyoncé pairing (below) made for an electric opener.



PHOTO: COURTESY WIREIMAGE

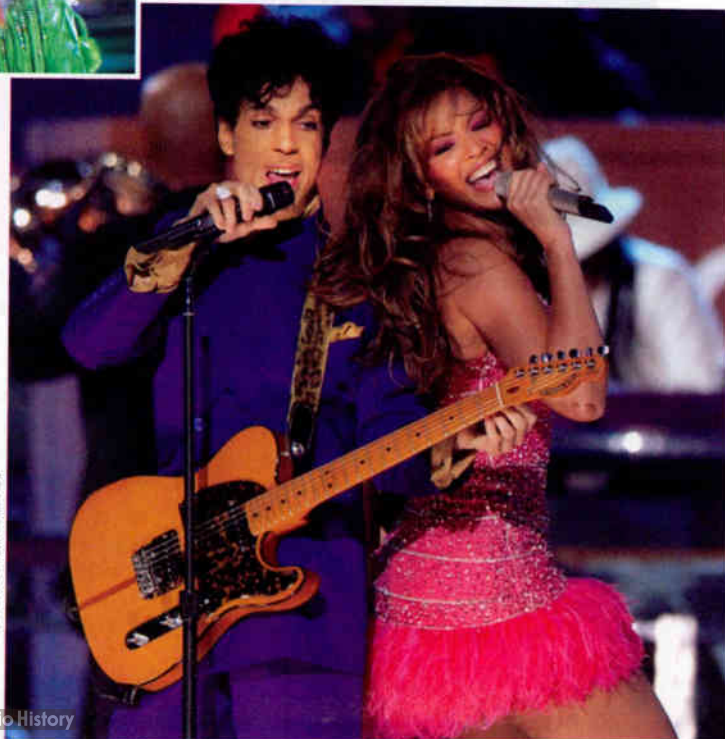


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"... a delicious sonic character—even when compared to mics that cost four times as much."

Pro Audio Review July 2003 **Andrew Roberts**

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Recording, November 2003 **Bruce Kaphan**

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

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

Guitar Player November 2003 **Michael Molenda**

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

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

EQ April 2003 **Mitch Gallagher**

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

Mix July 2003 **Barry Rudolph**

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THE 46TH GRAMMY AWARDS

"André pretty much knows how he wants his songs to sound," Pogue comments, "but when he and I get together, he pretty much lets me do my thing to add to and enhance his vision. So it's a joint venture when it comes to mixing. We're both nitpickers who spend a lot of time making sure a record has the right sound. Is everything sitting in the right place, not too loud or too low? Levels mean everything to me. I'm not into having everything be right in your face. I want people to be listening a year later and say, 'Wow, I never heard that instrument before.'"

Best Engineered Album, Non-Classical—Radiohead: *Hail to the Thief*. Nigel Godrich and Darrell Thorp, engineers.

Widely hailed for its sonic inventiveness, Radiohead's latest continued their assault on rock conventions with a deft mixture of rock and moody atmospherics. Why has this British band clicked more with American audiences than Oasis, Blur and so many other imports? Bandleader Thom Yorke certainly has a singular vision, but so does the band as a whole, thanks in part to Nigel Godrich's broad palette. You'll note that Darrell Thorp also worked on the OutKast album.

Acclaimed mix engineer and recent Grammy Award-winner Neal Pogue mixed seven tracks on André 3000's "The Love Below" (one-half of OutKast's latest release), including the smash hit "Hey Ya!" Pogue mixed André's creations at Larrabee North Studios in Universal City, Calif., on an SSL SL 9000 J Series SuperAnalogue console, while he traveled to New York's Hit Factory to use an SSL XL 9000 K Series for "Hey Ya!"



Pharrell Williams, along with his Neptunes partner in crime Chad Hugo, was named Producer of the Year.

Winning a Grammy is not new to Classical Producer of the Year Steven Epstein, who has won this category five times since 1984, and also won Grammys for various individual productions. The New York-based Epstein was actually teaching a graduate "Classical Record Production" class at McGill University in Montreal when a former student relayed the news that he had won the Grammy. "It never gets old," he says with a laugh, "but frankly, I didn't expect to win this year."

Epstein describes *Obrigado Brazil* as "a crossover album of sorts, because it has some elements of Brazilian pop music, but there's also Villa Lobos on there; it's very eclectic. It ranges from piano and cello chamber music all the way up to an ensemble that features double-percussion, jazz instrumentalists like Paquito Rivera, native Brazilian players and, of course, Yo-Yo Ma."

The album was mainly recorded by Epstein's frequent partner Richard King at Right Track Studios, which Epstein calls, "The best-sounding big room in New York City. I've done a lot of recording there the last couple of years, from show music to jazz to classical to crossover. You get enough volume for the acoustic instruments to speak very nicely without it being overly reverberant. Todd Whitelock also did a great job on the pieces for piano and cello that are on there. Those were done at Clinton Studios, which is smaller than Right Track—also a really nice-sounding room. The post-production was done at Sony Music."

Best Classical Album—Mahler: *Symphony No. 3; Kindertotenlieder*. Michael Tilson Thomas, conductor, San Francisco Symphony. Producer: Andreas Neubronner. Engineers: Dawn Frank, Peter Laenger and Neubronner.

The latest, and some say one of the greatest, interpretations of Mahler's challenging, nearly two-hour symphony is one of the cornerstones of the Romantic era. ■

Producer of the Year, Non-Classical—The Neptunes (Pharrell Williams and Chad Hugo).

2003 was definitely the Year of The Neptunes, and it was a pleasant surprise to see them recognized for their contributions. Among the songs and albums they toiled over were "Beautiful" (Snoop Dogg, featuring Pharrell and Uncle Charlie Wilson); "Come Close" (Common, featuring Mary J. Blige); "Excuse Me Miss" (Jay-Z); "Frontin'" (The Neptunes, featuring Pharrell Williams & Jay-Z); songs from Justin Timberlake's smash album *Justified*, including "Rock Your Body"; "Luv U Better" (LL Cool J, featuring Marc Dorsey); and *The Neptunes Present...Clones* (The Neptunes, featuring various artists).

Best Remixed Recording—Maurice Joshua: "Crazy in Love (Maurice's Soul Mix) by Beyoncé featuring Jay-Z. After many years of remixing for some of the biggest names in R&B (Destiny's Child, Puff Daddy, Mariah Carey, En Vogue), Joshua earns his first Grammy, after four nominations.

Producer of the Year, Classical—Steven Epstein, for *Obrigado Brazil* (Yo-Yo Ma and others); *Mendelssohn/Bruch: Violin Concertos* (Midori); *Paris la Belle Époque* (Yo-Yo Ma & Kathryn Stott)

Best Engineered Album, Classical—*Obrigado Brazil* by Yo-Yo Ma and others. Engineered by Richard King and Todd Whitelock.

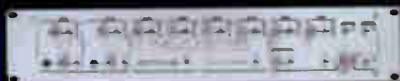
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- 24-bit/96kHz coaxial S/PDIF In/Out (switchable to AES/EBU)
- 24-bit/96kHz optical S/PDIF Out (switchable to AES/EBU)
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- Four stereo 1/8" Speaker Outputs (configurable from stereo to 7.1)
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Jimmy Jam

Three Decades of Hits, One Seamless Partnership

Prince must have kicked himself squarely in his purple paisley derrière after firing his keyboardist and bassist back in 1983. Unaware of their seemingly limitless potential as musicians, songwriters and producers, the diminutive pop/R&B star axed Jimmy Jam and Terry Lewis, then members of Prince protégé Morris Day's band, The Time, and now arguably the most successful production team of the past three decades.

The Twin Cities natives and high school friends practically defined modern R&B with their mix of edgy yet classic melodies, street-smart but sophisticated lyrics and funky beats. Fresh out of the starting gate, their first production gig, a series of songs for the S.O.S. Band album, *On the Rise*, yielded a Top 5 R&B single ("Just Be Good to Me"), but also marked the end of their reign with Prince, who did not allow bandmates to produce outside projects. "It was really one of the worst days of our lives," says Jimmy Jam on getting fired from his sideman gig. "We were perfectly happy being bandmembers at that point in time. But [getting fired] forced us to really take it seriously, and we were lucky to have lined up a couple projects at that point. All's well that ends well, I guess."

The unintentional career change certainly turned out to be a blessing in disguise, as the charmed two-some immediately pumped out successful projects for Gladys Knight, Patti Austin and Klymaxx, before teaming up with Janet Jackson in 1985 to produce the multimillion-seller, *Control*, catapulting both artist and producers to superstar status.

Their working relationship with Miss Jackson continues nearly 20 years later. Jam and Lewis have produced all of her albums thus far, including the just-released *Damita Jo*. Their massive discography also includes megasellers from Mariah Carey, Boyz II Men, the Spice Girls, Michael Jackson, TLC, Mary J. Blige, Patti LaBelle, Aretha Franklin and new R&B sensation, Heather Headley, as well as boundary-stretching acts such as Human League and Japanese artist Hikaru Utada.

In addition to a seemingly inexhaustible creative supply that's resulted in more than 40 Number One singles and more than 100 albums surpassing Gold status, Jam and Lewis also have sharp business minds. Presently, the entrepreneurs own their own record companies (Perspective Records, Flyte Tyme Records), publishing companies (New Perspective Publishing, Flyte Tyme Tunes) and private recording studios. The original Flyte Tyme Productions, opened in 1982 in Minneapolis, has grown to become a sprawling 17,000-square-foot complex in nearby Edina, Minn., containing five studios, a rehearsal facility and one *serious* game room.

This year, the dynamic duo expanded their enterprise yet again, launching Flyte Tyme West, a five-room facil-



ity temporarily housed at The Village Recorders in Los Angeles. The West Coast site will allow them to devote more of their time and talents to the film, television and advertising industries, an interest that first surfaced in the mid-1990s. Their soundtrack work includes such films as *How Stella Got Her Groove Back* and *Mo'Noney*, the Janet Jackson-starring *Poetic Justice*, *Prince of Egypt*, *The Best Man* and *The Fighting Temptations*, which they also scored and music-supervised. During the last year, Jam and Lewis composed tracks for The Gap and FreshLook Contacts commercials, and produced music for the 2004 NBA All-Star Game, as well as India.Arie's song, "Look With the Eyes of Your Heart," for the *Radio* soundtrack and *A Shark's Tale*, starring the voices of Robert De Niro and Will Smith.

Despite the buzz of recent film activity, Jam and Lewis continue to crank out top-tier pop and R&B albums. At the time of our conversation, the team was working simultaneously on albums for Janet Jackson, Usher, New Edition, Mariah Carey and Yolanda Adams—all at Flyte Tyme West.

With 30 years of friendship and more than 20 years of "Flyte Tyme" logged, Jam and Lewis produce consistently cutting-edge music not by following trends but by looking at what's ahead. Furthermore, by treating their clients and each other with respect, they've enjoyed career longevity in an industry known more for spitting out one-hit wonders than developing long-term success. Dressed

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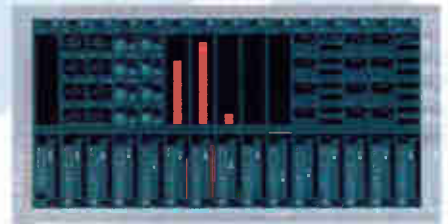
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Kevin Brown (left), KBLX-FM program director and morning show announcer, poses questions for Jimmy Jam during a recent discussion hosted by the Recording Academy's San Francisco chapter.

in his trademark black suit and hat, Jam spoke openly about the production philosophies he shares with Lewis, the Flyte Tyme evolution and the technology they've adapted to along the way.

Your career exploded when you started working with Janet Jackson. Were you prepared?

At the time we signed on to do Janet's [album], it was at a point in her career where, as an artist, she hadn't really achieved a high level of success. It's just an instinct thing. Literally, John McLain, who was the A&R person for A&M at the time, gave us the roster and said, "Pick somebody." We picked Janet, and he asked, "Do you want to do a couple of songs?" And we said, "No, we want to do the whole album." We really felt like there was something there and wanted to work with her.

The difference in what we did was that we asked her opinion and got her involved in the actual writing process, so the ideas that came forth were *her* ideas—the ideas of an 18-year-old girl striking out on her own—and it touched a chord with people. At that time, there wasn't really a girl singing over funky tracks like that. It's almost like we were doing the tracks like what we would do for a male artist, but she had so much attitude when she sang that it totally worked. It was fun watching her get excited about recording because up to that point, I don't think she was that enamored with the recording process, but once she had a chance to have input and knew that her ideas were actually going on the record, that's when she got excited, and I think that made all the difference in the world.

Of all the producers we talk to, each one has a different answer as to his or her role in the studio. What is it for you and Terry?

To get the best performance from the artist, very akin to what a director does with actors in the movies.

What you're doing is you're kind of reading and assessing, and you actually end up having a very intimate relationship with the artist, because they have to trust you to let their guard down, to let you know their feelings and let you get a great performance out of them. You can't give a great performance when you're holding back and thinking about what you're doing, so you try to take their mind off of any sort of pressure.

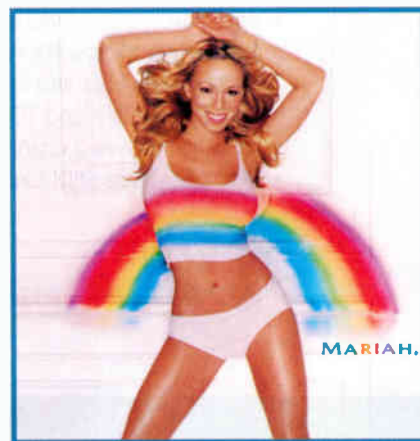
For the *Control* record, the first week Janet came to Minneapolis, we didn't even go into the studio and record. We just hung out. We went and hung out at the lake, went to clubs, and just talked and got to know each other. At one point, she asked us, "When are we going to start working on the record?" And I said, "We already started working on it." Because, really, we were trying to learn what she was about. Then we showed her some lyric ideas and concepts we came up with, and she said, "Wait a minute, this is what we've been talking about," and I said, "Yeah." And she said, "So whatever I have on my mind, that's what we're going to put on the record?" And I said, "Yeah," and that made it exciting for her. That to me is all part of the producer process.

It's a very collaborative process for us. We try to tailor-make each song and each recording to the specific artist rather than do a bunch of songs and pull them off the shelf. When you do that, you end up with the artist's personality truly in the record, and

they feel that they're part of the creative process.

So does your level of input in the songwriting and arranging process vary with each artist?

Yes, because sometimes an artist doesn't physically write, but they can tell you how they feel. You can pick up a certain phrase that they say or a thought that they have about a certain subject, and those things lead to song ideas. Mariah Carey, for instance, is very much involved in the songwriting process. We sit in a room with her—usually myself, Terry and a couple of the other Flyte Tyme musicians—and we'll bang out maybe 10 or 12 ideas in a two- or three-hour period. Not fully realized, but just enough to know whether we're going down a path that we like. It could be based on a keyboard lick that I play or it could be based on just us having a discussion about something. It's a collaborative effort, but she's very much a songwriter in the sense that she enjoys the lyric-writing process and putting the format of the song together—whether it should have a modulation at the end, whether it should have a double chorus, et cetera. Janet is sort of the same way.



And then there are people like New Edition. They'll have a brainstorming session, talk about the million ideas they want to do, and then go, "Okay, now y'all do your thing and we'll be back." And then they'll give it either the thumbs up or the thumbs down. There's one New Edition song that deals with Johnny Gill being onstage singing to a girl in the audience. Terry said to Johnny, "Rather than me write the words, what would you say to the girl if you were onstage looking down?" He incorporated that into the lyric. That way, when Johnny sang the vocal, it came across a lot more true, a lot more like a performance. It sounds like him.

Your career has now spanned three decades. Has your approach to produc-

tion changed during the years?

The basic premise has not changed: Get the best performance—that is still the thing. And the ideas always have to evolve and flow. We've never gotten into a nostalgia trip—obviously, we've had a nice history, and at some point when we retire we'll probably fully appreciate it when we look back—but we're constantly looking forward, utilizing new ideas and working with new people, new technology and new artists. That's the way you stay fresh.

The past was great, but if you spend too much time dealing with that, you kind of lose sight of the things that the future holds. We've always been very cognizant of that and always think about the next move, the next thing we want to do. I think you have to have that mindset, because it's too easy to get into a sense of, "Oh, back in the day when we recorded analog, that was the *real* music." That's a bunch of crap to me. You offend current music by saying that, because current music is real music, too. It's not supposed to be the same; it's supposed to evolve. Everybody thinks, "Well, it's just a fad; it's not going to stick." I'm sure that's the way jazz people felt when rock happened, and the way rock 'n' roll people felt when hip hop happened, or the way R&B people felt when hip hop happened. But all of a sudden—listen, it's here and you've got to deal with it.

Our music now is very hip hop-influenced, because *music* is hip hop-influenced. Whether it's a sample or using a turntable, that is part of the way music sounds today. And if you want to make music that sounds like today, then you need to utilize those elements. Otherwise, you can just make nostalgia records, I guess.

Speaking of new things, I understand you recently opened Flyte Tyme West in Los Angeles.

We are in the process of opening it. The Village in L.A. had a whole third floor that they basically were not using, and we set up temporary studios and offices there. We've been working there over the past year, and we'll probably be in there another six months.

Why build a new studio now when so many others are shutting down?

We've been doing a lot more film work, and we saw that it would be nice to have our own West Coast place, so we're now in the process—we've already bought the building—of building our studios.

We pretty much know where our work is coming from. So when we opened our very first studio, we built it so that it was a place that was more creatively based. There were rooms that we'd call vibe rooms, just

a place for people to get together and go over ideas and be able to put them on tape. But wherever you were in the building, you could record. We have a rehearsal studio, and you could have a big live setup and tie-line right into any of the rooms and record whatever you were rehearsing. It was important to have a place that was like home, because you want to get people relaxed and take the pressure off. That's hard to do in a commercial facility because there are so many people running around—unless it's designed so that there's different entrances and everything.

And the clock's ticking...

When we built our first Flyte Tyme studio, really, that was the motivation behind it. We were working with an artist named Cherelle in '82 or '83. It was her first record, and we didn't feel that we were getting a good product. We went back to Minneapolis where some friends had a studio in their basement, and instantly knocked off like four songs. We said, "You know what? This is the way we need to do it," because we're taking the pressure out of it, taking the clock-watching out of it, and basically creating an environment where you come in, take your shoes off—we're not smokers or drinkers so there's no smoking or drinking in the building—and it becomes like your home. But rather than trying to make a business out of it, it's really a place to facilitate us and our creativity and the creativity of the people we bring in.

The theory on Flyte Tyme West has been the same but a little more based in film music, television music and commercials, which we've been doing more of in the past couple of years. It allows us to have a place where, if we have a meeting to discuss music, we can go straight from the meeting to our studio, work an idea up and have them listen to it. It's easy to work with the music community from Minneapolis. It's a much less collaborative process in the sense that you're collaborating with the artist, but you really don't need a lot of the other components to be there. In the film business, you would like to have the director come by, or the music supervisor, as ideas are forming. In our case, we felt like there was a need to have a West Coast presence if we were serious about doing that. We can make records forever, but the opportunity to stretch out, do some different things and do film scores—we did our first film score this year for *The Fighting Temptations*, which was great and, of course, we did that at The Village—those kinds of opportunities are ones that we almost have to be on the West Coast to do. A lot of our current projects are being generated from there, but most of the

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projects we got the Grammy nomination for this year—Mya, Heather Headley—were done in Minneapolis.

What equipment will you have at Flyte Tyme West?

We're going to wait until the last minute to decide, because stuff is ever-evolving and ever-changing. Right now, we're running all Pro Tools|HD. We have three rooms [on The Village's third floor], but since we don't have a bunch of people sitting around doing nothing, we took a couple of the lounges and made pre-production rooms with drum machines. The Avila Brothers do some drum programming and songwriting for us. So we ended up with five rooms, which is what we have in Minnesota, which are pretty much running all the time.

Probably the biggest difference between what we've done in Minneapolis and what we'll do at Flyte Tyme West is just the studio size. We built [Flyte Tyme] 13 years ago to the standards of studios 13 years ago. Westlake [Audio] did our design, and it's very reminiscent of the way Westlake Studios in L.A. looked. Now you can build rooms a lot smaller because you're not moving in multiple machines, outboard gear and that kind of thing. You can depend pretty much on plug-ins, although we do tend to insert some analog stuff into what we do. We have small racks of Neve and Focusrite stuff. What we do in Minneapolis in probably 20,000 square feet of space we can do in L.A. in about half that.

Will you keep Flyte Tyme Minneapolis open?

As of right now, yes. We kind of go back and forth and rack up a lot of frequent-flyer miles. Northwest Airlines loves us! But Steve [Hodge, engineer at Flyte Tyme Minneapolis] has a setup there that he really loves. He does a lot of outside mixing for people, too, and they like going to the room in Minneapolis. I like mixing there, and right now I still like creating in Minneapolis. Some of our L.A.-based guys like going there, too. There's something about it that organically still feels right. Thank goodness, with the studio economy, both places are doing very well. Over the summer, we were probably busier than we've ever been that I can remember in our careers. One project might be in a pre-production stage, one might be tracking, we might be doing vocals on another and mixing [another]. But during the summer, we probably ended up working on eight or nine projects at the same time, and very diverse.

How involved are you guys in the technical process of recording an album?

It varies. On some songs, we're very hands-on. Both Terry and I like to run our own



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Jimmy Jam and Terry Lewis accept their first Platinum record for Control. Pictured, l to r: A&M co-founder Jerry Moss, Lewis, Janet Jackson, Jam and A&M co-founder Herb Alpert

equipment when we do vocals. The engineers set up Pro Tools differently for us than they will for themselves. They'll set it up for me so that basically it's just a tape machine—I never even touch the keyboard or the mouse—I use Pro Control. I just put the tracks in Record, get everything I want and then step back and give it to the engineer. But we're involved in comping vocals; I can't leave that to somebody else.

We're finishing up with them and for the first time in a long time, Steve took the vocal. We've been working with New Edition for so long, he said, "I know what you want out of the vocal," so he went in and comped it and, for the most part, did a really good job. Some of the newer engineers that we're working with—Matt Marrin, who's doing a good job for us, and a guy named Ian Cross on our West Coast side—are getting more familiar with what we want, so we begin to trust them a little bit more for stuff.

During the past 30 years, what technical advancements have made your lives easier in the studio?

What Apple's done is incredible. It's funny. We walk into the studio and we look like an Apple commercial. Literally, everybody walks in with their G4 laptops, sits down, opens up iTunes, opens up iChat...

Obviously, [the Internet] has been bad in a sense because of piracy and those types of issues, but the same resource that can be used in the wrong way can be used in the right way, and we use it in the right way and it works very well for us. Also, things like two-way pagers, e-mail and things like that where you don't even have to get on a phone anymore, you can just text [message] somebody what you need. When we sit down at the studio, we open up our iChat and we're connected totally with the Flyte

Tyme in Minneapolis. They also have the iDisc, so when Steve gets done with a mix, he just posts it to my iDisc and I can download it. Now, when the record company says, "I need five CDs," I can tell them, "Just go on my iDisc and grab the song" and just do FTP files.

We did a project with Bryan Adams for a film called *Spirit*, and I still have not met Bryan Adams. He did it in L.A., we did our thing in Minneapolis, sent files over the Net and good old-fashioned ISDN lines, which work very well. We did it in four days, and it was a project we couldn't have done if we physically had to travel to be with each other. The technology totally allowed it to happen.

And the whole idea of direct disk recording Back when that first started, we got a Synclav. With the Synclavier, we had 16-track direct-to-disk recording. When digital recording started, when it was the battle between the Mitsubishi machine and the Sony, Steve Hodge said, "Don't get either machine. You already know there's going to be recording with no tape. You know that because you already have it in the Synclav, so why would you spend money on digital tape when you know that's just a temporary thing?" And for us, not really needing to have the latest and greatest whatever, we opted for Dolby SR on our analog machine, and then when RADAR came, and Pro Tools and Sonic Solutions, to me, all of that was sort of a revolution. I was shocked at how quickly things came along from the time we got Pro Tools to the point where the analog machines don't get turned on anymore. They just sit there now, and it's the weirdest thing to me. ■

Heather Johnson is a Mix editorial assistant.

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Jim Chapdelaine

Versatile Musician/Producer Has a Blast Behind the Glass

Making a living in the music industry today is a) easy! b) easy, but only if you know Paris Hilton, c) tougher than ever, or d) forget it. Many talented musicians have thrown in the towel and reclaimed their amateur status due to the depressed state of the recording and advertising industries.

Jim Chapdelaine isn't one of them. The multitalented guitarist/producer/engineer, who grew up in Connecticut and lives just down the road from Mark Twain's home in West Hartford, has just turned the corner on one of his busiest years.

Highlights for 2003 included producing Phoebe Snow's 2002 CD, *Natural Wonder*, mastering Clarence Clemons' *Temple of Soul: Live in Asbury Park* (with performances by Bruce Springsteen) and scoring *Energy*, a five-part PBS series featuring Ed Asner. His own band, Feathermerchants, recorded their new album for Rykodisc, with Chuck Leavell on keyboards. A meeting with Artemis Records to discuss his latest project, *Backroads for Tomorrow*, is scheduled. "Backroads for Tomorrow is a two-man group that I'd describe as Coldplay meets Nick Drake," Chapdelaine says. "They record basic tracks in a cabin in Maine and bring them here. I'm playing lap steel and mandolin on this record, and then we'll add some horns and keyboards."

Chapdelaine spent a few years at Berklee in the mid-'70s and then left to study privately with Pat Metheny. While deciding whether to return for his degree or go on the road, he received some bad news. "I got cancer and things looked bleak for a while. But I'm healthy and happy, a husband and the proud father of a 4-year-old girl."

After his recovery, Chap hit the road, playing with "everyone from Duff McKagan [Guns N' Roses] to Mike Love [the Beach Boys] to Big Al Anderson to Les Paul." By the early '80s, he was writing and producing jingles in the Hartford area. "I built a 16-track studio and started educating myself about microphones, preamps—the whole shooting match," he says.

In 2002, Chapdelaine built his latest studio, with the help of industry veteran Chris Huston. "Anyone who isn't familiar with his history should check out www.chrishuston.com," he says. "He grew up with John Lennon, engineered the first two Led Zeppelin records and did a great job for me!"

After selling his digital console last year, Chapdelaine now mixes in Pro Tools, where his path leads from the DAW to outboard gear (via inserts) and into a Dangerous Music 2Bus. Monitoring is done through the Dangerous Monitor. "Everyone addresses the front end," he says. "You need great mics, mic pre's and equalizers. I never stop shopping for this stuff. Fortunately, I have lots of guitar endorsements, so I'm able to stay current with Gibsons, for example, without busting the bank. Rick Turner builds

great instruments; he makes all of the weird stuff I love, including an electric mandocello and baritone 12-string.

"But people are less conscious of the back end. I go in and out of my system using a combination of Apogee Trac2s and 8000SEs, and I'm getting ready to beta test Apogee's latest converters. I listen on ADAM S3A monitors in stereo; I still haven't gotten much call for surround work. The Dangerous 2Bus lets me

re-access all my cool analog outboard gear: Manley SLAM!, Focusrite Blue 230, Distressors. I bus analog signals from the converters in subgroups.

"I create the subgroups—overheads, let's say—in Pro Tools. The 2Bus can be set up as 16 discrete mono channels or eight stereo pairs. If I want to process the overheads, I'll pick them up at the patchbay before they get to the 2Bus and then route them back into it. Other parts will pass directly into the 2Bus.

"I love plug-ins and have billions of them, but I can't imagine giving up my analog processors. Once I complete my stereo mix, I'll go outside once more before I reach my final media, usually an Alesis MasterLink, and hit it with a bit of compression from a Manley VariMu or the Manley Massive Passive. I have the entire Dangerous system: the 2Bus, the Monitor, a headphone amp, a digital/analog metering device and a little 8-channel line mixer."

He may have stayed in Connecticut and taken the road less traveled, but the word on Chapdelaine has gotten around. Sterling Sound's Greg Calbi has been watching him for some time. "Jim's the quintessential post-modern industry figure: a recording engineer, producer, musician, technician and computer wizard," Calbi says. "You have to be a generalist in this economy, and he has all the elements to be self-contained. Jim has one of the best creative attitudes I've ever come across."

Given all of his talents, which part of music-making gives Chapdelaine the greatest pleasure? "I think producing, in the way I get to work. You surround a band with a sound. For me, that means playing my crazy instruments, thinking about what will make the artist and song shine and working the technology. What a blast!" ■



Gary Eskow is a contributing editor to Mix.

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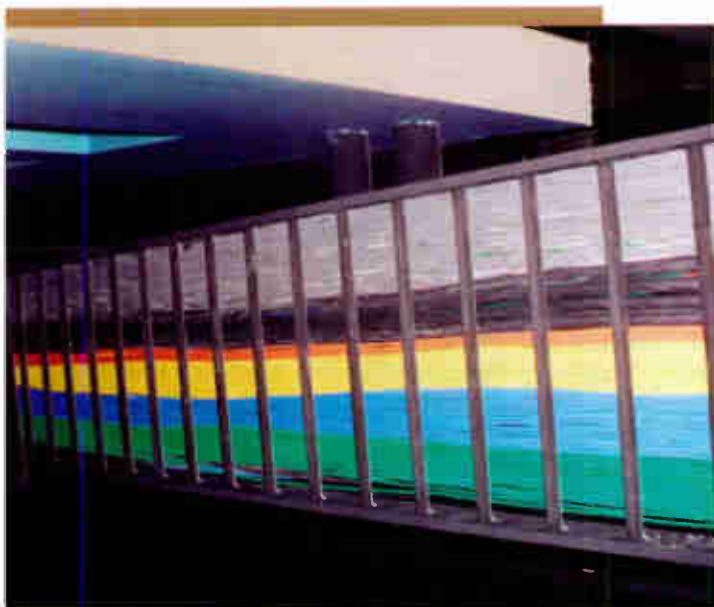
Digital television has enjoyed a long gestation period from its bold and brash introduction a decade ago. For a myriad reasons, the availability of HDTV was delayed and on-air launch dates slipped forward. But consumer demand for receivers created by cornerstone productions such as *The Tonight Show With Jay Leno*, *The Grammy Awards* and *The West Wing* is rapidly accelerating. And with a dramatically increased level of sports programming, hi-def is here to stay. Though it took a while to reach the public, broadcasters have not been idle. The key to any successful technical installation is a properly conceived and executed technical infrastructure.

Infrastructure is one of those oft-used expressions that can be hard to define, but for our purposes, in the media production industry, let's say it is the means by which data is transferred and distributed throughout a facility. The advent of digital technology has certainly broadened any manageable definition. Now, instead of rel-

atively conventional balanced/unbalanced audio cables to transfer analog signals from place to place, we've added the complexity of real-time or on-demand streaming of digitized audio and video data. Data rates require more than just twisted-pair copper, so co-ax, fiber and other means of signal distribution are becoming commonplace. Also, with transfer of audio and video via Ethernet-based networked topologies, CAT5/6 and related nomenclatures are becoming more and more a part of our everyday vocabulary.

Furthermore, with the broadcast industry poised to offer—if not already embracing—standard high-definition TV production, distribution and transmission, there is a pressing need to acquire, process and transfer ever-increasing amounts of high-bandwidth data streams. Fortunately, there now exists a new breed of systems integrators for whom this lexicography is familiar jargon—companies that specialize in analyzing the needs of a broadcast or post facility and turning it into a practical reality, one that will remain viable for the plant's projected life.

According to Scott Griffin, VP of engineering at The System Group (New Jersey), "A primary question to be put to the client is, 'Green field or facility upgrade?' It is an important difference and one that affects the reality of data infrastructures, because retaining legacy equipment and standards will [impact] what new platforms can be considered. It's also critical to know what the broadcast facility's programming needs will be, and whether those needs change dramatically during a work day. It therefore comes down to an interdependence between media flow and work flow. We identify areas where file transfers between servers and high-capacity storage systems can take the place of real-time streams, and we analyze areas of the operation where file retrieval and manipulation models can replace real-time stream processing and mixing. If the station will be handling a combination of live production and repackaged materials from a server or similar delivery system, then we need to devise an infrastructure that can handle the capture, manipulation and delivery of the appropriate range of material.



Building to Broadcast

"In essence, we determine whether the transfer system is file-based—accessing a file and then delivering it to where it might be needed—or stream-based, where we need to deliver digital audio and video continuously," Griffin adds. "If a file-based system is appropriate for the task, what are the computer platforms being used, and what are the file formats? We then select products that offer the best user interface and functionality, and also make a determination about whether a targeted manufacturer is going to be around to support the products for a reasonable amount of time!"

The system integrator will analyze media requirements more closely to accurately determine delivery bandwidth. "A facility planning, let's say, 30 user seats with bandwidth-intensive processing sessions dependent upon a central server will narrow the vendor choices because of the required bandwidth across the network," he explains. "We're always looking for cost-effective solutions to our clients' objectives, but we are relatively conservative in our product selection. If we haven't observed first-hand that a given platform has addressed a given requirement in a working environment, then we'll visit facilities where a vendor or user group has successfully addressed that feature to see what is available. We develop a series of signal flow models that determine the high-level requirements—how to get the media from component 'A' to 'B,' and so on—as well as individual operations' work flows. Each edit suite, for example, will have its own storage and delivery requirements, as well as inflow/delivery of media based on the desired operator toolset. Finally, within each operations suite, we'll work with our client to illustrate the operations work space and identify the support equipment that will be required."



The Sony Oxford console at Staples Center, integrated by A. F. Associates

Recent TSG projects include a new multi-media facility for PBS affiliate WVIZ-TV, Cleveland; upgrades for MTV Networks (including a new backup to Disaster Recovery Master Control Systems); station consolidation for Tribune-owned WXIN and WTTV, Indianapolis; Morgan Stanley's new East Coast-headquartered broadcast facility in Purchase, N.Y.; a new Broadcast Operations Center for CNBC's financial news operation in Englewood, N.J.; and Fox News' street-side studio in midtown Manhattan.

Once the basic infrastructure is determined, Griffin says, "We can develop the operator management scheme and move on to the execution phase. Basically, we now become general contractors for the project and work closely with the client's production team and engineering team, plus their architect and general contractor. The key to any successful design is project planning—the sequencing and implementation of each phase."

