

Herbie Hancock • Nashville's New Breed of Producers • Computer Viruses

U.S. \$4.95 CANADA \$5.95 MARCH 1990

# MIX

A Professional DAT  
Buyer's Guide

What's Hot in  
Audio Rentals?

THE RECORDING INDUSTRY MAGAZINE



IN THE STUDIO WITH  
FLEETWOOD MAC

Directory: Southeast  
Recording Studios

1-Bit A/D  
Conversion

\*\*\*\*\*5-DIGIT 91329  
MX 913290GAND85082 99DEC 1  
MARK R GANDER  
JBL PROFESSIONAL 0687  
8500 BALBOA BLVD BX2200  
NORTHRIDGE CA 91329



# THE POWER OF DIGITAL!

Command the highest audio quality, reliability and flexibility with the technical authority and leadership you've come to expect from Mitsubishi. For tracking, mixing and mastering, the 32-track X-880 and the 2-track X-86HS ProDIGI format tape machine are the logical choice.

Incorporating the latest in digital technology and building on the decade long success of Mitsubishi's 800/850 family of products, the X-880 offers important improvements in reliability while significantly reducing machine size, weight and power consumption. With the industry's most robust error correction technology, even significant tape damage remains inaudible. A new tape transport mechanism, plus proven glass-filled ferrite technology combine to provide longer head life.

And with the X-86HS, you can get the highest sampling rate of the X-86 series of digital two-tracks, recording at 96 kHz and setting new quality standards for master tapes. You can extend your recorded frequency range all the way to 40 kHz and record and playback at 48/44.1 kHz. And now, made more affordable to you with Siemens financing.

***The Power of Digital – The Logical Choice.***

 **Neve**  
A Siemens Company

Exclusive North American Distributor of

 **MITSUBISHI**  
DIGITAL PRO AUDIO

CT: (203) 744-6230 NY: (212) 956-6464 TN: (615) 329-9584 CA: (213) 461-6383 • TORONTO: (416) 365-3363

World Radio History

 **PRODIGI**

# THE POWER PACKAGE

Neve VR Console • Flying Faders Automation •  
Mitsubishi 32-Track Digital Tape Recorder

## Digital Recorders

49 Music Square West • Nashville, TN 37203

Tel. (615) 327-1200

Contact: Richard Stevens



 **Neve**  
A Siemens Company

Exclusive North American Distributor of

 **MITSUBISHI**  
DIGITAL PRO AUDIO

CT: (203) 744-6230 NY: (212) 956-6464 TN: (615) 329-9584 CA: (213) 461-6383 • TORONTO: (416) 365-3363

# MIX

MARCH 1990

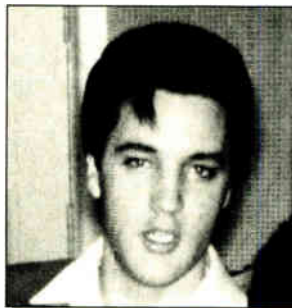
THE RECORDING INDUSTRY MAGAZINE

VOL. 14, NO. 3



HARRY BECKETT

PAGE 55



RCA STUDIO B

PAGE 60



DAT BUYER'S GUIDE

PAGE 107



TROUBLESHOOTING

PAGE 112

## AUDIO

- 16 Insider Audio: One-Bit A/D Conversion**  
*by Ken Pohlmann*
- 22 The Fast Lane: One for All & All for You**  
*by Stephen St. Croix*
- 28 Juxtapositions: Communications in the Studio, Part 3**  
*by Mel Lambert*
- 44 Picking Up the Pieces: What's Hot in Studio Equipment Rentals**
- 55 Producer's Desk: Nashville's New Breed—Josh Leo, Wendy Waldman, James Stroud and Barry Beckett**  
*by Robyn Flans*
- 60 RCA Studio B in Nashville: Memories of "Little Victor"**  
*by Missy Baker*
- 71 Artist Studio: John Keane's Studio Grows with Athens' Music**  
*by John Craig*
- 83 The Search for "3-D" Audio, Part 2**  
*by Dan Daley*
- 88 International Update: Making Records the Aussie Way**  
*by Lisa Roy*
- 96 The Byte Beat: Viruses & Backing Up Your Hard Disk**  
*by Paul Potyén*

## PRODUCTS

- 100 Preview/Hot Off The Shelf**
- 103 Field Test: Soundcraft 200 Delta Mixing Console**  
*by George Petersen*
- 107 Auditions: A Professional DAT Buyer's Guide**  
*by George Petersen*

## LIVE SOUND

- 113 Troubleshooting: More Cargo Lessons—The Carnet**  
*by Mark Herman*
- 118 Sound Reinforcement News/Tour Update**  
*by Mark Herman*
- 125 New Sound Reinforcement Products**

## MUSIC

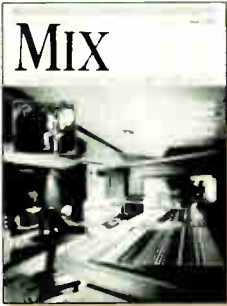
- 32 Fleetwood Mac: The Making of the New Album**  
*by Bruce Pilato*
- 74 Lunching With Bonzai: Herbie Hancock—Cool Fusion**  
*by Mr. Bonzai*
- 126 Music & Recording Notes: George Clinton's Creative Anarchy**
- 145 M.I. Update: Guitar Effects Boxes**  
*by Craig Anderton*

## TAPE & DISC

- 134 DAT Vendors Serve Pro Market: A Forum**  
*by Philip De Lancie*
- 140 Tape & Disc News/Splices**

# FROM THE EDITOR

Founded 1977 by  
David M. Schwartz and Penny Riker Jacob



**Cover:** Designed by John Storyk, Platinum Post's Studio A at Full Sail's new seven-studio complex in Winter Park, Florida, features a 60-input Neve VR console with Flying Faders automation and two Otari 100 24-track recorders. The multipurpose room is designed with full synchronization and can be patched to any of the other studios via the central machine room. Photo: Bob Walsh.

## DEPARTMENTS

- 6 Current
- 9 Industry Notes
- 10 Sessions/Studio News
- 171 Classifieds
- 176 Ad Index

## DIRECTORY

- 151 Southeast Recording Studios



Circulation independently audited and verified by Business Publications Audit of Circulation since 1985.

*Mix* magazine is published at 6400 Hollis St., #12, Emeryville, CA 94608 and is ©1990 by NHB Acquisitions, Inc. *Mix* (ISSN 0164-9957) is published monthly. Subscriptions are available for \$6.00 per year. Subscriptions outside U.S.A. are \$61.00 per year. Single copy price is \$4.95, back issues \$6.00. Missed issues within the U.S. must be claimed within 45 days of publication date and abroad, within 90 days. Send subscription applications, subscription inquiries and changes of address to *Mix* magazine, PO Box 3714, Escondido, CA 92025-3714 or call one of these toll free numbers: in CA, 1 (800) 255-3302; outside CA, 1 (800) 334-8152. POSTMASTER: Send address changes to *Mix* magazine, PO Box 3714, Escondido, CA 92025-3714. Address all other correspondence to *Mix* magazine, 6400 Hollis St., #12, Emeryville, CA 94608, (415) 653-3307, Fax: (415) 653-5142. Second Class postage paid at Oakland, CA, and additional mailing offices. *Mix* magazine is distributed in pro audio stores, music stores and other related businesses. If you have a recording or music related business and would like to distribute *Mix*, please give us a call. Display advertising rates, specs and closing dates are available upon request. This publication may not be reproduced or quoted in whole or in part by printed or electronic means, without written permission of the publishers.

The renting of recording equipment has increased in popularity in proportion to both the higher costs of investing in a studio and the proliferation of special-purpose gear. As a studio's clientele becomes more attuned to the specific nature of equipment, there is increased pressure on the studio to make that particular piece available, more and more typically through the benefits of equipment rental.

Beyond just meeting the specific requests of clients for the odd mic or processor, renting gives facility managers an opportunity to explore ownership without commitment, allowing them to avoid an unwise purchase by getting first-hand experience. It provides a chance to compare new technology before taking the green plunge.

Another lifesaver for studios has been the quick turnaround many rental operations offer when major studio equipment is down for the count. When smoke starts to pour out of the computer, it may be much more reasonable to reconvene the session tomorrow with rapid rental replacements than succumb to Maintenance Hell under the gun.

Increasingly, too, home studios and private operations need the quality of professional equipment, but don't have the budget to support such an inventory. Well-conceived rental programs can keep the small operation up to snuff technically without breaking the project-oriented budget.

With this groundswell of rental activity in mind, the *Mix* editorial staff contacted studios in the Southeast to get an idea of what they find currently popular or desirable as rental items. To enlarge the perspective, we also spoke to rental houses around the country to hear their observations on what is making the rounds. We hope this helps provide a little insight and maybe some confidence to those who might not have fully explored the rental option.

Many of those who attended the recent NAMM show got a chance to meet Hal Blaine at the *Mix* booth. Hal, as longtime readers know, has played studio drums and percussion on over 350 Top Ten records and more than 40 Number Ones! He holds the distinction, as far as we know, of being the most recorded musician of all time.

At long last, Hal's story is out in book form, and we hope that many of you will find it interesting, entertaining and even inspirational. If you can't find it in your local music/bookstore, give us a call here and we'll be happy to get it to you.

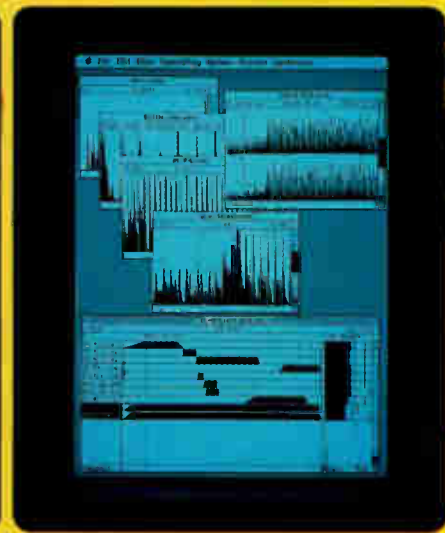
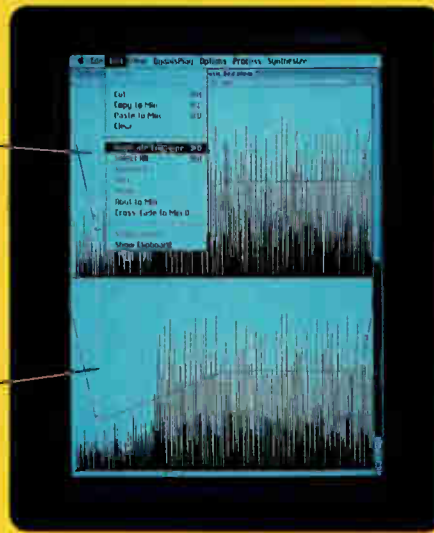
Keep reading.