In terms of networking, Griffin offers that the primary consideration is flexibility vs. broadcast integrity. "If it is an on-air facility with little post-production, we need to emphasize system reliability, which we balance against routing flexibility. Consider a system based on MADI routing, which might allow any mic to be accessed in any room in the complex. What happens if one of the fibers gets pinched? Or you might lose a feed to all the rooms if one clock source fails. In this case, we need one or more layers of system redundancy. We look at redundant power supplies, redundant node controllers [PC network interface cards], redundant disc controllers and multiple paths we can use to route signals. But if the design calls for a series of production environments, we can provide a means of swapping out vital elements. We do not need a high level of redundancy."

AUDIO DISTRIBUTION

Of critical importance to any infrastructure scheme is how to get signals from one location to another, either in real time via routers and dedicated highways, or by utilizing a real-time or packet-switched network topology. For dedicated highways, the choice is often between conventional balanced/unbalanced copper cabling and co-ax or fiber interconnects. "Copper is often a very cost-effective, non-complex way of taking care of the situation," Griffin offers. "For networking, we typically have to combine GigE Ethernet and FireWire interconnect schemes at the desktop, with Fibre Channel,

ATM and/or SCSI for server and data-storage platforms, especially when linear, uncompressed files are being moved around. The determining factor is Quality of Service and how the use patterns will stress the systems. From discussions with the broadcast client, we develop a statistical model that is based on 30 to 50-percent utilization and make sure that we can deliver the required bandwidths without interruption. But it's often an educated guess: While we can anticipate the delivery needs, in real-world applications, we cannot always model the entire system for worst-case maximum capacity usage due to financial realities."

Recent TSG audio facility designs have incorporated MADI, TDIF, Dolby E and Dolby Digital, and audio over IP platforms; tape and disk-based storage elements also have been included. "The line between IT and audio transport and storage has been blurry for a long time," Griffin says, "but some of the newer products available today present interesting applications and integration challenges."

At Seattle-based Doyle Technology Consultants, the firm's director of engineering, John Hartwell, stresses the importance of determining the type of delivery system being considered by the facility owners. "We need to analyze the number of channels, system bandwidths, distances and wiring topologies," he says. "If the final audio product is stereo audio, we can develop an AES3-format infrastructure. With multiple sources and multitrack wiring, we look at both AES3- and MADI-based infrastructures using fiber and copper for nonstreaming systems. But multichannel audio is becoming the delivery format for broadcasters—even more so in Europe—and so we need to accommodate 5.1-channel capacities. We prefer to carry audio as discrete channels, but if bandwidth is restricted, we will consider data compression of some sort. Dolby E seems to have a lot of the hooks we require and reduces the bandwidth by a factor of four. Up to eight audio channels can be carried over a conventional 2-channel AES3-format highway and/or recorded onto a conventional digital audio track that handles AES signals."

And 5.1-channel surround sound requires another infrastructure scheme for the companion metadata. "Because a broadcaster needs to come out of the PCM world and enter the Dolby Digital or AC3-encoded world for transmission," Hartwell stresses, "we have to consider what happens to the important metadata during the translation process." Doyle Technology Consultants, in partnership with Wohler Technology, is developing a VMC/Visual Monitor and

Control System for this critical stage. "There is a lot of information carried within the Dolby E bitstream that needs to be passed on to the consumer to control; for example, dialog levels in set-top AC3 decoders," Hartwell continues. "Also, the Dolby E bitstream might be carrying multiple-language versions of the same program material. Within master control, the operator needs to be able to extract the appropriate audio and add other elements. And we are also looking at asset management using metadata. While many of these applications might not be in use currently, we need to consider future developments."

For networking of digitized audio and video, Hartwell considers, "We use what works! Full-bandwidth digital audio belongs on AES and MADI connections using copper or fiber via a nonswitched network. Data-compressed audio can be carried over a network connection, although we don't normally recommend such schemes for real-time delivery. Ethernet-based networks using conventional PCs and interface cards are okay for connecting workstations via a public network, but TCP/IP can be very slow and liable to interruptions. We can deliver files that are between five and 10-times real time using networks, but we have had few requests from broadcasters for real-time delivery. For our post facility clients, including Lucasfilm and Pixar, we specify real-time transfer over an appropriate network, because we can control bandwidth and access to highways. A dedicated DS3 network will carry 45 megabits a second."

SYNCHRONOUS, EMBEDDED AUDIO WITHIN SDI VIDEO

A. F. Associates is a leading systems integrator that has been involved in a number of design and construction projects, including American Production Services, NBC Burbank's *The Tonight Show With Jay Leno* (one of the first live network shows to be broadcast regularly in high-definition format), the Staples Center in Los Angeles, Madison Square Garden, National Mobile Television, Action Sports and Entertainment Network, Comcast Sports Network and a mobile truck for Core Digital. The firm is also handling design and fabrication of modular studio systems that will be packed into containers and shipped to Greece for NBC's coverage of the upcoming Summer Olympic Games. Director of technology Lowell Moulton emphasizes the use of synchronously embedded audio within SDI video bitstreams as a way of reducing the complexity of a facility's infrastructure, as well as saving weight, for example, in mo-

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Building to Broadcast

bile trucks. "Such vehicles have an all-up weight limit of 80,000 pounds," Moulton confides. "Anything that can save weight—including, for example, disk-based recorders and audio/video over Ethernet—can be a major design factor."

NMT's HD2 hi-def truck required a number of I/O cables for each video machine. "Most video and audio signals were on single unidirectional cables," Moulton recalls, "which means that many connections must be run to provide inputs, outputs and control signals to each device. Signal formats such as embedded audio in SDI interfaces, MADI and SMPTE 324M [a 12-channel AES-like protocol over co-ax] help reduce cable count by putting many audio channels on a single cable. In the future, the quantity, weight, volume and cost of cable in these trucks may be substantially reduced when all video, audio and control signals are multiplexed onto a single, high-bandwidth bi-directional cable such as CAT5e UTP and optical fiber. Weight, volume and cost are critical factors to truck operators."

For the NBC 2004 Athens Olympics, the network had specified two Calrec Alpha 100 and two Zeta 100 digital consoles. "We are using AES3 digital audio interconnects," Moulton explains, "much of which is embedded into SDI video. And NBC is well-positioned to transition their Olympics productions from SDTV to HDTV. The 2004 Athens Olympics is wired with cable and connectors that will pass SMPTE 292M HD-SDI signals. We have measured production samples of each manufacturer's coaxial cable, BNC connectors and patch circuits using a 3-gigahertz Hewlett-Packard network analyzer. All components we have specified will provide excellent group delay across a wide range of frequencies."

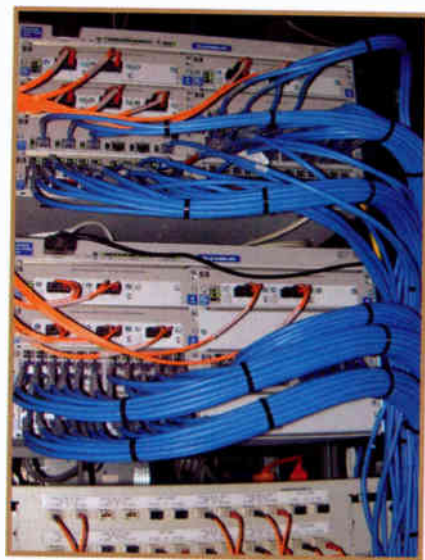
"The Sony DVS 8000 standard-definition video production switchers [specified for the Olympics] can be easily converted to MVS 8000 HD models just by changing out [various component boards]; all wiring and control panels remain the same. By 2008, NBC coverage of the Beijing Summer Olympics should be done completely in HDTV."

RELIABLE DATA NETWORKS FOR DIGITIZED AUDIO AND VIDEO

Regarding the use of data networks to deliver digitized audio and video, Moulton stresses that such topologies can be reliable, so long as several major design considera-

tions are observed. "If we need to deliver guaranteed bandwidth for audio over Ethernet, then we use a packet-switching scheme, such as CobraNet. CAT5 cabling is a lot cheaper than multichannel audio and, because of its operational flexibility and use of off-the-shelf components, can be very versatile. We are also looking at AES47, which involves the delivery of multiple channels of AES-format digital audio using an ATM [Asynchronous Transfer Mode] network over single CAT5 cabling. [The format is being used experimentally in the UK by the BBC to connect between Radio 4 studios and to various transmitters.] Unlike IP-based connections, ATM offers extremely low latency [around 1 ms], supports mixed sample rates and bit depths simultaneously, and offers a routing and distribution structure that can be set up as one-to-one or one-to-many." For example, the BBC uses 155Mbit/sec ATM highways to carry up to 40 channels of AES3-format 48kHz/24-bit signals in each direction. Two unused pairs on each CAT5 cable carry a "backup" AES3 stereo signal, plus a dedicated multirate sync reference.

"But we are convinced that Quality of Service must be provided for broadcast-quality audio and video over IP networks," Moulton stresses. "Some of the QoS techniques we're exploring with network vendors include over-provisioning private networks, priority queuing using DiffServ and IntServ [protocols], forward error correction on low-latency paths and Multi-Protocol Label Switching for traffic engineering."



A typical broadcast network infrastructure with redundant giga-bit fiber links interconnecting access switches. This Systems Group installation at WJLA-TV in Washington, D.C., was built with managed switches segregated into virtual LANs supporting 10 independent networks.

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Based in Virginia, HA Design Group recently completed a new facility for al Hurra, the government-run, Arab-language satellite television channel for the Iraqi people (formerly known as MTN or Middle East Television Network). The new channel was launched earlier this year to compete with al Jazeera and other Arab television networks and, according to a government statement, "will bring balanced reporting on international issues to an area of the world where one-sided coverage is the norm." The production and broadcast complex currently houses an on-air studio and control room, 10 edit suites and a number of news-preparation workstations.

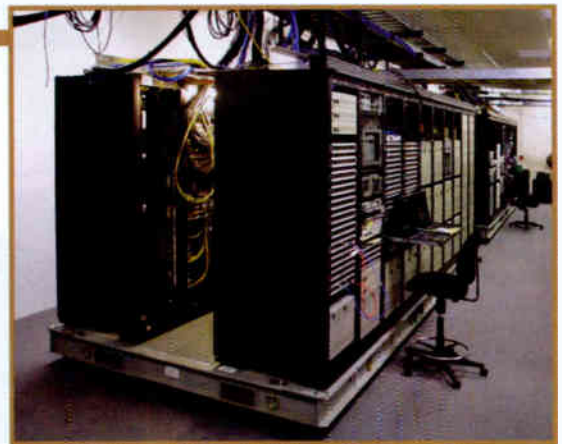
HA Design Group president Willy Halla was formerly with TGS Inc., a company with a solid track record in DTV and HDTV conversions. "For the MTN [al Hurra] project, we had looked at a way of using a shared-resource, software-based plant. As far as the audio consoles were concerned, there were a lot of potential vendors. In the end, MTN chose Lawo AG. That decision gave MTN [assignable digital] audio boards with an extreme amount of power and flexibility—flexibility was key—and yet they are very easy to use. In fact, the Lawo sys-

tem is being introduced to the U.S. market at MTN, which is located in Virginia.

"A MAD I distribution system is used for the digital audio paths while an Ethernet system handles control of source routing. When the Lawo software is completed, it will be able to assign any source on any audio board in the plant to a specific fader on the target control surface.

"The use of MAD I has cut down greatly on the amount of cabling needed," Halla says, "thereby reducing installation cost. Also, instead of using standard metering that would have cost between \$4,000 and \$5,000 on the larger audio console, we used a PC/LCD screen combination that costs \$1,500, yet provides greater functionality. The screens can also be set to display the dynamics section of each channel.

"Thirdly, the [al Hurra] plant is server-centric," Halla stresses. "Everything goes to the server. We have over 100 workstations on the network that are all capable of video and au-



One of many shipping containers, called "Racks in a Box (RIBs)," that was prewired and tested in San Jose, Calif., by A. F. Associates before being shipped to Salt Lake City for the Winter Olympics. Similar RIBs will be sent to Athens for the 2004 Summer Games.

dio editing, accessing newswires, etc., plus standard office modules. We are distributing the audio news channels via streaming audio on the facility's Intranet, providing access to these via the desktop with the added ability to record a piece at will." ■

Mel Lambert heads up Media&Marketing, a full-service consulting service for pro audio firms and facilities. Visit him at www.mel-lambert.com.

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World Wrestling Entertainment

The Reigning Champs of Crunch-Time Composing

By David Weiss

Are they at the Triple Threat Match? Maybe WrestleMania? If you're in search of the ultimate World Wrestling Entertainment (WWE) tag team, the best place to find them isn't in the ring, but in a studio in Stamford, Conn. That's where Jim Johnston, WWE director of music, and Chris Argento, director of audio post-production, create a powerfully large catalog of sound, using an efficient workflow to battle a positively brutal schedule.

Responsible for providing the music and sound effects for approximately nine original hours of programming and eight to 10 promos a week; three hours of pay-per-view and a home-release DVD per month; video games; and a new full-length CD of complete songs called *W Originals*, this duo and their colleagues, including mixer Tim Roche and audio assistant Darryl Harvey, are a force to be reckoned with. Adding to the stress is the fact that their audio plays out to some of the most opinionated audiences anywhere.

"I'm writing music for an entity that people don't tend to be lukewarm on," notes Johnston. "They tend to really be fans, or they think this is either the most boring or insane thing in the world. Music is such a wonderful and vital thing that in so many ways makes our lives go. It's what makes TV go, and it makes our cars go—just take the CD player out and the driving experience becomes very different. It's pervasive in the WWE, because it's the storyline for all these characters."



Music director Jim Johnston, left, and engineer Chris Argento



The SSL 9000 J room, where Jim Johnston tracks original music before mixing on a Capricorn and passing them to Chris Argento for re-recording on any number of WWE weekly or monthly video productions.

Everyone in the WWE's TV production studios starts with the same directive: "Do good work and do it quickly!" Argento says with a laugh. "You get very immersed in what you do here, and the fact that we can turn out the volume of work that we do in a building where there's maybe 100 people is pretty fantastic. The whole building is like a big machine, a tremendous clock with everybody performing a function and moving along."

Getting immersed in the job is easy for Johnston, whose spacious and calming Russ Berger-designed facility is tailored specifically for his needs, and his needs alone. "Russ' goal was to make this place heaven for me, and he was successful," says Johnston. "I call this the 'ultimate project studio.' At its core, it's an absolute world-class studio with the most amazing equipment imaginable. The distinction is that other great studios—and I'm not taking anything away from them—are a place to record in that you rent. You come in with the people or instruments you'll use, and each time a different set of sounds is

coming through the door. Here, it's the best of both worlds, with my collection of amps, drums and every synth module imaginable—to have it all set up the way you like it is just a wonderful scenario."

The signals in Johnston's control room go through an SSL 9000 J console and MOTU Digital Performer 4.1, and are monitored via Dynaudio C-4 and AIR 5.1s and Genelec 1031As, among other speaker systems. His assortment of outboard gear is expansive and positively slamming, stocked with such units as a Focusrite ISA 430 and four Neve 1073 mic pre's; a Fairchild 670; four LA-2As and four Tube-Tech CL 1Bs for dynamics; two Pultec EQP-1S and DW Fearn VT-4 EQs; a Sony DRE-S777 sampling reverb; and microphones from Neumann, Earthworks, Blue and Royer, among others. Synths include a Korg Triton rack, Roland XV-5080 and two Synclavier 6400s. Meanwhile, his adjoining live room is a playground for instrument collectors, with a wide range of guitars, basses and keyboards, plus multiple recent and vintage amps, all miked up and ready to go at a moment's notice.

—CONTINUED ON PAGE 76

Paul Hartwig—He's Gotta Be in Pictures

By David John Farinella

Composer Paul Hartwig has had a good run. He's amassed a fairly accomplished television spot credit list for companies such as Budweiser, Coca-Cola and Best Buy; he composed 15 primary themes for the Emmy Award-winning short film *Grandfather's Birthday*; and scored the Sundance Film Festival Award-winning *Bearwalker*.

Yet, Hartwig is not quite satisfied. Rather than resting on his laurels, or swimming along as the big fish in a small pond, the Minneapolis-based composer is looking forward to working in the feature film world and has opened a Santa Monica, Calif., studio to facilitate the jump. "That's where all the film work is, and really that's where all the TV series are," he says. "Everything is produced out of L.A. and it's not going away. It's kind of like living in Iowa and wanting to be a downhill

skier: There's about one hill and it's four feet high. You can't be far away, regardless of what anyone says. If your director calls and says, 'I want to talk to you about this cue. I want a meeting on the studio lot tomorrow at one,' you've got to be there. There's just no substitute to being there."

To that end, Hartwig is outfitting his facility as a mirror image to the Minneapolis studio where his steady climb from spots to series work to documentaries to features began after Limited Warranty, the band he played with in the '80s, retired. His first gig as a composer was for an image piece for the University



of Minnesota. Soon thereafter, he wrote spot music for Minnesota's sports teams—Timberwolves, Twins and Vikings—and for such Minneapolis-based companies as Best Buy, 3M and Target. "There are a lot of those big companies based here, so I got in on the side road doing spot work," he explains.

—CONTINUED ON PAGE 76

Serge Audio—From Theater to TV

By Gary Eskow

Peter the Great, if you believe in the hereafter, is out there somewhere smiling down on Serge Ossorguine. A first-generation American and the owner of Serge Audio, a Manhattan-based post facility he opened several years ago, Ossorguine's lineage traces directly back to the Russian emperor.

Early in the last century, Ossorguine's grandfather was a wealthy landowner and the governor of a Russian province. During the 1917 Revolution, his family was dispossessed of property, and his parents later emigrated to the United States, settling in the riverside village of Nyack, N.Y.

The home of artists, composers and writers for many years (William Styron wrote *Sophie's Choice* while living there), Nyack was Ossorguine's home throughout high school, where he played guitar and ice hockey before graduating in 1975. After a

few semesters at the local community college, he attended the University of Wisconsin, where he majored in theater and took a minor in electronic music, which proved instrumental in his career as a theatrical sound designer and later as a sound designer for commercial post applications.

"I studied electronic music with Dave Harris and met Butch Vig at Wisconsin," says Ossorguine. "I was a pretty good musician, but I really loved sound design," he says. "After college, I went through a period where I felt that designing sound for theater was the right place to be."

—CONTINUED ON PAGE 80



Ossorguine at the Fairlight Dream Station

A Day in the Life of a Scoring Stage

DMT Rentals Supplies Warner Bros. Orchestral Date

By Maureen Droney

Multiple formats, mountains of preamps and converters, miles of cable, a 96-input console and a 100-piece orchestra: These days, recording an orchestral score for a major motion picture often requires an infinitely complicated setup—and a very skilled crew. *Mix* visited the Clint Eastwood Stage on the Warner Bros. lot in Burbank, Calif., one morning to observe the day-long setup required to record the score by veteran composer Jerry Goldsmith for the animated feature *Looney Tunes: Back in Action*. Mixer Bruce Botnick headed up the session, with a team that included, from Warner Bros., Greg Dennen, recordist; Ryan Robinson and Peter Germanson, scoring technical support; Rich Wheeler and Barry Fawcett, floor operations; and Jamie Olvera, client services. Also on the stage were Pro Tools operators Thomas Graham and Bob Bayless, and the team from DMT rentals: Doug Botnick, Brad Cobb and Eric Cowden.

A Pro Tools rig, manned by “chief science officer” Nick Vidar, controlled playback of prerecorded tracks from Goldsmith’s GigaStudio and various synthesizers. Recording for the session was to two DMT Pro Tools|HD systems. Both Goldsmith and Botnick prefer to get their mixes live: The first Pro Tools rig recorded the 11 channels of live film mixes at 48 kHz/24-bit using dB



PHOTO: ELIZABETH ANNAS

Technologies converters. The second DMT Super Pro Tools for the main multitrack format was configured to record Botnick’s Neumann M 150 overall mics on its first eight tracks at 192 kHz/24-bit, with the rest of the tracks recording at 96 kHz/24-bit. Tracks 1 through 8 used outboard Pacific Microsonics AD/DA converters, and tracks 9 through 48 used Genex GXA8 A/D and dB Technologies DAB24 D/A converters.

Recording as safety backups were a Genex 8500 MO deck in PCM mode to capture the 5.1 mix, plus a 48-channel iZ Technology RADAR system. Additionally, the session was recorded in 1-bit DSD mode for a stereo SACD that is for an album version of the soundtrack through a pair of EMM Labs Meitner Design DAC8 converters to Botnick’s DSD 8500, which also recorded for full surround and 44.1 CD formats. ■

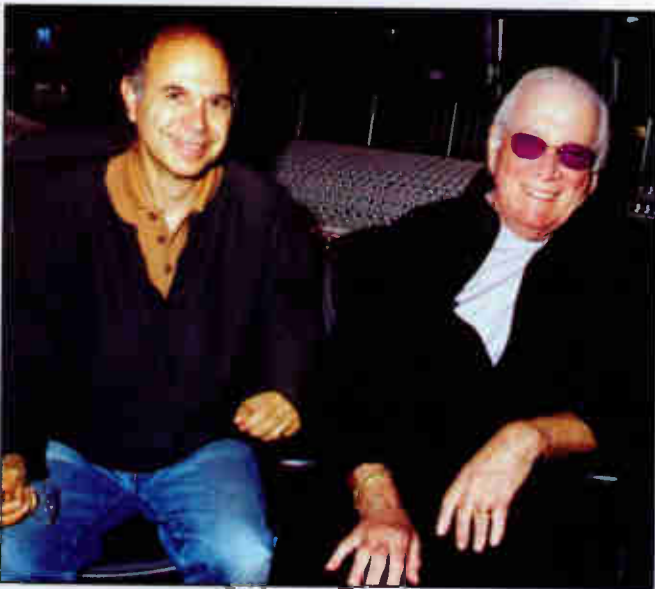


PHOTO: ELIZABETH ANNAS

Engineer Bruce Botnick (left) and composer Jerry Goldsmith



PHOTO: MAUREEN DRONEY

The recordist: Greg Dennen, after patching in converters, EQ, setting up all of the routing and aligning the record machines, operates, simultaneously, the film Genex, the RADAR and Botnick’s DSD system.

PHOTOS THIS PAGE: MAUREEN DRONEY



Setting up the mains: Botnick's Quested monitoring system included LCR speakers set roughly in place, tested with pink noise and then fine-tuned with a tape measure and a LaserMark LaserCross. Subwoofer placement is determined by a combination of SPL measurement, Botnick's ears and room logistics. "The best place is near the door," says Botnick with a laugh, "but then someone might trip over it!"



From the vault: Botnick's pampered Neumann M50 microphones



Setting up the stage: Out on the stage, working from Bruce Botnick's call sheets, engineer Rich Wheeler is in charge of mic setup, including Botnick's two racks of preamps, which include Tube-Tec, Steve Haselton/Mastering Lab, Groove Tubes Vipre, Martinsound, Avalon and TC Electronic. During recording, Wheeler's primary task is to man the cue console with its multiple mixes and all-important click.



From left, DMT's Doug Botnick with recordist Greg Dennen and synthesist Nick Vidar.

The rental package from DMT:

- 1 DMT Super Pro Tools|HD 192/96kHz 48-channel recording system: Pro Tools|HD3 64-channel DAW with Rosendahl Nanosync clock generator
- 8 channels Pacific Micrasonics Model 192kHz processors
- 40 channels Genex GXA8 96kHz A/D converters
- 40 channels dB Technologies 96kHz D/A converters
- 48 channels iZ Technology RADAR
- Genex GX8500 192kHz optical disk recorder
- Genex GXR-48 remote control
- Pro Tools|HD with Rosendahl Nanosync clock generator connected to 6 dB Technologies AD122 24-bit A/D converters, 6 dB Technologies DA924 24-bit D/A converters
- 6 Neve 1081 equalizer channel modules
- TC Electronic System 6000 digital effects processor
- Sony DRE-S777 digital sampling reverb
- Doremi V1 digital video recorder
- Sony SD700C AIT-3 MM tape drive

WWE

FROM PAGE 72

When Johnston gets an assignment—often on a Monday morning from a producer on the road needing a new theme in a few hours—he's ready to take it on completely by himself. He works happily in solitude without co-writers or an engineer, and plays almost every instrument. "The studio was designed according to my incredible level of impatience," he explains. "The key



WWE Productions' live room serves as an instrument lover's playground.

is easy accessibility—to jump from a keyboard scenario to a complete live setup, or from recording on hard disk to 24-track tape. It's a wonderful luxury to work in a place where everything is exactly the way you want it and doesn't break the creative flow."

The seeds for Johnston's singular method of working were sown at a tiny recording lab in college, where he learned how to create complete songs by bouncing tracks first on a 2-track and then on a 4-track. "That teaches you to compose ideas that are concise and get you to where you're going without 7,000 tracks," he says. "For me, 48 tracks is a big project."

Because Johnston has the creative process down to a science, when a rush order for a 30-second entrance theme comes in, he can constantly come up with new ideas in styles ranging from rock, urban and hip hop to opera. "The most frequent needs are themes for the WWE superstars themselves," says Johnston. "A standard scenario is we get a call from our executive producer: 'We've got a new guy coming,' or 'He's breaking out of a tag team and he needs music.' It's like scoring for a movie: Is he a good guy or a bad guy? Is he light and svelte and quick-moving, which dictates a fast tempo, or is he a big plodding kind of a guy, in which case you need a big, heavy, the-wrath-of-God-is-coming-upon-us sound?"

"At the end of the day, I think of myself as a scoring composer because it's my responsibility to make sure the audience

feels the right emotion when any one particular character comes up," Johnston continues. "So it's, 'Here comes Steve Austin! What's he going to do this time?' Or with Rey Mysterio, you want his Mexican background to come through—it's part of his character. We did a song where he literally did a rap: It's half-Spanish, half-English, with a Mexican infusion into the beat."

The tricky part of composing and performing everything on his own is that Johnston must take care not to repeat himself. "I feel a real sense of responsibility to make sure that each of our superstars has a unique-sounding piece of music," he says. "For the audience, it's name-that-song in one note. I want them to hear the first bar of music and know and feel exactly who's coming out that door and immediately be in the mood of that person. One of the greatest challenges I have is trying to make things sound different. A lot of times, I'll try different amps and different combinations of things, just to get away from what everybody's expecting."

Not surprisingly, he expects each piece in the signal path to make a solid contribution to the song. "If I'm going to put something in my recording chain, I'm choosing it for a sound," Johnston states. "I look at it the way I choose a guitar: If I want something bright, I'll reach for a Rickenbacker or a Telecaster; for a crunchy sound, I'll use the Les Paul. If I want to EQ something, I want a device, particularly tube stuff, that's capable of altering the sound. It's like an old stereo set: When you turn up the bass, it gets bassy. That's also why I'm not a big fan of plug-ins, because they tend to change the sound but flatten it out with a very 2-D quality."

Johnston's style starts from the philosophy that if it sounds good to you, it will sound good to other people. "A strong sense of rhythm is really important to me," he says of his themes. "If the basic groove is not there, it doesn't matter how much you put on top of it, it's going nowhere. Most of my rhythms, especially my rock stuff, have a level of funk to them."

Once the music is recorded, Johnston will mix in his Neve Capricorn-equipped Studio B. Then he passes it to Argento, who works with the music, sound effects and shouting VO's in his surround post suite, upgraded by Pro Audio Design with a seven-speaker system from Dynaudio Acoustics. Control flows through Airsoft Softwair and a Euphonix System 5 console. "We're a little bit sport, but we're heavily post-produced," Argento says. "Our packages are more akin to film trailers,

with drama and great graphics packages. I find that I bring all of my skills to bear with one show."

For the fierce audio competitors shaping the WWE's sound, the thrill of victory comes from generating one great idea after another. "We've been Number 2 on the *Billboard* charts, Number 3 twice, and have done about 700 themes to date," Johnston points out. "I love writing music—I love everything about it. I'll hear a completed thing—it's just *there*—and I can't wait to get to the studio and make it come out of the speakers so that everybody else will hear it. It still captivates me in the same way as the first time I ever recorded something into a tape recorder and played it back. It's magic." ■

Hartwig

FROM PAGE 73

Hartwig's share of television work includes a current MGM TV series, and shows for The Learning Channel (*Home Savvy*) and The Travel Channel (*Passport to Design*). The cues he writes for the MGM series, he explains, are very action-flavored. "It's analog synth sounds with grinding drums, like the Dust Brothers or the Chemical Brothers," he says. "It's something that has a little more grit and grime to it, but it's got to fit the picture, so it's not going 80 miles per hour when the picture is going 20. There has to be a connection between the picture and the music. It's more edgy, I think, than your Hallmark special."

He also composed the score for *Poles Apart*, a documentary about the 2000 women's expedition to Antarctica led by Minnesota explorer Ann Bancroft, and a handful of shorts including *New Boy*, *Private Eyes* and *Plasticity: 1.7 Number*.

Even as he's looking forward to moving into long-form, Hartwig has fond memories of this early spot and television work. "I remember cranking out spots for Best Buy back in the days when we'd do three in a weekend," he recalls. "It was insane. You would just kick 'em out as fast as you could, [and] that kind of led into learning how to write really fast and grabbing grooves and bass lines. I use Logic and an EXS sampler and I have racks of gear, so I learned how to access sounds fast. That really helped me in doing TV music because the deadlines are so short."

In addition to helping him learn how to use equipment, those sessions helped him slip easily between genres. "It enabled me to, when I would sit down to write a cue for a film or something else, switch between

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classical or jazz or hip hop. I could change styles pretty quickly and easily. That took a long time to learn without getting knocked down and getting bogged down with, 'Okay, what kind of bass line do I need?' I think the biggest thing I learned was to write and then produce it. A lot of people get stuck with a bass sound and spend half a day on a bass sound and then forget the idea that they were trying to write."

During those dates, he also learned that it was easier to write the theme last. "I do that because I get to know the project more, and the theme is supposed to give the feeling to the whole piece," he reports. "If you write a chase scene, I don't know that you're going to put in the thematic line."

While he learned to write faster, that didn't mean things came easily, he admits with a laugh. "I was doing a TV campaign for United Way for Xcel Energy, and—my client will kill me for saying this—it was 10 minutes before the vocal session and I still hadn't written the lyrics. I was freaking out wondering how I was going to do it and then it just kind of came to me. I had a general understanding and a bunch of lines and words, but five minutes before, it just hit."

Along the way, technology has assisted Hartwig. He's moved up from a Commodore 64, which he used for the first University of Minnesota image piece, to such stalwarts as Emagic Logic Audio and Digidesign Pro Tools MIXPlus. While he has a Yamaha C3 grand piano at home for classical music cues, he mainly relies on keyboards and samplers such as Roland V-Synth, Roland VX 5050, Roland Super JV, a Proteus 2000, Waldorf Micro Q, Morpheus Z-Plane, E-mu EIV and Korg M3R, among others.

Studio A in Minneapolis is run through a Yamaha 02R console and an Emagic Logic Control. The Pro Tools MIXPlus system—an upgrade to HD is on the horizon—is stocked with a hearty assortment of plug-ins running the gamut from Waves to Bomb Factory to IK Multimedia AmpliTube.

Inside of Logic, Hartwig relies on a bevy of instruments including Emagic's ES2 and EXS 24, Native Instruments' Vokator and the Virus Indigo plug-in. "I used to have Sample Cell, but the EXS is just fabulous for being able to grab anything I need and have it sound great in Logic," he explains. A wide variety of sample libraries from the Vienna String Library to a Hans Zimmer nylon guitar are stored in six 120-gig FireWire hard drives. "If I have a Hans Zimmer-sampled nylon guitar and I can play it and then give it to a guitar player, that's so much easier than bringing in a guitar player and singing it and having them figure it out.

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"I write on piano, score it out and then assign instruments," he continues. "Then I bring in session players, depending on budget, to play it. A lot of times, I had to just bring in one or two players and just get it out as quick as I could because the deadlines are so short."

Although feature deadlines aren't much better, Hartwig is looking forward to expanding his musical base. "I love working with orchestral arrangements and having the diversity of doing an orchestral piece and then turning around and doing a grinding piece or a chase scene that is very tonal, and then do another piece that is very simple with piano and yet have that same dramatic feel. I think spot work is fabulous, but it's fun to stretch and do longer work," he reports. "I think that's my big motivator right now." ■

Serge Audio

FROM PAGE 73

In the early 1980s, it was one of the only places where consistent sound design work could be found in New York. Eventually, Ossorguine ended up at the Yale Repertory Theater working as an interpreter for a Russian director who was hired to direct a production there. In 1981, he applied to the technical design and production division of Yale and entered a three-year post-graduate program in sound.

The lure of the theater, coupled with that of California, led Ossorguine to head west and become the sound designer to the well-regarded regional theater company, South Coast Repertory. Eventually, he returned to New York, where he mixed live theater and created sound design on Broadway.

Some of Ossorguine's fondest theater memories come from working on *80 Days*, a musical based on *Around the World In 80 Days* that featured songs written by Ray Davies. "That show was directed by Des Macanuff, who ended up directing *Tommy* on Broadway," Ossorguine recalls. "We had an orchestra of about 14 players and about the same number of wireless mics. I had to keep track of this mix and have my sampler ready, because there was one moment in the show set in a gale storm out in the middle of the Pacific Ocean and I had to trigger a thunder clap at just the right moment. One night, just as I was about to reach for the key, someone grabbed my arm and hit it instead of me...Ray!

"I always wished that I'd captured him one day during the rehearsal phase of that show," he continues. "With just a guitar, Ray played through all of his songs to the cast,

and it sounded great. But we didn't have a DAT machine on hand and the moment was gone." Not lost, however, is the relationship Ossorguine formed with the actress who played Mrs. Verne, who is currently his wife and the mother of their two children.

"After *80 Days*, I continued to get theater jobs, especially Off Broadway work," he adds. "Those jobs were very important to my later work in audio post because I got to experiment a lot and extend my sound palette." Making a successful business out of theatrical sound design work involves luck, timing and a business sense, says Ossorguine. "I went out on the road a lot and enjoyed the time I spent, but you can't make a long-term living out of that work. I was on tour with the first road company of *Into the Woods* and learned a lot about mixing. Michael Starobin's orchestrations were great, and I had to sweat to bring out all the nuances of them. We'd arrive in a new city with half-a-semi full of gear and I'd have 20 minutes to tune the room and learn the capabilities of the local crew I'd be working with. That part of the experience was great.