David Schwartz  
Editor-in-Chief

# PICTURE YOUR AUDIO

*Powerful all-digital signal processing functions, including time compression and expansion—without pitch change.*

*Direct SMPTE/VITC read and write capabilities, lock to house sync, film tach or time code.*



## DIGITAL AUDIO HARD RECORDING. MASTERING. TV. VERY AFFORDABLE.

**Hard disk digital audio... for much less than \$50,000?** Yes. Starting at less than \$6,500\*, you can gain total creative control with the most powerful *and* cost effective hard disk digital recording/editing system available—*proof* that digital audio for most any studio doesn't cost a fortune. Dyaxis is your opportunity to step into digital audio editing—and step up to Studer—in one affordable move.

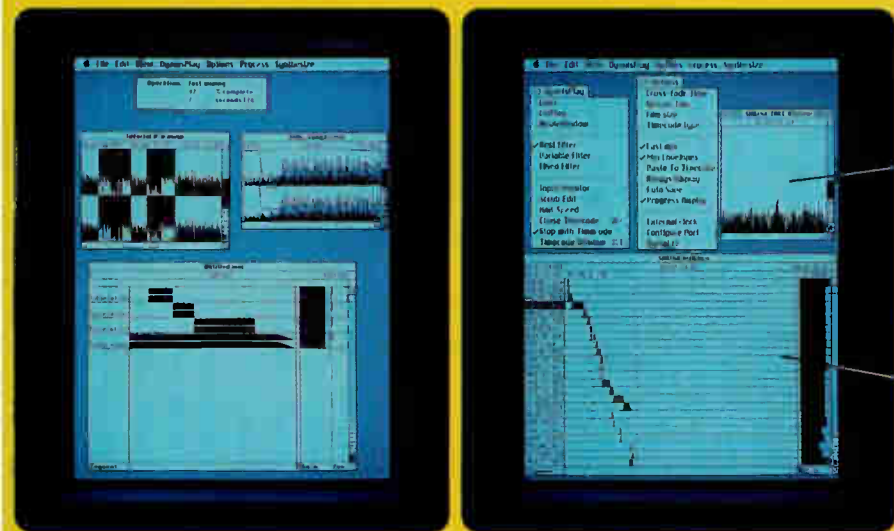
**Only one hard disk system is backed by Studer resources.** And that's Dyaxis. With over 200 systems delivered worldwide, Studer is *the* leading supplier of professional digital audio hard disk systems, and the *only* major pro audio supplier currently delivering such systems.

**Dyaxis achieves supreme audio quality in the best tradition of Studer.** Through superior A-to-D and D-to-A converters, and proprietary analog filter and circuitry design, the performance of Dyaxis is unmatched by other hard disk systems.

**Direct digital interface for all major digital formats**—DASH, ProDigi, 1610/1630/601 PCM Processors, DAT, D1 and D2 video machines—eliminates the costs of external boxes, operational complexity, and the signal degradation produced by additional analog generations. Editing, cross fading, processing, multiple mixes, multiple generations—all are performed in the digital domain. Dyaxis delivers first generation audio, in the right digital format, everytime.



# .....STUDER DYAXIS.



*Easy interface to all major digital formats as well as analog. Direct digital I/O from D1 and D2 video machines.*

*Virtual machine interface for video editor and video hard disk control. Machine-controllable from Abekas AGO Series.*

## **DISK FOR ANY STUDIO. VIDEO POST. FILM. RADIO. MIDI. VERY CAPABLE.**

Only Dyaxis slaves perfectly to SMPTE/EBU, VTTC, Tach, MIDI & Video. A fast and cost-effective production tool for delivering digital audio sound-tracks for film and video, Dyaxis provides full time code synchronization for sub-frame accurate lock-to-picture with outstanding audio quality.

Dyaxis stores from 10 minutes to over 6 hours of stereo digital audio. For recording and editing master mixes... for time slipping mono/stereo tracks in multitrack sessions...for Compact Disc premastering...for sound effects editing and mixing...for producing multiple versions of soundtracks, with full inter-lock to film or video.

The new Dyaxis 2+2 providing 4 channels of simultaneous operation is available soon, featuring multichannel record/playback, overdubbing and track assembly.

Studer Editech Corporation—designers of Dyaxis—is an innovative and entrepreneurial high-tech company based in Silicon Valley. Their pioneering achievements in hard disk recording/editing combined with Studer's recognized world leadership in professional audio, create an industry force with longevity, commitment and purpose. All to serve you.

No ad can tell you all that Dyaxis can do for you. So call us at 800-366-4900 for our 12-page Dyaxis color booklet and read about your exciting future in digital audio with Dyaxis.

**Picture your sound. On Dyaxis.  
From Studer, a name you can trust.**

## **STUDER REVOX**

Studer Revox America, Inc.  
1425 Elm Hill Pike • Nashville, TN 37210 • (615) 254-5651  
New York (212) 255-4462 • Los Angeles (818) 780-4234  
Studer Revox Canada Ltd., Toronto (416) 423-2831

\*Price not including time code option and Apple Macintosh computer.

# CURRENT

## WAVEFRAME MERGER

On the Monday after NAMM, Boulder, Colorado-based WaveFrame boosted its profile in the post-production market by merging with Cybermation, Inc., of Long Beach, Calif., maker of the CyberSound sound editing system. The move was not completely unexpected, as an OEM relationship was established between the companies in January 1989, based on WaveFrame's disk recording technology.

"We decided as one entity offering two product lines, our efforts would be much more efficient," says Steve Krampf, senior vice president of sales and marketing at WaveFrame. "WaveFrame has a distribution and marketing system, Cybermation is just starting out. We have compatible disk technology. Our development teams have already demonstrated they can work together effectively. It just made a hell of a lot of sense for all of us."

The CyberSound system contains automated project management with 8-track disk-based editing, and is wholly compatible with the AudioFrame. The product will be introduced and ready to ship officially at the Atlanta NAB on March 31.

Hardware design, system-level software development, manufacturing and administration of the new company will remain in Boulder. The applications/engineering group and sales and marketing will be headquartered in L.A., where the customers are.

Charles Grindstaff, founder of Cybermation, is now president and CEO of WaveFrame; John Melanson will serve as chief technical officer; and Steve Krampf will continue as senior VP of sales and marketing.

## NAB AND THE FUTURE OF TV DELIVERY

Expressing concern over the poten-

tial entry of telephone companies into broadband services for the home, the National Association of Broadcasters restated its June 1989 policy statement, which is the foundation for all NAB discussions with the telephone industry, legislators and regulators with regard to information services.

The statement addresses four major points: First, the broadcast industry must have prepared a specific set of proposed limitations and restrictions on telco entry. Second, existing cable systems should not be purchased by any telephone company inside its service area. Third, telco operation of broadband facilities should be regulated as a common carrier. And fourth, telephone companies should not be involved in content in any form.

The future delivery of television is sure to be a hot topic at the upcoming NAB show in Atlanta, March 31 to April 3. For more information, contact the NAB at (202) 429-5350.

## COMPU SERVE THEATER SECTION

If you belong to CompuServe, you now can access "Technical Theater," an information service under the heading Broadcast Professionals Forum.

Open to all interested CompuServe subscribers, the section is devoted to the production aspects of the performing arts, including theater, television, film, radio and video production. Topics covered include lighting, costumes and makeup, sets, props, special effects, audio/sound/MIDI, stage and production management, equipment, computer hardware and software, and open forum.

To access BPFForum, you need a computer, modem, phone line and CompuServe membership. For more information, call John Macpherson, Jr. at (301) 739-3096.

## TEC AWARDS ADDS CATEGORIES

Hillel Resner, publisher of *Mix* and Executive Producer of *Mix* magazine's Technical Excellence & Creativity Awards, has announced the creation of two new awards categories for 1990. Under the banner Outstanding Technical Achievement, *Mix* subscribers will now vote for Recording Product of the Year and Sound Reinforcement Product of the Year.

The TEC Awards will be held in Los Angeles on Sunday night, September 23, the second night of the AES convention. For more information, watch this space in coming months, or call Karen Dunn, Executive Director, at (415) 420-0144.

## ROBERT RIVLIN, 1947-1990

Robert S. Rivlin, editor in chief of Act III Publishing's Technical Division, died January 5 from diabetes complications. He was 42 years old.

Rivlin began his career as a copywriter at Dover Publications, but it was experimental filmmaking that captured his early interest. Besides writing, directing and producing award-winning documentary films, he was a respected author and journalist covering the film and video industry's technical trends.

In 1985, Rivlin launched *Video Graphics & Effects*, a magazine devoted to the field of computer-generated images. He later worked as promotions manager and technical editor at *millimeter*, editorial director of Vidpro Publishing and senior editor at *BM/E (Broadcast Management/Engineering)*, now *BM/E's Television Engineering*, an Act III publication.

A resident of Katonah, N.Y., Rivlin is survived by his wife, Alice, and son Justin and daughter Meredith. Also surviving are his parents, Norma and Archie, and brother Michael. ■



# Artists' expectations, engineering limitations, and other myths of digital recording.

**D**igital. The word itself conjures up visions of a totally perfect recording process where anything is possible.

Nothing could be further from the truth.

For example, if you treat your digital tape as we've shown below you'll likely end up with exactly what you'd expect. Useless tape.

And how about *sound*: that nebulous, very subjective quality that is, for each one of us, the *raison d'être*?

After all, even though we build what we believe to be the world's finest digital machine, the 32-track DTR-900B, some audio engineers would stack our analog multi-track machines up against it in terms of sound quality any day.