"But the way to make money in theatrical design work is to hook up with a show or shows that are going to last a while. The way the business works is that the sound designer gets a fee for creating all of the sound systems and recording field sounds if that's necessary. For a short period of time, you're communications central. When your work's done and the show's in production, you receive a weekly royalty payment. If you're lucky enough to have several shows running at the same time, you can make some good money."

By the early 1990s, Ossorguine started a family and was looking for stable work that would keep him at home in New York. "I began looking for television work and got a job at ABC posting soaps," he says. "I worked on *All My Children* and *One Life to Live*, and then *20/20*, *Prime Time Live* and a lot of sports programs."

In 1994, Ossorguine took a staff position at ABC and joined the Sound Effects Artists union. "That was really special because the union had been organized by Bob Prescott back in the days of *The Three Stooges*. Pictures show that Bob had a huge mustache and a great look. We even used some of the Foley props he created back in the days when soaps went out live."

Several years later, ABC was bought by Disney, which led to an opportunity to de-unionize the shop. "It's really interesting how technology became involved in the move to de-unionize," Ossorguine recalls. "Disney chose Pro Tools as their worksta-



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tion of choice because it was classified in legal terms as a computer add-on, not a piece of dedicated audio hardware like a Fairlight. This legal distinction meant that they were able to hire non-union operators rather than NABET [National Association of Broadcast Employees and Technicians] people. I think ABC would have preferred to purchase Fairlight systems, but they were constrained from doing so for this reason."

Ossorguine left ABC in 2000, though he continued to accept freelance assignments from time to time. "I knew I didn't have a future at ABC because of the de-unionization issue and for creative reasons. I was getting frustrated at what was required of me, which generally involved cutting and pasting library tracks. There was no commitment to creating an original sound for the network, and I felt that my strength was doing original work."

Before leaving ABC, Ossorguine was awarded a pair of Emmy Awards: one in the sound effects category for his work on *All My Children*, and a second for co-mixing an episode of *Prime Time Live*.

Although he amassed equipment of his own for years, Ossorguine made a major decision before opening Serge Audio to the public. Well-aware that Pro Tools is the workstation of choice for many audio post professionals, he went in another direction—purchasing a Fairlight Dream Station.

"I find that the Dream Station is less mouse- and screen-intensive than Pro Tools, and it's a much faster system," he explains. "I'm not knocking Pro Tools. There are things I miss about it, particularly the way it lets you drag and push things around, but if you don't grab and place things correctly, there are sync problems, whereas there are safeguards built into the Dream Station that keep time in place.

"I also prefer the control surface of the Dream Station over Pro Control—the throw of the faders is much more natural. In all fairness, I haven't mixed on the new Pro 24 and I've heard that it's better than the Pro Control.

"At the end of the day, there's one aspect of working in the Dream Station that offers the most critical advantage for me and that's file management. I had been using a Sonic Solutions workstation at ABC, which let me copy and paste from regions of an EDL. I'd open two EDLs: one from the show and one from Sonic Solutions. It was easy to move between sessions and copy files, stings for example, that were identical in two different programs. The Dream Station is very adept at this task. It feels very much like a musical instrument. As you're auditioning a voice-over, for example, you can cut and paste it somewhere else on the fly. While scrolling

through a waveform, you can cut from a particular point during playback and it will play from the new location. In other words, you can perform edits live, and I like that a lot. The heart of the matter is that the Fairlight has a very solid audio engine."

Serge Audio, located on Fifth Avenue, is intimately connected with the production and post facility Nitrous. "I formed a relationship with Nitrous when I was at ABC," Ossorguine says. "I got to know and like the work of their video editors, and when I decided to go out on my own, it seemed logical to hook up with them.

"Nitrous and Serge Audio are net-

worked," he continues. "If we're working on a show together, they'll put an OMF file on the network. When my work is complete, I either play back to Digi Beta or bounce to a stereo pair on my Fairlight. Then I'll drop this stereo audio file onto the server for them to pick up and incorporate into the final mix."

These are precarious times for the post industry, but Serge Audio is handling the choppy water well. Recent projects include a package of ABC sports programs, mixing a documentary on Neil Diamond and a variety of industrial and corporate assignments. ■



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Sting



Photos and Text by Steve Jennings

Sting is playing to sell-out crowds on his theater tour supporting his new CD, *Sacred Love*. *Mix* caught up with him at the Ohio Theater in Columbus, and spoke with front-of-house engineer Jim Ebdon about this tour's gear.

"I have been using the DiGiCo D5 for the last year now through all its minor teething problems and it has proved very successful," Ebdon says. "I have the standard console with the basic 56-input configuration. I am using all of the onboard dynamic and effects features, except for a Lexicon 480L purely for a different 'shade' of effect. I use the snapshot feature to its fullest, which makes life even easier. I am recording each show to Pro Tools and can mix together certain input channels on each snapshot and send them to different audio tracks on Pro Tools. The link between the two is one coaxial cable carrying 56 digital channels into a MADI converter.

"I'm using the Clair Bros. i4 system and typically hanging six to eight per side with i4-bs whenever possible, as we are at the mercy of the amount of points we get in these smaller venues," he continues. "I use two S4s per side, which adds punch to the system when we are unable to use the i4-bs.

"Sting's vocal mic is a Sennheiser 865, which was designed for him. On wireless, he uses an SKM5000 body with a Neumann 105 capsule. In monitor world is Sting's longtime, exceptional monitor engineer, Vish Wady."



Front-of-house engineer Jim Ebdon (left) and monitor engineer Vish Wady

FixIt

Mark Grey

Sound designer for Pulitzer Prize-winning composer John Adams and engineer for Kronos Quartet, Mark Grey has toured through most major opera and concert hall stages.



When reinforcing large indoor opera, stage monitoring for soloists and chorus is critical. Keep the ondeck sound as "acoustic" as possible, but get maximum coverage around all action areas. Folding back spot mics in the orchestra with an "inverted orchestra foldback" approach reduces feedback issues. Typically, strings are placed throughout the pit opening, woodwinds are directly under the apron edge and brass/percussion are deeper understage. Use a set of flown stage-left right downstage fills, and another set upstage. For the downstage fills, mix 10% strings, 50% winds and 70% brass/percussion. For upstage fills, mix 80% strings, 40% winds and 20% brass percussion. If singers cannot hear themselves, reduce all on-stage loudspeaker levels, and then adjust the balances. If still no luck, feed about 10% of 2.5-second vocal reverb to the upstage fills only. Never foldback lavalier mics to the stage.

inside

- 82 **Live Mix News: Tours, Events, Installations**
- 86 **All Access: Evanescence**
- 88 **Tour Profile: Sarah Brightman**
- 94 **New Sound Reinforcement Products**

News



Technical director of Shadow Mountain Ministries Timothy Hunten outfitted the church with a new InnovaSon Sy80 console.

The Tony Award-winning Broadway hit, *Hairspray*, relies on the expertise of sound designer Steve Kennedy, who employed 10 L-Acoustics dV-DOSC loudspeakers and subwoofer, which are hung from the proscenium truss in an A/B cluster...The Doug Shock Band toured the Middle East to entertain American troops with their '80s rock. Playing for groups of up to 1,000 people in air hangars and large rooms, they traveled with only a small Crest mixer, two EAW LA-215 mid-high cabinets and two EAW SB-180 subs for the P.A. powered by Crown CTS-300...Faith & Victory Church (Greensboro, NC) had a new sound system install by

Hi-Tech Electronics (Greenville, NC) comprising Worx Audio Technologies' 2AX speaker system and TrueLine TL218S sub-bass system. The FOH system features the 2MX stage monitor...



String Cheese Incident chose Sennheiser Evolution Wireless EW300 IEM wireless monitors with Future Sonic Ear monitors for their latest tour...London-based indie band

Eric Clapton's remaining tour dates will use JBL's VerTec VT4889 system, provided by Concert Sound Ltd. (Luton, UK).

Aqualung played at various UK arenas and used a brand-new Midas Verona console...Boston's Club Avalon inspired two new sister clubs, Avalon New York and Avalon Hollywood. The bi-coastal nightspots opened simultaneously and were outfitted with EAW loudspeakers (DC4s and DC1s), EAW subs (B250s and DCS2s) and a P.A. with EAW KF760 line arrays.

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On the Road

Tommy Dubielak/MxPx

Perhaps better known in the industry as "Tommy Rat" or "Tommy Magnum," Tommy Dubielak has mixed numerous acts including Debbie Gibson, Bobby Brown, Color Me Badd, The Offspring and the Red Hot Chili Peppers. We caught up with him just as he finished a sold-out run with Washington rockers MxPx, who were touring with Simple Plan.

What's different about working with MxPx? I still think less is more. I did the whole tour of 2k to 4k venues on 18 inputs. I didn't use much compression or any gates, as the whole idea of this band is to evoke a raw, garage sound. Why change that or compress the life out of it? About the only compression I use is bass, so I can keep levels up in a smaller PA.

What about vocal processing?

On Mike's [Herrera's] vocal, I use finger-on-the-fader compression. Effects are minimal. On smaller rooms, I'll run some 'verb, but nothing on the older songs. On some of the newer songs, I run a 900ms repeat delay swept from left to right with a vocal hall sweeping right to left, letting them cross in the middle. New engineers read huge gear lists in trade magazines and think they need an XL4, two 960s and a rack of expensive tube gear. My usual rack has a PCM60, an SPX-990, an SDE-3000 and a REV7. You don't need a lot of effects to do a great show—you just have to know how to mix. Any cool gear you've discovered lately?

When I first got the Audix D6, I thought it was just another kick mic, but it's amazing. It's what the D112 wants to be when it grows up. I'm also using the new Audix Micros—they're great on toms.

What do you do when you're off the road? I like to spend time at home, watch TV with my daughter and *not* listen to music for a while.

Jammin' on the High Seas



FOH engineer Kevin Browning

In January, passengers aboard the Imperial Majesty Regal Empress cruise ship left port in Ft. Lauderdale and headed toward Nassau, The Bahamas and Key West. For four days and four nights, Jam Cruise participants took in the sights and rays of these beautiful cities, while rockin' out to Galactic, Keller Williams, Karl Denson's Tiny Universe, the Disco Biscuits, Bill Nershi (of the String Cheese Incident) and many others.

According to front-of-house engineer Kevin Browning, "Mixing on an open-air deck in the middle of the Atlantic is quite a unique experience. No walls, no ceilings and, therefore, no reflections make for a crisp and clear mix all the way to the mainland."

Browning worked on a Yamaha PM4000 console, while monitor engineer Jereb Carter manned a Crest LM 40-channel board. Outboard gear at FOH included an Eventide H3000, Lexicon PCM 91, two Yamaha SPX-990s, TC Electronic D-2, two channels of Summit tube compressors, and eight channels of dbx 900 Series compressors and a 1066; all gear was supplied by Clair Bros. In addition to the on-boat system, Browning carried a Focusrite ISA 430 Producer Pack for the kick.

The mic cabinet included Audix D6 (kick), D2 (auxiliary snare), SCX-1s (hi-hat and percussion), D2s and D4s (rack and floor toms, respectively), Micro-D (bottom snare), 1244s (congas), D4s on bass cabinet and low Leslie, D2s on top Leslie and OM6s on the four vocals; additionally, he used a "good ol'" Shure 57 on snare top, AKG 414s on drum overheads, and Sennheiser 421 and Blue Baby Bottle on the two guitar cabinets. "I really do love Audix mics, especially on drums and percussion. They have tight patterns, great frequency response and beautiful round warm tones.

"It's hard not to smile and remember why I love this job when the sun is rising behind the band, the moon is sinking behind FOH and there's not another thing going on for 500 miles."

Monitor engineer Jereb Carter



Ultimate Ears Gives to Lennon Bus

In a brief donation presentation, Mindy Harvey, president of Ultimate Ears (Las Vegas), donated Ultimate Ears personal monitors, including the UE-10Pros, to the John Lennon Education Tour Bus' road crew, where they had just pulled into a high school to engineer a professional-quality recording session and produce a music video for a music group from the school.

"With all the noise of the bus and the limited time frame they work in, it's important they have the best quality monitors available," Harvey said.

Since 1998, the bus has provided free hands-on programs to hundreds of high schools, colleges, Boys and Girls Clubs,



Inside the bus are (L-R) Jeff Sobel (John Lennon Bus), Mindy Harvey from Ultimate Ears and Rob Healy (John Lennon Bus).

music festivals, concerts, conventions and community organizations. The bus is outfitted with the latest state-of-the-art recording equipment.

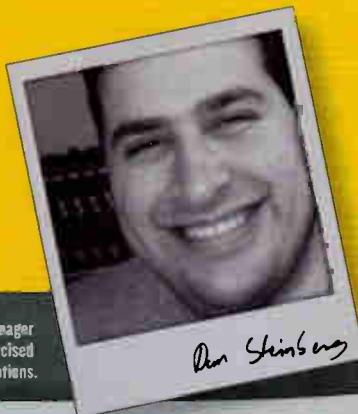
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Dan Steinberg is the product manager for Big Knob. He has repeatedly exercised his right to veto several previous captions.



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EVANESCENCE

Evanescence is one of the hottest new bands to come out in a long time, especially with Grammy Awards for Best New Artist and Best Hard Rock Performance. After seeing the show at San Jose's Event Center in Northern California, we left impressed by both singer Amy Lee's extensive vocal range and the prospect that this band has a long career ahead of them. We spoke with the band's front-of-house and monitor engineers about the tour.

Front-of-house Engineer Eddie "Musclas" Mapp works on a Midas XL4 with Clair's i4 line array (10 i4s and eight Prism subs per side). "Clair's iO system helps keep everything consistent from venue to venue," Mapp says. "The i4s can be a little harsh up top, but with the iOs in-line, it's never been a problem.

"We've been using several of Audio-Technica's new Artisti Elite Series mics, including the AE2500 dual diaphragm kick mic and the 5000 Series wireless with the 5400 mic. We tried a few combinations of mics throughout this tour and I've found the 2500 seems to give the biggest impact. It's shock mounted internally just off the batter head, and brings out everything that's been missing from the kick without the use of separate microphones.

"Evanescence is primarily an in-ear band," Monitor engineer Joshua Swart reports. "The recent addition of Terry Balsamo to the band brought the element of stage volume back since he's a wedge guy. Thanks to the advice of [Saliva monitor engineer] Kevin Goode, I now use downward expanders on several instruments to keep them out of the way until it's their turn to be heard. I love the downward expander for vocals, so whenever Amy's not right on the mic, guitars and drums will stay where they

belong in her ears without just bleeding through her mic and mudding up her mix. It also works great for wedges and fills, so when she's jumping around and the mic is swinging around, I don't have to worry about feedback because her mic level has jumped down 6 to 10 dB. Expanders work great on overheads, rides and hi-hats. You won't see me going back out without a rack of dbx 166XLs or dbx 1066s.

"I also use Shure's DFR 22 for her vocal. I split her vocal for ears and wedges. On the signal going to the wedge, I insert the DFR.

"I use a Midas H3000 and it is the best-sounding analog console out there. The mic pre's and EQs make everyone's job easier. The H3000's routing leaves it flexible to do both ears and wedges simultaneously, and keeps my ear mixes away from my cue wedges, and vice versa. I love the Shure PSM 600 wireless transmitters and receivers. Although there are some frequency limitations, they just sound amazing and stereo separation is great.

"I use a Pro Tools [HD3 system to run all of our loops, strings, choir, background vocals and other little noises that we have going on. We actually took the original tracks and orchestra tracks and mixed them down for use with the live shows."



The audio core, L to R: FOH engineer Eddie Mapp, monitor engineer Josh Swart, and Showco system tech Jason Vrobel

"Keeping Amy Lee's vocal out front is definitely important," says Mapp. With her vocal ranging from a faint whisper to soaring falsettos, Josh and I always pay careful attention to mic rejection. Since we began using the A-T 5400, we've noticed a drastic improvement: The vocals are much smoother and other problems (such as cymbal bleed) are nearly nonexistent. The use of the 5400 along with the i4 has allowed me to reduce my signal path out front to a BSS 901-II and a dbx 160SL. I use the 901 to help with intelligibility in her lower midrange during softer sections due to proximity effect and the 160SL to ensure that she stays on top of the mix throughout the night. Combined, it's a pretty efficient package, but still carries enough weight to let everyone know that we were here."



Former Cold guitarist Terry Balsamo



Guitarist John Lecomte



Sarah Brightman

Songstress' Many Musical Worlds Traverse the Stage

By Gaby Alter

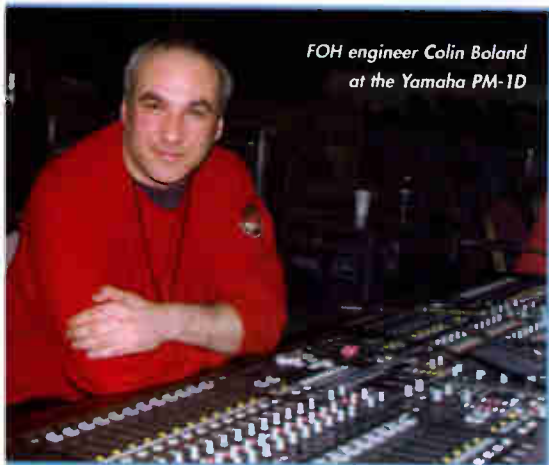
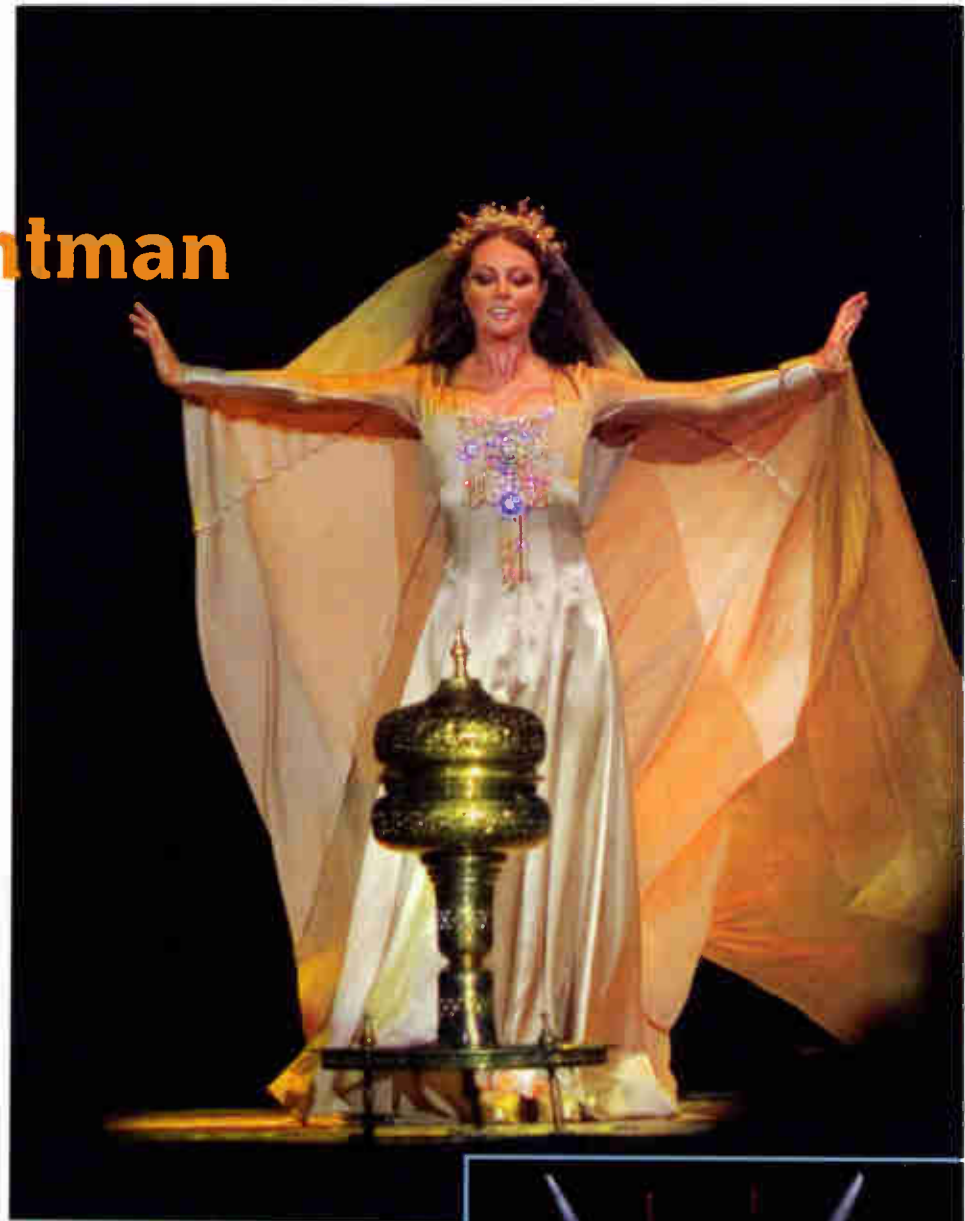
Few artists can claim the international success of Sarah Brightman—and fewer still have achieved it as she has—in three major genres of music. She began her career in the late '70s (while still in her teens) as a pop singer. Only a few years later, she was cast in the London production of Andrew Lloyd Webber's *Cats*, leading to the pair's much-publicized romance, marriage and creative partnership, and the beginning of Brightman's ascent to the pinnacle of the musical theater world. While helping sell out stages in London's West End, she also established herself as a classical singer, making the Top 10 in the UK with "Pie Jesu" and appearing onstage with Plácido Domingo. In the mid-'80s, Webber wrote the part of Christine in *Phantom of the Opera* specifically for Brightman, building the music around her unusual ability to handle both classical and contemporary pop styles.

In the beginning of the '90s, her relationship with Webber ended and Brightman moved on to a solo career. Her albums from that time forward brought in all three of her musical influences: She lent her ethereal, three-octave soprano to works by Beethoven and Dvorák, as well as songs by Kansas and trip-hoppers Hooverphonic,

and continued to perform works by musical theater composers. Her latest, *Harem*, retains this eclecticism, adding Middle Eastern flavors to the mix. Its tracks feature a melange of classical orchestral arrangements, dance beats and Middle Eastern sounds and musicians, including Israel's Ofra Haza and Iraqi vocalist Kazem Al Saher. Reworkings of "What a Wonderful World" and "Stranger in Paradise" rub shoulders with a tune by Bollywood composer A.R. Rahman and songs inspired by Borodin and Puccini.

CULTIVATING THEATRICALS

As to be expected from the former *Phantom* star, there is no shortage of theatrics on the *Harem* tour, which played in large-capacity venues in North America until March, and now continues in Europe and Asia until the middle of the summer. Mix caught up with the tour at New




FOH engineer Colin Boland at the Yamaha PM-1D

York City's Madison Square Garden; photos taken at the Rosemont, Ill., Allstate Arena. "The stage is shaped like a crescent, and there's a 20-meter catwalk that comes down the center of the auditorium to a star-shaped B-stage," says Colin Boland, Brightman's front-of-house engineer of nine years. "There are also [hydraulic] riser lifts built within the stage so musicians and the piano appear magically onstage." In addition, there is a Foley flying system that allows Brightman to soar into the air on certain numbers.



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World Radio History

With a show containing such a wide range of musical styles—often one right after the other, sometimes blended together in a single number—you need to have a board that can change musical gears quickly. “The show runs from pure dance music through to operatic arias to West End musical-type stuff; it goes the whole way,” says Boland. To accomplish the job, he uses a Yamaha PM-1D console, a board he’s stuck with on six or seven tours with Brightman during the past two years. Its total programmability allows Boland to dispense with outboard effects on all instruments and

makes it perfect for Brightman’s diverse set. “Aside from Sarah’s vocals, everything is internal on the board. I’ve been able to have a totally programmable compressor, gate and EQ for every song, for every instrument,” says Boland. “It’s like having a whole new console or effects racks for every song.” This allows him to keep his attention on dynamic differences, so that when Brightman switches genres—from pop, say, to operatic belting—the volume stays even.

Boland and Andreas Linde-Buchner, Brightman’s monitor engineer, are handling a fairly large group onstage. In addi-

tion to the singer and a sizable band (two keyboardists, two guitarists, a bass player, drummer and two percussionists), there are a group of backing vocalists and a 10-person string section. Boland mikes the string players individually with DPA 4060s. Most of the guitars are taken in-line, although one guitarist who plays mandolin, sitar, electric and acoustic guitars and a keyboard, is run through a Yamaha 03D board before giving the engineers two outputs. The drum set is miked with a Shure SM91 on the kick, an SM57 on the snares, a 451 on the hi-hat, SM98s on the toms and AKG 414s as overheads. In addition, an electronic V-drum system goes in direct.

For Middle Eastern percussionist Aviv Barak, Boland uses a combination of mics. “He’s playing a variety of instruments, jars and things like that. We cover him with three 414s, and he also has a Sennheiser radio ME-102 [clip] because he moves about a bit,” Boland says. The other percussionist has a much larger setup: congas, bongos, djembes, timpanis, timbale, a “big warrior drum,” and a table of chimes, cymbals and bells. Besides two 414 overheads, the player has “two DPA 4060s strapped to his hands as hand mics, so as he moves around his percussion section, he’s always there. It means that we can cut down the number of mics we need on his setup.” Boland does, however, mike the timpani with Sennheiser 441s and puts SM57s on the djembe and war drum.

Brightman’s main vocal microphone is a handheld Sennheiser SKM-5000 with a Neumann capsule. “The SKM-5000 is the

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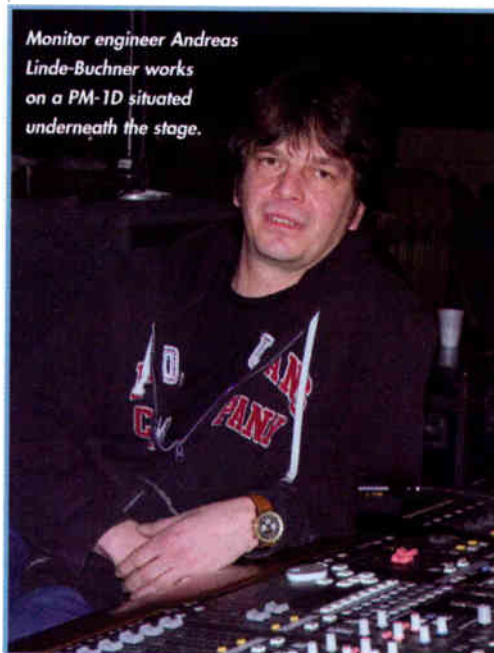
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Monitor engineer Andreas
Linde-Buchner works
on a PM-1D situated
underneath the stage.

most incredible-sounding radio mic I've ever come across. It just captures everything," Boland says. Brightman also uses a Neumann KM 140 with an extension tube that the company custom-built for her. All vocals go through Neve 9098 EQs chained with a BSS 901 compressor and a Lexicon 480 reverb, and then grouped using a Focusrite Producer Pack. The 901 filters out her frequent sibilance, and the Focusrite helps to control the volume spikes when Brightman launches into her operatic material.

IN-EARS FOR ALL

Apart from four SSE speakers onstage for the benefit of the tour's dancers, all monitoring is done with in-ear systems. Brightman uses a Sennheiser Evolution 300 system. Most of the musicians either use the same or bring their own in-ears. "On the tours before, we had Sarah on wedges, and there was always a balance that had to be kept between what she hears from the speakers and what she hears from the room," Linde-Buchner says. "On this tour, she has in-ears, which is, of course, a completely different way of hearing. She can't hear the room present anymore." As a result, he adds reverb, though very carefully. "It's comparable to if you mix a rock band that was on wedges before and now they're on in-ears. If something goes wrong in the mix, if you're on wedges, you go and meter the side and you're fine because you're not in that direct sound beam anymore. If you've got in-ears, you carry it with you everywhere you go—there's no escape!"

Like Boland, Linde-Buchner mixes on a PM-1D and uses the console's onboard effects rather than outboard gear. He stays primarily with large room reverb settings, although none are necessary for the string players—their mics pick up enough ambience. "String players don't like putting headphones onto their ears anyway," he says, "so if I add some effects on it, I think they won't like it at all."

Though monitoring is fairly straightforward thanks to the console, Linde-Buchner finds one aspect of his setup unusual: "I'm sitting underneath the stage and don't have any eye contact with Sarah," he says. "So what we're doing is using cameras so I can see several looks on her face or eye winks so I know that there is a problem or a need."

Brightman's sound crew carries a Nexo GeoT P.A. system provided by SSE Hire. The main system comprises 11 GeoT 4805s (side hangs) and three GeoT 2815s, with four Nexo CD18 subwoofers behind per side. There are six additional 4805s per side on

deck and four Nexo PS8 speakers are used as front-fills; the entire system is flown. The P.A. is powered by Camco Vortex 6 amplifiers and controlled with Nexo NX241 processors.

Boland has high praise for the system. "It has phase-cancellation speakers on the back and the back projection to the stage is incredible. You can actually take a condenser mic and throw your fader up to 10 and not worry about it. And also, [Sarah] can walk out onto the B-stage—20 meters into the audience—with her microphone and we have absolutely no problem. And

the size of the system is incredibly tiny."

Ultimately, Boland finds that with an artist whose music ranges as widely as Brightman's does, the best thing he can do is be flexible. "The general approach I feel is a very 'Zen' one," he says. "You basically deal with what's put at you. Having the programmable board means you can actually deal with everything song by song and you don't have to have an overall approach." ■

Gaby Alter is a freelance writer, songwriter and musical composer based in Brooklyn, N.Y.

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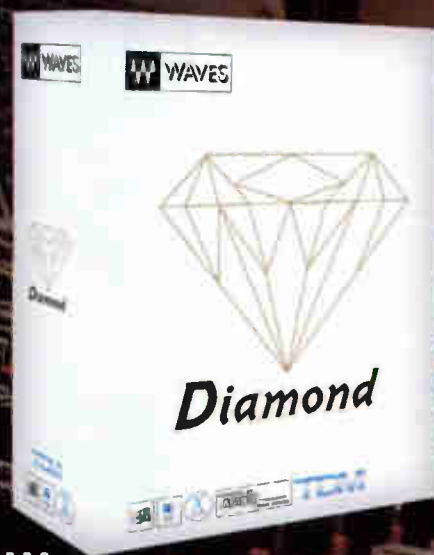
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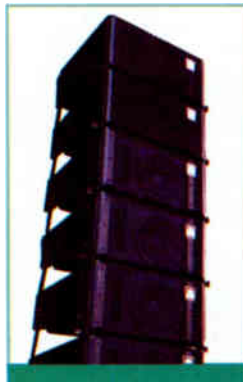
SOUNDCRAFT LX7II

The upgraded LX7ii live mixing desk from Soundcraft (www.soundcraft.com) features improved mic preamp and EQ sections designed by company founder Graham Blyth. Available in frame sizes up to 32 mono inputs (with four stereo inputs/returns), the LX7ii offers 4-band sweepable mid EQ based on the design used in the high-end MH3 and MH4 touring boards. Other features include six aux sends, direct outs on the first 16 inputs for multitrack recording, four output groups, a main stereo out and a dedicated mono out for center clusters.



SLS RLA/3 RIBBON LINE ARRAY

Unveiled at NSCA Expo '04, the RLA/3 from SLS Loudspeakers (www.slsloudspeakers.com) is a splayable version of the company's LS8695 Columnar Line Array that shares many of the LS8695's features and components, but is priced at less than \$800 per module. Each module has a 100-watt, 6.5-inch woofer and a 5-inch PRD500 Planar Ribbon Driver in a 20-pound trapezoidal birch ply enclosure that's only 7.25x14x10 inches (HxWxD). Specs include 80-20k Hz response, 110° horizontal coverage and 120dB peak SPLs. All of the necessary rigging is included with the system.



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Sennheiser's (www.sennheiserusa.com) Evolution Wireless G2 is the second generation of this popular UHF wireless line, featuring new handhelds, smaller body packs, expanded receivers, 1,440 available channels, free channel-search scan, rechargeable or battery operation, true-diversity receivers and compatibility with earlier E Series models. The affordable ew 100 G2 Series includes 11 sets, covering vocal, instrument, presentation and camera applications. Seven rackmountable sets in the ew 300 G2 Series offer enhanced RF and AF properties for vocals, presentations and instruments. In the ew 500 G2 Series, users can select individual components that are supplied with accessories. The top-end ew 550 G2 Series includes the EM 550 twin receiver, which can be combined with any 500 Series transmitter. Also available is the ew 300 IEM G2, a powerful wireless monitoring system with ultracompact receiver and earphones.



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FEATURES

- Independent 12E VCA design, 12E VCA and independent control for noise and independent compression/limiting. The independent compression/limiting is achieved by using a 12E VCA design, which is followed by limiting, rather than the more conventional 12E VCA design.
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- 12E VCA design, which is followed by limiting, rather than the more conventional 12E VCA design.

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Channels	2	2	1	1
Frequency Response	1 Hz - 20 kHz	1 Hz - 20 kHz	1 Hz - 20 kHz	1 Hz - 20 kHz
Dynamic Range	120 dB	120 dB	120 dB	120 dB
THD	< -80 dB	< -80 dB	< -80 dB	< -80 dB
SNR	120 dB	120 dB	120 dB	120 dB
Attack	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
Release	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
Auto-Release	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
Auto-Attack	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
Auto-Release	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
Auto-Attack	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
Auto-Release	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms	0.1 - 100 ms
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Alpha Geeks and Gadget Phreaks

Bringing Back the Goods From MacWorld

At least once a year, I subject myself to the rigors of the trade show circuit, just to test whether I still have the wherewithal to emerge unscathed. This month, "Bitstream" digs through the stuff that piled up on my desk 'round trade show time.

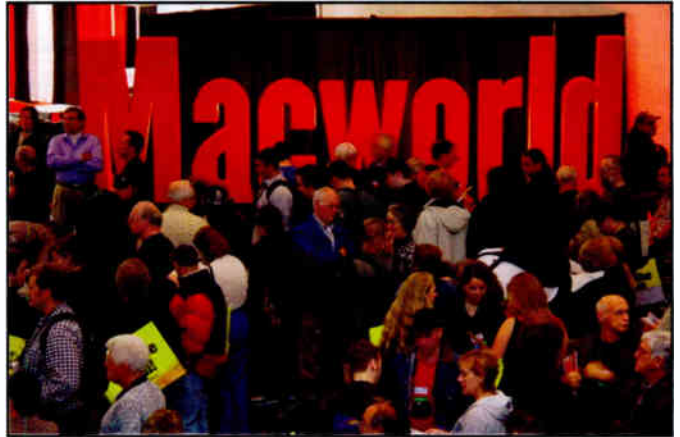
But let's start with some tidbits that are not specifically from Trade Show Land. I enjoy talking face to face with customers when possible, but airfares being what they are, the budget usually prohibits that. Something simple has come along to aid in communiqué, however, and that something is Apple's iChat A/V. With an ADSL connection and FireWire camera, face time is no longer costly, and because file transfers are also part of the package, I can get a whole lot taken care of in short order. Plus, it's fun! Now with the help of Pixion's PictureTalk, even Win users can join in. Though not anywhere near the cost of iChat (free being a good thing), PictureTalk brings welcome interoperability to the Web conferencing party.

Another product came to my attention while working on a white paper for a client. This one is essential for anyone interested in insurance—business insurance, that is. The TOLIS Group, already having shipped the first enterprise-class backup solution for OS X, is now providing a GUI-driven version of its BRU (Backup/Restore Utility) technology. BRU for Mac OS X joins the rest of the family, which already provides comprehensive Unix/Linux support. This company has been doing Unix backup for 18 years and Linux since it was born (it provided the first end-user application for Linux), so I feel more comfortable with its solution than what's been offered so far. It's not just the group's reputation, but also the philosophy of engineering "to ensure that the data can come back" after a failure, as Bob Christ, executive VP at the TOLIS Group, puts it. Backups are good, but if you can't restore, why bother?

ON TO THE TRADE SHOWS

You may not have noticed, but as Apple goes, so goes the rest of computing for us media mechs. First, it was bitmapped graphics, then SCSI, then 32-bit computing, then media wrappers (think QuickTime), then FireWire, then cutting-edge hardware designs (think iMac), then 802.11 and now 64-bit in your studio. So to keep an eye on Big Steve's reality-distortion field, I headed over to the Moscone Convention Center (San Francisco) for yet another MacWorld, held January 6-9, 2004.

Though announced at NAMM, M-Audio's (www.m-audio.com) FireWire Audiophile and FireWire 18/14 interfaces are out in the market now. I had a FireWire 410, but M-Audio swapped it for a FireWire Audiophile. For the price, everything about this unit is well-done. It's built



around AKM's AK4628 192/24 bidirectional converter and BridgeCo AG's ENA, or Entertainment Network Adapter. The ENA provides low-latency signal transport and data format conversion over, in this case, a FireWire 400 interface. With a front panel 1/4-inch TRS headphone jack, 2-in/4-out unbalanced analog spigots, and MIDI and a single AES Type-II unbalanced I/O, all you need is an expensive mic pre to get on with your work.

For those closet collectors out there, Intelli Innovations (www.intellisw.com) sells a great product called IntelliScanner Collector. Collector makes a pack rat's job a good bit easier by leveraging both the UPC bar codes on most commercial products and the huge databases of metadata on the Web. When you scan the UPC on a CD, book or DVD with the included USB-attached handheld reader, Collector interrogates Web databases such as Amazon's and then auto-magically populates a database record representing that item. It also has a manual entry mode with bar code generation and is a must-have for any media junkie. Because Intelli also makes companion bar code products, IntelliScanner Collector looks to be an easy way to keep track of all the media that usually floats around a facility.

What's a computer trade show without storage products? Not much, actually. ATTO (www.attotech.com) was showing iSCSI HBAs, currently with Win-only support. Now that the standard's been ratified, hopefully Cupertino will get on the stick with iSCSI support as well. Also in storage news, ACard (www.acard.com/english) has a new 4-channel SATA RAID HBA. (Whoa, how's that for a gaggle of acronyms!) In the Easier to Understand category, LaCie (www.lacie.com) showed its Bigger Drive, a truly gargantuan 1TB drive in a 5.25-inch full-height enclosure. That's enough room for more than 10 hours of 8-channel, single-speed DSD—my, oh my. All



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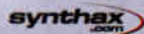
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BITSTREAM

of its new drives have a triple interface, with FireWire 400 and 800 for the pros, and USB 2.0 for the less demanding.

Adding to the Bigger Drive and BRU, Exabyte (www.exabyte.com) showed a FireWire 800 VXA library, its new VXA-2 PacketLoader 1x10, a 1U, 10-tape version of what was a 2U product. It gives well over a week's worth of peace of mind in less space.

I've mentioned InfiniBand in the past, and now that the world's third fastest supercomputer is Virginia Tech's G5 cluster, the promise of InfiniBand is starting to reach down into the grasp of mere mortals. Look for neatly packaged solutions for even the toughest CPU-to-CPU connection problems in 2005.

The Rogue Amoeba (www.rougeamoeba.com) kids were singing the praises of the newest addition to their stable of audio utilities: Nicecast, the "easiest way to broadcast music from OS X" over the Net. This joins the other Rogue Amoeba audio products that control routing and recording of audio anywhere in your Mac.

The sound-isolation stalwarts from Noren (www.norenproducts.com) were proudly showing their newest AcoustiLock enclosures. Noren keeps the world quiet, cool and dust-free to boot! Speaking of isolation, CRYPTOCARD (www.cryptocard.com) showed what the company claims is the first spook-strength authentication solution for OS X. It includes hardware authentication and is a perfect complement to Panther's new Fast User-Switching feature.

By now, you've all heard about Apple's GarageBand. What can I say about it except I wish I had it when I was in high school! While we're on the subject of consumer software, I must mention good ol' Aladdin Systems (www.alladinsys.com) because it's selling a bundle aimed at that same 13-year-old who buys GarageBand and grows up to be either a guitarist (if she's good), an audio engineer (if he's middling) or a lawyer if they can't figure out what else to do with themselves. They call the bundle The Big Mix and it's got Rogue A's Audio Hijack and a bunch of other compositional tools and utilities, all at a very nice price.

That's all I have for this month. Next time, be on the lookout for the straight poop on lossless codecs with a side order of more audio stuff that I'm evaluating. Part Deux of the Pedants In a Box tech glossary is also on the horizon, so, until such time, rock on! ■

This column was written while under the influence of Audible.com's offering of J.R.R. Tolkien's The Hobbit and Tokyo Dome City, a bit of Vegas in the heart of modern Edo.

Idea Generator.

Meet AdrenaLinn II, the next-generation of the award-winning beat-synched filter effects & amp modeling processor with built-in drum machine. What's so great about it? Well, AdrenaLinn users describe it as an incredible idea generator, renovating simple guitar chords into brilliant new song ideas.

AdrenaLinn II has tons of odd & unique sounds to inspire you to go boldly where no guitarist (or keyboardist) has gone before. You can even mangle its drumbeats though the amp and filter effects for some of the weirdest processed beats you're likely to hear. Or process your tracks through its pristine 24 bit signal path. All in perfect MIDI sync to your recording software.

Visit rogerlinndesign.com to learn more, see the video, and enter to win a FREE* AdrenaLinn II.

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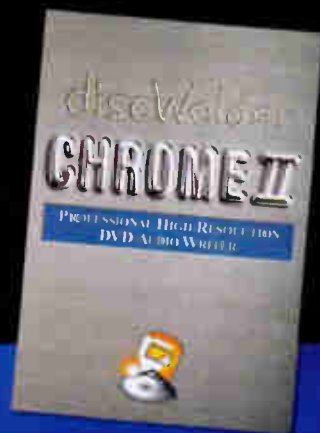
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World Radio History

Tools of the Trade



HHB PORTADRIVE DOCKING STATION

A new accessory for HHB's Portadrive location sound recorder (dist. by Sennheiser USA, www.sennheiserusa.com) is the PDRDSUF USB 2.0/FireWire docking station. The device accepts the Portadrive's removable HD caddy via a front panel slot for fast file transfers to Mac- and PC-based post-production systems independent of the Portadrive. The PDRDSUF includes a universal power supply for operation anywhere in the world, and ships with USB and FireWire cables. Price: \$349.

RME ADI-2

The RME (www.rme-audio.com) ADI-2 is a compact, flexible 2-channel AD/DA converter. The 9.5-inch unit offers AD/DA conversion across S/PDIF, AES and ADAT formats at up to 192 kHz. Features include balanced stereo line inputs (via two Neutrik Combo jacks), a six-LED meter, a variable headphone output, and separate XLR and 1/4-inch stereo line outputs. Also stan-

dard is RME's Steadyclock for low jitter performance. The unit comes with an external switching power supply and an additional internal switching power supply or it will run on standard or rechargeable batteries.

NEUTRIK AA XLR CONNECTOR

Neutrik's (www.neutrik-usa.com) "AA" Series of female XLR chassis connectors offer an improved design at a lower cost. The series features a larger surface contact, gold plating at the contact mating area and exact drop-in (panel cutout and PCB layout) compatibility with comparable "A" Series part numbers. Its low-contact resistance ensures high-contact pressure for added durability.



MUSE RECEPTOR

New from Muse Research, Receptor lets users run VST plug-ins on a hardware package. This two-rackspace unit with a custom front panel interface includes audio I/O, MIDI I/O and a hard drive pre-loaded with plug-ins, with plenty of space for adding your favorites. A growing list of developers (including Expansion, Native Instruments and OhmForce) have announced support for the Receptor platform. For a complete list of supporting companies and more info, visit www.museresearch.com.

SONIC STUDIO DSD DAW

Sonic Studio, LLC (www.sonicstudio.com) has started shipping the first units in its new DSD/SACD product line. The Sonic Studio DSD.1 system combines the powerful Sonic Studio editing and mastering environment with the emerging standard for music recording and delivery, Direct Stream Digital and Super Audio CD. Pricing starts at \$7,995.

WIZOO BASS SAMPLES

HALion and EXS24 owners can add new thump to their sonic palette with Musicman Stingray and Fender Precision sampled basses from Wizoo (www.wizoo-sounds.com). The new VIs are sampled chromatically and offer a multitude of techniques and playing styles, including two positions with three to six velocity zones, dead notes and harmonics, half-tone and whole-tone slide ups, slide downs, hammer-ons and pull-offs. Even incidental noise produced by frets, hands and slides are captured for utmost authenticity. All packages feature an array of programs with rich playing options such as MIDI key triggers, pedal switches and construction kits. Seven variations of the virtual basses are available.

MATROX MILLENNIUM P650

This \$169 AGP graphics card from Matrox (www.shopmatrox.com) lets PC-based audio pros use multiple RGB or DVI monitors on their rigs. The card offers 64 MB of DDR memory, AGP 8x support, a fanless design, fully symmetric dual-display capabilities



and dual-display color calibration. The stock operating mode is DualHead, but the unit can easily be upgraded to TripleHead operation by purchasing an upgrade kit (\$90). The drivers support Windows 2000/XP/NT or Linux.

FURMAN SB-1000 UPS

The rackmount SB-1000 uninterruptible power supply from Furman (www.furman-sound.com) is specifically designed for live sound and studio applications, with a gener-



ous 1,000VA/600-watt capacity, a current overload alarm that activates at 10 amps total capacity and an additional alarm when in battery backup mode. The \$699.95 SB-1000 provides a three-minute backup with a 5-amp RMS load, and 32 minutes of backup with a typical computer/monitor load. When used as a computer system backup, a standard UTP-RJ45 network jack allows for automatic save and shutdown of critical applications. The unit has five AC outlets, four for backup, with a 5-amp total load and one bypass outlet.

BRAVO II DISC PUBLISHER

Bravo II from Primera Technology (www.primera.com) offers automated production of up to 25 CDs or DVDs per job (50 discs with



kiosk mode). The unit features 2,400 to 4,800 dpi print resolution, precise AccuDisc disc picking and a USB 2.0 interface with performance said to be 20% faster than FireWire. The CD model is \$2,195; the DVD version is \$2,695.

ORAM LS101 NEAR-FIELDS

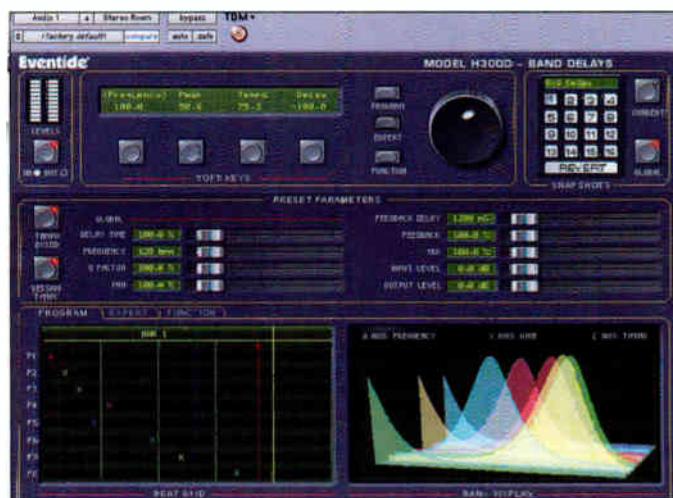
Designed by John Oram, the LS101 monitors from

Oram (www.oram.co.uk) feature two 5-inch LF/MF drivers and a 1-inch dome tweeter for a 30-22k Hz response. The magnetically shielded, passive cherry-veneer cabinets allow for bi-amplification, measure 17x12x7 inches and weigh 20 pounds each. Price: \$799/pair.



WOHLER AMP2-S8MDA

The AMP2-S8MDA from Wohler Technologies (www.wohler.com) is targeted toward broadcasters who are seeking multichannel monitoring and conversion in the HD domain. The AMP2-S8MDA is a two-rackspace box that features eight tri-color LED bargraphs, front panel group/channel-select and Wohler's AMP Series self-powered speaker system. The unit accepts two SDI inputs on BNCs (either HD-SDI or SD-SDI) and provides powerful demuxing capabilities with eight channels of analog and AES audio out demuxed from the HD/SD-SDI inputs. Price: \$6,950.



EVENTIDE H3000 DELAY PLUG-IN

The new H3000 Band Delays plug-in from Eventide (www.eventide.com) is derived from the popular Eventide H3000 Ultra-Harmonizer effects processor. The H3k plug brings a bit of the old, yet offers plenty of fresh thinking by providing hot keys that offer four top-level editing controls and eight tempo-based delays, each with programmable resonant filters and independent panning controls.

DISCRETE DRUMS UPDATE

Discrete's \$99 Eric Darken Collection comprises entirely new percussion loops not included in any other set. Eric Darken blends sounds from traditional percussion instruments with his arsenal of "found" percussion elements, such as curtain rod, briefcase, humidifier, laundry basket, door slam and many others. The two-disc set (one CD-ROM of 16-bit/44.1k .WAV files and an audio CD for reference) features all percussion elements on separate tracks, enabling users to mix their own loops. Pre-mixed stereo loop files are also included in Normal and Whacked modes. Hear it at www.discretedrums.com.

LOGIC 6 POWER!

Any book that demystifies Emagic Logic is a good thing, and *Logic 6 Power!* from Muska & Lipman Publishing (www.muskalipman.com) claims to do just that. Written by Oren Merton (who helps moderate the Logic User Group), the \$29.99, 450-page book offers a reference to the most commonly used features of the latest version of Logic, explaining them simply and thoroughly.



DELAYDOTS SPECTRUMWORX

SpectrumWorX from Delaydots is a \$99 new modular effect processor plug-in that works exclusively in the frequency domain. The plug-in includes up to 2,048 bands of frequency processing, a switchable eight-slot mono sampler, different plug-in signal flow modes and a preset library. The plug requires Windows 9x/XP/NT/2000, an 800MHz or faster CPU (SSE compatibility recommended), 128MB RAM and a VST-compatible host application. Download a demo version at www.delaydots.com.

CEDAR CAMBRIDGE V. 1.2

Version 1.2 of the Cambridge series audio restoration and noise-suppression processors from CEDAR ([\[audio.com\]\(http://audio.com\)\) features a new Adaptive Filter Pack that forms the basis of the CEDAR Cambridge Forensic System. New processes include](http://www.cedar</p>
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Declicker, a combined declicker/decrackler; the NR-4 dehisser, offering the latest

incarnation of CEDAR's noise-free EQ; Declip, a genuine de-clipping algorithm that identifies and removes most instances of clipping in a single real-time pass; and DNS to eliminate broadband noise such as traffic and air conditioning.

clear LED or electro-luminescent panel) light sources, Lundahl transformer I/O and VU, and EM80 "magic eye" output displays. Retail is \$2,999.

MIDDLE ATLANTIC WR SERIES

For tight spots where traditional racks make servicing installed gear difficult, MAP (www.middleatlantic.com) offers the WR Series of roll-out rotating racks. The WR units have a detachable rack frame housed in a 32-inch-deep protective host enclosure. Racks can be rolled out and rotated 60° for easy access to



ELECTRO-HARMONIX NY-2A COMPRESSOR

The NY-2A from Electro-Harmonix (www.ehx.com) is a 2-channel tube studio compressor in a three-rackspace chassis. The unit features a choice of three opto-coupler (slow incandescent, high-velocity

rear connections. Ample knockouts on the rack sides allow ganging two or more racks, with cables passed between them. Available in 44- and 37RU heights, the unit holds up to 750 pounds of gear and has 26 inches of usable depth.

Upgrades and Updates

Eventide (www.eventide.com) has begun shipping its new Reverb and Octavox Harmonizer diatonic pitch-shifter plug-ins for Pro Tools (Mac V. 5.1.3 or greater). Octavox (\$595) is based on the multivoice pitch shifter from the Orville and is the first Eventide Harmonizer eight-voice diatonic pitch-shifter plug-in...Lynx Studio Technology now offers the latest Mac OS X support for all of its 24-bit, 196kHz digital audio interfaces. The OS X CoreAudio drivers give complete software control over every aspect of the AES16 and AES16-SRC, easing installation and use. All drivers are available for immediate and free download at www.lynxstudio.com...Gepco International (www.gepco.com) brightens its 61801EZ single-pair audio cable line, now available in 20 different

colors with a new riser-rated PVC jacket, allowing more color-coding options and improved flexibility. New jacket colors include lime green, tan, royal blue, plum and chrome, among others...Studer (www.studer.ch) announces the availability of Version 3.3 software for its entire range of large-format digital consoles. The V. 3.3 software release is applicable to all three consoles using the D950 processing core: the D950 M2, Vista 6 and Vista 7. All three consoles benefit by having improved snapshot facilities in Static mode, an Undo function for snapshot recall, snapshot crossfades over any interval up to 100 seconds and protection against accidentally changing patched connections...Symbolic Sound (www.symbolicsound.com) has announced that Kyma X is now shipping. Kyma X

delivers more than 70 breakthrough features including a new look, a 432-page book of never-before-documented Kyma secrets, a new editor where users can create their own tools and add them to the Tools menu and substantial changes in the underlying structure that make it possible for Kyma to run under Mac OS X and Windows XP and 2000 (while maintaining compatibility with OS 9, Win ME and Win 98)...The BOSS (www.bossus.com) BR-1600CD Digital Recording Studio is now shipping. It's capable of recording up to eight XLR or 1/4-inch inputs simultaneously and playing back 16 tracks of digital audio. The BR-1600CD (\$1,595) comes loaded with COSM modeling effects, a Vocal Tool Box, a 40GB hard drive, CD-RW drive, USB and more. ■

IR-1 Convolution Reverb

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 - Medium Halls
 - Clubs
 - Stadiums
 - Outdoors
 - Car Interiors
 - Mics
- CD2: Virtual Acoustics
 - Synthetic
 - LX 48L - Plates
 - LX 48L - Ambience
 - LX 48L - Halls
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 - LX 48L - PST Ambience
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Digidesign ICON

The Elegant Evolution of Pro Tools

Hold onto your seats folks, we're about to change the way you think about Pro Tools. For years now, Digi users have been wondering about the next generation of controllers to come out of Daly City, Calif. What you're about to discover will definitely leapfrog any expectations you may have—and then some. Digidesign's Integrated Console (ICON) nicely marries Pro Tools hardware and software into a system that is, for lack of a better word, a console. The new aggregate includes something (relatively) old, something new, something borrowed—and, of course, it's all blue (and silver).

The old is the Pro Tools mix engine, software interface, Accel DSP card and the current HD hardware options; the 192 I/O (analog and digital), 96 I/O and 96i I/O; the PRE (8-channel remote-controllable mic preamps); Sync I/O and MIDI I/O. The new is the sleek D-Control audio worksurface and the XMON monitor system. The borrowed is the concept of the digital console being not one big box like its analog brother, but an integrated system of supporting parts. This system usually includes a control surface, remote mic preamps and I/O, DSP, and most importantly, the ability to seamlessly plug anything from the analog or digital world into it.

GETTING TO KNOW D-CONTROL

D-Control is where users will spend most of their time interfacing with the rest of the environment. Digi general manager Dave Lebolt says that the creation of D-Control was based largely on feedback from high end mix engineers who use both analog and digital desks, as well as Pro Control and Control 24 users. The target audience is high-end recording and post users. "While there are definite differences between post and music mixing workflows," Lebolt says, "we feel it's possible to address many of these unique needs on the same surface." Let's take a look.

The D-Control channel strip includes a fader (with six-character scribble strip), six touch-sensitive rotary encoders with LED rings, six-character scribble strip, mode switches and status LEDs. Each channel strip offers two 32-segment, two-color LED

level meters on the bridge. Channels function as a group or independently, with modes set either globally or locally. Faders are P&G 1,024-step 3200 Series; rotary encoders have 64 steps per revolution. (Pro Control and Control 24 encoders use 32 steps.)

Each 16-channel bucket has four remote modifier keys for second-layer functions. Beside each fader, LEDs note automation mode status and fader matching, and indicate if a channel resides in a custom fader bank.

Above each fader are the Automation and Trim mode selectors. The next group above the main scribble strip includes Mute, Solo, Track Arm, Monitor and Select buttons. The Select buttons operate in either Select or Focus mode. Select mode can be set so multiple channels can be chosen for grouping, etc., or it can operate in the traditional either/or mode. Focus mode operates exclusively as an either/or switch that brings the selected channel and its plug-ins to the center of the console for editing.

Above the D-Control's fader area, 10 Channel Mode buttons determine the mode of the encoders, displays and switches on the top portion of the channel strip. The first of these include buttons for choosing inserts, sends, pan, mic pre and input. Next, there is an overall Bypass/Mute, and buttons for EQ and dynamics shortcuts that automatically take users to the first parameter page on the first EQ or Dyn plug-in. Lastly, local page-up/down buttons can assign hidden layers to the encoders.

Each encoder has its own Select and B-M-P (Bypass-Mute-Pre) button. This Select should not be confused with the master Select near the fader. This button is used in Assign, Sends and Inserts modes: Pressing it



normally takes you to the next level of a function, to plug-ins from a sub folder or to a deeper level of parameters when editing. The multipurpose B-M-P button changes the state of a control/parameter, operating as either a bypass or programmable control for plug-ins, mute or pre/post-control for sends, or various switch functions on the PRE mic preamp.

PLENTY OF EXTRAS TO GO AROUND

D-Control's designers created some innovative ways of using this new interface. For instance, when panning a stereo track, the bottom two encoders are employed and the right pan control is placed on top of the left. If a 5.1 bus is used across a mono track, the eight pan parameters (front, rear, front/rear, center percent, front divergence, rear divergence, front/rear divergence and LFE) are placed on the top six encoders and the page-up/down button is used to get to whatever is not covered on the first layer. Although space won't allow a full inventory, features like this are echoed throughout the surface, keeping the user focused on the desk and not on the mouse.

The most exciting feature on D-Control is Custom Faders. Custom Fader banks are autonomous groups of faders set in incre-

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World Radio History

ments of eight (up to the maximum number of faders in a system). The modes include Masters, Mix/Edit Groups, Plug-Ins or Custom Groups, and are set using the channel strip master section. A blue LED next to each fader indicates if the channel is a member of the bank. Once you determine the width and placement of your bank on the surface, simply pick a mode and off you go. For example, Plug-Ins mode lets you map a parameter anywhere on the desk to any encoder on your Custom Fader bank. This is saved as part of the session and with the plug-in, so porting your specialized setup to other sessions is a breeze. Custom Groups lets you add or subtract any channel or parameter from anywhere on the console, even if it is a member of another mix/edit group.

The concept works beautifully for single or multiple users. Custom Faders is one of those features that is hard to grasp until you see it work, but it's a major plus.

BRINGING IN THE CENTER SECTION

Apart from the expected QWERTY keyboard, talkback, monitor section, track ball, jog wheel and transport controls (one for Pro Tools and one for an external machine), the center section is what jumps the D-Control into light speed.

The most eye-catching features are the dedicated EQ and dynamics editors. The EQ editor supports up to a 7-band EQ, while the dynamics editor sports the usual array of knobs and buttons found on most dynamics plug-ins. Both sections contain a clip LED, input/output meters, dual alpha displays. Select-Link Bypass button and an Automation button. Other features include Lock and Cycle buttons.



The XMON monitor system allows remote access to a variety of analog monitor inputs and outputs.

Lock fixes the channel to the editing section, no matter which other channels are focused to the center channel fader, and Cycle assigns the editing panel to successive plug-ins on the channel insert.

The Focus channel mentioned earlier is to the left of this section and looks exactly like its counterparts on the channel section. What sets this channel apart is its ability to individually flip each encoder to either the fader or a Flop mode, where any encoder and control set can be flopped to the lowest row of encoders instead of the faders. The soft keys section has 24 mode keys with six soft buttons per mode, each with two six-character alpha displays. The numerous choices include various preferences, faders on/off, smart and trim tool selections and more.

The bridge has five seven-segment displays showing main counter, sub counter, start, end and length. Lastly, a depression with a VESA-standard TFT mounting arm holds up to a 22-inch flat-panel display. Need dual screens? An optional speaker bridge supports an additional arm for a monitor.

WELCOME TO XMON

XMON is a remote, dual-rackspace analog monitor system, controlled from D-Control, that lets the user access two 8-channel monitor mixes (mono to 7.1 surround), three speaker feeds, three separate stereo cue outputs, a studio monitor feed and a dedicated headphone output. A dedicated port offers external talkback input and two listen-back inputs. The unit can be placed up to 80 feet away from the console and "speaks" to the desk via a single multipin cable. I/O is via rear DB25 connectors.

IT'S A WRAP

The D-Control is a beautiful worksurface. Its construction is solid, and the custom-designed encoders, spacing between the buttons, operation and feel of the switches and labeling are all user-friendly. You can even switch the position of the trackball and keyboard to accommodate left-handed users.

The base system starts at \$80,000 and includes D-Control (16 channels), an HD 3 Accel system and a single 192 I/O; additional 16-channel buckets are \$29,995. Custom configurations scale to seven HD cards, 96 simultaneous channels of I/O and 80 physical faders. The D-Control by itself is \$60,000 (16 channels). Dimensions of the base unit are 65x40x42 inches (WxDxH).

ICON is an obvious but brave step for Digidesign and it will be interesting to see how users embrace the concept. Because of its price point, post facilities could afford to install the same mixing desk in both main rooms and edit suites. For the high-end music producer looking to put Pro Tools into a more integrated setting with a full-featured control surface as the front piece, ICON may be the solution. ■

Kevin Becka is Mix's technical editor.

Pro Tools 6.4: Enhanced for ICON

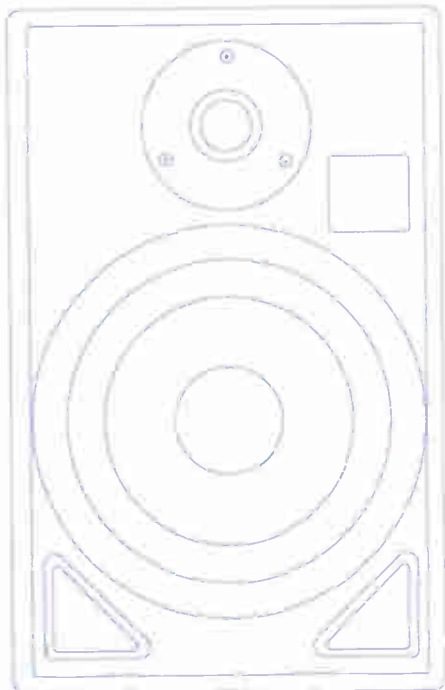
Rolled out simultaneously with D-Control is the new Pro Tools 6.4 software. Most new changes are only for HD; a later issue promises to support MIX systems. Features include:

- TrackPunch (record-enable and punch on the fly)
- Auto Delay compensation (both plug-in and routing delays)
- An Input button on each channel (allowing switching between input and playback)
- Enhanced clip indication (clips will show on channel plug-in plates, on the show/hide list and on the D-Control surface)
- Enhanced plug-in organization through a new folder system
- Absolute track numbering (forcing an optional absolute track number before each track name)
- An extra transport bar embedded at the top of the Edit window
- Input and Record Enable alert lights next to the REC button on the transport
- The ability to redefine current feet/frames position
- Support for 23.976 timecode rate
- An option for having fader gain at +12 dB over 0 dBfs (currently fixed at +6 dBfs)

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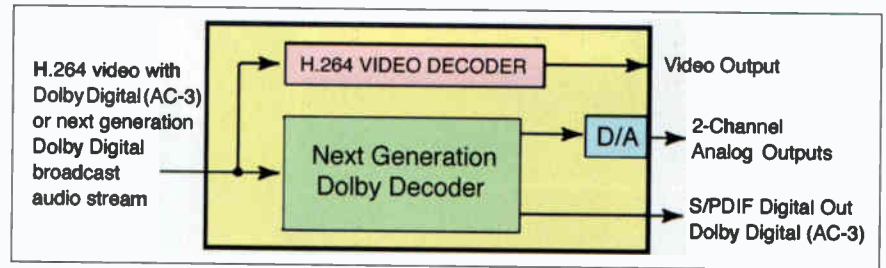
One of the biggest announcements at this month's NAB show will not be a product, per se, but the debut of a new audio compression protocol. Representing the second generation of Dolby Digital, the unnamed process will be unveiled in ongoing demonstrations to the broadcast and production communities.

Given the real-life limitations in bandwidth that seem to follow every signal delivery chain—traditional terrestrial broadcasting to Internet streaming—the need to maximize the number of available channels into ever-smaller data pipelines is great. And with emerging services such as video-on-demand and DTV bringing broadcasters the capacity for alternate channels, there is no chance that this trend will slow down—ever.

"Squeezing more services over the same bandwidth requires more efficient codecs, both in audio and video," says Dolby's broadcast product manager, Jeff Riedmiller. "On the video side, most people are familiar with protocols such as H.264. On the audio side, we've developed the next generation of Dolby Digital."

An enhanced version of Dolby Digital makes sense for consumers, hardware manufacturers, software developers, content producers and broadcasters. Consumers are hardly warm to the idea of having to change hardware every few years due to the debut of new—and incompatible—playback schemes, so backward compatibility was deemed essential.

"In considering the development of this, we focused on four key points," Riedmiller explains. "The first is compatibility. This new system must have the ability to work with the 37 million existing multichannel decoders in use in people's homes. Obviously, any enhancements we make to the system must be compatible with those users, and this new format does provide a path to those existing Dolby Digital decoders. We also wanted to be more efficient in terms of perceptual audio coding itself, yet at the same time, offer a known quality at a lower bit rate for spectral efficiency. Everybody's looking for the ability to send the same quality picture with audio but with less bits, particularly in broadcast, using limited satellite bandwidth. This enhanced Dolby



A typical next-generation set-top box could accept encoded signals with either standard Dolby Digital AC-3 or Enhanced Dolby Digital and similar conventional decoders, and break out to an AC-3-format 5.1 stream (S/PDIF coaxial or TosLink) and analog stereo and standard video outputs.

Digital addresses that need.

"Another factor is cost," he continues, "and as we can maintain compatibility with existing Dolby Digital decoders, there's a cost savings to any new implementer. via the enhanced decoder's ability to decode both legacy and enhanced Dolby Digital bitstreams, as well as provide a seamless Dolby Digital bitstream for carriage over S/PDIF or Toslink interfaces to multichannel home theater systems."

But equally important is the ability of any proposed standard to work with formats that are on the horizon. "Four or five years ago, some of the premium services on cable [as well as terrestrial TV] started offering 5.1 programming because viewers were used to watching DVD in 5.1 surround and they wanted that on television, as well," says Riedmiller. "We also envision this technology being used on the high-definition fixed media that will be coming in the future, such as high-definition DVD and things like that, which have always driven the other side of the business."

The whole point of perceptual audio coding is to reduce bandwidth and storage requirements while maintaining quality. What data savings would this new codec offer over existing Dolby Digital files? "It depends on the content, but it's also governed by the quality that the broadcaster wants to convey," says Riedmiller. "We give our customers the ability to scale the content any way they'd like. In Dolby Digital today, we recommend that people encode stereo content at 192 kbits/second. There are people running the bit rate quite a bit lower than that in stereo and have great results with it. But with this enhanced format, we're confident that in stereo, you could get that 192k rate down to 96k."

Bandwidth aside, does this enhanced system also support all of the cool, creative

control features in the audio metadata, such as dynamic range control, dialog normalization and downmixing? According to Riedmiller, all of the Dolby Digital audio metadata is preserved in the new system, and the next generation of decoders will be able to play both existing Dolby Digital and the enhanced format with all of metadata intact.

"This new process is still in the early stages, so we won't be showing hardware systems, but we will be doing technology demonstrations for existing service providers, cable systems and satellite services worldwide who may be looking at their next-generation set-top box," explains Riedmiller. "Certainly, local broadcasters won't need to worry about this right away, but if you're a satellite provider who wants to carry more channels of high-definition video, you'll need a new video coding system. We're offering the new audio coding system to complement this new video codecs such as H.264.

"We're excited about this and look forward to telling the world about this at NAB," says Riedmiller, who added that Dolby would be providing active listening demonstrations of the system at its booth during the show. "We're unveiling the capabilities of enhanced Dolby Digital for the broadcast market at NAB. Applications for the enhanced version could include satellite broadcast, cable television, video-on-demand, terrestrial broadcasting and fixed media [DVD, etc.]; pretty much anywhere you'd find AC-3 today, we'd expect to find the enhanced version. It could also apply to toys, games and wireless, as well as going into the other spectrums where there are no bandwidth constraints. The system is also capable of going beyond 5.1, and there are provisions for that." ■

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Merging Technologies Pyramix 4.2 Workstation

Scalable DSD/PCM Recording, Mixing, Editing and Mastering

A solitary triangle in one of Michael Bishop's excellent recordings convinced me that DSD offered a clarity that I didn't hear in my 48kHz PCM work. Bishop introduced DSD to a Nashville AES meeting several years ago, and I was struck by this one sound, a tiny point of light, with a decay as clean as the finish of a fine Alsatian sparkling wine. It was the first time I ever heard a recorded triangle that didn't sound false.