So why did we build the digital DTR-900, and then follow it up with significant new features and improvements in the second generation DTR-900B? And why do we believe it

*may be the single most important purchase you will ever make in your business?* Simple. It will solve problems for you that no other system can solve.

It can cut hours from session times. And it can make your life as a professional magnitudes easier and more rewarding. Here's how.

Just imagine a session where after only a few takes you can send the talent home. You got their best when they were fresh, and now you can do *your* best when you're fresh, and cre-

ative. You use the DTR-900B's session controller to *electronically* assemble the final master from the tracks with no—that's *zero*—sound degradation. (As one studio owner put it, "Often a record becomes what analog makes it—not so with digital.") And no matter how intense the mix-down, the PD format with its powerful Reed-Solomon error correction scheme means you could lose up

to 8 tracks of data and still record and play all 32 channels! So, if you were to lay a cigarette down... no, no, just kidding!

But there's a down side to digital, too. For one thing, there's no friendly tape noise to cover up mistakes, or to add that mysterious "something" to the mix. And the initial cost for a digital machine can be *scary*.

So what's the final mix, or the bottom line, if you prefer? The cost is high, and even though the Otari DTR-900B is a powerful client draw, it's important to consider your return on investment.

But then, a great sounding record is hard to put a price on, isn't it?

It's your decision, but we can help. After all, Otari can offer you the best in digital, *and* the best in analog. Call Otari at (415) 341-5900, for more information. (And if you own a DTR-900, ask us about how the new features on the "B" can be added to your machine.)



The DTR-900B's new Locator/Remote features improved hardware and software that make the machine faster and easier to operate.



The world standard Professional Digital (PD) format employs Reed-Solomon coding, mechanical dispersion, and cyclical redundancy in a virtually foolproof error correction scheme for data loss recovery.

**OTARI**

Circle #082 on Reader Service Card



INCH AFTER INCH,

NOTE AFTER NOTE,

HIT AFTER HIT,

**DIGITAL**

**AMPEX  
467**

ON THIS YOU CAN RELY.

AmpeX Recording Media Corporation • 401 Broadway • Redwood City • CA 94063 • (415) 367-3800

Circle World on Reader Service Card

EDITOR-IN-CHIEF David M. Schwartz

PUBLISHER Hillel Resner

MANAGING EDITOR Blair Jackson  
ASSOCIATE EDITORS

Paul Potyen Tom Kenny

PRODUCT EDITOR George Petersen

ASSISTANT TO THE EDITOR Alexandra Behr

COPY EDITOR Jeanne Zarussi

TECHNICAL EDITOR Ken Pohlmann

SENIOR EDITOR John Woram

CONSULTING EDITOR Stephen St. Croix

EDITOR-AT-LARGE Mr. Bonzai

SOUND REINFORCEMENT EDITOR Mark Herman

TAPE & DISC EDITOR Phillip De Lancie

TEC AWARDS EDITOR Karen Margroff Dunn

CONTRIBUTING EDITORS

Iain Blair Lou CasaBianca Dan Daley

Bob Hodas Mel Lambert

Larry Oppenheimer Bruce Pilato

ART DIRECTOR Tim Gleason

ASSOCIATE ART DIRECTOR Dave Mars

ASSISTANT ART DIRECTOR Patricia Law

PRODUCTION ARTIST Linda Gough

PRODUCTION MANAGER Georgla George

SPECIAL PROJECT DESIGN & PRODUCTION  
Michael Zipkin

DIRECTOR OF ADVERTISING SALES

Jeffrey Turner

SOUTHERN CALIFORNIA/SOUTHWEST AD MGR.

Sue Horwitz

EASTERN ADVERTISING MANAGER

Michele Kanatous

SALES ADMINISTRATOR Neil McKamey

SALES ASSISTANTS Laura Kujubu Tina Spnelli

ASSISTANT TO THE PUBLISHER Jane Byer

CLASSIFIEDS MANAGER Robin Boyce

CLASSIFIEDS ASSISTANT Jeffrey Forlenza

DIRECTORIES ADVERTISING MANAGER

Lauri Newman

DIRECTORIES ASSISTANTS

Jean Mahon Melissa McMillion

DIRECTOR OF OPERATIONS AND PRODUCTION

Anne Letsch

ASSISTANT PRODUCTION MANAGER Teri Bell

ADVERTISING TRAFFIC COORDINATOR Donna Burrinson

CIRCULATION COORDINATOR Cindy Lukk

CIRCULATION ASSISTANT Hugh Swarts

BUSINESS MANAGER Craig Kennedy

ASSISTANT CONTROLLER Ron LeRouzie

ACCOUNTING CLERK Therese Wellington

OFFICE MANAGER Barbara Kochiovelos

WAREHOUSE MANAGER Charles Nielsen

RECEPTIONIST Angeliqne McGruder

**ACT III PUBLISHING**

PRESIDENT Paul David Schaeffer

CHIEF OPERATING OFFICER

Robert C. Gardner

SENIOR VICE PRESIDENT & GROUP PUBLISHER,

TECHNICAL DIVISION Kevin J. Condon

SENIOR VICE PRESIDENT, OPERATIONS & PLANNING

Martha Lotini

VICE PRESIDENT, FINANCE & ADMINISTRATION Sam Schecter

DIRECTOR OF MARKETING & COMMUNICATIONS

Jennifer P. Ware

DIRECTOR OF CIRCULATION Steve Wigginton

ACT III PUBLISHING, TECHNICAL DIVISION

ALSO PUBLISHERS OF:

ELECTRONIC MUSICIAN

CORPORATE VIDEO DECISIONS

BME'S TELEVISION ENGINEERING

**NATIONAL EDITORIAL, ADVERTISING and BUSINESS OFFICES,** 6400 Hollis St. #12, Emeryville, CA 94608. (415) 653-3307, IMC 736, FAX: (415) 653-5142. **SOUTHERN CALIFORNIA ADVERTISING OFFICES,** 19725 Sherman Way, Suite 380, Canoga Park, CA 91306. (818) 709-4662. **EAST COAST ADVERTISING OFFICES,** 401 Park Ave. South, New York, NY 10016. (212) 545-5166. **DIRECTORIES ADVERTISING,** (800) 344-LIST. **CLASSIFIEDS ADVERTISING,** (800) 747-3703.

# INDUSTRY NOTES

Charles Conte left Studer Revox to become Neve North America's PR administrator in Bethel, CT. . . Kawai appointed keyboardist/producer Theodis Rodgers Jr. as its product clinician in Compton, CA. . . Phil Wagner joined Trident Audio USA (Torrance, CA) as Eastern operations manager. . . In Emeryville, CA, Karen Dunn has been promoted to executive director of *Mix* magazine's annual TEC Awards. . . Samson Technologies hired Joel Singer as product sales manager for Soundtracs consoles in Hicksville, NY. . . Ultimate Support Systems (Fort Collins, CO) has a new president/CEO, James A. Dismore. . . Video Services Corporation (Northvale, NJ) announced two new subsidiaries: VSC Presentations, providing services and equipment for corporate events; and Video Services Entertainment, an industrial/business production company. Susan Johnston joined another VSC subsidiary, VSC Post 2 (NYC), as producer of digital opticals and special effects. . . RPL hired Jeffrey Celentano as account executive in NYC. . . "Education in the New Audio" is the theme of the AES' first convention in the Southeast, sponsored by the student chapter at Middle Tennessee State University, from March 28-29; call (615) 898-2088. . . Susan Alvaro joined software company CTM Development as VP, sales and marketing, in San Mateo, CA. . . Image Entertainment (Hollywood, CA) brought aboard David DelGrosso as VP of marketing. . . In Lancaster, PA, Marc Feingold joined American Helix Technology as director of sales and marketing, professional audio products. . . Film and video-types can do more than the usual network schmooze in L.A. this June at Show-Biz Expo. Call (213) 668-1811 for info. . . AMS Industries Inc. relocated to Petaluma, CA. Jim Stern will head the office, and Nigel Branwell remains Northwest rep in Seattle. . . Americ Disc moved to larger

digs at 1290 Avenue of the Americas, Suite 2540, NYC. . . Ron Neilson, former *Mix* director of marketing and information services, has formed a market research consulting firm in La Selva Beach, CA. Richard Elen, Angela Langdon and Leona Aroha are business partners. . . Find shipping cases for your gear at Anvil's new location in City of Industry, CA. . . In Atlanta, Interface Audio will represent AMS Industries in the Southeast. . . Soundmaster Synchronizing System chose Martin Audio Video Corp. (NYC) as its NY-area rep. . . William Morris Agency signed an agreement with Gamma Electronic Systems (Santa Monica, CA) to represent Gamma's B.A.S.E. sound technology. . . In Orlando, FL, Signature Sound formed The Voice File. . . Members of the Association of Visual Communicators (Van Nuys, CA) elected Phillip N. Shuey, of Audio Visual Strategies, as their national president. AVC represents corporate and educational audio/visual producers. . . Dennis Phillips, who worked on special effects for *Max Headroom* and other TV shows, joined Editel/LA as an on-line video editor. . . NAB will present Bill Smullin with the 1990 Distinguished Service Award at April's annual convention (Atlanta). Smullin, who's worked in broadcasting for 57 years, is chairman and founder of California Oregon Broadcasting (Medford, OR). CBS news correspondent Charles Osgood and Inner City Broadcasting Corporation's group chairman Hal Jackson will be inducted in the Broadcasting Hall of Fame. . . Neve (Bethel, CT) named Tom Semmes, Southeast regional sales manager, its "Salesman of the Year." . . The Sony Institute of Applied Video Technology (Hollywood, CA) and The Savannah College of Art and Design agreed to form an East Coast pro video education center. For course information, call (213) 462-1987. ■

# SESSIONS AND STUDIO NEWS

## SOUTHEAST

House of Freaks recorded their EP at The Flood Zone in Richmond, VA, with Bruce Olsen producing and Mike Stavrous engineering. The EP, titled *All My Friends*, entered college radio charts as the Number Two add-on across the nation. . . The Ellen James Society cut eight tunes at Atlanta's Musiplex with engineer George Pappas. Dale Abbott assisted. . . Dana McVicker cut tracks and vocals for Capitol at the Music Mill in Nashville. Pete Greene and George Clinton engineered, and Bud Logan produced. . . At Cheshire Sound Studios in Atlanta, Thom Kidd engineered the mix of Barbara White's album for Atlanta International Record Company. Mike Alvord assisted. . . The Grateful Dead stopped by Criteria Recording Studios in Miami to mix an upcoming release. The song, engineered by John Cutler and Dan Healy, will be distributed to San Francisco radio stations in an effort to assist the Bay Area in its recovery from the Quake of '89. . . Canadian Colin James was at Ardent in Memphis to work on his album project for Virgin Records. Joe Hardy produced and engineered. . . The rock group Saddle Tramp were at Cue Recording in Falls Church, VA, laying tracks for their debut album. Joe Gelchion engineered and co-produced the project with the band. . . Vocalist Kevin Brown and producer Joe Dainwood began cutting tracks for their first release, "Reib die Mauer ab (Tear Down the Wall)." Jim Crockett engineered with Clinton Smith assisting at Saturn Sound Studio in West Palm Beach, FL. . .