Pyramix Virtual Studio 4.2 from Merging Technologies supports multitrack DSD and PCM recording, as well as editing, signal processing, mixing and mastering in both formats. For this review, I concentrated on the system's DSD and surround features, and I was thrilled with the results. Although the system has some quirks that need to be fixed, Virtual Studio's quick flexibility, profound control and excellent sonic clarity make the Pyramix a powerhouse system for serious recording and mastering.

NOW FEATURING

Pyramix comes in numerous configurations, ranging from the software-only Pyramix Native (limited to four internal channels at 48 kHz with stereo input/output) to full-blown systems with eight cards that transmit and receive nearly every audio format. While Pyramix Native is fine for broadcast and simple editing, the hardware-based system offers PCM recording at sample rates ranging from 32 to 192 kHz, with bit depths of 16, 24 and 32. Internal sampling rate supports up to 384 kHz for processing, although there are no converters currently available for AD/DA that record that rate. If you are working in DSD mixing mode ("DXD" in Pyramix and Sony/Phillips parlance), then the sampling rate for processing will generally be 352.8 kHz (8fs of 44.1 kHz) at 32 bits. For all currently available platforms, DSD must be converted to PCM for processing.

The heart of the hardware system is the Mykerinos board, a 32-bit PCI board with mixing and effects processing powered by the Phillips Trimedia VLIW processor (32-bit floating processing capable of greater than 288 sustained Mflops). Mykerinos includes a PCI card and interchangeable daughter cards with varying connectors. Although this



Pyramix's modular approach lets you easily customize your projects (Shawn: 128-channel session).

review's 4.2 system is limited to 64 input and output buses for PCM projects, Merging promises 128 input/output at 44.1- and 48kHz 32-bit floating point for V. 5.0. Similarly, with V. 4.2, you are limited to two channels of DSD I/O with one Mykerinos board and eight channels of DSD I/O with two Mykerinos boards, but with V. 5.0, 16 channels of DSD will be available on a four-card system. Multiple Mykerinos cards are connected using the HTDM cable.

Daughter cards available include ADAT optical (16 channels of 44.1 or 48 kHz on four Lightpipe connectors, eight channels of 88.2 kHz or 96 kHz with S/MUX or dual-stereo S/PDIF), AES/EBU I/O (available with SRC on the first eight channels, 24 channels of I/O total on 12 AES/EBU pairs, single- and dual-wire support for sample rates at 64 kHz and above), MADI (64 channels on BNC or glass-fiber duplex SC), Dual (a mixture of mic/line, line and AES/EBU I/O), SDIF (supports SDIF-2 and SDIF-3) and TDIF (24 channels of I/O over three DB25 connectors, limited to 48 kHz). There is a 96kHz analog output on the Mykerinos card with automatic down-conversion for projects with sample rates above 96 kHz.

Although no analog converters are supplied with the system (except the Dual daughtercard), Merging offers an 8-channel converter that supports sampling rates up to 96 kHz called the Sphynx. A lower-cost converter, the Dua II, supports four analog and four digital input and output channels. Pyramix also supports DSD converters from dCS, EMM Labs, Genex and Prism. I used the Prism Sound Dream ADA-8 with a DSD I/O

module. Pyramix can sync to Video/HDTV, LTC, VITC and word clock via a cable "squid" that connects to the DIN connector on the Mykerinos card. Timecode "burn-in" is available via video output or throughput.

THE PYRAMIX PROJECT

The Project Module that you create contains a mixer, a Composition EDL comprising audio clips in tracks on a timeline, references to libraries containing master clips, other compositions, mixer, plug-in and fade settings.

If you will be editing, overdubbing, mixing or mastering PCM audio, then choose Editing Project and select bit depth and sample rate. For a DSD project, choose either DSD Project (for recording and playback of 2.8MHz DSD files) or a DXD Mixing Project (for overdubbing, editing and mixing with automation in the 352.8kHz/32-bit domain). Then name a new workspace, project name, project and media location. A Mixer Wizard appears to guide you in selecting a template for the mixer or to help build a mixer with various tracks and buses. You can then choose Connect Automatically to enable the system, creating connections to the hardware.

In DSD or DXD mode, the Wizard currently only allows creating a basic mixer, which can be modified once the Project wizard is finished. At press time, no templates were available for DSD projects. Fortunately, right-clicking anywhere on the mixer brings up context-sensitive menus, but some of them are nested three layers deep. Like other areas of Pyramix, added configuration power means added complexity, but this often indicates features that separate Pyramix

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from the “also-rans” in the DAW market. For example, Pyramix offers two surround panning algorithms: Constant Gain allows the surround panning to preserve a constant gain on all main channels wherever the position control is placed; and Constant Power, where the surround panner preserves a constant power sum on all main channels wherever the position control is placed. Audio engineers familiar with Michael Gerzon's theories on localization and uniform ambience around the listener will appreciate this.

The Pyramix interface allows you to have multiple projects open and drag-and-drop assets among them. Background digitizing with auto-conform of a CMX-format EDL via Sony 9-pin machine control is supported, so you can work on one project while recording another. Media management is comprehensive, offering networking support for large studios with shared users and libraries.

Pyramix supports project import/export with AES31, Akai DD, CMX, DDP, OMF, Open TL, Pro Tools and Sonic Solutions. There is, however, one session-sharing limitation. For example, Pro Tools is supported only up to V. 5.0, limiting the Pro Tools session interchange to a maximum sampling rate of 48 kHz. To make your DSD files available to Pro Tools|HD, render the DSD tracks one at a time as 24-bit Broadcast .WAV or .AIFF; otherwise, you'll get a multichannel file. Then, sample rate-convert files appropriately; for example, to 192 kHz. Choose the box that maintains its file format or it will revert to pmx, the Pyramix native format. In my early attempts at rendering 20-minute DSD files, I kept them at multichannel format. The machine crashed with an “Out of Memory” warning. Another time, I rendered them as multichannel files and ran into the Broadcast .WAV 2GB limit or the .AIFF 4-gigabyte limit. If you are recording long orchestral pieces and you want to transfer to another system for PCM “high-resolution” editing, then you must render files in overlapping parts and put them back together on the target machine.

Another caveat: Don't record to an HFS-formatted drive with MacOpener. I tried this and got chunks of audio interspersed with silence at regular intervals. Because XP professional-format drives with NTFS and OS X don't read NTFS, I moved the FireWire drive to another PC and the files to an HFS+ drive on that platform. I didn't format drives with Fat32 on an older version of Windows: None of my machines running older versions of Windows have FireWire cards—the case for

the majority of older machines.

The manual states that MacDrive software is necessary to use HFS/HFS+ formatted disks. Unfortunately, MacDrive did not recognize my FireWire HFS+ drive. There's nothing in the manual indicating that MacDrive was incapable of reading FireWire HFS+ drives, one of the most common methods of file sharing in studios. When I used NTFS to format the FireWire drive, I could easily write to it, but unfortunately, OS 10.2.3 does not read NTFS. I tried MacOpener, which worked fine with Windows XP but not with Pyramix (as detailed above). The FireWire drive was recognized by the hardware no matter what its format, but it would only be seen by WinXP with MacOpener, so I suggest that a clarification be made.



Pyramix supports surround configurations of up to 5.1 channels.

FACE TO INTERFACE

The common project setup has three windows: Composition, Tabs and Mixer. The Composition window comprises tracks with clips that have auto-active handles. The mouse pointer changes to various tools when moved over a selected clip or when pressing a modifier key. The editing in this area is similar to Nuendo: Crossfades can be implemented via hot key or further refined with a multipoint fade editor. The editing model can be either a full two, three and four-point source/destination type, the more familiar cut-and-paste paradigm or a combination of both.

A really handy feature is the nondestructive clip gain, which allows you to set the level for individual clips, thereby avoiding frequent changes in automation.

To the left of the tracks is the Track Header panel, where you'll find the usual “tape deck” status controls: play, record, mute, solo, monitor, automation status and playlist access. Beware that some of the items are three-way toggles. If you don't hear audio when you're in record, then check this panel first.

The Tabs window contains media man-

agement for EDLs, workspaces, markers, groups, playlists, libraries, CD P/Q sheets, machine control and the fade editor.

The Mixer floats on top of these windows. I set up a surround configuration in DXD mode with surround panners on every channel; Pyramix supports configurations of up to 5.1 channels. The mixer provides a simple, clear way to create a surround mix and a stereo mix simultaneously. Surround panners are well-implemented. Unfortunately, Pyramix labels the LFE as a subwoofer; there's no lowpass filter on this channel. Pro studios generally use external hardware bass management, so it's not a serious flaw, but the nomenclature in the interface should be corrected.

Mykerinos plug-ins work at the highest sample rate available; in a DXD project, they're running at 352.8 kHz and 32 bits. Pyramix transcodes the 1-bit 2.8MHz DSD stream in real time to PCM for processing.

In DXD mode, dither is selectable for stereo and surround monitors, but you *must not* use it. Not only is it inappropriate for DSD, but used with surround, this selection creates a burbling sound with a vague tone. This needs to be eliminated as a selection in DXD mode.

These quibbles are small, though, compared to the system's immense feature set and flexibility. This review is far too short to cover the system's other aspects: VU meters in DSD mode that display ultrasonic and DC levels; virtual transport control and synchronization to external applications involving video play, MIDI and Sony 9-pin; DST file size estimation and creating DST files for future authoring; CD text for DDP; instant sync to PAL, NTSC and HDTV; the wonderful Algorithmix NOVA restoration software; Minnetonka Audio AC3 encoder; CEDAR Audio Retouch; Prosoniq MPEX2 pitch and time manipulator; DirectX and VST support; and the host of excellent built-in plug-ins to process audio. Pyramix is a modular system, so you can configure its feature set to your needs.

IN SESSION WITH SKORIK

Once I set up the system, I was asked to produce an album for Jeff Skorik, a well-known Nashville session vocalist, incredible tunesmith and fine guitar player. I recorded several sessions in DSD editing and mixing mode. I was anxious to try out the editing interface, and I considered these sessions to be demos for later arrangement. To my surprise, these simple tracks sounded very

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good, capturing a performance aspect I had never heard in his recordings before.

We used an assortment of mics: Neumann TLM 193 for vocals (with Millennia STT-1 Origin), AKG 451E with CK-1 capsule and Sennheiser MD 421 for the acoustic guitars (Great River MP-4), Sony ECM-MS 5 stereo for mid-room ambience (John Hardy M-1s) and AKG 414 B-ULS and Solidtube for far ambience (Great River MP-4).

I was amazed by the clarity of the sound. In fact, the surround mix was so good that I hated making compromises for the stereo mix. I also wanted to check out the rendering and SRC functions for archiving to 192 kHz, so I processed the AKG 451 track as a test. This mic was angled toward the sound hole and a foot away from the guitar. Jeff happened to sing with his head tilted down for that cut, and that one mic caught a mono mix with astounding clarity and resolution. When I checked it on my Pro Tools | HD system with Accel, I wondered why we couldn't release the cut as a surround mix and a mono mix rather than a stereo mix. Rarely have I felt that I didn't want to touch a track with EQ or dynamics processing for fear of messing up the track's intrinsic character.

Later, I was listening to piano tracks in DXD in the Pyramix and had to switch to an older Pro Tools MIX system with an 888|24 converter. For half an hour, I wondered if something was wrong with the monitors. Going back to the Pyramix convinced me that my monitoring system was fine.

Thanks to Mike Poston of Nashville's Equipment Pool (a longtime Pyramix user) and Zen Mastering's Graeme Browne (mastering engineer for "Matrix," Chick Corea's recent Grammy-winning best instrumental arrangement), I could quickly find answers to the few questions I had after reading the copious manuals and downloads available at www.merging.com.

A NEW DAW HEAVYWEIGHT

Pyramix from Merging Technologies is a full-featured professional recording, mixing, editing and mastering environment for PCM and DSD formats. Its modular approach allows for complete customization without unwanted expense. And while its market share is comparatively small, especially in the U.S., other DAW manufacturers will want to watch this one closely. It's a mature and well-developed system that has the potential to become a major contender in the DAW wars.

Merging Technologies, 847/272-0500, www.merging.com.

K.K. Proffitt is chief audio engineer of Jam-Sync, a Nashville facility specializing in multichannel mixing and DVD authoring.

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World Radio History

Sony DMX-P01 24-bit/96k Mixer

A Solid Portable Digital Machine From a Pro Audio Native

Sony is no stranger to video production. In fact, Sony has the whole signal production chain pretty much covered. For the field mixer niche, Sony created the DMX-P01, a portable digital mixer with a few extra features that will land Sony right in the heart of the field mixing market.

HEATED LCD, HOT DESIGN

The DMX-P01 (\$2,800) is a 24-bit/96kHz mixer with AES/EBU and S/PDIF outputs. It has four microphone/line inputs with gain controls, phantom power and two balanced analog outputs, and comes equipped with digital limiters, compressors and an LCD for checking levels and settings. The LCD can be selected to be heated, so it also works in cold temperatures. The DMX-P01 features digital cascading for linking two DMX-P01s and scene recall, something not usually offered on a field mixer. It's lightweight and runs on eight AA batteries or from an optional AC adapter. It comes with two battery packs that should get you through a typical day of shooting. The unit is wrapped in an attractive metallic shell that is reminiscent of its VAJO line of computers. Engineers will mourn the first nick and scrape to their DMX-P01, much like a scuff on a cool new pair of shoes. I'd rather see the money go toward the controls vs. the aesthetics, but more on that later.

DMX-P01 IN THE FIELD

We used the DMX-P01 primarily in a field production setting. For simple run 'n' gun news gathering, this mixer might be overkill—and in some cases, inhibiting—without previous mastery of the controls. The menu-driven control panel is straightforward but not ideal in a pressure situation. It's like choosing settings on any piece of digital gear: Turn a dial, find a setting, press the dial. Analog controls are the easiest to access, of course, but a menu is required to navigate the added features of the DMX-P01. The low-cut filter is adjustable from 50 Hz to 400 Hz at typical increments, and offers A and B settings for each channel. Scene recall could come in handy for an audio engineer who works the circuit on a variety of shows



with the same folks. In general, Sony did a nice job of adding menu-driven features, keeping the design straightforward.

When I work with production crews, the typical mixers in the arsenal are made by Cooper, Audio Designs, PSC, Shure, etc. Sound engineers usually spend a lot of time getting to know their mixer, and become comfortable with a certain piece of gear over time. The harsh reality is, with a lot of broadcast and cable TV programming, audio is the second priority after shooter, camera and format. However, the DMX-P01, when mastered, could provide an advantage in setup time and possibly be used as a selling tool.

The DMX-P01 is similar to a Cooper CS104 in layout. Access to controls, filters and most everything besides the I/O can be found on the top face. That means no hunting around the bottom and side panels for settings. The unit is as sturdy as you'd expect a field mixer to be; many of the switches are protected in curved recessed slots. This design helps to prevent the accidental bump of a setting. However, I'd like to see more steel on some of the controls. The input level knobs appear especially vulnerable, as they protrude from the unit the most. Sony's design staff may have won out over the engineers on this one. Overall, the feel is good and most everything is accessible.

I'm not a huge fan of using an LCD panel for setting levels and tweaking settings—I find the process a bit cumbersome. But the reality is, once the settings are made, most of the action takes place on the analog level controls anyway—just a matter of comfort level. The good news, though, is the LCD is

accurate and works well with the headphone mix: What you see is actually what you get.

The digital guts in this mixer enable more ways to tweak the signal and pass it around to other equipment. For example, while shooting a home improvement show, the versatile low-cut filters came in handy for removing low-frequency energy from the sound of leaf blowers off in the distance and the general hum of a nearby street. As for the Scene Recall feature, you would have to work in a very consistent sonic environment to get a lot of value from it—for example, it could come in handy for remote recording of bands.

IT'S A WRAP

The DMX-P01 did everything I needed it to do, and sounded great. Its clean design was easy to get around. It appears well made and road-worthy apart from a few plastic knobs. It offers a multitude of ways to capture and distribute audio in both analog and digital environments. It would be hard to justify the cost of this mixer for a run 'n' gun shooting team that's already using something tried and true. However, the DMX-P01 competes well in the upper echelon of what's being offered. When serving clients who believe audio is just as important as video, Sony's DMX-P01 could help you win business.

Sony Pro Audio, 800/686-7669,
www.sony.com/professional. ■

Rick Spence is the owner of AVT Pro, a production company in the Silicon Valley.

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Neumann TLM 127 Condenser Microphone

Studio Stalwart With a Strong Lineage

The TLM 127 is the latest FET 100 Series mic in Neumann's transformerless microphone line (TLM). Available in either black matte or Neumann's trademark nickel finish, the side-address TLM 127 starts out with the K 127 large dual-diaphragm capsule, which is based on the K 103 used in the TLM 103. The membrane thickness is 6 microns.

On the back of the mic is a -14dB attenuator pad (which takes the mic's 140dB SPL handling to a hefty 154 dB) and a two-position highpass filter. The filter's LIN (linear) setting is a 12dB/octave roll-off starting at 15 Hz for wind noise, handling and mic stand vibrations. The other position moves the corner frequency up to 100 Hz and is good for proximity effect reduction or just boomy sound sources.

A three-position pattern switch selects cardioid, omnidirectional and "R" (remote pattern control) mode over a standard XLR mic cable up to 300 meters long. Accessing the mic's remote capabilities requires the optional N48 R-2, Neumann's special phantom power supply, which will power and control up to two TLM 127s.

IN THE STUDIO

Compared (both in cardioid) to my stock U87, the 127 is a flatter-sounding mic without the slightly low midrange buildup and harder-sounding upper midrange of the U87. There is also a very smooth high-frequency extension on the 127 where the U87 almost sounded rolled off by comparison. I tested the mic in cardioid and omni modes, but without the power supply, I couldn't try my "two facing out-of-phase guitar cabs with figure-8 mic in between" trick.

In a practical sense, the 127 behaved very much like the TLM 103 in the studio, except the larger 127 does not fit quite as easily in tight places around a drum kit. The EA 1 shock-mount is a necessity in all cases, as the 127 has terrific subsonic response. The mount will take care of any external subsonics mechanically coupling and traveling up the mic stand. This extended low-frequency response is great at capturing *all* of the sounds from drums, bass instruments or the "thump" from loud Marshall guitar cabinets.

The 100Hz roll-off position worked well for recording acoustic guitars, where I put the 127 in cardioid two inches above the sound hole—an "old-school" pop recording method that minimizes fret noise pickup while delivering a consistent and loud sound, albeit boomy. Fingerboard noise permitting, I usually end up moving the mic up the neck a bit. Even though I would not normally use a large-diaphragm mic for acoustics, the 127 sounded great on both nylon- and steel-string guitars.

I also tried the 127 in omni about a foot away, again with the roll-off engaged. The sound of the guitar "moved back" as compared to cardioid but gained an open brilliancy. I liked this better for transparent-sounding chord strumming than for flat-picking. With this mic's low noise floor (7 dBA), I could crank up the mic gain without pulling up any mic noise or hum. Both of these methods produced a bright and clear sound with a minimum of EQ or fuss.

I close-miked my Fender Concert guitar amp and got plenty of sparkle and thick bass. The 127 had more bass and less upper-midrange crankiness than the U87, but more super-top that can get a little twangy if you want. In this case, the mic placement helped, as I favored the outside of the speaker cone away from the center. I had to use the -14dB pad, because the 127's hot output in this high-SPL situation distorted my API preamp.

For vocals in cardioid, the proximity effect can be an issue with a mic this fat-sounding, and backing my singer off a foot away still produced plenty of low-frequency "chestiness." If your singer loves to "kiss the mic," then the 100Hz roll-off position will combat bass buildup; but in this instance, I found the filter a little high in frequency. I wish there was a second lower position at 50 Hz.

The 127 is excellent for loud or soft singers. Loud singers who can become edgy when singing in their upper registers will appreciate the 127's smooth top end that doesn't exacerbate this typical problem. Soft singers will notice a sensitivity and clarity that helps with lyric articulation.




The TLM 127 also opens up the option of omnidirectional vocal recording. In omni, there is no more proximity effect, so my singer could work around the mic without having to deal with tonality change. In the omni position, I encountered much less "beaming effect," where the high frequencies can drop off in cardioid if the singer turns slightly off of the mic's direction. In omni, the 127 had a more airy sound and pulled in more room tone around the voice. For the blues/rock tune we recorded, it worked well with very little need for additional reverb or delay.

TODAY'S WORKHORSE

The TLM 127 is an excellent-sounding utilitarian studio mic. It comes in two kits: TLM127/SET Z with EA 1 elastic suspension mount and cherry box at \$2,149.99, and the lower-cost TLM127/SET A with an SG 1 (same basic mount as TLM 103) and cardboard box at \$1,799.99. The N48 R-2 power supply/remote controller will sell for \$1,015 when it becomes available.

Neumann, 860/434-5220, www.neumannusa.com. ■

Barry Rudolph is an L.A.-based recording engineer. Visit his Website at www.barryrudolph.com.



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World Radio History

Genelec 7070A Active Subwoofer

Custom Low-End Control for Nearly Any Environment

When Genelec introduced its 7000 Series of active subwoofers, I was intrigued by these systems, which not only provide solid, below 20Hz LF reproduction, but also offer 6.1 bass-management capability and flexible acoustical tweaks to make the system work in nearly any listening space.

Designed to remove the acoustical nonlinearities from port turbulence, Genelec's Laminar Spiral Enclosure™ technology used in the 7070A creates a bass reflex cabinet made of a thick piece of sheet metal rolled into a spiral shape and clamped between 2-inch-thick MDF slab side panels. This creates a very long reflex tube in the smallest possible enclosure by combining a front-firing woofer with a large side-exit port. This design results in an extremely rigid enclosure, with heavy steel rods linking the front and rear baffles into a cabinet that's strong and almost entirely nonvibrational and free of unwanted resonance. As an added plus, the rods double as handles for moving the sub.

The 7070A is the middle of the 7000 Series, with a 12-inch woofer driven by a 250-watt amp. The 7070A could be used with any speakers but was designed to be used with Genelec's 1031A, 1032A and S30D models. The system includes bass management for a 5.1 or 6.1 system, with six signal input and output channels (L/C/R front and L/C/R rear), as well as a dedicated LFE input. All audio connections are balanced XLRs. The onboard bass-management circuitry divides the six (or five) main channel inputs into LF and HF components, which route to the sub and main speakers at a fixed 85Hz crossover.

One of the system's strongest points is the flexibility and control it offers in allowing users to tweak parameters to match any listening environment. The sensitivity of the lowpass section has a +12 to -6dB adjustment for level-matching the sub to the mains. The dedicated LFE input can set to 0dB or +10dB sensitivity and two bandwidths: 18 to 85 Hz or 18 to 120 Hz. A selectable Redirect function routes the frequencies above 85 Hz in the LFE signal to the center-channel monitor. Also provided are a phase response switch with settings (0/90/180/270°) at 85 Hz; a calibrated bass roll-off, attenuating subsonic (below 20Hz)

response in 2dB steps; and a sum-in connection for cascading multiple subwoofers for even coverage in very large spaces or high-SPL applications.

Three optional remote units are available. One is a switch that connects to a ¼-inch jack, bypassing the subwoofer/bass-management functions; another is a bi-color LED indicating power on and signal clipping conditions; and the third combines the functions of Bypass and the +10dB gain LFE switching.

IN THE STUDIO

Once I had this 25x22x20-inch, 110-pound beast unpacked, I combined the 7070A with a pair of Genelec S30Ds full-range, three-way monitors that feature both digital and analog inputs. In this 2.1 install in a control room that was 18x11 feet with an 8-foot ceiling (about 1,600 cubic feet), the combination was almost too much until I took the sub way down. In a smaller project room like this, the S30Ds actually provided plenty of bass on their own, and a system such as Genelec's 10-inch 7060A or 7050A sub matched with smaller 1029A, 2029A or 2029B mains would have been more appropriate. So I moved to a larger space, a 17x15 room with a 12-foot ceiling (3,060 cubic feet), and the 7070A/S30D combination seemed right at home.

With all of the tweaks on the 7070A, the system can be precisely set for flat response without resorting to external equalization. One nice touch is the sub's built-in 85Hz tone generator, so adjusting the system phase requires little more than a simple SPL meter. Also helpful is the well-written manual, which goes into detail about the setup/calibration procedure. The 7070A controls are mounted on the side, making for fast adjustments without having to dig behind the unit to move a DIP switch. The best results came from experimenting with subwoofer placement, moving it toward (or away from) wall surfaces and corners to find a close-to-optimum position and then tweaking the electronics. However, in some installs, sub placement can be restricted or limited, and in such cases, the 7070A's phase, roll-off and sensitivity adjustments really make a difference.

The S30Ds offer ruler-flat, wide-bandwidth response with Genelec's proprietary



ribbon tweeter taking the upper end out to 50 kHz. The low end goes down to an impressive 36 Hz (-2.5 dB), which is great for an 8-inch woofer. But combined with the 7070A, the system jumps. The difference is dramatic and immediate: it's one of those cases where you thought everything was fine and then once you've heard the change, you never want to go back. A subwoofer will add an octave or two to a system's overall response, but what I heard with the 7070A was light years removed from simply adding more bass.

The 7070A's ability to reproduce bass transients is uncanny, and the effect is hearing a system that's several times larger than what the sub's compact enclosure would indicate. Also, large bass horns are not typically known for their articulation and definition, but I clearly heard these with the 7070As on just about any type of program material—from hip hop to pipe organ—without any discernable distortion. The sub-to-top transition was seamless, and the bass was smooth, natural and never forced-sounding. And with peak SPL capability in the 117dB range, bass reproduction became something you could feel. Wheeeeew!

As an adjunct to making great monitors sound even more over the top (or bottom), it's hard to imagine a better upgrade than Genelec's 7000 Series subs. Users can always begin their system by adding a 7070A to a stereo pair—as I did—and then be ready for the hyperspace leap to 5.1 or 6.1, making this system one smart investment.

Genelec, 508/652-0900, fax: 508/652-0909, www.genelec.com. ■

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Thermionic Culture The Phoenix Compressor

Variable-Mu Unit Delivers Classic Tube Sound

Thermionic Culture's The Phoenix is a pretty rare bird. It's a variable-mu tube compressor—the first type of compressor ever made. Few manufacturers offer variable-mu compressors these days, Manley Labs and Pendulum Audio being notable exceptions. Yet those in the know seek out these unique processors for their idiosyncratic sound.

Variable-mu compressors use a tube as the gain control element. They are inherently soft-knee compressors: the harder you drive the gain control tube by cranking the input level, the higher the compression ratio becomes, which causes an increasing densification of the processed sound as the gain control tube approaches saturation. Because tubes generally have a more limited dynamic range than other gain control elements, they usually can't produce more than 15 dB of gain reduction. Generally faster in action than opto-electronic compressors but not as fast as those that use VCAs or FETs, variable-mu compressors produce a unique dynamic response.

This 2-channel, 3U-high unit can be operated in either dual-mono or linked in stereo. Each channel has a continuously variable channel (input) gain, attack time, release time, threshold, output trim controls, a toggling bypass switch and large VU meter. A link control is provided for stereo operation.

There are no ratio controls—boosting a channel gain control simultaneously adjusts input gain and drive level for the PCC85 tube, which serves as the gain control element. The Phoenix's initial compression ratio is 1.2:1, increasing to 5:1 with 15 dB of compression. Attack times range between 4 and 120 ms, and release times vary from 60 ms to 2.2 seconds. Factor in its wide-ranging threshold control, which actually precludes compression when in the fully clockwise position, and you've got a unit that offers both subtle and dramatic processing.

The rear panel has balanced XLR I/Os. Huge air vents on the chassis' top, rear and sides keep it cool. Knob positions and meter readings are easily seen from a distance. The Phoenix has a bit of a homegrown look that should appeal to boutique-audio enthusiasts. All controls have a solid feel, and internal componentry looks tidy.



Hash marks on the rotary controls are denominated using arbitrary numbers that range from 1 to 11; decibels and units of time would be more informative. The front panel does not display if the link and two bypass switches are activated when in the up or down position. I found myself adjusting a channel gain or output trim knob to tell (by listening) whether a channel was bypassed.

The effect of all rotary controls is removed from the audio path when a channel's bypass switch is engaged, yet the channel's VU meter still registers the amount of gain reduction that would be affected if the channel was activated. This allows you to dial in reasonable settings in front of clients *before* switching in the processing. Unfortunately, the VU meters are not backlit, and the Phoenix does not offer any sidechain inputs.

Specs are good: Inherent noise floor is 95 dB below the maximum operating level, and frequency response varies less than 1 dB between 12 and 56k Hz. Maximum gain is 30 dB, making it compatible with +4dBu and -10dBV nominal levels.

SOARING ON ITS FIRST FLIGHT

I recorded various sources using a Millennia HV-3D mic preamp. The Phoenix consistently smoothed each track's fluctuating dynamics in an unobtrusive manner. Compressing male lead vocals (recorded with an AKG TLII mic) 4 to 5 dB, I did not hear pumping. The track sounded much fatter and less clinical. The Phoenix also seemed to broaden the low-mid frequencies, which was not always a plus.

With an Aguilar DB 900 DI on the front end, 2 to 4 dB of gain reduction smoothed an electric bass track's dynamics nicely over the instrument's range. For this track, I set The Phoenix's attack control to "7" (fairly high) to avoid losing presence. With careful tweaking, the compressed track sounded great.

I made a kick drum track pop pretty hard by applying 2 dB of gain reduction. (I'm sure the actual amount was far greater, but it didn't fully register due to the VU meter's inherently slow response.) Setting attack and release times to their fastest settings did not produce any audible distortion on the processed track.

I got great results applying 2 to 3 dB of gain reduction to an arpeggiated, stereo acoustic guitar track. The Phoenix delivered the pleasing density for which variable-mu compressors are sought. The Link control kept the stereo image rock-solid. However, the channel gain and output trims are not linkable. The best results for stereo operations are achieved when using matched settings for these controls.

The Phoenix really impressed me when used as a stereo bus compressor. Compressing a rock ballad 3 to 4 dB on peaks, the result was intoxicatingly creamy and bold, with beautiful density and sustain. The Phoenix rounded the mix's edges to produce a softer sound with moderated detail. Bass and low-midrange frequencies were broadened, adding thickness and size to digital tracks. I could easily crank the mix up to aggressive levels without causing audible pumping. Like other analog compressors, when using this much compression, my only complaint was a slight loss of depth. But on balance, the overall sound was extremely flattering.

The Phoenix rises to meet most challenges gracefully. Although it is expensive (\$4,295), if you want that characteristically dense and creamy variable-mu sound, The Phoenix is worth a serious listen to.

Thermionic Culture (dist. by Unity Audio), 44/1440/785/843, www.unityaudio.co.uk. ■

Michael Cooper is the owner of Michael Cooper Recording, located in Sisters, Ore.

With the New AES16, the Biggest Part of Your Digital Audio System May Be the Smallest

AES16

You have invested a lot of time, money and commitment into your digital audio system, with the best in digital mixers, converters, digital audio workstations, software and recorders. All you need now is the final piece to tie the entire system together - the AES16™ from Lynx Studio Technology.

Working in single-wire mode, the AES16 offers 16 channels of 24-bit AES/EBU I/O at 192 kHz using Windows or Macintosh computers. You can also use dual wire devices for eight I/O channels. The AES16's software controls its internal sixteen-channel mixer, routing your signals just about anyway you can think of with virtually no latency.

In addition to being the ultimate digital audio router, the AES16 features a new Lynx technology SynchronoLock™. Basically "jitter control on steroids", SynchronoLock provides extreme jitter tolerance at all inputs. By coupling statistical analysis with low-noise clock generation techniques, SynchronoLock extracts a very clean clock with 3000:1 jitter attenuation from AES signals affected by long cable lengths and other noise sources. The clock output of SynchronoLock can also be used as a very accurate word clock source for other studio devices.

Need more than 16 channels? No problem. Up to four AES16 cards can be installed in a single computer, for a total of 64



inputs and 64 outputs. You can also add 16 channels of ADAT Lightpipe I/O with the optional LS-ADAT LStream card that attaches to the AES16.

The AES16 was developed with your facility in mind. The AES16-XLR model with two six-foot cables and professional XLR connectors may be the best option for you. For added convenience, we offer optional twelve-foot cables with D-sub connectors for Apogee, Benchmark, Yamaha, Mackie and other top digital audio brands. Plus the AES16's PCI interface is designed for either 5V or 3.3V signaling, making it totally compatible with the new Macintosh G5 models.

Please visit our website at www.lynxstudio.com to learn more about how the AES16 lets your computer become the control center of your digital audio system.

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Snapshot Product Reviews



BLUE MICROPHONES THE BALL Phantom-Powered Dynamic Mic

You can't really accuse Blue's mics of blending into the woodwork. Apart from being a 4-inch plastic sphere, The Ball is a phantom-powered dynamic model. However, there's no active gain circuitry in this front-address cardioid mic; its output level is in the same range as any other dynamic model, maybe 15 dB below a typical condenser. Instead, the phantom power is for a Class-A balancing circuit that keeps the output impedance even across the mic's specified frequency range. Thus, the impedance controls we're seeing on an increasing number of new pre-amps should not have an effect.

The goal of The Ball's active circuitry is to even out the frequency response and create a smooth, open sound without giving up the main advantages of a dynamic mic: ruggedness, some acoustic compression, and distortion-free, high-SPL tolerance. (It's listed at 165 dB, which I didn't test.) While the condenser mics I compared The Ball to have more transient detail (and more low end), it does achieve those aims to a fair degree. Blue specs a usable frequency range of 35–16k Hz. The Ball has a bit of useful response at 35 Hz (about -25 dB down), but it rolls off rapidly starting at approximately 100 Hz. Its most prominent region is roughly between 100 and 500 Hz, and the high end drops sharply starting at 4 kHz or so. I didn't notice any signs of life above 12 kHz.

This spherical mic can't use a traditional clip or shock-mount: A threaded swivel re-

cessed on its bottom attaches it to a mic stand. This design provides about 45° of up/down adjustment, although I found the friction to be a little too light. The Ball isn't hypersensitive to shock noise, but there's no obvious way to avoid coupling it to the stand. [A shock-mount is planned for release next month—Eds.] Like the rest of its line, Blue assembles the mic in Latvia and build quality seems very good.