## NORTH CENTRAL

The Disc Ltd. in East Detroit reports that Bigger Than Mass finished mixing their EP with Mike Clark engineering. . . Was Not Was guitarist Randy Jacobs was at Studio A in Dearborn Heights, MI, laying down tracks for his first self-produced instrumental album for EMP Productions. Randy Poole was at the controls. . . At Belmont Mall Studios in Belmont, IN, Bill Deaton engineered Shaking Family's con-

tribution to an Elektra anniversary album. Mike Wanchic and Larry Crane produced. . . At B.L.R. Studios in LaPorte, IN, northern Indiana rappers Two of a Kind were in cutting a demo with producer Ryan Lamprecht and engineers Brian Roseman and Dan Blood. . . Refraze Studios in Dayton, OH, hosted the University of Dayton Jazz Ensemble as they recorded and videotaped big band selections to promote enrollment. Gary King and John Hughes handled engineering duties. . .

## NORTHWEST

Recently signed to Alias Records, Harm Farm was at San Francisco's Mobius Music recording its first album. Henry Kaiser produced the project with Oliver DiCicco engineering and Jane Scolieri assisting. . . At Banquet Sound Studios in Santa Rosa, CA, new age artist Aeolia completed his new album, *Love in the Wind*, with Warren Dennis engineering. . . Activity at Alameda Digital Recording, Alameda, CA, includes legendary blues guitarist Danny Kalb tracking an upcoming CD project with producer Bruce Barthol; George Petersen and JJ Jenkins at the board. . . The Movie Stars finished up their second LP, tentatively titled *Ask Yer Dad*, at The Site in Nicasio, CA. Norman Kerner produced the project, with Karl Derfler at the controls. Kevin Scott assisted. . . The Chuck Metcalf Quintet, featuring jazz pianist George Cables, recorded an LP at Lawson Productions in Seattle with engineer Carol Howell. . . Country singer Jess Lee was at Mushroom Studios in Vancouver, BC, laying tracks for his debut solo album. Nashville writer/producer Ralph Murphy flew in for the project, as did songwriter Bobby Wood. Bill Buckingham engineered with Ken Marshall assisting. . . San Francisco DJ Brian Raffi was at Alpha and Omega Studios producing Pussycat Theater, with Paul Mandl engineering. . . A&M artist Robyn Hitchcock completed recording and mixing his latest solo album at Hyde Street Studios in San Francisco. Wendy Bardsley engineered and Larry Schalit assisted. . . Also in S.F., Judy

Fjell mixed her latest album at Dave Wellhausen Studios. . .

## SOUTHERN CALIFORNIA

Alan Meyerson was at L.A.'s Larrabee Sound to mix Flesh for Lulu's *Every Little Word* for Capitol Records. . . Also in L.A., Kaos was at Hit City West recording a hard rock rap album. Cleston "Slick MD" Rhaburn produced, David Tobocman engineered, Kevin "KVOG" O'Connor mixed and Karen Shellenberger assisted. . . Action at the Rock House (Los Angeles) included Larry Robinson producing Jermaine Stewart for Virgin UK. Elliot Peters engineered with Scott Seymann assisting. . . Geffen Records artist John Doe tracked vocals for his upcoming solo album at Studio Masters in Los Angeles. Davitt Sigerson produced the project with engineers Bev Jones and John Carter. . . Billy Idol was at Alpha Studios in Burbank working on a new album for Chrysalis Records. Keith Forsey produced and Dave Concours engineered, assisted by Joe Schwartz. . . At Summa Music Group in West Hollywood, Geffen Records artists Gene Loves Jezebel mixed their new LP with producer Paul Fox. Lori "Fu" Fumar assisted. . . Los Angeles R&B group Yorface racked up a brisk eight weeks of recording and mixing their debut album at the L.A. Record Plant. Bob Harlan engineered and co-produced the tracks with the band's singer/songwriter/keyboardsist Billy Ferrick. . . Terry Fiyaldo and Joe Mayer of J-N-T Sound edited dialog and ADR for Roger Corman's *Frankenstein Unbound* on Audiflex. The production was digitally mixed at EFX Systems in Burbank by Ken Polk and Ken Teaney. . . International Recording Corporation in Burbank provided the re-recording facility for *Blaze*, starring Paul Newman and Lolita Davidovich. John Reitz handled dialog, Jeffrey Perkins provided sound effects and Dave Campbell mixed the music. . . Dokken was at Total Access Recording in Redondo Beach working on a new album. Don Dokken produced, Wyn Davis engineered and Melissa Sewell assisted. . . Engineer/producer Hum-

**750 Studios**  
**113 Cities**  
**32 Countries**

**1 System**



**Solid State Logic**  
MASTER STUDIO SYSTEM

Begbroke, Oxford, England OX5 1RU (0865) 842300

London (01) 706 4948 • Paris (1) 34 60 46 66 • Milan (2) 612 17 20 • New York (212) 315 1111 • Los Angeles (213) 463 4444

• Toronto (416) 363 0101 • Tokyo (03) 5474 1144



SONY'S NEW UHF WIRELESS SYSTEM GIVES YOU EVERYTHING

A wireless system you can count on to do its job when your job is on the line. The new Sony WRT-28 UHF transmitter and WRR-28 UHF receiver utilize state-of-the-art surface mount technol-



ogy for the ultimate in reliability and miniaturization.

Sony advances wireless technology to a new plateau with transparent sound quality and superior interference rejection. Plus the

YOU'D WANT FROM A WIRED MICROPHONE SYSTEM WITHOUT THE WIRE.



versatility of a switchable linear or compander mode.

Amazingly light and compact, the 28 Series UHF system goes anywhere, performing over a wide operational range. Powered by "AA"

batteries, available worldwide.  
The Sony UHF Wireless System.

**SONY**®

PROFESSIONAL AUDIO

It performs like a wired microphone. With no strings attached.

To find out more, call us at  
1-800-635-SONY.

Sony Communications Products Company, 1600 Queen Anne Rd., Teaneck, NJ 07666. © 1989 Sony Corporation of America. Sony is a registered trademark of Sony.



# Dolby SR. The sound investment for analog multitracks.

When everyone else was making noise about digital, we quietly developed Dolby SR. But it's no secret: Dolby SR makes analog multitrack recording a cost-effective alternative to digital.

## Improves the preferred sound of analog

At both 15 and 30 ips, Dolby SR dramatically increases headroom, and virtually eliminates tape hiss and modulation noise. Dynamic range is improved by more than 25 dB over unassisted analog, preserving all the warmth and purity of the original sound.

## Increases the return on your investment

Dolby SR upgrades your multitrack at a fraction of digital's cost. Add our Model XP SR (configured for up to 24 channels), or update an existing Dolby mainframe with plug-in SR modules. If you are in the market for a new multitrack, Otari and Studer offer models with Dolby SR built-in.

## Simple to use

Set-up is quick and easy with Dolby SR. A unique

Auto Compare feature lets you instantly verify frequency response and playback calibration.

And editing is as convenient as ever, with no need for special equipment.

## Worldwide acceptance

Tapes recorded with Dolby SR can go anywhere, anytime. In fact, with more than 25,000 channels in over 30 countries, analog with Dolby SR is a firmly-established format you can't afford to ignore.

## Put it to the test

Call your Dolby dealer to arrange for a demo at your facility. Hear for yourself why Dolby SR is

the sound investment for analog multitracks in today's competitive marketplace.



100 Potrero Avenue, San Francisco, CA 94103-4813. Phone 415-558-0200, Telex 34409. FAX 415-863-1373 346 Clapham Road, London SW9 9AP. Phone 01-720-1111. Telex 919109. FAX 01-720-4118. Dolby and the Double-D symbol are trademarks of Dolby Laboratories Licensing Corp. © Dolby Laboratories Inc. 1989 S89/8676



berto Gatica was at Lion Share Recording Studios in Los Angeles remixing David Bowie's classic song "Fame" for an upcoming Disney film. Guy DeFazio assisted on the project... Virgin recording artist Kevin "Kipper" Jones tracked and mixed his self-produced project at Westlake Audio in Los Angeles. Gerry Brown engineered with Darryl Dobson and Bill Malina assisting... In Burbank, Belgian sensation Hunting Hunting stalked The Enterprise's Studio B to complete digital mixes for their upcoming ARS album. Richard James Burgess produced and engineered with assistance from Martin Horenburg... Steve Perry was at Skip Saylor Recording in Los Angeles mixing his second solo album for CBS Records. Perry produced with Randy Goodrum. Chris Lord-Alge was at the board, assisted by Chris Puram... Melanie Gold was at Valley Center Studios in Van Nuys cutting vocals for her upcoming release. Dennis Moody engineered and Dave Bates assisted... At Topanga Skyline Recording in Topanga Park, guitar wiz Will Sexton was in with his band cutting tracks for his new MCA album. George Tutko and Jim Creegan produced with Sarah Jarman assisting... Bernadette Cooper mixed her new LP for MCA Records at Aire L.A. Studios in Glendale. Craig Burbidge handled the engineering duties and Mike Scotella assisted... Tim Palmer mixed the *Mother Love Bone* LP at Soundcastle Recording Studios in Los Angeles with Tracy Chisholm assisting... At Artisan Sound Recorders, engineer Greg Fulginiti mastered LPs for John Coltrane, Coleman Hawkins and Alice Coltrane... Without Forum recently completed their second self-produced album at South Coast Recording Studio in Santa Ana. Jim Dotson engineered...