In general, The Ball is a mic for high-SPL usage. With a 17dB A-weighted self-noise spec and a dynamic mic's output level, it's not the first choice for distant-miking an orchestra. But one of the things that the Ball does capture well is male vocals, both sung and spoken. Its prominent lower midrange and smooth, round sound in that region, along with the natural acoustic compression, combine very nicely.

Its low-frequency roll-off has a side benefit: You can often get by without using a pop filter. This would also be a good mic for a female singer who really belts it out. The Ball worked especially well on a hard-strummed acoustic guitar. Here, again, the smooth midrange and acoustic compression created a natural

sound that sits nicely, with just enough detail not to sound constrained. The mic was also nice on wooden percussion—claves, castanets, etc.—and hand claps and finger snaps.

For \$199, it's hard to go wrong with The Ball. It's a role-player, but one that can play many parts.

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

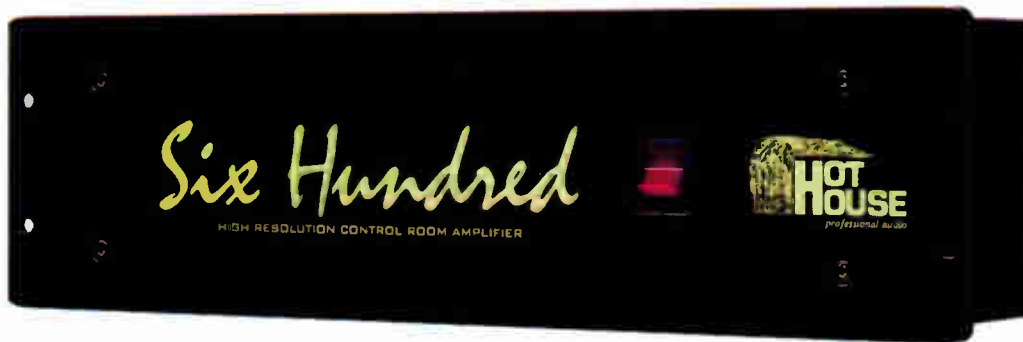
—Nick Batzdorf

HOT HOUSE MODEL SIX HUNDRED High-Resolution Control Room Amp

These days, more studio monitor builders are turning to powered designs, yet there are plenty of great unpowered monitors available. For those models, a great power amp can make a huge difference in playback quality. Hot House Professional Audio has been building uncompromised amps for the studio market since 1987, and its High-Resolution Control Room Amplifier Series is the latest in the company's legacy. At 280 watts/channel (into 4 ohms), the Model Six Hundred is positioned as the middle of the series, flanked by the Four Hundred (225W/channel @ 4Ω) and the One Thousand (450W/channel @ 4Ω).

From the Model Six Hundred's thick-slab front panel to the impeccable build quality of this 36-pound, three-rackspace behemoth, you know the company is serious about sound. Inside, Hot House has taken a meticulous straight-wire approach: There are no protection circuits or limiters in this fully differential design with split dual-toroidal power supply and zero-feedback topology, resulting in a worst-case 0.003% (@ 1 kHz) THD+N and a bandwidth that's

only -3 dB at 100 kHz. Another nice touch is the Teflon Kimber cabling on the internal I/O wiring. This sports car approach is evident by the simple front panel (just an AC switch) and the rear, which has two Neutrik Combo ¼-inch/XLR inputs (balanced or unbalanced), IEC AC socket and dual-Cliff five-way binding-post outs. The latter are okay, but the posts limit direct wire-through-the-hole connections to AWG 10 or thinner,



although they accept any type of crimp-on terminations.

So, armed with a pile of SACDs and a roll of Monster Cable, I began checking out the amp's sound. I began with a favorite



SEVEN WOODS AUDIO SST-206 SPACE STATION Updating the Ursa Major

Seven Woods Audio's SST-206 Space Station is a faithful reproduction of the original Ursa Major SST-282, originally known for its unique effects and 11-bit floating-point grit. The SST-206's complement of controls is pretty much identical to that of the original SST-282 but with some minor differences. First, the original unit measured three rackspaces with large chicken-head knobs, whereas the new Space Station is roughly the size of a couple of dollar bills placed side-by-side. There are knobs for input level, dry level, LF/HF decay, echo delay and decay time. There are four pairs of spaced taps in the delay section and a knob to control the output level of each pair. An Audition Delay Pattern knob determines which of 16 different delay patterns is used.

The original Space Station was an 11-bit unit that cut off everything above 7 kHz. The new unit, however, has a secondary operating mode called Room, which represents frequencies as high as 22 kHz. This is a much smoother,

creamier reverb algorithm that uses the CPU in a way that was simply not possible with the original unit. In Room mode, the echo delay, audition delay program and tap knobs double in function to control pre-delay, early (ER) length, ER delay, ER level, reverb level and size parameters, respectively.

To keep the product simple and—I would venture—to keep the cost down to an affordable \$1,395, MIDI was not implemented. The unit also lacks digital converters—I/O comes in AES/EBU format on a pair of XLRs. This makes it an obvious partner for a DAW with digital I/O, but there's the rub: The product is intended to be tweaked "like a Pultec EQ," yet as much as I love to tweak parameters, it would be nice to be able to recall settings from previous sessions. The unit includes a paper template to document settings, although some of the unit's knobs have a pretty long throw; a pencil mark really cannot be considered a re-

liable snapshot recall.

The SST-206 provides gorgeous, lush reverbs, excellent room-reflection programs and wild comb-filtering effects. It is a unique and excellent product with a true cult following, but in 2004, the lack of a Recall function is a disappointing oversight. In all fairness, there are plenty of users who aren't as passionate about the recall issue as I am, and even without recall functions or onboard converters, this is an incredible-sounding reverb unit.

Note: At press time, Version 3 software for the SST-206 was released, which includes improved versions of the Space Station's reverb and delay program.

Seven Woods Audio, 617/489-6292, www.sevenwoodsaudio.com.

—John McJunkin

MBHO MBNM 440-CLS Cardioid Condenser Microphone

The MBNM 440-CLS (\$439/pair) from German mic-maker MBHO is a small-diaphragm cardioid condenser based on its MBNM 440-CL. The updated version adds a switchable -10dB pad and a -6dB/octave highpass filter at 250 Hz. These are recessed to prevent accidental switching. Like the 440-CL, the 440-CLS has a heavy-duty feel, with a brass, matte-black body, gold-plated XLR pins and a fine-mesh screen protecting the diaphragm. Specs are similar, with a 40-20k Hz response, 14dBA self-noise and 126dB SPL handling. At 3.75x0.8 inches, the MBNM 440-CLS is perfect for discrete instrumental spot-miking. Field and concert recordists will be happy to know that it accepts phantom power between 22 and 48 volts.

The review units arrived as a matched pair with consecutive serial numbers and sounded well-matched. The company intends for the mics to be used on acoustic instruments and choirs, as well as drum overheads and percussion. As I planned to record a local theater company rehearsing and performing an operetta, I jumped at the chance to put these to the test. Due to space limitations, I used a Spartan system, going direct to disk using an Apogee Mini-Me preamp connected to my Mac PowerBook via USB.

The highly directional mics had positive aspects, but were less desirable in some situations. An X/Y coincident pair pointed at the front of the



pair of KRK 700s. The little 7-inch woofers on these small two-ways seemed more like 10-inch drivers, but with tight, well-articulated bass. Bear in mind that there was no undue emphasis on lower frequencies here, but everything seemed to be right, from low organ fundamentals to the transient "ching" of finger cymbals, with rock-solid imaging. Results were similar on a pair of 4Ω M&K MPS-2510 near-fields. Moving up to a pair of large custom monitors—based on Altec Model 19s, but with an added super-tweeter stage—the Six Hundred really shined with ample headroom reserves, giving the impression that I was hearing a much larger amp driving the two vintage 15-inch 515B woofers. And even cranked up, the amp never broke a sweat—it was warm but not hot at all, with its large external heat sinks keeping temperatures under control.

There are cheaper power amps than the Six Hundred's \$2,499 list (or \$2,698 with a polished, high-gloss front panel), but if your monitors aren't delivering what you need to hear, maybe your monitors aren't the culprit. In such cases, a great power amp can really deliver.

Hot House Professional Audio, 845/691-6077, www.hothousepro.com.

—George Petersen

stage provided a nice representation of the stereo space. On playback, it was easy to hear where the singers and instrumentalists were positioned. The mics have a slight HF presence boost, which in this setting helped maintain intelligibility of the vocal parts. The mics' directionality, however, downplayed the room sound, giving the recordings a somewhat 2-D feel. Nonetheless, the mics' good transient response helped make these recordings sparkle. The two MBNM 440-CLSs captured lower frequencies in a reserved,



polite manner, although I wouldn't characterize them as sounding thin.

In the studio using an FMR Audio RNP8380 preamp, the MBNM 440-CLS worked well on snare drum, emphasizing stick attack over shell tone. It was even better on rack toms, where directionality helped isolate the drums from surrounding cymbals. On dumbek and other hand drums, fingersnaps on the heads and the tone of the shells were nicely captured. As stereo drum overheads, the mics tended to emphasize the sizzle in the cymbals, which overshadowed the drums' midrange tone. Consequently, exact placement was crucial to get a good balance between the two (though I still added some LF EQ at mix-down). Once placed, the mics offered good directionality and an up-front quality that, again, minimized the room sound. The MBNM 440-CLS was especially nice on acoustic guitar, where its transient response and clarity balanced the strings' complex harmonics with the upper-midrange sound of the body. In addition, the mic's understated low end was helpful when it came time to place the instrument into a mix.

MBHO (dist. by Music Trade Center), 718/963-2777, www.mbho.de.

—Laura Pallanck

SERAFINE COLLECTION SCI-FI LIBRARY CD Sound Effects

Frank Serafine is no stranger to the art of scoring and sound design. His work has ap-

peared on a long list of music and feature film projects ranging from the *Star Trek* films to *Field of Dreams*, *Tron*, *The Addams Family* and *The Hunt for Red October*. During the years, Serafine has also begun assembling his huge holdings of audio content into sound effects libraries, including Guns of Cinema, Comic Relief and The SFX Collection. High-end Hollywood pros find these indispensable. However, for the user seeking something slightly less worldly, Serafine offers Sci-Fi: The Library, a \$695 five-CD set with hundreds of sounds that offer something beyond the ordinary library sets of bottle openings and car crashes.

Housed in a slick metal storage case, Sci-Fi: The Library delivers exactly what the title suggests. The discs are divided into five categories: beeps/tones/noises, destruction/creatures, industrial/environment, sci-fi transportation and weapons/wooshes. There's plenty here for your own minigalactic epic, but there's also lots of effects that fit into everyday use, whether you're looking for just the

right elevator call-button sound or more exotic alien breathing effects, atomic bomb blasts or simply odd stereo factory ambiences. Effects range from short to very long backgrounds, and most are easily loopable or loaded into a sampler to create otherworldly drum/percussion rhythms. Also, most of the effects provide several alternatives, giving the producer more choices and the ability to repeat sounds without that "I've been here before" feeling. Best of all, the audio quality is excellent.

Whether you're doing jingles, soundtracks, commercials or game design, this collection packs a wallop (in fact, there are dozens of those to pick from) and provides a great "idea point" for creative design.

The Serafine Collection, 310/399-9279, www.frankserafine.com.

—George Petersen

SE ELECTRONICS GHOST Studio Boom Mic Stand

We all use boom stands, but sometimes, big projects require a big boom. Unfortunately, tall boom stands with a 9-foot boom can cost \$1,000 or more, which can get expensive, especially if you need a stereo pair. With this in mind, SE Electronics offers Ghost, a series of folding, telescopic boom stands priced from \$299 to \$399.

Ghost uses camera tripod-style latches to adjust the leg and boom lengths, so set-

ups were fast and secure. The boom arm has a heavy counterweight and a user-fillable sandbag that attaches to a lower hook for stability. The sandbag is reversible from discrete black to yellow stripes for visibility. With full extension on a heavy mic bar, placing the sandbag over the weight and keeping one leg pointed under the boom made for extremely stable mounting. SE should also offer a second sandbag as an option for more security.

A center post adjusts overall height ± 12 inches and has a self-locking handle for safety. The adjustment crank has a very low ratio—about 20 turns for a foot of elevation. Such fine adjustment is necessary in photo/film work but doesn't relate to mic placement, where $\frac{1}{8}$ -inch up or down on a boom with a 14-foot overall throw isn't necessary. Much more useful are the stand legs (which are fitted into swiveling large rubber cups for secure footing) and the included wheeled tripod base with 4-inch locking casters, which made placements a snap. The yoke that stabilizes the legs has a thumbscrew that digs into the center pole, leaving dents. It was secure, but a compression fitting would have been prettier.

Whether you're looking for a tall stand for handling choir mics, an orchestral bar or simply want an affordable solution to secure drum overhead miking, Ghost may be just the ticket.

SE Electronics, 408/873-8606, www.seemics.com.

—George Petersen ■



DAT's Last Stand

Old Technology, Tiny Parts Make for Tough Repairs

DAT machines are still a repairable item in 2004. The shift from absolute to timecode (TC) repairs reveals a trend among two groups: those who can afford to "wade out" a new technology wave and those who must jump in and ride the wave to shore. Either way, people are keeping their TC portables in shape for both primary and backup duty. We're slowly reaching the end of DAT's lifecycle; in a few years, the technology will be passed from the recording domain to that of archivists.

Compared to the consumer marketplace, pro audio is still small potatoes, and within it, location and post-production make up the latest in-transition micro-niche in an already specialized industry. I only state the obvious because DAT is the best example of trickle-up technology, "prosumer"-ized by adding features like TC and XLR connectors. The next wave is borrowing heavily from affordable computer technology combined with some very customized electronics. Consider DAT to be the last tangible "format"—everything in the future will be virtual. But that's for a future article.

I'm not sure how many users will invest \$5,000 to \$15,000 *twice* for a pair of DAT replacements, but that will happen over time. Just as the 4mm format successfully challenged the 1/2-inch Nagra, analog is still alive after all these years. At press time, dozens of industry professionals braved record-breaking January temps, meeting at New York's Silvercup Studios to discuss the matter. Check out www.gothamsound.com for pix and videos and the rec.arts.movies.production.sound newsgroup for feedback. Consumer gear may be disposable, but pro gear is still an investment.

PUBLIC ENEMY

Keeping DAT alive requires just more patience than before. Failures were initially mechanical, but now, electronics contribute to the workload. Capacitors have always played a key role in the aging process, going all the way back to the vacuum tube era. Miniaturization via large-scale- and application-specific integrated circuits (LSICs and ASICs, respectively) increased the feature set, reducing many common failure modes while creating a potential killer. Heat is enemy number one, reducing the life span of capacitors and batteries in particular; more concentrated heat (especially in portables) also affects everything from component life to solder connections.

Of all capacitor types, electrolytic caps age the least gracefully. Not only do values change, but caps can also leak acidic chemicals onto the printed circuit board (PCB), which occasionally occurs in the Fostex PD-2. The same is true for some coin-style batteries, particularly in Tascam's DA-88. Time and repeated tempera-

ture changes affect solder connections, too. For surface-mount devices (SMDs), a lower melting-point solder is used, which is softer than the 60/40 lead/tin combo of the vacuum tube era. The best advice is to send your machine in for routine service rather than tolerate intermittent problems. My motivation is the hope of catching a little problem before it creates a big problem.

RATTLE AND HUM

No matter what the product is, a rattle is not okay. A loose screw, spring or piece of plastic may be the cause, and while the latter is relatively benign, any metal bits can potentially short circuits with unpleasant consequences. Simply pop the cover and shake the unit upside down over a large white cloth to confirm success. (Springs and plastic bits are most likely to come from cassette shells, so be gentle when handling the.) If nothing comes out, then it might be time to visit a specialist.

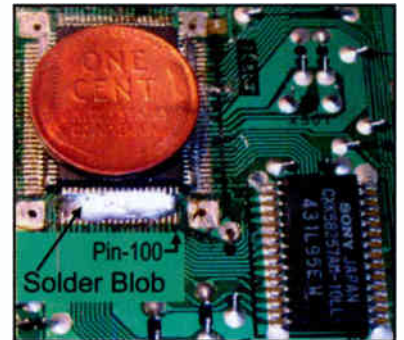
FLUX FOR YOU

A while ago, I demonstrated a technique to extract and replace SMDs by using conventional soldering equipment with a kit that included liquid flux and a low melting-point solder. The kit is distributed by ChipQuick and is available from many electronic suppliers. The flux is awesome and applicable to other difficult-to-solder applications. I learned the mechanics of the process from a Sony instructional video that was Peter Florance of Audio Services loaned me.

I didn't initially realize that the low melting-point solder was for *de-soldering*. Extremely brittle when cool, the trick is to apply it to all of the legs on a chip. The solder stays molten long enough—even on a 100-pin chip—to allow the legs to lift off without damaging the "pads." The chip may also be glued into place, so be prepared for a sudden pop that can send molten solder all over the board and in your face.

POSTAGE STAMP REPAIRS

The most challenging TC portables are the Fostex PD-2 and the HHB PDR-1000. The Fostex is a rather heavy unit. Inside, all of the critical PCBs are rigidly mount-



One cent worth: Desoldering the 100-legger using low melting-point solder

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Left: Grammy Award Winning Producer Sergio George's private production facility, NJ

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ed. The HHB is smaller and lighter, but by being much more compact, more disassembly is required and as such, the thinner PCBs are subject to flexing that can loosen solder connections. Built as a single-box tape machine about the size of Tascam's DA-P1, an optional TC module is mounted directly below so that the two become one.

One PDR-1000 that smoked before being brought in for service was caused by overly tight cable ties on a wire harness in the TC unit. Because normal procedure is to remove the TC module for transport maintenance,

the cause was not immediately apparent. Common wear items for the PDR-1000 are mechanical: sticky brake shoes and stretched treading belt. Changing shoes requires transport extraction, including disconnecting a half-dozen subminiature connectors, forcing the tech to closely inspect all for potentially cold solder joints. This requires a jeweler's magnifying loupe and a very small screwdriver.

TROUBLESHOOTING 101

I wish my job was as easy as inspecting wire harnesses and as simple as replacing

worn items! Once this unit was mechanically functional, the first evaluation tape played five or 10 minutes before being interrupted by an alarming distortion. After touching up more cold solder joints and checking all of the various power supply voltages, a few caps were found to be outside their typical 20-percent tolerance and replaced. So far, all of the extra work turned out to be preventive, as the unit is still intermittent.

By testing the AES output, one of two DSP chips was confirmed to be good, pointing to the D/A converter as driven by the I/O switching circuitry. Bingo! The "switch" was thermally unstable. The application of cold and heat can sometimes help localize a problem. For example, I recently located a bad surface-mount cap in an Alesis M20 head amplifier in this way, but the HHB only responded to a power cycle and not to the cold shoulder or the hot flash.

The next obstacle occurred during an attempt at record alignment, but there was no confidence output (the ability to monitor the signal from tape via the extra pair of heads for which there is a separate preamp and DSP). When the RF signal was confirmed, the next logical suspect was the slave DSP, a postage-sized Sony ASIC pin around its perimeter. Changing the chip was the trick!

Regarding the use of cable ties, many installers use a tool that automatically tightens the bundle and snaps the excess plastic. For the HHB's TC unit, high tension pinched the insulation to the point where it was too thin to be useful. I've never used that tool because it leaves a sharp edge that cuts like a razor. Diagonal cutters make a clean, safe and flush cut. Snake-oil cable fanatics take note: Over-tightened cable ties can also reduce capacitance and increase reflections in signal critical wiring.

THE SOFTER WRAP

Service techs see the world from the inside out, which is a bizarre enough perspective on its own. With the exception of vacuum tube and discrete transistor gear (modern or otherwise), just about everything else has shrunk to the point of being almost unserviceable. But contrary to belief, miniaturization and the highly specialized tools required to make such repairs are not an obstacle, as long as the item in question has maintained its value. ■

Eddie requires special looking glasses and is partial to bunny rabbits and smiling cats. Visit him at www.tangible-technology.com.

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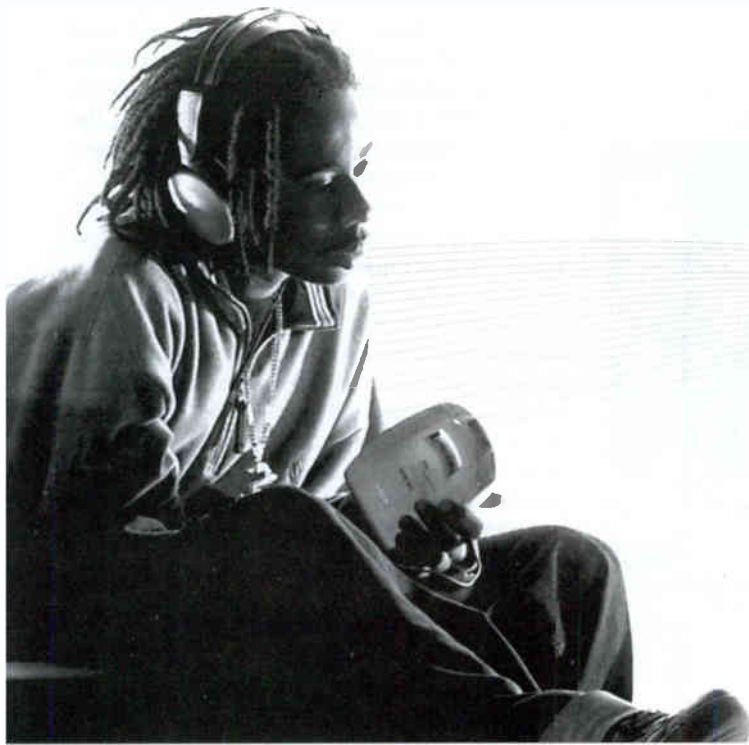


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ALANIS MORISSETTE

LYRICAL MISTRESS ADDS ANOTHER RECORDING TO HER TIME CAPSULE

By Matt Hurwitz

"I can be an asshole of the grandest kind," Alanis Morissette sings as she walks across a cavernous green-screen soundstage at Hollywood's historic Raleigh Studios, filming her latest music video for "Everything." This is hardly the sentiment one expects from the diminutive, yet powerfully voiced singer—especially not as a song to launch her new release with. Yet Morissette's latest album, *So-Called Chaos* (Maverick), is filled with such characteristically frank and introspective lyrics; her legion of fans would expect nothing less of her. Bringing the songs

Morissette and crew: (L-R) collaborator Tim Thorney, producer John Shanks, Alanis Morissette and mixer Chris Lord-Alge



to life turned out to be a complex and time-consuming task that took up nearly half of 2003.

In late spring of last year, the singer contacted former Ringo Starr engineer Scott Gordon, with whom she had recorded "Still," her contribution to the 1999 *Dogma* film soundtrack. "She asked me to put together some drum loops," a frequent writing tool used by the singer, Gordon tells *Mix*. Working at Gordon's Atlanta Studios in Los Angeles, the engineer worked with Morissette's drummer, Blair Sinta, to compile a large library of loops. "Being her drummer, he knows the kind of vibe she likes and what turns her on," says Gordon.

Sinta typically would play for 15 minutes at a time, with Gordon tracking the simple recordings (generally two mics: a kick and an overhead or two) on his Pro Tools rig, where he would edit the rhythms into loops. "We'd take that, and we'd process it with cheap distortion pedals, filters, delays and phasers—whatever we could think of to take the sound and f*** it up." After about 10 days' work, the two had compiled more than 300 loops, an ample selection for Morissette to choose from.

Once completed, Gordon, Morissette and Tim Thorney, her longtime collaborator, assembled in Jackson Browne's quiet, out-of-the-way Groove Masters Studio in Santa Monica, Calif., to begin the song-writing process. "It was all about finding a studio that was enough off the radar, where there weren't tons of people walking around or peeking their head in," Morissette says. "For me to feel really safe and inspired, I want it to be very contained." Morissette and company were also impressed with the technical prowess of studio manager Ed Wong and his team and with the large collection of vintage gear. "Tim and Scott were just drooling over it all!" she says with a laugh.

Morissette used the venue to churn out a dozen powerful, yet personal, new songs, using the drum

—CONTINUED ON PAGE 138

JOHN McLAUGHLIN'S CLASSICAL SPLASH

GUITARIST CREATES ANOTHER
ELECTRONIC/CLASSICAL FUSION

By Chris J. Walker

The brilliant and innovative guitarist John McLaughlin has always followed his heart. Beginning in England during the late '60s, he was experimenting with blues and avant-garde jazz/rock with Alexis Korner, Graham Bond, Ginger Baker, John Surman and others. Not long after that, he ventured to the U.S. and joined wunderkind drummer Tony Williams' groundbreaking fusion band, Lifetime. From there, he was recruited by the great Miles Davis to be part of his stellar experimental session bands for the landmark albums *In a Silent Way* and *Bitches Brew*. McLaughlin made some serious waves of his own in 1971, when he formed the revolutionary and highly influential fusion unit, Mahavishnu Orchestra. Within a few years, however, this restless musical spirit had moved onto other horizons, forming the Indian-flavored acoustic jazz outfit Shakti, a group he has returned to a number of times through the years, even as he has gone on to other exciting musical explorations with many inspiring musicians from the jazz and rock worlds.

Differing greatly from most of the discs in his illustrious catalog are two recordings that are based around classical music: *Apocalypse* (1974) was his most adventurous album during the second edition of the Mahavishnu Orchestra. Its orchestral work was conducted by Michael Tilson-Thomas and grounded by the driving fusion of his new band, which featured violinist Jean-Luc Ponty and drummer Narada Michael Walden, among others. His second symphonic album, *Mediterranean*, recorded in 1988, also featured Tilson-Thomas conducting the London Symphony, but it was texturally much lighter than *Apocalypse*, based around an appealing neo-romantic guitar concerto.

Fifteen years later and for the third time, McLaughlin has returned to the orchestral format with *Thieves and Poets*. The guitarist's first new studio project in almost six years features an orchestra known as I Pom-

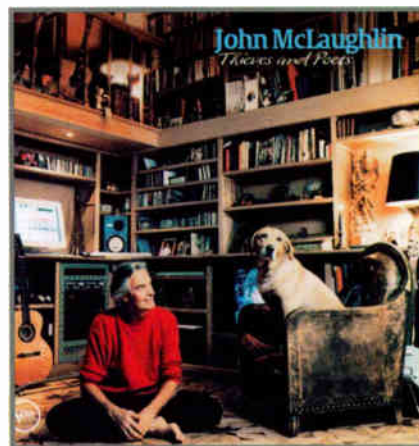


meriggi Musicali di Milano (Musical Afternoons in Milan), conducted by Renalto Rivolta. However, this CD differs from his previous classical works for its inclusion of four standards dedicated to four legendary jazz pianists: Herbie Hancock, Chick Corea, Bill Evans and current Cuban sensation, Gonzalo Rubalcaba. Accompanying the master guitarist for that portion of the CD are old cohorts the Aighetta Quartet with Helmut Schartmueller on acoustic bass.

When I caught up with McLaughlin in Boulder, Colo., where he was preparing for a tour with the latest incarnation of Shakti, he related his surprise that it's been a decade-and-a-half between his orchestral forays, noting, "They're all so very different. The first was a big electric band with orchestra. The second one was disappointing: I liked the piece, but I had no hand in the mixing and would have preferred another result. Maybe that's one of the things that made me produce this one in the manner I did—using orchestra in one way and sound design in another. Despite the density and dynamics of the orchestra, I'm able to get a coherent balance between the instruments, soloists and the mass that the symphony can come up with. You have this tremendous feeling of tension between them and the solo voice, but I like that."

Thieves and Poets is, in essence, a three-part suite chronicling the guitarist's musical journey during his lifetime. The first movement represents Europe, the "Old World"; the second is the transition to America, the "New World"; and the third is firmly set in

the "New World." The finale is a joyful unification of both worlds. Creatively and technically, it's derived and modified from a work originally commissioned by Jurgen Nimbler and the Deutsche Kammerphilharmonie. Once completed, with the help of Yann Maresz, his former student, McLaughlin toured with the symphony for performances throughout Europe. He called it "one of the greatest musical experiences of my life." However, once the concerts concluded, he shelved the composition and moved on to other pursuits. Several years



later, he dusted off the work, and again, with Maresz's aid, re-orchestrated it for a large symphony concert in Paris with his old friend, guitarist Paco de Lucía.

After that incredible performance, McLaughlin shifted his attention to other

—CONTINUED ON PAGE 141

CYNDI LAUPER'S "GIRLS JUST WANNA HAVE FUN"

By Gaby Alter

Much the way Britney Spears and Christina Aguilera have been played off against each other in the press in recent years, Cyndi Lauper was often compared to Madonna in 1983 and 1984, the years Lauper made her solo debut with *She's So Unusual* and Madonna released her first two discs. Lauper and Madonna presented two highly different versions of the female pop icon: one, a street-savvy Catholic-girl-gone-bad for whom sex and ambition went hand in hand; the other, a quirky, day-glo-haired rebel who combined pop divahood with a punky, new wave sensibility. Two of the singles that helped define their early careers emphasize this contrast: Madonna's "Material Girl" was the portrait of the ultimate pragmatic seductress, while Lauper's "Girls Just Wanna Have Fun" offered a playful perspective on female independence. Of the two singers, Lauper had the serious vocal chops: Her voice displayed a range and power that Madonna, though ultimately better at staying on top of the pop game, couldn't match.

"Girls," like the rest of *She's So Unusual*, is full of artful musical touches that complement Lauper's off-the-wall singing—the bouncy cartoon-reggae groove, the outlandish keyboard solo mid-song, the over-the-top background vocals. The studio team responsible for the song was the same one behind the hit '80s band, The Hooters: Rob Hyman (keys), Eric Bazilian (guitar), producer Rick Chertoff and engineer William Wittman. Chertoff met Hyman and Bazilian in college and, according to the producer, "We always stayed in touch and always were trying to work together in some way that would be fun." (The four continued to collaborate on and off after Lauper's album, scoring another big success in 1995 with Joan Osborne's Grammy-nominated debut, *Relish*.)

Chertoff remembers the genesis of the concept for *She's So Unusual*: "I was jealously guarding some songs that I thought were great in my desk drawer at Columbia," he says. "'Girls Just Wanna Have Fun,' 'All Through the Night,' that beautiful Jules Shear song, 'Money Changes Everything'—and I had an idea about how to recut that Prince song, 'When You Were Mine.' For me, they were really important pieces of some project, and I was looking for a Cinderella to kind of fit that slipper." During a cross-country flight, he mentioned his idea to Portrait Records executive Lennie Petze, who recommended a singer he'd been trying to sign from a band called Blue Angel. Chertoff soon met Lauper, and his slipper found its foot.

Lauper, however, was definitely not the passive princess type. "The songs that I had originally made up a good part of the record, but Cyndi's goal was to write as much as she could around those," Chertoff says. Lauper ended up co-authoring three of the album's songs, including the Gold single "Time After Time." "Cyndi and Rob Hyman from The Hooters wrote that song while I was running around breaking down drum mics," assistant engineer John Agnello recalls. "It was pretty inspiring."



Chertoff knew all along that "Girls Just Wanna Have Fun" was important to the recording. "I first heard it from Rob Hazard, who was trying to get his own record deal back then and eventually did. He had his own band called Robert Hazard & The Heroes. This particular song of his always struck me as being something interesting and fun and sort of poignant in its own way, and I knew that it was a cornerstone of my record with Cyndi."

It was another thing, however, to win Lauper over to the idea. "I sort of had to do a little convincing with her," Chertoff says. "I remember that rather than letting the song demo that I had be the only thing that could impact Cyndi on her choice of whether or not we should do this song, I decided to drive her down to Philly—we both lived in New York at the time—to see a performance of Robert Hazard & The Heroes."

"In the middle of the show, people are standing, cheering, hanging on every note, just the right atmosphere for me to try to sell this concept to Cyndi. As a young producer back then, I knew how important it was, so I was determined to try to show it to her in the best light and have her love it. Anyway, in the middle of this show, they play the song and people are cheering. But in the middle of the song, Cyndi shouts in my ear, 'I will never do that song!'"

Chertoff says he was "devastated" by Lauper's reaction. But he was also determined, and throughout the three-hour ride back to New York he debated with her. "Philosophically, she thought it was a sexist song. Politically, we were on the same page: I wouldn't have wanted to do a sexist kind of song, but I didn't feel it was that." By the time they got home, they still had not reached a conclusion and the debate continued for several weeks until Chertoff came up with a winning argument.

"I said, 'Listen, Cyndi. I just woke up this morning thinking that one thing we haven't talked about is if you sing it, it's a whole different orientation than if a guy sings it.' And I said, 'Don't answer now. Let's just hang up and sleep another day on it.' Anyway, long story short, to her credit, she called back the next day and said, 'All right, I'll do it.' Ironically, I don't know how many months later, she's on the cover of *Newsweek*"

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Lou Reed: *Animal Serenade* (Reprise)

Lou Reed's new live double-CD opens with the familiar chords of "Sweet Jane," but then he abruptly stops. "So I thought I'd explain to you how you make a career out of three chords," he says to howls of laughter. He then notes that the riff is actually made up of *four* chords, but he never does get back to "Sweet Jane." Oh well. Dust off your copy of *Rock 'n' Roll Animal* for that one. But Reed fans will find a lot to like here, as the New York icon serves up 20 songs spanning his Velvet Underground days to his most recent studio works, *Ecstasy* and *The Raven*. The small-group arrangements are dominated by Reed's ragged but effective electric guitar work, which turns out to be the perfect sonic bed for his unique sung/spoken urban poetry. It's an acquired taste, to be sure (but I've had it since the '60s). Among the most effective pieces on the set are the chilling "Street Hassle," a hypnotic rendition of the VU classic "Venus in Furs," a rockin' "Dirty Blvd.," "All Tomorrow's Parties" and the four tunes from the relatively obscure (and underrated) *Berlin*, most notably "Men of Good Fortune" and "How Do You Think It Feels." Reed takes you to places you might not ordinarily go and introduces you to people you might not ordinarily meet; surely, that is one of art's greatest functions. This set is a good crash course in what he does best.

Producers: Lou Reed and Fernando Saunders. Recorded by Biff Dawes/Westwood One at the Wilern Theatre, L.A. Mixed by Nick Launay at Platinum Studios. Mastering: Emily Lazar/The Lodge (New York City).