## SOUTHWEST

Great Caesar's Ghost, rockers from Colorado, traveled to Goodnight Dallas to record an EP. Kerry Crafton engineered and produced the project...

## NORTHEAST

At D&D Recording in New York City, producers Greg Smith and Bryan Jackson both worked with Warner Bros. artist Gwen Guthrie on separate tracks for an upcoming release. Kieran Walsh engineered both sessions... Boogie Down Productions' KRS-One returned to Power Play Studios in Long Island City, NY, to produce *Harmony* for her upcoming de-

but LP on Virgin Records. Dwayne Sumal engineered the sessions with Michael Nucedar assisting... Island Media Services in West Babylon, NY, welcomed A&M recording artists Groove B Chill who recorded and mixed their debut album. Al Watts engineered the sessions... Producer Arif Mardin was at Soundtrack in New York City with new Elektra artist Lisa Fisher. Michael O'Reilly handled the board with assistance from Dave Leibowitz... Robbie Mychals' debut single, "Can't Get Enuff of U," was produced by Joe Jefferson and Fitzgerald Scott at Sigma Sound Studios in Philadelphia. Mike Tarsia and Bruce Weeden engineered... Also in Philly, Kajem Victory partner Kurt Shore was busy producing EPs for two local bands, The Skam and Rivals. Engineers on the projects included Jeff Chestek, Brooke Hendricks, Jon Smeltz and Mitch Goldfarb... Tom Reeves produced and engineered three tunes for Cleanshot at Oak Grove Recording Studios in Malden, MA... Richie Havens and Jack Leslie were at Pyramid Recording Studios in New York City producing new vocal artist Norm Compton. Matt Wells was at the board, assisted by Angela Dryden... Singer/songwriter Mario Ottaviani ("The Enchanter") was at the new Inner City Sound Studio in Boston with producer Joe Viglione completing

work on his album *Words of Wisdom*. Joe Cuneo engineered... Killerfish worked on their album at Crystal Sound in Manhattan while continuing their "Harpooned by Your Love" tour of NYC clubs. Larry Buksbaum captured their sound on tape, assisted by Beatrice Winkler... At Mark Studios in Clarence, NY, Denny Laine, Richy Havens and Geoffrey Guliano collaborated on a single/EP entitled *Food for All*, a project aimed at heightening public awareness of the homeless situation in America. Sessions were engineered by Fred Betschen and assisted by Mark J. Morette...

## STUDIO NEWS

Nick Schiralli purchased NY's Record Plant and reinstated a number of former employees, including producers Jack Douglas and Jay Messina and engineers Tom Swift and Steve Marcantonio. Renovation of the historic facility, now named 321 Studios, includes the addition of two Neve V 60 consoles with Flying Faders automation and a Neve DTC mastering console... Magic Music & Audio, an Orlando-based post-production house, built a 24-track facility, scheduled to open in February... The Reflections Recording

—CONTINUED ON PAGE 21

"I Love It. . ."

Doug Sax  
Mastering Lab  
Los Angeles

"Great concept,  
great execution. . . this CD  
deserves a public service award."

Craig Anderton, Narada Recording Artist

"The quickest reference available. . .  
saves time and money"

Jay Antista,  
Lion Share Recording Studios, Los Angeles

"SRD may be your best audio investment of 1990"

George Petersen, Mix/Electronic Musician magazines



1989 NOMINEE

SRD features 70 minutes of audio test tones and references. SRD is available now for **\$69.95**.

For information on a dealer near you, or to order direct, call Toll-Free **1-800-999-6191** now!

PROSONUS™ 

1616 Vista del Mar • Hollywood, California 90028

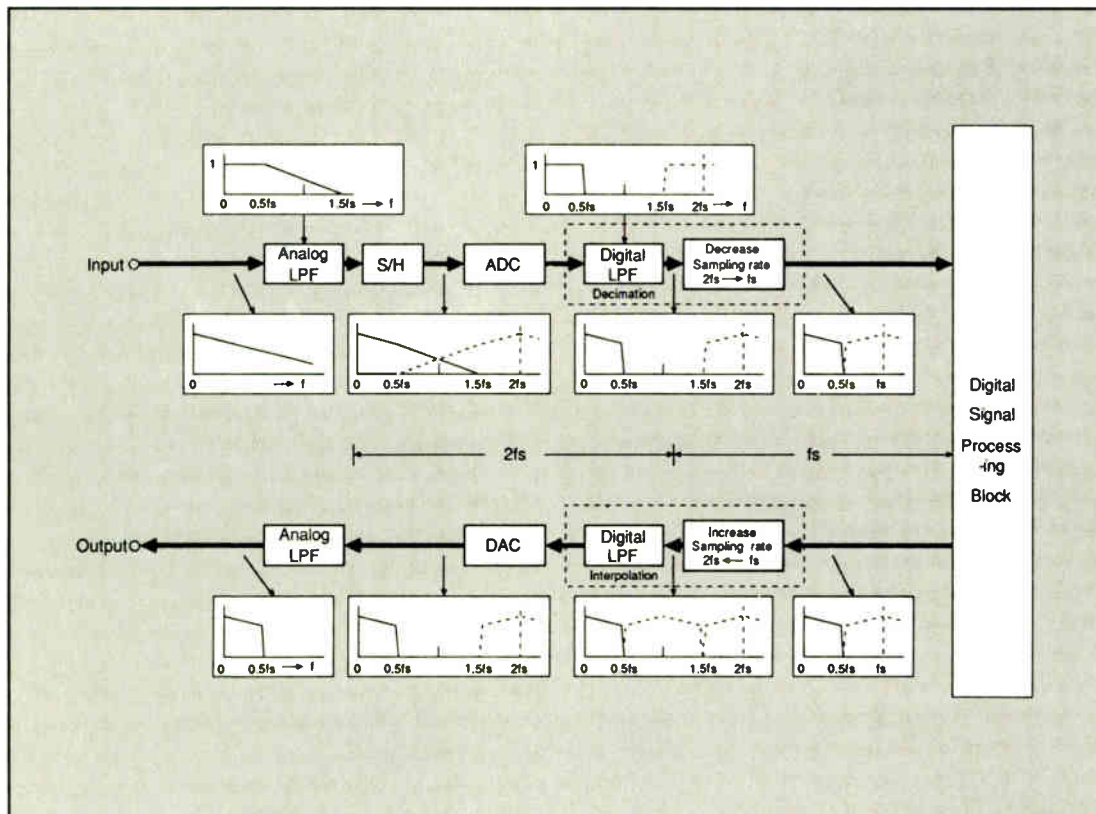
by Ken Pohlmann

# ONE-BIT A/D CONVERSION

## GOOD NEWS! YOUR DIGITAL RECORDERS ARE ALL OBSOLETE!

**W**ithout question, binary representation is a nearly ideal method of storing and processing audio waveform information. Given enough data throughput, either in terms of word length or sampling rate, the resulting precision can far exceed the limits of human audibility. I mean, when was the last time you heard the difference between 0.001% and 0.0015% distortion at 20

kHz? For that matter, when was the last time you heard 20 kHz? lowpass filters suffer from problems such as noise, distortion, aging, temperature variations, group delay and passband ripple. Thus, analog anti-imaging (output) filters have been replaced by oversampling filters; this is implemented easily because the data lends itself to digital filtering prior to D/A conversion. Out-of-band alias components are easily removed.



**Figure 1: An oversampling A/D system. (Courtesy of Pioneer)**

kHz? For that matter, when was the last time you heard 20 kHz?

The problem with digital audio isn't the digital part, it's the troublesome analog processing needed to interface the digital circuitry to the real (i.e., analog) world. For example, analog

Analog anti-aliasing (input) filters suffer from the same problems, but implementation of a digital input filter is more difficult because the analog signal must be sampled prior to digital filtering. The problem is aggravated because alias components are

placed in-band rather than out-of-band.

Similarly, conventional successive approximation D/A and A/D converters—that are analog, rather than digital circuits—contribute a substantial amount of distortion to the signal as it comes and goes through the digital section. To decrease conversion distortion, we must increase the linearity of the conversion process. One way is to increase the relative accuracy of the conversion by increasing word length. As a result, we've seen the introduction of audio products with 16-, 18-, 20- and even 22-bit converters, using a variety of conversion architectures. As we observed last time, sometimes less is more. Hence the introduction of 1-bit D/A converters.

This is fine for digital output stages,

prevents aliasing and reduces the sampling rate to a standard rate (i.e., 44.1 or 48 kHz) for storage or processing using conventional methods.

In oversampling A/D conversion, the digital filter operates as a lowpass decimating filter. It removes the frequency components outside the audio band to prevent aliasing between the audio signals and the resulting sampling rate. This would occur when the output of the digital filter is resampled (undersampled) at the system's sampling rate. At the input, an analog lowpass filter removes the frequency components that cannot be removed by the digital filter; however, because the preliminary sampling rate is high, the analog lowpass filter is low-order.

Consider the 2-times A/D oversampling system shown in Fig. 1. An ana-

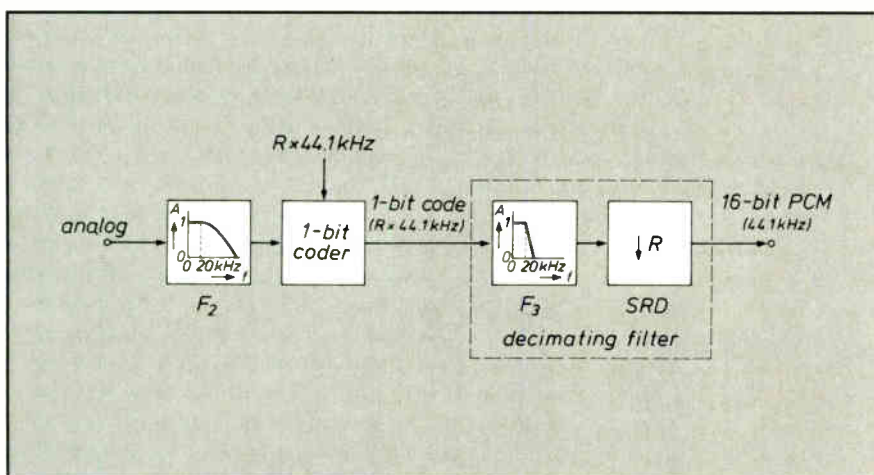


Figure 2: A 1-bit A/D conversion method. (Courtesy of Philips)

but what about the input? All kinds of problems abound: Non-linearities are rampant, and input oversampling rates (and conversely, the order of the input filters) are limited by the relatively low speed at which conventional A/D converters can operate. The bottom line is simple: We're stuck with poor A/D conversion in our recorders. What good is awesome digital reproduction if all the discs are made with lousy recording circuitry? Don't despair. A variety of oversampling chip sets using 1-bit architectures have been introduced to remedy the ills of conventional input filtering and A/D conversion.

In theory, an oversampling A/D is simple. The input signal is first passed through a simple analog anti-aliasing filter and then sampled at a very high rate to extend the Nyquist frequency. After quantization, a digital filter

log anti-aliasing filter restricts the bandwidth to  $1.5 f_s$ , where  $f_s$  is the sampling rate. The relatively wide transition band, from  $0.5$  to  $1.5 f_s$ , is acceptable, and promotes good phase response. For example, we could use a seventh-order Butterworth filter. The signal is sampled and held at  $2 f_s$ , and converted. The digital filter limits the signal to  $0.5 f_s$ . With decimation, the sampling frequency of the signal is undersampled and hence reduced from  $2 f_s$  to  $1 f_s$ . A linear phase FIR (finite impulse response) digital filter with uniform group delay characteristics performs this task.

The oversampling D/A circuit (also shown in Fig. 1) tackles the reverse processing. In this case, we reduce the complexity by using the same oversampling rate for both the input and output filters; the same analog low-pass filter can be used for both func-

- Sound Effects
- Production Music
- CDs For Sale
- Dialogue Replacement
- Software (for IBM-AT compatibles)

The problem with production music libraries is **quantity**. Most libraries send new releases automatically, which soon leads to **overwhelming quantities** of new material you must audition and somehow become familiar with. We can't help you make subjective evaluations, but we can give you a consistent software based catalog — **Professional Librarian** — that contains catalogs of most production music libraries. You can organize the program into your own category system and append the descriptions with your own comments. As libraries release new material, we add the information to the program and send floppy disks to update your software.

Professional Librarian also excels at managing sound effects libraries. **Enter your own data** for Tapes, Samples, CDs, DATs, Film & Records or use our free, pre-sorted catalog listings of CD sound effects libraries. **Search with multiple words** using "and" "or" & "not." **Control CD playback** via interface to Sony CDK-006 jukeboxes.

We stock a complete line of **digitally recorded sound effects** libraries on CD. Additionally, all of the catalogs have already been typed into our database software.

Editors working on Dialogue Replacement/Looping sessions will appreciate our **SpotMaker** software — Simply enter basic spotting information once to **print cue/line sheets** as well as a variety of other forms. Sort and refine before printing to **create specific printouts** by character or reel.

## Leonardo Software

Fax, phone or write for full info including demo disk.

10378 Holman Avenue  
Los Angeles, CA 90024  
Phone (213) 277-5161  
Fax (213) 277-9086



## How does the smart money buy New England Digital's Synclavier<sup>®</sup> or PostPro<sup>™</sup>?

### They lease them.

Without tying up your ready cash or bank financing, you can get any New England Digital system you need, now.

New England Digital leasing programs make even the largest purchases surprisingly affordable.

And to make sure your new equipment is yours as soon as possible, once we have your completed application, you'll have your answer in less than a week.



**New England  
Digital<sup>®</sup>**  
The smart move.

PostPro and Synclavier are trademarks of New England Digital  
© 1990 New England Digital, 49 N. Main St.,  
White River Junction, VT 05001 Tel: (802) 295-5800

tions. Furthermore, a single A/D and D/A could be used to process two audio channels simultaneously; the digital filters would cancel the phase difference arising when sharing left/right converters.

Such oversampling converters overcome the problems of brickwall filters, but their real potential lies in providing awesome converter linearity specifications, yielding extremely low distortion, even at very low amplitudes. This is the special province of so-called 1-bit systems. These oversampling A/D designs use a very high initial sampling rate, and take advantage of that high rate by using low-bit intermediate coding of the audio signal. In addition, we do not need a sample-and-hold circuit.

Moreover, a sigma-delta modulator can provide noise shaping. As discussed last month, the SDM actually creates bitstream coding from the lowpass-filtered analog signal. Depending on its order and design, its feedback loop generally consists of the following operations: subtraction of output from input to find the approximation error, approximation error filtering, 1-bit D/A conversion of the output code into a signal to subtract from input analog signal, and quantization to output a 1-bit approximation for the next input sample. In practice, a third-order SDM would do the trick, nicely shaping the bulk of the noise toward higher frequencies, where it is neatly removed by the subsequent decimation filter.

As noted, decimation replaces the low-bit coding with 16-bit coding and provides a lower sampling rate. Decimation thus lowpass-filters the 1-bit code, band-limits the signal prior to sample rate reduction to remove alias components, and generates a PCM output. Consider an example in which 1-bit coding takes place at  $64 \times 44.1 \text{ kHz} = 2.8224 \text{ MHz}$ , as shown in Fig. 2. The input analog filter is modest indeed, perhaps first or second order, ensuring phase linearity in the audio band. The decimating filter provides a stopband from 20 kHz to the half-sampling frequency of 1.4112 MHz.

Using 1-bit coding as the intermediate phase of A/D conversion greatly simplifies the filter design. For example, a new output sample is not required for every input bit. Because the decimation factor is 64 (in our

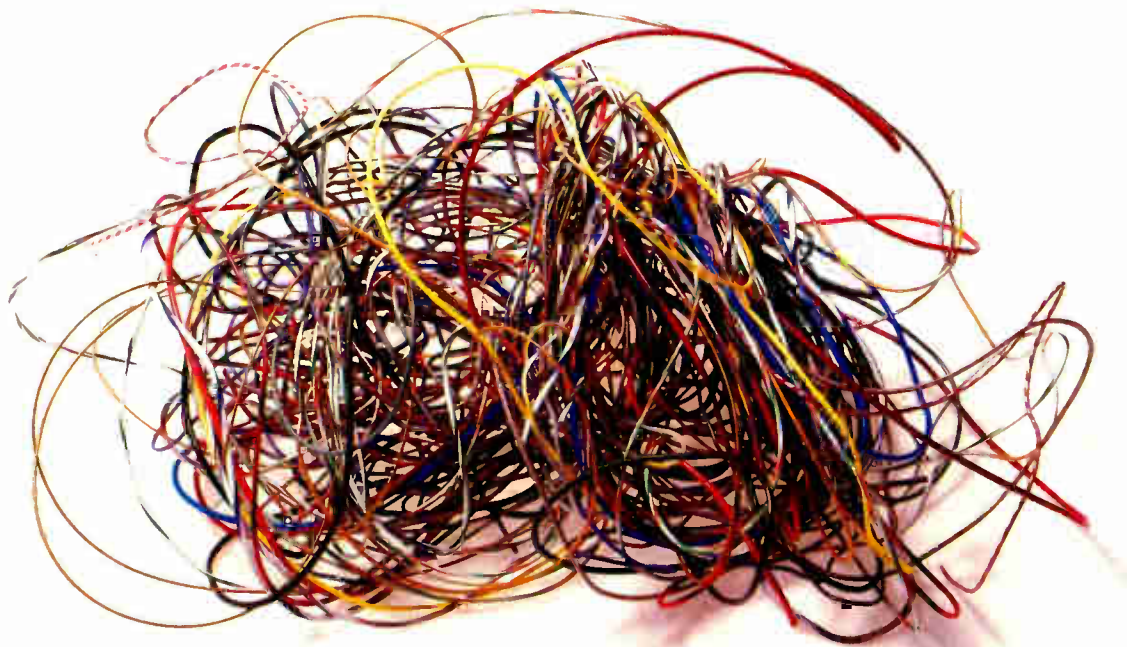
example), we only require an output for every 64 input bits. In practice, the decimation filtering might be carried out in two stages (as in the Philips PCF 5022 oversampling A/D chip). The first stage might perform 192 multiplications per single multibit output sample at a rate of 2 fs. The decimation filter's second stage performs multibit multiplication with full convolution, with an output sample rate of 1 fs. A FIR filter would commonly be used for down-sampling, because its non-recursive operation would simplify computation to one sample every 1/fs second. Following decimation, the result may be rounded to 16 bits, and output at a 44.1 kHz sampling rate.

In addition to making brickwall analog filters superfluous, oversampling A/D converters offer other improvements over conventional A/D conversion methods. As we have seen, oversampling A/Ds can achieve increased resolution in much the same way as oversampling D/As. For example, they extend the spectrum of the error between analog input and digital output far outside the audio band. So the in-band noise can be made quite small. As noted, the SDM provides this benefit. The same circuit that codes the signal into a 1-bit stream also shifts the out-of-band noise components. The bottom line is undeniable: In terms of phase linearity, amplitude linearity, noise and other parameters, oversampling A/D converters using 1-bit architectures offer significant advantages over conventional brickwall, successive approximation methods. As if enhanced audio performance isn't enough, these new converters should be significantly cheaper than their predecessors, thanks to the miracles of LSI manufacturing.

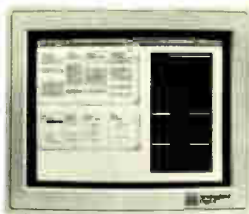
Just imagine, soon, with the advent of 1-bit A/Ds, you can junk your existing gear and mortgage all new stuff. While sweating over cash flow every month, you'll be happy to know that, at last, your professional studio recorder might actually sound as good as your kid's portable CD player. You too, can enjoy the luxury of 0.001% distortion. As far as hearing 20 kHz, you might try oysters. ■

*Ken Pohlmann kindly reminds us that a comprehensive treatment of many digital topics can be found in his Principles of Digital Audio, available from Mix Bookshelf.*

Merge, filter, channelize,  
echo, transpose, map  
and scale, up to  
128 different MIDI devices  
simultaneously...



with a hot coffee in one hand.