—Blair Jackson

John Pizzarelli: *Bossa Nova* (Telarc)

At some point, every self-respecting jazz gui-

tarist gets seduced by Brazilian music—by the bossa nova and the samba—and that means worshipping at the temple of Antonio Carlos Jobim ("Girl From Ipanema," "Desafinado" and "One Note Samba" fame). This is perfect territory for the smooth stylings of guitarist/singer John Pizzarelli, and



on his latest CD, he and a small group cruise through the classics above, as well as newer tunes by Brazilian writers such as Ivan Lins and Toninho Horta. Pizzarelli sounds right at home with the gentle rhythms and mellow vocal lines, and if he lacks the breathy sensuality of, say, Bebel Gilberto, he has plenty of spirit and fantastic guitar chops; in fact, if I have one complaint with this CD, it's that there's not enough guitar, which has always been Pizzarelli's strongest suit. I'm not sure, too, about attempting to transform songs like James Taylor's "Your Smiling Face" and The Gershwin's "Fascinatin' Rhythm" into the album's stylistic bag. Pizzarelli's own "Soares Samba" is right on the money, and the CD is a bright and breezy escape to a very colorful musical world.

Producer: Russ Titelman. Recording, mixing and mastering engineer: Robert Friedrich. Additional engineering: Dave O'Donnell, Hans Liebert. Studios: Avatar, Sony and Secret Studios (all in New York City).

—Blair Jackson

Damien Rice: *O* (Vector Recordings)

Since his beginnings in Ireland with the now-disbanded rock group Juniper, Damien Rice has designed a completely new musical identity. Often mislabeled as the "new David Gray," Rice has actually made an undeniable effort to develop his own sound using an

—CONTINUED ON PAGE 145

and *Ms* magazine and it's a feminist anthem."

It took several tries to find the right arrangement for "Girls." Chertoff says that they had decided on a reggae approach, but initially weren't satisfied with the takes they were getting with their in-house band, so they decided to enlist some help. "I remember that we were huge fans of Sly Dunbar and Robbie Shakespeare, who happened to be recording *Infidels* with [Bob] Dylan in New York City at the same time we were recording this record. We arranged to get them on an off weekend to come down and help us on that one track. I remember they were expensive and it was a big deal for me." They worked for a day with Dunbar and Shakespeare but, according to engineer Wittman, the results didn't match what they'd already gotten from bassist Neil Jason and drummer Anton Fig. (Fig currently plays with the Dave Letterman band.)

She's So Unusual was recorded at New York's Record Plant, using what Wittman calls "The Method," a recording approach he and Chertoff developed on Lauper's album and have used many times since. "We would lay down a drum machine, at that time it was a Linn drum, and we would overdub a guide track. In the case of 'Girls,' it was a guitar and the vox organ, which was playing the upbeats with the echo on it. That was kind of the basic layer. And then after we had a reference vocal, we would overdub real drums on top and then go back and replace the guide instruments. So everybody played to the drums, but we would sort of shape out the song and get a sense of the arrangement by laying down these guide tracks first."

The drums were recorded in the Record Plant's Studio B, which Wittman says contributed greatly to their sound. "We set Anton up in the middle of the room, which was not huge—about 35 by 25, and only an 11-foot ceiling—but it was unbelievably live. Every surface was hard, and it was very bouncy, splashy, nasty, live. Literally, if one person was talking on one side of the room, you might have trouble understanding them on the other side because of the scatter. So it was an incredible room for rock drums. And we set him up right in the middle to get maximum splash."

In terms of drum miking, Wittman used what remains his basic setup with a couple of special modifications. "It was an RE-20 inside the bass drum, with a blanket over the drum to try to keep the sound out of the other microphones and make it sound closer. The snare drum was a Neumann KM84, the hi-hat was a KM86 and the toms were U87s. Overhead, I had Beyer M 160 ribbon microphones.

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"And then I had one STC 4038 way up over the control room window and right up at the ceiling, right where the wall meets the ceiling—it was maybe 25 or 30 feet from the snare drum to this high, distant room mic," says Wittman. "I supercompressed that distant room mic—squashed the hell out of it—made it really, really bright. Then I gated that with a Quad-8 noise gate, and I triggered the gate with a close snare mic, so when he hit the snare, it would open this distant room mic near the ceiling, and you would get that 'gush' sound—it was very compressed and white noise-y. That was recorded to a separate track. After the fact, we also added a distorted handclap off of an 808—Eric Bazilian actually played it pretty much by hand, almost in real time to the track—that also had that white noise-y 'gush' sound, which was mixed in.

"Both the guitar and the vox organ were going through '60s Vox AC-30 amplifiers," Wittman continues. "Both of them were miked with one U87; pretty simple. We generated the delay that makes the double upbeats on the organ with a Publison [digital delay unit]. The effect was recorded with the sound onto the track.

"Also, the guitars were compressed with an LA-2A. Again, all that went to tape, so whatever effects or compression or EQ, I put it right on the tape. Pretty much, when you push the faders up, the sound is already there on those recordings. And I still do that. I like to know what it's going to sound like, and I don't like to have to re-create it every time you have to do an overdub or anything. I like to know that once you have something you like, you're locked in."

As far as mic pre's, Wittman used only the ones in the API console at Studio B, "because when you have a console with terrific mic pre's, there's no reason to shop outside. I really think this trend of, 'Oh, I want eight different mic pre's' came about because so many places started to have consoles that weren't any good. If you had a great console, there was really no reason for outboard mic pre's."

Wittman recorded Lauper's vocals with a Neumann U47, sending the signal through an API 525 compressor and the Publison delay. Half of the vocals on the track were cut in Studio B; the other half Lauper sang in a large storage room that she favored for recording, which was located behind the mix room and euphemistically dubbed "Studio E." "Of course, we couldn't see her. I think she lost some of her inhibitions in Studio E," Chertoff says. This led to some humorous moments for the studio crew. "There was a moment where we swore she was talking to somebody out there and the

room was empty," Agnello says. "We ended up naming her fictional friend 'Tony.' Like, 'She's talking to Tony again.'"

The track's wacky, skittering keyboard solo, one of its most memorable sections, turns out to have been a bit of studio serendipity. Rob Hyman played it on a Roland Juno 60 synth, nailing it on the first take. "It was like a big joke when we first did it, but then everyone was like, 'That's kind of awesome,'" Agnello says.

The mixdown was fairly laborious. Using the Record Plant's 56-in TSM Trident Console, it was done completely manually, as the studio had not yet gotten automated

We would do that again
and again, editing in
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so the final mix probably
has 100 little edits in it. That
was instead of automation.

—William Wittman

equipment. "You literally would have to do a section at a time," Agnello remembers. "Once you were finished mixing the actual song, you cut it all together, you would sit and listen back to it, and, ultimately, something would be not right, so you'd go back to that section, reset all the faders to that section and then do that and cut it in." Wittman corroborates the description: "We would do that again and again, editing in small pieces until everything was corrected, so the final mix probably has 100 little edits in it. That was instead of automation."

Ultimately, both "Girls" and *She's So Unusual* went Platinum in the U.S., the latter six times over. And though she had a number of hits in the '80s, several from her debut album, Lauper is still often remembered for the single that first brought her to the public's consciousness. While her days of Top 10 hits may be over, she continues to be well-regarded as a singer, and a recent cover album of jazz and pop standards, *At Last*, has given her career something of a comeback. But *She's So Unusual* certainly earned her a place in the pop pantheon. It's a well-crafted recording whose spirit of exuberant, musically savvy fun hasn't faded a bit 20 years down the road. ■

ALANIS MORISSETTE

FROM PAGE 132

loops as inspiration. "Sometimes, I'll write a song just out of thin air, and then other times, loops pull something out of me," she says. Gordon would play her a number of loops until one stirred her into action. Once selected, Gordon set up the loop in Pro Tools to play repeatedly for an hour or so, while Morissette sat at a keyboard (or a guitar) in the live room, playing (while Gordon recorded on Pro Tools) until an element of her song emerged. "At a certain point, she'd say, 'Okay, I think I have a verse,' and she'd play and sing the verse," explains Gordon. The process continued until verses, choruses and bridges were written, along with some lyrics. "She would then tell me, 'Okay, this is the order that I want—this is the song structure.' I then took the chunks of recording that she indicated and assembled, essentially, a road map of the song in the order she laid out."

"If a song took longer than 30 minutes to write, then I would just stop writing it, 'cause, to me, that meant that it didn't want to be written," Morissette says. "I was ruthless this time. Rather than writing 25 songs and picking from them, I wrote 12 and picked from them." Even then, just 10 songs made the album, while two others, "Wounded Leading Wounded" and "Finally, Acknowledgement," were left behind.

The writing process took place not only at Groove Masters, but at two other venues—West L.A.'s Village Recorder and Hollywood's Sage and Sound—all during a period from April to October 2003. Throughout the process, Morissette began tracking the recordings to create what ended up as demos from which to launch a second phase of recording. The artist worked with members of her touring band and others, including guitarists David Levita, Jason Orm and Joel Shearer, drummer Sinta, bassists Eric Avery and Paul Bushnell, and keyboardists Zac Rae and Jamie Muhoberac.

Surprisingly, Morissette also recorded her lead vocals early on in the process. "After we were done assembling the basic arrangement, she'd go out and sing," Gordon explains. "This might be anywhere from 45 minutes to two hours after she picked the drum loop." "I'd say a good 60 percent of the vocals are those initial vocals," Morissette adds. Gordon recorded those vocals using an AKG C 12, Morissette's mic of choice, with a string of compression tools, which he brought with him from studio to studio. "She likes a lot of compression," he says. "I'd run it through a

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Neve 1073 preamp, through an ADL compressor and a BSS DPR-404. She also likes to hear compression on playback, which I'd do using compression plug-ins within Pro Tools."

By fall, the process was considered complete, and Gordon prepared mixes for the 10 songs. It was then that Maverick Records executives Guy Oseary and Danny Strick suggested that Morissette allow producer John Shanks to try his hand on a few of the recordings. "It's very atypical of me to open up to the vulnerability of the songs when they're in this 'being made' mode, let alone

open it to someone else's interpretation," Morissette comments. "But I really did get to the point where I didn't want to overfunction as a producer or as a human being." Though she was unfamiliar with Shanks' work, she took the suggestion and liked the results. "What John did was so intuitive and so aligned with where I was coming from,

My job as a producer is like a blind date.

You come in and you're trying to gain someone's trust.

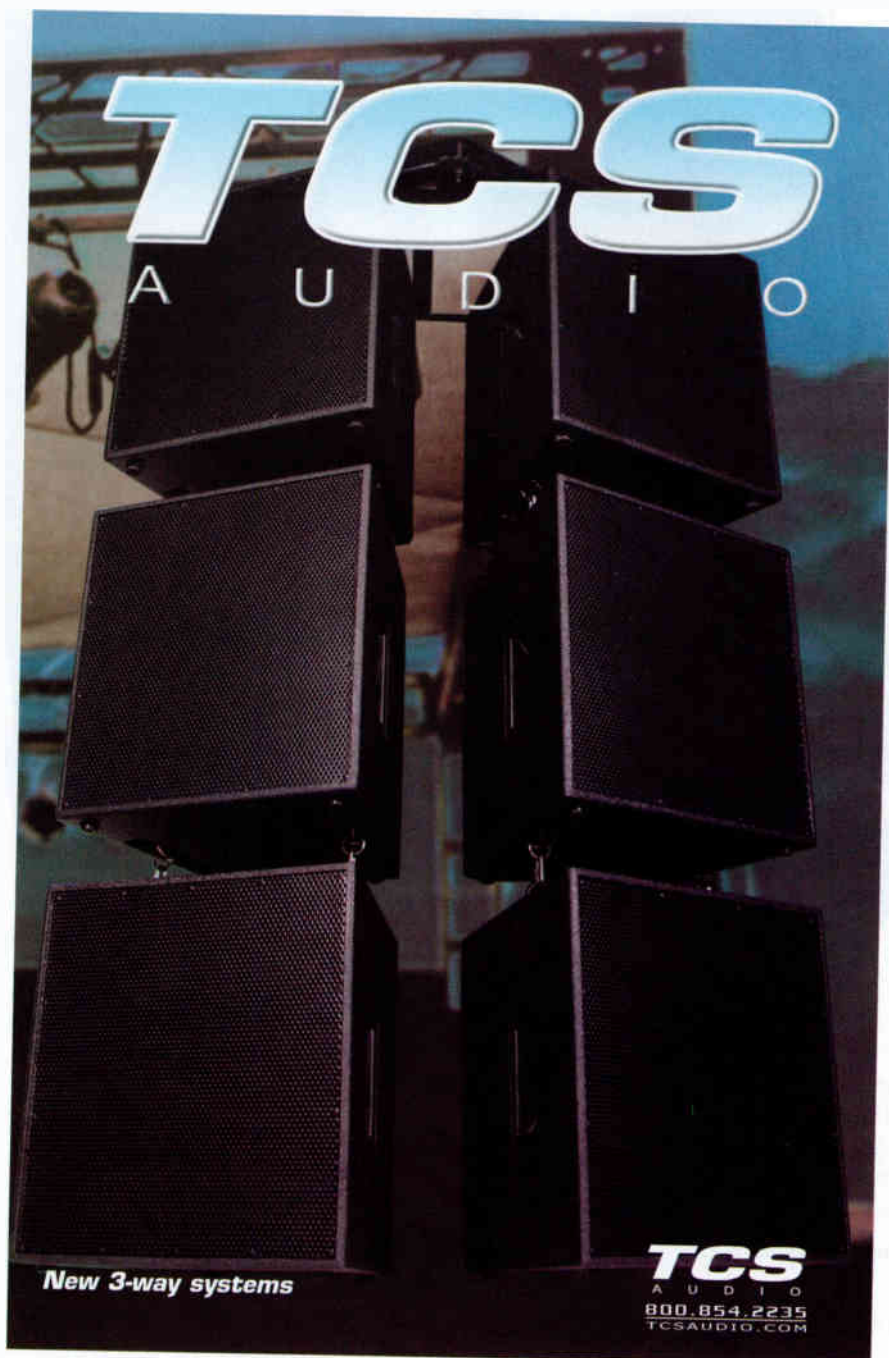
—John Shanks

it was great," she says. Notes Shanks, "My job as a producer is, a lot of times, like a blind date. You come in and you're trying to gain someone's trust."

Starting in late September, Shanks, working at his permanent base in Studio C at Henson Studios in Hollywood, spent a total of five to six weeks (spread over a nine-week period) building the tracks in his customary fashion. Shanks initially worked on four songs ("Eighty Easy Steps," "Out Is Through," "Everything" and "Not All Me"), restructuring the recordings, adding programming elements and recording additional parts. "I took the hard drive and just started going through it," he says. Morissette, at the time, was in South America, and when she returned, she was so pleased with the results that she asked Shanks to continue bringing the rest of the songs to the next level. "He's just really great at cleaning everything up and presenting it," she says. "It's like taking a little girl and putting her in some pretty fantastic Sunday clothes when she showed up in sweatpants!"

Shanks' lair at Henson, where he's been settled for the past two-and-a-half years, is loaded with vintage gear—everything from amps to guitars to processors—which he happily shows off like a man in his garage proudly displaying his coolest tools. His amp collection includes matching gray-top '63 Vox AC-30s (used to a great degree on this album), Divided By 13s, Marshall cabinets with a variety of speaker combinations and others. Inside the control room are stacks of more amp heads: a Diezel VH4, a '68 Marshall 50W Plexi, an early Matchless Clubman and a solid-state amp designed by Dweezil Zappa, which looks like the dashboard of an Aston Martin. "That's very Dweezil," Shanks says.

Prized, though, is a board-mounted collection of pedals, 20 in all, located in the control room, which Shanks thoughtfully uses as part of his chain to craft his guitar sounds (nearly all of which are played by the producer on the record). "The great thing is, since it's my room, everything's always set up. We can always switch very quickly." The guitar chain feeds signals first to the pedal board, which, for some units last in the chain, produces a stereo output. That output is then often fed to a pair of amps, which are miked before going to the preamps. The system allows an incredible



amount of control and an incredible amount of choice. "We can easily switch amps, switch effects, switch guitars because everything's already set up. You don't have to go out and stop the session and go mike something," he says.

For Morissette's album, besides adding layers of guitar (and sometimes bass) himself and new programming, Shanks brought in drummer Kenny Aronoff, and called on bassist Bushnell and keyboardist Muhoberac. The final result, drum-wise, is a skillful combination of drum loop programming and live drumming. "It's a blend, and Kenny's great at that. He really can mix well with loops."

The final backing track, on many cuts, is a combination of items from Gordon's initial sessions with Shanks' new recordings. "In some cases, it's almost a re-recording, but in others, it's really a morph between the two," Shanks says. "There are aspects of the recordings with her band that I really liked. If there's a great guitar part that's key to the song, I'm not going to change it. That would be ridiculous."

Besides instrumentation, Shanks did re-record some new vocal lines with Morissette, including harmonies, something at which she excels. "Some restructuring and rear-

ranging of songs and changing chords and dynamics required it. And she was a champ," Shanks says. The vocal mic was an AKG C 12, run through a similar chain as before, through a Neve preamp, Pultec and LA-2A.

Once the recording was completed, Shanks brought the four tracks to frequent collaborator Chris Lord-Alge at Image Recording, just two blocks from Henson, to try his hand at mixing. Explains Shanks, "I was doing some rough mixes for her and she liked them. And I said, 'Well, if you love mine, I think you should have Chris mix some of these songs.' Once those first few were done, it all fit together and clicked." Lord-Alge completed mixes for the remainder of the disc.

Like Shanks, Lord-Alge keeps a battery of vintage analog gear ready. "We're mixing rock 'n' roll music, and that's what it really boils down to," he says. "We use Pultec EQP-1S3s, Neve Model 2264X compressors, old UREI 1176s. And I have an SSL G Plus console. That's my little combination that I feel is the best. And we mix to half-inch." Typically, he preps recording for mixing by transferring the Pro Tools recordings to a Sony 3348 48-track, carefully reducing some tracks in preparation for the final mix. "It's

all about compiling vocals from Pro Tools and moving the levels around as they go to tape, before we even move a fader. It gives us that flexibility to be able to get her that in-your-face-clear and intelligible. 'Cause with Alanis, her lyrics are everything."

"He's very intuitive, and it's a very artistic process, his way of mixing," says Morissette of Lord-Alge. "He very much goes with his gut, as opposed to some people who very much stay in their head."

The finished album, says Shanks, is "lean and mean. I like that it's 10 songs—just 40 minutes. It's like those albums we all grew up with, where you finish the record and you want to hear it again." Each of the songs, he notes, are like mini-movies. "It really is a time capsule that's this year in her life." ■

JOHN McLAUGHLIN

FROM PAGE 133

creative directions. Then, Jean-Christophe Maillot, choreographer of Les Ballets de Monte-Carlo, the city that the guitarist also calls home, asked if McLaughlin had a piece for orchestra that he could choreo-

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graph. By this time, the composition was dramatically different from the initial conception—it needed revamping—and McLaughlin hadn't been able to set aside time to solely focus on it. By the time he finally completed the work, it had been three years since its initial conception.

In the beginning stages, McLaughlin worked off of a demo using synthesizers and samples, detailing the parts through MIDI for Renato Rivolta, who's also a jazz musician. Under the conductor's leadership, the orchestra recorded to Pro Tools in Officine Meccaniche Studio's huge wood-lined room

in Milan where McLaughlin had previously cut his CDs *Time Remembered* and *The Heart of Things*.

"Having a jazz player conducting the orchestra was great for me," McLaughlin comments, "because rhythm is very important. Not that I wanted them to sound like a jazz band, but I wanted them to keep pretty good tempo. They did a great job and had a lot of enthusiasm. And the soloists were outstanding and contributed wonderful playing." Due to scheduling conflicts, some of the soloists' parts were recorded later by McLaughlin separately at his home studio.

Additional orchestral elements were created in the studio, with Marersz playing a major role. "Strings and timpani can't be reproduced," McLaughlin explains, "but there still are a lot of things that you can do, and we, in fact, created our own instruments. We were using Pro Tools, and Yann is an expert with this Mac program that applies MIDI and its controls but in an acoustic environment. Still, it's major work and you must have a tremendous number of samples to get the right dynamics and timbre. Truthfully, it's more work than recording a symphony and I thought about flying in a big band to overdub on top of the orchestra, but I was already way over budget."

I'm able to get a balance between the instruments, soloists and the mass that the symphony can come up with.

—John McLaughlin

Not to be overlooked is the standards segment of the CD, which pays tribute to four keyboardists whom the guitarist greatly admires. McLaughlin says that he can't explain why, but he often feels a need to revisit his past, and classic American songbook material was what he was weaned on as a young jazz player in the '60s. In a way, these simpler, more modest tunes pick up where 10 years after his acclaimed *Time Remembered* left off. But they, too, proved taxing for McLaughlin, both in terms of composition and time. Each selection took roughly a month to compose and then condense through a lot of trial and error and rewriting.

Mixing was done in Pro Tools, mostly during September and October of 2002. Though McLaughlin is actually quite adept on the hard disk system, with more than 10 years of experience, he relied on Austrian engineer Marcus Wippersberg's talents for mixing, editing and some overdubs. Wippersberg, who's a rock drummer by trade, had never met McLaughlin or worked on a classical-based project before. From his home studio in Linz, Austria, situated between Vienna and Salzburg, he recalls how he ended up working with the renowned guitarist: "I met John during the middle of the work on the CD. He had already

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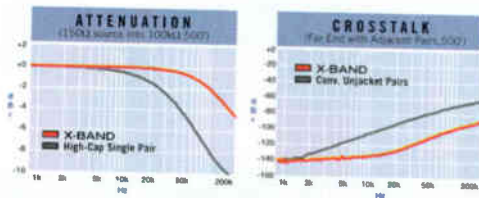
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recorded the string orchestra and his guitar on his own. I was working in Monaco with another guy in a studio for a Narada Michael Walden project. They came into contact with John, and he was looking for an engineer to work with."

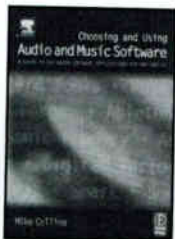
As a result of that meeting, Wippersberg soon found himself deeply immersed in McLaughlin's vision. He worked 12-hour days at the guitarist's side in Monaco and at his own similarly equipped studio in Austria, conferring long distance with the guitarist about both technical issues and creative matters. "John really knows what he wants and he also knows a lot about the Macintosh operating system and other things," Wippersberg says. "It wasn't, 'Do what you like and I'll tell you if I like it.' He's mixing with you all the time." Wippersberg felt the four standards were fairly easy to put together, but the three-part suite and finale, with orchestra, soloist and extensive sound-designed portions programmed by Maresz, were extremely challenging to mix. "Getting those three components to sound like one orchestra playing was difficult," the engineer comments. "Basically, I couldn't have done it without the Altiweb plug-in. It made everything sound like it all happened in the same room, and I've used it on every record I've mixed."

Wippersberg is the first to acknowledge that working on *Thieves and Poets* was a far cry from the rock and soundtrack sessions he normally does. It was a tremendous learning experience for him and quite inspirational: "It was really beyond belief! I would be sitting in the library of his house in Monaco where he has his Pro Tools setup and he's behind me playing his acoustic guitar! The best part was recording his solos and getting to decide which one would be on the record. I'd definitely like to do more work with him."

When we spoke, McLaughlin was already focused on his next project, which he hinted would be a drastic mixture of styles sure to inflame critics. Summing up *Thieves and Poets*, he states, "I would safely say that this is my last swim in the classical swimming pool. I'm 62 and I can't see myself doing another one 14 years from now. But through classical is how I first fell in love with music. It was only later that blues, jazz, flamenco and Indian came in. But out of them all [his classical albums], I'm the happiest with this recording. And in the end, that's the only thing I can really hang on to. I've had my share of flack thrown at me by record companies. But in the general sense, I have to make myself happy; otherwise, I wouldn't want to release it."

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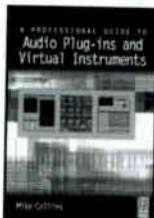


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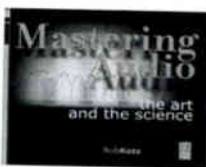
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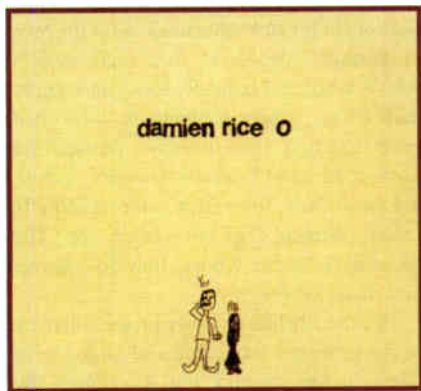
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Cool Spins, FROM PAGE 136

eclectic group of instruments, vocalists and production methods. His debut album, *O*, has won him a devoted fanbase stateside and worldwide, selling out intimate venues on his first tour. Rice has put his heart into *O*—as lead vocalist, multi-instrumentalist (playing clarinet, piano, bass and guitar), songwriter, engineer and producer, there's no question that this project is his own. In fact, the entire album was recorded via mobile studio on European backroads. *O* flows along, well-constructed but unafraid of improvisational moments, using heavy doses of cello and violin to harmonize with Rice one moment, and opera singers and Gregorian chants the



next. Tender songs like "Volcano" and "Canonball" are balanced by studies in remorse and unrequited love ("Cheers Darlin'," "I Remember"). Like a collage, *O* works dissonant sounds into patterns that artfully come together—vocals on top of strings, piano and electric guitar—all lashed together by lyrics that hit directly at the organs responsible for nostalgia or impulse.

Produced, recorded and mixed: Damien Rice. Additional credits for "Amie": Produced by David Arnold, recorded by Steve Orchard at Air Studios, mixed by Rice, and orchestrated and conducted by Nicholas Dodd. Mastered by Robyn Robins at Mid Atlantic (Co. Fermagh, Ireland). —Breean Lingle

The Bad Plus: Give (Columbia)

Jazz music often comes off, especially to the un-Monk-trained ear, as complicated and pretentious, leaving some to dismiss the entire genre with a flippant "I don't like jazz. I don't understand it." Well, maybe they could be won over by the Bad Plus, an über-talented acoustic trio that's well-schooled in improv and odd time signatures, but comfortable enough in their virtuosity to stretch progressive jazz boundaries and even cover a heavy metal tune if they want to. The lead track on the group's sophomore release, "1979 Semi-Finalist," introduces us to



David King's often brutal drumming, Ethan Iversen's melody-rich piano playing and Reid Anderson's slippery bass. "Cheney Piñata," one of eight Bad Plus originals, bursts forth with bright Latin melodies and ample percussion, while tracks such as "Frog and Toad" show the group's adept subtlety. Covers include the spooky and chaotic "Street Woman" (Ornette Coleman); an impressive "Velouria" rearrangement (The Pixies) that's led by rapid-fire percussion and progresses from sparse to cacophonous to gorgeous; and a must-hear version of Black Sabbath's classic "Iron Man." Yes, the Bad Plus is bad-ass!

Producer-engineer: Tchad Blake. Assistant engineer: Claire Lewis. Studio: Real World Studios (Wiltshire, England). Mastering: Bob Ludwig/Gateway Mastering. —Heather Johnson ■

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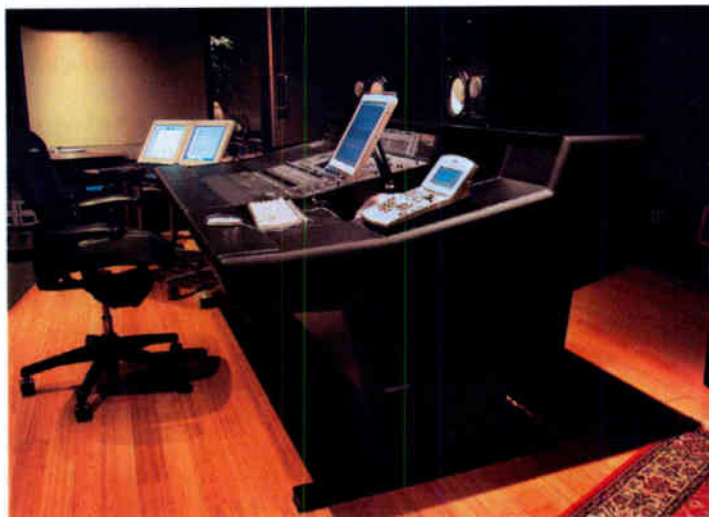
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L.A. GRAPEVINE

by Maureen Droney

For some time, I've been suggesting (yet another!) designated Grammy Award category: Best Cartage of the Year. With the proliferation of home studios and the decimation of recording budgets, the challenges of the business have grown exponentially. Just ask Jimmy



PHOTO: MAUREEN DRONEY

Together at Mates: founder Bob Brunner (right) and partner Jimmy Giglio

Giglio of Mates, the North Hollywood cartage, rental, storage and rehearsal studio company founded by his partner, Bob Brunner.

"It's true," Giglio says with a rueful laugh. "With budgets down, people are cutting back. What they don't realize is that in this business, a lot of times it's the little guys that make things happen. Rehearsal and cartage are bottom-line necessities, but, especially with cartage, most people just don't realize what goes into it. Sometimes, what we do is actually physically dangerous. There'll be 400 to 500-pound equipment racks, 2-inch tape machines and a driveway that a truck can't fit up. It takes four guys and three hours, sometimes on short notice, and safety *always* has to come first."

There's probably nobody in town with more insider knowledge of the Los Angeles music scene than Brunner and Giglio. Although they won't talk, they're privy to the who, what, when, where and why of just about everything that goes on. Says Giglio, "It's easier to list who hasn't worked at Mates than who has. But when you come to Mates, it's your business and nobody else's."

It all began back in the early '80s. That's when Brunner, who'd grown up in New York "around the music business" (his father was a press agent for such jazz notables as Louis Armstrong), opened his first rehearsal studio. "I fell into this," he admits, "and I learned from the school of hard knocks. In the beginning, I made so little money I actually lived here for four years. I never had any investors, but when Guns N' Roses blocked out a lot of time for *Use Your Illusion 1* and *2*, there was an influx of money that I poured back into the business. That's when I started the cartage division."

Giglio, a Massachusetts native, elaborates on the details of his introduction to Brunner: "I came out with a band in 1982. In between gigs, I had nowhere to live, so I was sleeping on the couch at Mates. I wasn't the only one! A lot of people got their start here. Finally, in 1997, I came back off the road from

Brazil, realized it was time for a change and went to work with Bob."

Today, Mates has three rehearsal rooms, 60 or so storage lockers, 12 employees, five trucks and somewhere around 150 cartage accounts. The largest rehearsal stage has a sophisticated acoustic environment with an Electrotec (now PRG) P.A. and monitors—powered by Crown amps—and a Soundcraft SM12 monitor desk. The two smaller rooms, also equipped with monitor systems, are likewise set up for privacy with separate bathrooms.

Brunner relies on his large network of friends to stay on top of new gear. "I have a lot of help around town, great contacts with their ears to the ground and great suggestions: People like sound tech Tony Byrd and Ted Leamy, who's with JBL now but was with Electrotec for a long time."

Business continues to grow. A new addition to the complex is a Pro Tools production and recording suite, a joint venture in artist development with producers Mike Clink and Noel Golden. On the cartage

—CONTINUED ON PAGE 149

NASHVILLE SKYLINE

by Rick Clark

A recent club gathering that radiated that special sense of community was the memorial benefit for Jack Emerson, held at the Mercy Lounge. Appearing that night was a who's who of Nashville rock, alt-country and rootsy singer-songwriters who had been touched by Emerson's passion for great music and business integrity, including Steve Earle, John Hiatt, Sonny Landreth, Jason Ringenberg (of Jason & The Scorchers), Webb Wilder, Billy Joe Shaver and many others.

We usually like to cover projects that are being recorded for major and larger indie labels in this column, but sometimes, the crush of songwriters and artists underwriting their own projects and getting things done on favors, a wing and a prayer need to get some juice, too. So the rest of this "Skyline" is dedicated to a talent that has been working hard on the fringe and deserves a look and listen.

Mike Younger is one of those local artists who has been pushing the proverbial rock up the hill for some time in an effort to get his music out to the world. He isn't your average guy, having first started playing on the streets and living as a squatter on New York's Lower East Side before making his way to New Orleans for four years, where he used to take shifts on a street corner with a juggler performing for tourists. WWOZ disc jockey, former MC5 manager and political activist John Sinclair became a fan of Younger's and gave him an open invitation to play on his radio show. Younger took up Sinclair's offer and after only playing a couple of songs, the station got a call from Nashville publisher Chris Keaton, who caught the show while driving through New Orleans on his way to Texas. He arranged a meeting, and soon Younger moved to Nashville, eventually hooking up with Rodney Crowell, who would produce Younger's 1999 indie debut, *Sometbin' in the Air*. While that album got some airplay on AAA stations and performances at the Sundance Film Festival and the 2002 New Orleans Jazz and



Heritage Festival, the album didn't sell and momentum began to flounder.

In October 2002, Younger decided that Nashville wasn't where he needed to be and made a move back to New York City, settling back into the East Village near St. Mark's and Avenue A with longtime friend and pianist Bob Packwood. The two started playing together at some of Younger's old haunts, including 9C and Eric "Roscoe" Ambel's Lakeside Lounge, and eventually assembled a band that included bassist Skip Ward and veteran Southside Johnny drummer Louis Appel. All the while, Younger was writing new songs and getting antsy to record again.

Enter two of Younger's best buds from Nashville—engineer Rob Clark and manager, booking agent and promoter Brian Wagner—who urged him to make another record. Instead of waiting around for a record label to advance him some money, Younger dug in and started working construction in New York and then went up to Maine and harvested blueberries along with seasonal migrant workers. Eventually, Younger saved up the cash that would ultimately fund his Nashville album project, which is tentatively titled *Tooth and Nail*. When Younger returned to Nashville, he

—CONTINUED ON PAGE 149

NEW YORK METRO

by David Weiss

Serious musicians make seriously great music, but do they also make seriously great studio owners? There's nothing surprising about players setting up their own space to record, but it gets interesting when they become as devoted to their facility as they are to their instrument.

More than a decade ago, when jazz legend Ornette Coleman started renting space on 125th Street on the East Side of Manhattan, the original plan was simply to set up a rehearsal studio, but it evolved into something much more important. Today, his warm-feeling facility, Harmolodic Recording Studios (www.harmolodicstudios.com), may be the only world-class recording studio in Harlem.