Introducing MIDInet™, the ultimate MIDI studio integration tool for all New England Digital workstations, including the new Synclavier® 6400. MIDInet combines the functionality of a fast, powerful 8 port MIDI processor with an expandable 8-in by 8-out patchbay. MIDInet's unmatched processing capabilities mark the difference between professional performance and hours of wasted time and frustration. Your incoming and outgoing data can be handled simultaneously on all 8 ports, with a dazzling range of processing functions available. What's more, even the most complex system routing and processing routines can be programmed simply by drawing lines between device icons. Kid's stuff! For more information on the MIDInet option call 1-800-848-4400 ext 356 (9 to 5 EST).



MIDInet and Synclavier are trademarks of New England Digital. © 1989 New England Digital. 49 N. Main Street, Box 546 White River Junction, VT 05001

Circle #061 on Reader Service Card



# Face the Truth.

The only sure way to know if a DAT recorder meets your professional needs is to turn it around and see if it has the right connections.

The Fostex D-20 does. It operates just like much more expensive open reel 2-channel recorders with SMPTE/EBU capability.

## Synchronize • Monitor Tape • Punch-In/Out • Control Pitch

You can post-stripe time code on an existing DAT tape (recorded on any DAT machine), or you can record time code and stereo audio on the D-20 and play that tape back on any other DAT machine with complete compatibility.

The 20-pin synchronizer port allows interface with our synchronizer system (others as well) and there's an RS-422 port for control which requires serial communication.

Then there's an external sync input for composite video, plus Word Sync Input and Output capability - all standard on the D-20.

In our unique 4-head system, two pairs of heads are positioned around the drum at 91.5° intervals. One pair is for record, the other for reproduce; but it's the revolutionary ability to reverse functions that opens up the format for true professional use.

Thus the D-20 features off-the-tape monitoring - a very important feature considering the DAT's ability to record for two straight hours (no more multiple reels and alignment hassles).

You'll be able to control all transport functions by remote control - including instant punch-in/out. Built-in cross-fade timing gives you seamless punches.

There's even a pitch control complete with digital read-out. It's on our front panel (not shown), along with other professional touches.

The D-20 has been shipping since last year and it's being used daily in audio and video post-production suites. It works.

And it will keep on working as future software is developed, thanks to the built-in flexibility of the DIP switches and an additional 40-pin connector.

Most important of all, the D-20 sounds great. It records and reproduces all the music completely, faithfully, and better than analog alternatives.

So when it comes down to professional *performance*, plug into the digital master recorder that faces the truth, back against the wall.



# D-20 Digital Master Recorder FOSTEX®

Complete technical information is available in the form of reprints of "A Professional R-DAT Recorder", presented at the 85th AES Convention, November 6, 1988. Please send a check or money order in the amount of \$2.00 to cover shipping and handling.

• 1989 Fostex Corporation of America, 15431 Blackburn Ave., Norwalk, CA 90650  
(213)921-1112 • FAX (213)802-1964

Circle #097 on Reader Service Card  
World Radio History

—FROM PAGE 14

Studio reports installation of the first Studer A827 tape machine in Nashville. . . Goin' Mobile in Boston updated its audio remote truck to 16 tracks and 32 inputs with the addition of a Tascam MS-16 recorder and Hill Multimix console. . . Studio A in Dearborn Heights, MI, recently installed a Solid State Logic 6000 E 40-input mixing console with G Series preamps and a Sony 25-inch XBR Pro monitor. Additions to the Synclavier room include a Macintosh SE with Opcode editor/librarians and a KMX MIDI switcher/Studio 3 MIDI interface. . . Soundmirror, Inc., (Boston) upgraded to a Sony DAE-3000 equipped with interfaces for 1630, DASH and F1. This enables the studio to accommodate any digital tape format in both its Lexicon OPUS post room and its Sony CD mastering room. . . Cue Recording, in Falls Church, VA, recently opened its Studio B, a 24-track audio post-production room. . . Goad Ministries of Dayton, OH, announced completion of Toyland Recording. Designed by Systems Development Group, the two-studio recording and production facility features an automated Soundcraft TS 24 console and 48-track recording capability with two 24-track MCI tape machines. . . Due to an increase in business, Shag Sound Studio has moved to a larger site: 16 Nashville Ave., Toronto, ON. . . Alpha Audio of Richmond, VA, took delivery of its third NED Direct-to-Disk digital multitrack recording system, making the facility a 100% digital operation. . . TeleScene in Salt Lake City recently completed a 24-track music and audio-for-video facility, designed by Lakeside Associates. The studio features an MCI 32-input console, iso booth, Foley capabilities and full MIDI room. . . New York City's The Hit Factory took delivery of Neve's VR console with Flying Faders Automation and a Mitsubishi X-880 32-track digital recorder. . . San Francisco-based Music Annex Recording Studios purchased a Sony DVR-10 D-2 recorder for digital mastering. . . Martin Audio recently sold Otari MTR-100A 24-channel analog recorders to Home Box Office, Brigg's Bakery and Java Recording. . . Margarita Mix, in Los Angeles, is a new five-studio post-production facility designed by renowned studio designer John Storyk and interior designer Liberty Blueskys. The facility, disguised as a rustic Mexican villa, features the Synclavier Direct-to-Disk system, a large, central machine room, textiles from Oaxaca and "the best margs in town." . . Washington Professional Systems recently sold TimeLine Lynx Keyboard Control



At Sigma Sound Studios in Philly, producer Fitzgerald Scott, singer Robbie Mychals and producer Joe Jefferson discuss the nuances of the mix as Mike Tarsia (seated) runs the board.

Units and Lynx Time Code Modules to three major Washington, DC-area production facilities—Maryland Public Television, The United Way and Musifex. . . Sutcliffe Music, Inc., a New York jingle house, recently installed a pair of TimeLine Lynx SAL Time Code Modules. . . Effanel Music took delivery of a Sony 3348 digital 48-track tape recorder. The first project with the new machine was a series of dates with the Rolling Stones, including their pay-per-view finale in Atlantic City. . . Although its San Francisco facility was damaged in the October earthquake, Little Wing Recording was able to complete its post-production projects. The studio has

moved to a new location: 123 Alhambra St., San Francisco, CA 94123. . . Syncram, from Soundmaster, was delivered to Woodholly Productions in Hollywood, CA, and Zenith/db in Chicago. The machine provides full integration of random access digital audio and machine control with EDI-based electronic audio editing. . . Signature Sound, formerly L.A. Recording, a multipurpose 24-track facility in San Diego, installed a Neve V Series 48 input console. . . Refraze Studios in Dayton, OH, entered the audiophile cassette duplicating business with the purchase of the KABA system. ■

the Ultimate

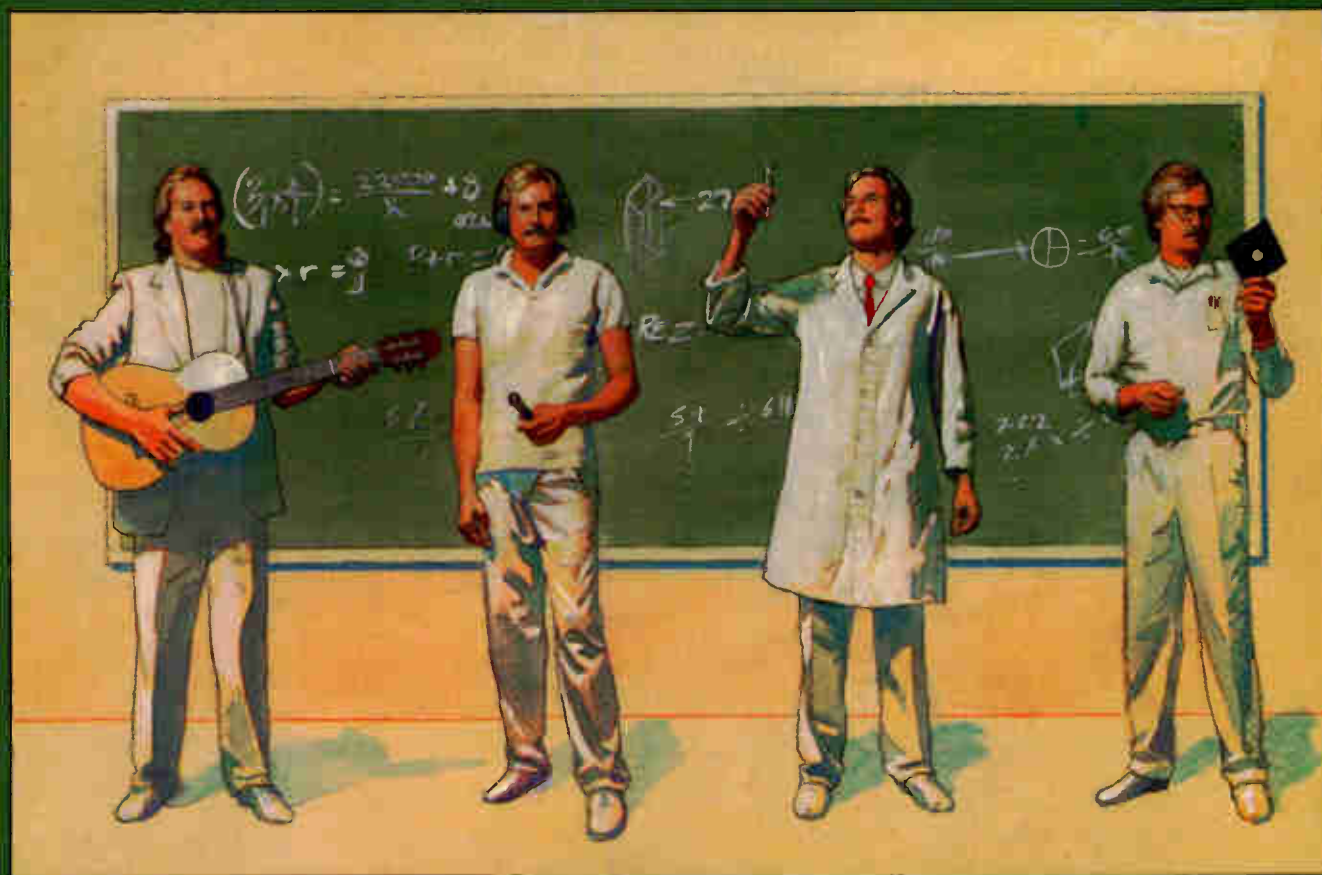
Your project deserves the best, so move a step beyond mere technology to create a sound that will make you stand out in the crowd. Discover why Master Mix is one of only ten studios worldwide offering you Catrec's UA8000—the ultimate alternative in remix.