For Harmolodic and its clientele, which ranges from rock to hip hop, world music and, of course, jazz, the first of those needs was a standout Studio A console/monitors combination. Designed with chief engineer



PHOTO: JAMES BELFEN

New York studio gem: The Coleman family legacy lives on, offering creativity and hands-on recording experience to hip hop, jazz and rock clientele. Pictured: Studio A's control room.

Chris Agovino, Harmolodic's studios pair a 72-channel Mad Labs–modified Neve VR board with Flying Faders, and Westlake BBSM15 monitors and subwoofers. "We knew we'd attract other musicians and engineers like ourselves who are interested in what sound they're getting, going to tape or Pro Tools," Coleman says. "Here on 125th Street, we know we'll be doing a lot of hip hop, so we have banging subs and tuned the room so that the fidelity sounds great, but when you need that extra kick, it really hits hard."

Adjacent to the control room is one of Harlem's jewels, a 1,500-square-foot live room featuring two large iso booths for vocals and drums, plus an extremely warm vibe. "As creative people, we tried to really approach the studio as an environment where a person could get a good, creative feeling from it," says Coleman. "Not only is it technically and acoustically right, but the feeling is comfortable and professional."

Studio B offers a full-service Pro Tools suite with a ProControl surface, vocal booth and a very comfy couch. "This is a dedicated project room, and it gave us a nice balance," Coleman notes. "You can do your basic tracking and pre-production in Studio B, then add vocals or strings and mix on the Neve."

—CONTINUED ON PAGE 150



PHOTO: BECK CLARK

Smiles in memory of Jack, backstage at the Mercy Lounge. Left to right, Sonny Landreth, Steve Earle, Billy Joe Shaver, Jason Ringenberg, John Hiatt and Warner Hodges

SESSIONS & STUDIO NEWS

NORTHEAST

Avatar Studios (NYC) hosted bassist Charlie Haden to track his latest effort (Verve), featuring Cuban jazz pianist Gonzalo Rubalcaba, with Jay Newland engineering and Ross Petersen assisting... Five-time Grammy nominee Roomful of Blues was at Osceola Studios (Raleigh, NC) recording *That's Right!*, their 17th album... The Infernos Band, which comprises Kenny Simmons and Bobby Wells, worked on their upcoming release, *The Third Prophecy*, at Supreme Sound Studios (West Paterson, NJ)... Chicago's own Disturbed was in the studio at Gateway Mastering & DVD (Portland, ME) with Adam Ayan (mastering engineer) for their upcoming CD and DVD (in stereo and 5.1 surround) release entitled *Music as a Weapon*, which includes live performances from their 2003 summer tour.

SOUTHEAST

Blues vocalist and guitarist Tinsley Ellis was at Stonehenge (Atlanta) recording his upcoming Telarc release. Ellis produced and Jim Zumpano recorded and mixed, while Dred assisted. Tracks featured guests Richie Hayward (Little Feat drummer) and Kevin McKendree (keyboards). Also in Stonehenge

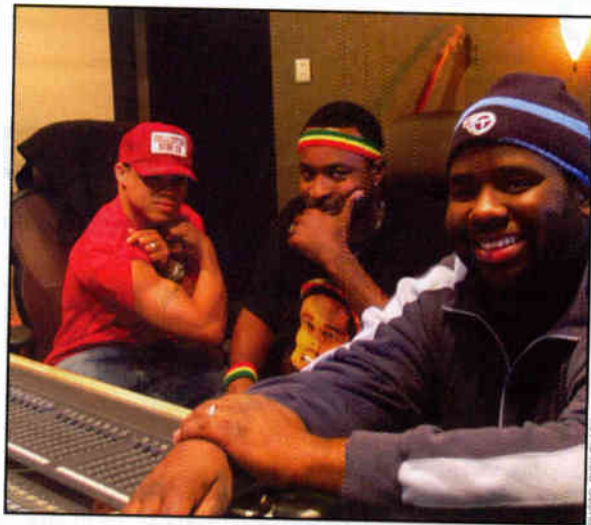
was keyboardist Tom Grose, who was working on a tribute record for songwriter Harold Arlen, due out in late-2004... Chase Park Transduction (Athens, GA) hosted a slew of artists in early 2004, including hard rock band Injected, who tracked their new album (Island/Def Jam) with producer Nick DiDia and engineer David Barbe. Meanwhile, Atlanta indie-rock band Dropsonic (Rowdy) was in recording their new album. Dallas Austin produced and Barbe engineered.

MIDWEST

Gary Stier was in the Blue Room (Chicago) with producers Edgars Legzdins and assistant Ed Andersen.

NORTHWEST

Time Capsule Studios (Denver) had engineer Brendan Lavery in mixing and tracking Askimbo's newest project for 2004... Bay Area Recordings (Berkeley, CA) featured a range of exceptional sessions, including some fea-



GOTEE/EMI Records artists Grits working on tracks for the forthcoming *Grits I* and *Grits II* at *The Groove Room* (Nashville). Coffee flexes, while Teron "Bonafide" and Otto Price (right) go with the moment.

turing Larry Vuckovich working with renowned jazz vocalist Jon Hendricks; Michael Cogan and Phil Edwards were on hand to engineer... Nettleingham Studios (Vancouver, WA) engineer Kevin Nettleingham mastered releases for PDX artists Grails, Hubcap Annie and Everything That Kills... Green Day was at Oakland, Calif.'s Studio 880 recording their version of Bobby Fuller Four's "I Fought the Law," which is part of Pepsi's new ad campaign (introduced during the Super Bowl) that features kids who had been busted for illegal downloading. Rob Cavallo produced and Chris Dugan engineered.

SOUTHERN CALIFORNIA

Granada Hills' Metrosound Studios announced that young (and funky) six-piece Juz-Cuz was in recording their debut with producer Jaeson Jarrett and engineer Tom Thomas. Thomas and Jarrett were also in with PPL records Latino artist Galdino Sandoval, whose debut features Mariachi, Banda and Latin pop... The Village Recording Studios (West L.A.) hosted serious star power for KCRW's "Morning Becomes Eclectic": Indie rockers Starsailor and Travis, Randy Newman and Rickie Lee Jones were on hand at various sessions, all engineered by Jason Wormer.



Moby (accompanied by Frank the dog) and Chuck D (left) were tracking at Loho Studios (NYC) for their contribution to this summer's Olympic games. Moby produced and engineered, and Sean Gould assisted.

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side, there's more than pick up and drop off. Some sessions require a Mates tech to set up equipment or to work the entire session. There are backline rentals, and Mates now handles worldwide freight forwarding for many of its touring clients. "We work a lot with Sound Moves," says Giglio. "For the techs, artist managers and tour managers, it just became simpler to have us help in that area. They can take care of things with one phone call. There's so much going on with a rock tour, when people need something done, they want it off their plate without



PHOTO: MAUREEN DRONEY

Owner Jon Hodges (center) with engineers Aleks Tamulis (left) and Bryan Davis at Hollywood Sound.

having to worry about it. They can just talk to us once and it's done."

The friendly mom-and-pop (actually, pop-and-pop) vibe of Mates remains constant, but these days, Brunner tries to quit by five to go home to his family. "It's hard to make myself leave," he admits. "I like what I do: being around artists and creative people, and especially the production managers and technicians—the unsung heroes. It never fails to blow my mind what it takes to make a show or an album happen. At Mates, we try to make things a little easier for our clients to do their jobs and to make them comfortable while they're doing them."

Hollywood Sound Recorders has completed a major renovation and is celebrating both its reopening and the debut of its hybrid 64-channel Neve 8068/API console. Founded in 1965 by songwriter Jesse Hodges, the venerable Hollywood Sound complex has, during the years, hosted a long list of classic recordings by such artists as Earth Wind & Fire, Prince, George Clinton and Parliament/Funkadelic, as well as current hits by Slayer, System of a Down and the Black Crowes. Most recently, along with much of the rest of Hollywood, HSR had been struggling. Now owned by Hodges' son Jon, an entrepreneur in his own right, HSR is re-emerging as a comfortable, hip and live music-friendly environment for budget-conscious bands.

Situated in the heart of what has been a slowly but surely gentrifying area, HSR seems poised to take advantage of both its

history and the energy of the neighborhood. There's also new energy in the building. In addition to the main first-floor studio, two newly constructed studios, occupied by producers Dave Cobb and Brad Todd, are now on the second floor, as is L.A. Entertainment, a record label/promotion company joint venture between Hodges and producer/composer Jim Ervin.

Hollywood Sound's original studios were known for being solidly built and much of the infrastructure has been left intact. The big change is that the facility's two smaller studios have been combined into one that boasts a large tracking area with five iso rooms, new bathrooms and a spacious lounge.

"Basically, I've redone, at least cosmetically, every square inch of the building," explains Hodges, who's carved a successful nonmusic business career out of two golf-related companies. "My dad started with a little studio, and over the years bought out the entire building. It was a great place in its day, but it hadn't been making money for a long time. I grew up around the studios, but I'm not a musician; I'm more of a businessman. When I took over the building, I wasn't sure what to

do with it. Finally, I decided that I wanted to keep it as a studio. There were a lot of great records made here, and I want to bring that history back. A lot of people helped us with the new studio design, like George Augspurger, Chris McClure, Steven Klein and Chris Pelonis. It was a big decision for me and it's been a lot of work, but everybody seems to love the result."

Except for cosmetics, the original control room of Studio A was left mostly intact. "In the control room, all we really did was take out the raised floor, which used to be a foot or so higher than it is now," Hodges comments. "That makes the room feel much more open and spacious."

The upgrades have resulted in a warm, earth-toned design with natural bark wall treatments that somehow manages to feel both modern and vintage with a comfy living room vibe. The "best of both worlds" theme continues with the console: a combination Neve 8068 and custom API with 550A EQ modules. Tied together through the Neve center section, the console features 16 bus outs, eight aux sends and 48 channels of Flying Faders. (An additional 16 faders are slated for Flying Faders, for a total of 64 automated inputs.) Work on the console was done all in-house, under the auspices of chief tech "Chuckie," with the help of an international consortium: engineers Aleks Tamulis, Bryan Davis, Selim Achour and Garen Avetisyan.

Other equipment in the main studio in-

cludes Pro Tools, a Studer A827, an Ampex ½-inch ATR 100 and a good complement of outboard gear: UREI, dbx, Summit, Avalon, Universal Audio, Altec, Lexicon, Eventide, Yamaha and TC Electronic signal processing. There are also two EMT plates: a 240 and a 140. Main monitors are George Augspurger with JBL and TAD components; near-fields include Tannoy Super Gold with Mastering Lab crossovers, Noberg BCS 16Bs, Yamaha NS-10s and Auratones.

The second floor has its own separate entrance, a reception area, a lounge and bathrooms. The studios, which were built as "rooms within rooms" to provide sonic isolation, feature picture windows that look out over Hollywood. Cobb's studio is fitted with an SSL 4000 E/G Plus, and Todd's is a Pro Tools suite with an abundance of outboard gear and microphones.

"The renovation is really in memory of my father," says Hodges. "It has been a labor of love that I couldn't have done without the support of both my wife, Amy, and my mother, Betty. My hope is that the studio will be able to thrive for another 40 years and continue to make music that lasts forever." Visit www.HollywoodSound.net for more info. ■

Got L.A. news? E-mail MaureenDronney@aol.com.

NASHVILLE SKYLINE FROM PAGE 147

brought the band with him and even paid them per diems out of his savings.

"I decided to make this record independently because I got really tired of letting the business side of things keep me back. I had some hard luck in the past and have learned the merits of doing as much as possible without involving or relying on labels," says Younger. "Every time I got frustrated, I thought about the record I was going to make. I wanted to make the record the way I heard it, as opposed to some A&R guy or producer making the record they heard. It seemed worth it at the time, and it was."

To make the new album, Younger enlisted Clark to engineer and co-produce. Clark had started out in Nashville four years ago answering phones at a studio on Music Row, and meeting and eventually assisting on sessions with guys like David Thoener, Jim Cotton, Bil VornDick and many others. Ultimately, Clark worked exclusively with producer Roger Moutenot, who started turning over more and more engineering duties.

"I was fortunate as an assistant to work with some great artists like Alison Krauss, Nickel Creek, Marty Stuart, Emmylou Harris, Ralph Stanley and Taj Mahal," Clark says, adding, "Roger has also exposed me to some

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great rock and pop acts like Guster, Beulah and Michelle Branch. It's been hard to break through to the first-engineer chair, but the time I spent with the great engineers that I assisted definitely helped me feel confident and ready to take on the job.

"Co-producing and engineering this record with Mike Younger has been a wonderful experience, because he is willing to sit back and let me do the things that I want to do, and we have been lucky in that our



Guitarist/singer Mike Younger's past helped prepare him for the tough process of recording an album independently. Engineer Rob Clark (right) also co-produced.

respective ideas for this record are very close. To me, this project is about him and his songs. There are a few labels interested in the record already, and I'm sure there will be even more once his management starts sending out mixes."

The project was tracked for three days at Masterlink on a Pro Tools|HD3 rig through the Neve V3 console and utilized the studio's great assortment of outboard pre's and classic microphones. After tracking, the project moved to Moutenot's studio for overdubs and some preliminary mixes.

Clark tried a few different mics on Younger's voice before deciding on a Neumann U67. "Mike has a lot of character in his voice, but you have to be careful around 4 kHz," says Clark. "The U47 just brought out too much of that part of his voice."

"The drum sound comes mostly from a pair of U87s set up in the British standard technique, going through a pair of Neve 1081s with a Neve 33609 compressor lightly working on the front end," continues Clark. "I also used kick and snare mics to fill out the direct part of the sound. For the room, I used a pair of U87s bused together with a Coles ribbon mic, and then compressed the resulting stereo image with an Alan Smart compressor. The bass is a blend of amp and DI

on separate tracks, each going through a 1073 and then an LA-2A to smooth out the peaks. The electric guitar was recorded with a 57 and a Royer 122 active ribbon mic, each through a Neve 1066, and then bused together and compressed with a 'black-face' 1176. Piano is a pair of U48s through V76s, and then an 1178.

"I tried to do as much compression and EQ as I could get away with on the front end before digitizing the signal. There are just some things that sound better to my ears when done before hitting the computer," Clark adds. "I'm back at Masterlink mixing some of the songs, just because the mix bus on their V3 sounds so fat and beefy. It's not quite as easy to get this kind of low end out of a Pro Tools rig without hitting any kind of analog bus."

Listening to the rough mixes, highlights on Younger's album range from the rough-and-tumble bar-band rock of "Soul Searchin'," to the bluesy "Devil's on the Rise" and the reflective and topical "Everyday War." The songs and the playing are strong; it's obvious that

Appel is one rock-solid groove drummer—what a feel!

"Once this is fully mixed, I'm going to put it out there any way I have to," states Younger. "There are a lot of ways to get your product out these days that weren't available until very recently. If I have to put this thing out myself, I will. For now, I'm just gonna let it get around to some people and see what happens. I had a lot of help doing this, and everybody involved was super-cool. I'm very grateful to them that I was able to do it this way." ■

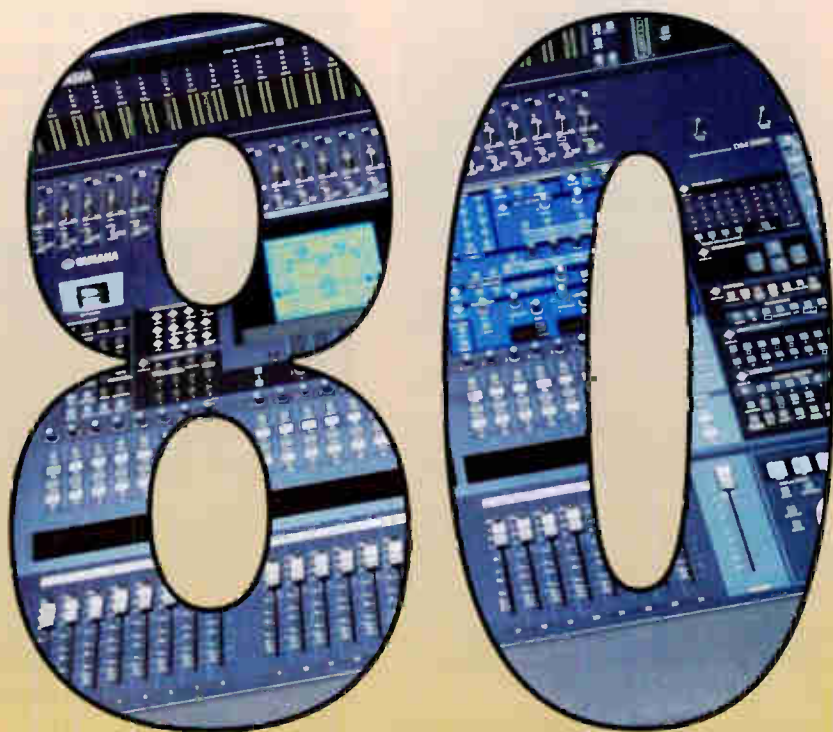
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NEW YORK METRO FROM PAGE 147

Coleman contends that being ready for anything, and having top people like Agovino, engineer Jeff Crews and studio manager Russ Ramoutar, makes the leap to a commercial studio doable. "You expect Murphy's Law, so you have to make sure that all your gear and personnel are working properly," says Coleman. "My father is an icon, but at the same time, he's a very supportive person. He's always been that way—encouraging people to follow their own voice,

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Go downtown and across a bridge to the Williamsburg section of Brooklyn, and you'll find another master musician and his studio thriving. Just a step away from the entrance to the "G" subway line is the aptly named Studio G (www.studiogbrooklyn.com), the sonic space of bassist Tony Maimone, whose extensive credits include Pere Ubu, They Might Be Giants, Bob Mould and probably half of the bands in New York City.



Studio G's Joel Hamilton and Tony Maimone (right)

"I remember the first time I was in a studio," Maimone recalls. "I was probably 23, and it was in Cleveland Recording. They had all these amazing objects. My first impressions of all this were just so powerful that they stayed with me, and I thought that if there was ever a time that I wasn't going to just be a player and be on the road, I wanted to be involved with a studio."

Maimone finally got the chance in 1999, nabbing approximately 1,500 square feet of space in his adopted 'hood of Williamsburg. The small-scaled Studio G has enjoyed a steadily larger following among artists making indie rock, live drum 'n' bass and myriad experimental styles. Bookings for live tracking and mixing sessions have continued to increase due to the intimate atmosphere, a luscious gear list and the ears and engineering talents of Maimone and chief engineer Joel Hamilton.

"This is a really left-of-center creative space," Hamilton explains. "It's not set up to do a Celine Dion record, and it never will be, so everything is built with an interesting 'color' in mind. That's why the gear choices are what they are, and the layout is like the neatest clubhouse you ever wanted in your life. We don't have a preconceived notion of what it means to record an album. When it comes to recording techniques, we use the

word 'wrong' a lot as a positive adjective."

In addition to the natural, unpretentious feel of the live room, which holds a Peavey drum set and the studio's solid collection of amps, including a Gibson "Goldtone" 1x12 combo amp with reverb, artists get even more comfort from what they hear in the control room. That's where Hamilton takes command, manning a terrific-sounding 1971 Audiotronics "Son of 36 Grand" 26x16x2 console. "This is serial number 007, built right after the one that Stax Records recorded on, which was number 006," says Hamilton. "The designer had looked at all the engineers in Memphis using Pultecs and APIs and said,

'Let's make something with API mic pre's and Pultec EQs on every channel.' The key is its passive gain stage. It's a really wide-open, stupidly punchy console, and it combines elements of all the huge-name consoles that I've *tried* to love." The sound can go either to Pro Tools|HD3 or a recently acquired Studer A827 2-inch, as well as a number of other analog and digital formats.

Hamilton's keen eye and ear for distinctive equipment continues with outboard, including a custom DaviSound TB2 compressor. "These guys do stellar work, and that thing sounds amazing," he says. "We also have the Manley reference mic pre. Only 40 of these were ever sold to the public. It's got this massive amount—70 dB—of gain, so with ribbons, it really sounds amazing."

G's collection of rare and vintage microphones is extremely impressive and reflects the meticulous approach that Maimone and Hamilton take to recording. "Everyone says that mics are the paintbrushes and each one imparts its own character," says Hamilton. "The RFT/Neumann 7151 bottle is really balanced and has a grainy, upper-mid-type drive to it, which makes it present without being annoying. The Placid Audio 'Copperphone' is a limited-bandwidth mic, but it's really nice, not a lo-fi honky-type thing. It gives you the same feel as Billie Holiday, where you're trying to make it sound beautiful, not filtery."

While a laid-back environment and scientific gear choices are important, Maimone has the clearest handle on why musicians keep coming back. "One last reason—and this is the most important," he says. "When they leave here, their CD sounds really, really good."

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World Radio History

—FROM PAGE 24, THE DUMB WILL COME UP

buy plug-ins to do just about anything you can think of. The only catch is that some of them don't do what you can think the way you think they should. But that will pass. Remember, features first, quality and sanity a couple years later.

And there are more "vintage" instrument-emulation and modeling plug-ins than there ever should be, given that some emulate gear that is barely five years old. Some are just plain silly, but amazingly, some are very good.

All this makes me happy, as it is cer-

I have long resented sitting in my full-tilt pro facility unable to do some stupid audio trick that my friend's daughter does with her K-Mart synth every day.

tainly a prerequisite for my big total virtual studio dream. Hell, I have owned the name "Total Studio" for many years just in case.

And so what of hardcore professional gear? You know, the stuff that requires \$375k to get up instead of \$20k? Well, I was

just about to say that true "pro" gear will of course be around forever—but I stopped and thought for a moment and realized that, sadly, it won't.

Look at *real* vintage. Not everybody—wait, maybe it's not *anybody*—cares as much as I do about that old LA-2, my ancient Neumanns or those quirky dbx compressors. Or that weird stuff like my old Bode vocoder or my very own Marshall Time Modulators. Serious ears can hear the difference, but is it worth it to them? How many really know the right way to get this gear to sing? And how many newbies are learning how?

And contemporary pro? What about top-dollar impulse-modeling reverb hardware, or the few excellent compressors and zero-coefficient FIR EQs? And the few surviving silky-sounding mixing desks, high-end ultrahonest monitors and *real* mics?

Nah, who needs to use all that touchy, complicated gear when almost everything you buy today at Sweetwater or Musician's Friend for a tenth of the price is exactly the same quality? You *know* it is; it says "pro" right the hell on it.

But...such is the path into the future. True pro will get squeezed out of existence as MIPro performance and quality increases. And the time *will* come when the lightweight injection-molded plastic gear actually sounds as good as the bent and tacked heavy metal pro it is replacing. On that day the term pro will lose what minuscule meaning it is struggling to retain and all power will go to the people. The Internet will be poised and ready for the thousand-fold increase in available music, and every other household in the first world will have a song posted.

What I can't figure out is how we are ever going to find the ones we want without drowning in an endless sea of derivative loops and samples. But I guess that's not really a problem after all: If you can't find what you want, you can just stay up an hour later and record it yourself. ■

SSC is staying up an hour later, six hours at a time. Four sunrises, one song. He is beginning to wonder if he stopped tracking and started looping if it would be one sunrise, four songs...



Ricky Skaggs and the TRUE Precision8

"We had a fixed budget, but obviously had some high sonic requirements. We wanted to find mic pres that weren't outrageously expensive to buy or rent, but would deliver sonic integrity when putting it to tape. The TRUE mic pre sounded good on acoustic instruments and vocals and, being a one-rack space unit with eight channels, it ended up being one of the key pieces of gear in our project."

—Lee Groitzsch, one of the recording engineers for five time Grammy nominee (and 2004 Grammy-winner) Ricky Skaggs, stays true to True Systems mic preamps (Lee is a Grammy nominee himself...)

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—FROM PAGE 28, PRESENTING THE GRUMPYS version, which will be issued on both DVD-A and SACD.

Then came several awards in the business category. Coincidentally, the first of these, the Most Creative and Artful Accounting Award, went to Humungus Records (The Entertainment Division of Engulf+Devour Inc.) for the artist's royalty statement that they sent to Li'l Wanker declaring zero income for the year ending December 31, 2003, with the notation, "Significant outstanding production costs have yet to be recouped. Check back with us next year. Maybe."

The award for Best Behind-the-Scenes Screwup went to the all-powerful, but little-known Harry Fox Agency, the licensing and collection arm of the National Music Publishers Association. As the millennium turned, the

The Best New Scam Award was given to the company that...“most convincingly pretended to be a revolutionary new way to distribute music while actually ripping off independent artists.”

agency put an all-new much-heralded computer system online, which they'd spent several years and many millions of dollars developing that was designed to streamline the process of registering new works and collecting royalties. Within weeks, the system had shown itself to be utterly inadequate for the job, and the agency was forced to revert to its older, antiquated system, thereby causing a clogging of the works that has yet to be resolved. As of this date, licenses and royalty collections for new recordings (particularly, those for which fewer than a million units are being pressed; you can be sure the hot-sellers are sliding right through) are backed up three years and counting.

The Best New Scam Award was given to the company that, according to presenter Bill Gates (not the real one, but his second cousin once removed), “most convincingly pretended to be a revolutionary new way to distribute music while actually ripping off independent artists.” Representatives of the winner, Amazon.com, couldn't be per-

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sueded to attend, so the award was accepted by singer Anne Feeney, who explained why the retailing behemoth so deserved the award: "With Amazon, you've got to create the page yourself, uploading your own MP3 files and art. When an order comes in to them, they e-mail me to send a copy to *them*, at my expense, and they won't tell me who has ordered the CD, so I can't add them to my mailing list. Then they take 55 percent of the sale price; so for each Amazon sale, they send me \$8.10—once the amount is over \$50, of course. I'm out the \$1.35 postage and the \$0.85 mailer, so that brings

the 'gross' to under \$6, which, by the time the costs of production and licensing fees are factored in, results in a very slight loss on every sale." Off-camera, Grumpmeier could be heard saying, "Sounds like Amazon's ready to join the big boys, doesn't it?"

The last business award category was for Worst Internal and External Corporate Communications. It went to none other than the National Academy of Recording Arts and Sciences, the very people who present the Grammys[®], which were also given a special citation for "pointing the way to the democratic methodologies of the 21st century."

Grumpmeier himself, who tried to join NARAS this year so that he could vote on the Grammys[®], accepted the award. "NARAS is to be congratulated for accepting new memberships and, of course, payments," he said, "on a Website that was linked to a nonfunctional database that was supposed to confirm potential members' credits, thus making the application process three times longer than necessary." He waited for applause and when none came, he went on. "Beyond that, they made new members feel welcome by posting the wrong eligibility dates on their site, so that it was only *after* they joined that members discovered they were disqualified from voting."

The final two Grumpys of the evening were Life Achievement Awards, given to artists for outstanding efforts beyond the musical sphere. These artists, in the opinion of the awards committee (i.e., Grumpmeier), epitomize the most ludicrous aspects of the American way of life and serve as shining examples to the young and impressionable, on whom they have such a profound influence, of what *not* to do.

The Most Overexposed Artist Award, with a citation for illustrating the maxim, "There's No Such Thing as Bad Publicity," was originally, according to press leaks, to be given to Michael Jackson for maintaining such a busy and varied social schedule at his home. But in a last-minute change that Grumpmeier, in a press release, attributed to "hormone malfunction," it ended up going to his sister Janet.

The final Grumpy, the prestigious and hotly contested Phineas T. Grumpmeier Memorial Service to Humanity Through Music (PTGMSHTM) Award—named for the impresario's late father, who thankfully wasn't around for any of this—was given to two individuals. The spirit of the award was eloquently elucidated by its presenter, the Rev. Billy Sol Dingbat, head of the Church of St. Strom Thurmond: "The PTGMSHTM Award is given to that individual in the recording industry who best exemplifies the inviolate and eternal nature of marital bliss between one man and one woman, and shows us why this fundamental pillar of our society should not be tampered with. This year, there were so many stunning matrimonial models that we just couldn't decide on a single winner." The award went to two mainstays of our industry who even I had to agree couldn't have deserved it more: former-Mouseketeer-turned-Esquire-nude-cover-girl Britney Spears and restricted-to-his-home-state-by-order-of-the-court, Phil Spector. ■

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Dreamhire	www.dreamhire.com	161
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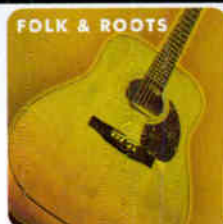
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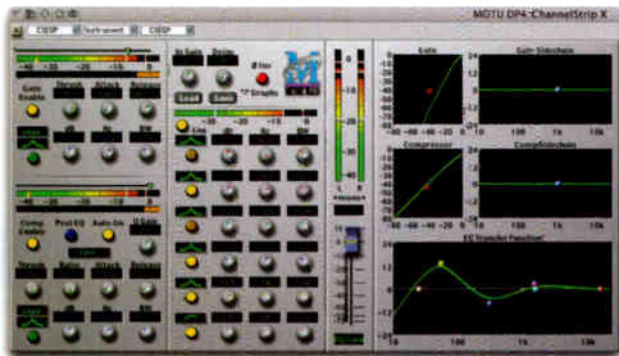
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Sony's (formerly Sonic Foundry's) Vegas 4.0 bundled with DVD Architect began life as an audio editor and added video later, so the interface makes a lot of sense for audio folks. Everything you'll need is right nearby, with seven drop-down menus that contain all of the necessary tools and DSP to take your video project from source input to DVD. These include a powerful video editor with built-in audio editor (based on Sound Forge), customizable video and audio plug-ins, and stereo and 5.1 mixing capability with bundled Dolby AC3 encoding.

CAPTURING SOURCE VIDEO

Your video project (.VEG) starts with imported video (and audio, of course). Vegas supports all of the major codecs, frame rates and compression schemes, and the video capture applet, which allows you to control your playback or capture device, gives you the option to capture in batches with pre-determined in/out points or on-the-fly as needed. Once you've marked your in and out points on the tape, you can reverse-click any number of the clips to mark them for batch capture. Click on the Batch Capture button, and each clip is imported automatically with sequential numbering. (Make sure you're working with a tape that has continuous timecode; the Batch Capture feature depends on this!)

Once you've imported a file or selected it from the browser, there are handles for fades, drag-and-drop, Lock and Unlock buttons, and Solo and Mute buttons. There's even color correction and adjustments that let you match the look and feel of different sources. You can use video and audio effects on the individual clips that you've imported or as a universal setting for the entire track; the same Select button exists on the left side of the timeline and on each individual clip. You can save and load any custom setting with the Load/Save buttons in the effects screen. It's easy to recall and modify your favorite settings for future projects, and, of course, with Vegas, you can safely create folders that won't be altered when you remove a finished project from your system. The templates stay, even when the project is removed.

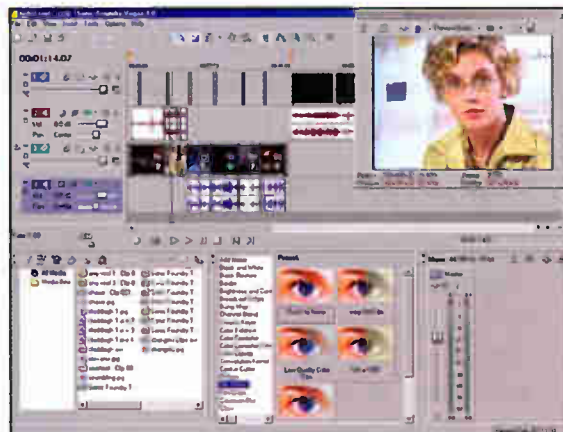
WHY WAIT FOR RENDERS?

Vegas lets you see most changes in real time. Even with a Pentium 3, you can see most of what you're doing without having to wait around for most renders. Granted, the frame rate is lower, but you will have a good idea of what you're working on and whether you're in the ballpark. As anyone who's had to wait around for those infamous renders knows, this alone is a tremendous boost to workflow and creativity. (Vegas can even continue to play the timeline or render while you make adjustments, without any lag.) Of course, it's possible to overload the real-time feature, so nonessential effects can be temporarily toggled off while you check your work. Another way to check your progress is using the split-screen (before/after) effect, accessible via the half-moon icon in the monitor window. This also runs in real time.

BRINGING IN DVD AUTHORING

DVD Architect 1.0 is capable of importing only one MPEG file per project. This means that any video you want to appear in your disc has to first be rendered as part of the same master MPEG file in Vegas. While you can set your chapter points in DVD Architect later, it's simpler and more accurate to set them first in Vegas before exporting to MPEG. They will automatically appear where you set them once you're working in DVD Architect. (Chatter on the forums says future versions may allow importing multiple files.)

When exporting your project from Vegas to work in DVD Architect, highlight the total length of the project and do two exports: one video and one audio. For video, select Main Concept Mpeg2 with the DVD-Architect NTSC Video Stream subheading in the drop-down menu. For audio, select Dolby Digital AC-3 encoding. It's important to give them the same names and save them in the same folder ("D:\Project\Demo1.MPG and D:\Project\Demo1.AC3," etc.). This way, DVD-Architect will automatically import and sync one with the other.



Sony Vegas was originally developed as an audio editor and later added video and DVD authoring features.

SINGLE-PLAY OR MENU-DRIVEN?

DVD Architect allows you to import the files you've created into either a single-play disc that runs automatically upon insertion in a player or a menu-driven disc for more sophisticated projects. For single play, name the project in a new folder, render and burn to DVD.

For menu-driven discs, there are numerous options. Although DVD Architect 1.0 allows only one MPEG file per movie, you can create and import an entire new video clip (with AC3 audio) as a menu backdrop. Most graphic formats are also recognized if you prefer a still-image menu. Background music can come from a variety of sources, but you should convert to AC3 first in Vegas to avoid additional rendering. There's also a check box to select looped or single-play menus. Text or thumbnails that are created on the menu screen can be linked to submenus or specific chapter points in the project.

The Preview button/applet works like a virtual DVD player, complete with remote and function buttons. You can navigate menus and play clips as you work, thus previewing your DVD in progress before committing to a burn. You can also toggle a "safe area" grid to preview your work for older consumer TV screens. ■

Joe Hannigan runs Weston Sound & Video (Philadelphia), recording classical and jazz clients. Matthew Conant also contributed to this piece.

VISIONARY



"Twenty years ago an American producer introduced me to an API Lunchbox and it changed my vision of sound forever! Suddenly, I heard the punch, and fatness and warmth that I had always dreamed of. Now my 'vision' has become an unbelievable reality with API's all discrete surround production console. It's the sound of the future!"

Ronald Prent, Galaxy Studios, Belgium,
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