Alternative

Master Mix 1808 Division St. > Nashville, Tennessee 37203 > 615/321-5970

Circle #138 on Reader Service Card

by Stephen St. Croix



## ONE FOR ALL AND ALL FOR YOU

**C**an you see it? Even as the myriad technical fields evolve and become more specialized, even as the audio people, the computer people, the aerospace people and the chemists consistently pull away from the general sciences to form tighter and tighter isolated groups, a new communication and sharing are beginning to emerge. Why just the fact that I wrote a single sentence of 50 words and this magazine printed it shows that we are becoming more tolerant and open even as we retreat to our worlds of specialization.

Too abstract? Okay, let's try this: Silicon gets smaller and faster every year because a bunch of guys (with pocket protectors that have "HP" printed on

them) spend every waking hour of their lives racing other silicon nerds to make smaller and faster chips. This is the nature of R&D in a capitalistic environment.

Hackers hack, chemists mix and cook, engineers put porcupine in front of mice, and artists put whatever it takes into getting out whatever they can for the very same reason. They are each running their own race—like you and me.

Those of us who are the winners (I assume all *Max* readers fall into this category) must, by the very nature of competition, spend more time each year optimizing if we wish to hold on to that elusive title. So we increase the percentage of time we canson





# AKG's K280. Listen to Reality.

Analog tape isn't the only thing made obsolete by digital recording. Headphones that used to seem fine just aren't up to reproducing the remarkable clarity and full dynamic range of live or digital sound. In the tradition of the widely-used K240 series, AKG has risen to this technical challenge with its new K280 *Parabolic* headphones. Each earcup of the K280 *Parabolic* features two perfectly matched transducers computer-positioned to focus interference-free sound at the center of the user's ear. This "acoustic lens" accurately captures the exceptionally transparent sound of a digital master tape, while the use of doubled transducers improves channel balance, increases dynamic range, and provides gain levels high enough for any kind of live or studio work. Also available is the K270, a sealed version of the K280.

AKG's K280 *Parabolic*. When you're working in the digital era, you need to listen to reality.



**Focusing on new technology.**  
77 Selleck St. Stamford, CT 06902  
[203] 348-2121

with those of like kind—whether to increase our knowledge and efficiency or even to spar for political and business positioning. By necessity, we each become more specialized, more involved with our respective aspects of our industry. No revelation here. It's quite apparent when you stop to think about it.

As each techno-group optimizes, it becomes more specialized. As each group discovers the aspect of technology that it excels in, the scope narrows, human interactions become more polarized, and conversation at work centers on improving the prod-

uct. Eventually, even a special language develops, and the rest of the world is simply left behind.

This is how it should be. I would no more want to drive a car that you designed than you would want to listen to a demo tape recorded by the General Motors Heavy Metal Engine Casting Division Marching Band.

I guess you see my point by now, or at least half of it. We live in a world where hundreds of initially non-related technologies have evolved to the point where they are fully understood only by those who lead the evolution.

Here is the other half.

Even while this specialization isolates us, a new cross-involvement—a

new unity—is upon us. As we search for ways to grow and learn (read: ways to become so powerful that we blow away that *other* studio across the street), we are turning to outside technologies, even if unknowingly.

Numerous techno-nerd groups now operate in harmony to give us access to power, speed and the American way as never before. For example, a modern recording facility now has (or better soon have) a configurable virtual working environment. For those of you who are reading this in your sleep, perhaps waiting for that first cup of coffee to brew, I mean a digital disk recorder/editor/processor. You know—a virtual studio. Yesterday's sci-fi here today.

The primary chain of cross-involvement that has brought us to this wonderful new age is basically as follows:

- The chemist nerds (undersized, black horn-rim-glassed with white tape on the nose piece) have cooked up new silicon recipes, so that . . .
- The silicon nerds could fabricate more powerful engines and faster, smaller memory, so that . . .
- Apple could make better Macs, so that . . .
- The pro audio heavyweights could use them for front ends for *their* own monster hardware stations, so that . . .
- Audio engineers could sit down at true virtual studios sometime in 1990, and they in turn could . . .
- Be a thousand times more powerful, responsive and creative, allowing them to . . .
- Produce a much better end-product in much less time, so that . . .
- The artist/label/studio gets its final product on the street sooner, which in turn . . .
- Causes said artist/label/studio to come back to do more of the same, thereby causing . . .
- Your studio to grow, so you may live long and prosper, and . . .
- You blow the studio across the street right out of the water, which is half of what this entire game is all about anyway (second only to supplying the Earth with the highest-quality creative product possible, of course).

Well, there you have it. All of these people working late into the night so that *you* can finally stop sitting on the freeway for three hours a day in that old Toyota and begin sitting on the freeway for three hours a day in a Ferrari. After all, that's what America is all about.

## CHECK YOUR BALANCE.

Before you invest in a professional DAT recorder, check to see if it stacks up against the Sony PCM-2500:

- ✓ Records at 44.1kHz as well as 48kHz
- ✓ Has professional SDIF-2, AES/EBU and S/P DIF interfaces
- ✓ Has built-in error indicator
- ✓ Operates on 100/120/220/240V, 50/60Hz
- ✓ Is supplied with both wired and wireless remote control
- ✓ Can individually trim L/R analog input and output



If it's a Sony, you can check all of the above — which is what you'd expect from The Leader in Digital Audio™. For more information call 1-800-635-SONY.

### PCM-2500

- Recording and erasure of Start ID, Skip ID and Program Number subcodes
- Two-hour recording time (with DT-120 Sony DAT cassette) •Less than 0.005% Total Harmonic Distortion at +4dB •Greater than 90dB dynamic range
- High-speed locate capability at 60 times normal playback speed

**SONY**  
PROFESSIONAL AUDIO

Sony Communications Products Company,  
1600 Queen Anne Rd., Teaneck, N.J. 07666  
© 1989 Sony Corporation of America.  
Sony and The Leader in Digital Audio are  
trademarks of Sony

# Did you know Power Station uses

# AGFA

Power Station leads the way. It's inspired numerous studio designs. Countless hit records. And a generation of producer/engineers.

No wonder the New York scene is already buzzing about their new Studio D, a hybrid room that can mix music, audio-for-video, and audio-for-film. It's an innovative look at tomorrow's state-of-the-art.

Innovation. It led Power Station to Agfa bias-compatible PEM 469. Long before it became the year's most exciting new mastering tape. Long before anyone else. "The high-end holds together," says V.P./Studio Designer Tony Bongiovi. "It's transparent. It's musical. It's leading-edge."

It's a new vision for the 90's:

A decade of professionalism and excellence. A time when studios must try new formulas for success. An era when innovators will always play the lead.

AGFA magnetic tape—from research and development, through manufacturing, to delivery and service—we care!



Agfa Corp., 100 Challenger Road,  
Ridgefield Park, NJ 07660 Telephone (201) 440-2500

Left to right: Barry Bongiovi, Studio Manager; Bob Walters, President; Tony Bongiovi, Vice President, Studio Designer

AUDIO VIDEO PROFESSIONAL

Circle #069 on Reader Service Card

**AGFA** 

# A.R.T. INTRODUCES THE FIRST SIGNAL PROCESSORS OF THE 21ST CENTURY

## THE SGE MACH II

The stunning new Wonder-processor offering 12 effects simultaneously! The Mach II has over 70 different effects including an exciter, equalizer, compressor, limiter, noise gate, expander, sampler, env. filter, pitch transposer, line EQ, stereo panner, stereo chorus and flange, 12 killer distortions, 21 delay types (2 full seconds) and 24 different reverb algorithms! Real time midi, 200 memories and bandwidth to 20 kHz.

## THE DR-X

The all new Studio Digital Reverberator/Dynamics Processor/Pitch Transposer/Sampler offering 160K bytes of audio ram, bandwidth to 20 kHz, sampling, 10 simultaneous audio functions, an exciter, equalizer, compressor, limiter, expander, noise gate, stereo panner, stereo chorus and flange, 21 different delays (2 full seconds), 24 reverb algorithms, 200 memories, amazingly comprehensive real time midi control.

## THE MULTIVERB III

A new age of technology and 400% more processing offers digital reverb and spatial enhancement that defies description! The Multiverb III has over 53 effects to choose from (up to four simultaneously) including sampling, stereo chorus and flanging, 21 delay types (2 full seconds), stereo panning, pitch transposing, 24 reverbs, 200 memory locations, full programmability and Performance Midi™.

## THE MULTIVERB LT

The Multiverb LT gives you the power of the Multiverb with the simplicity of 1-touch control. The LT has 192 of the finest studio multi-effect combinations ever created! For those who don't have time for the complexity of programming, the LT gives you all the power you can use at a great price! Midi addressable.

### Export Distributors:

THE NETHERLANDS/Audio Script B.V./Soest/02155-2044/FINLAND/MS-Audiotron/Helsinki/90-5664644/SWEDEN/Muskantor & Co./Molndal/031-878080/France/High Fidelity Services SA Paris/01-42.85.00.40/CANADA/Yorkville Sound LTD./Scarborough/416-751-8481/ITALY/Ital C.I.D.A. SPA/Parma/0521-690158/WEST GERMANY/PME Audio/Hauttweg/07136-6029/SWITZERLAND/Musikengros P. Gutter/Sissac/061-983757/HONG KONG/Audio Consultants LTD./Kowloon/3-7125251/JAPAN/Nihon Electro Harmonix/Tokyo/031232-7601/THAILAND/Beh Ngiep Seng Musical Instruments/Bangkok/222-5281/INDONESIA/PT Kirana Yudha Teknik/Jakarta/806222/SINGAPORE/Lingtec PTE. LTD./7471951/SPAIN/Aplicaciones Electronicas Quasar SA/Madrid/6861300/TURKEY/Kadri Cadmak/Istanbul/01-1661672/AUSTRALIA/Hi-Fon Distrib. Pty. LTD./Chatswood NSW/024177088/DENMARK/M.J. Musik/Kobenhavn/1-854800/U.K./Harmon U.K./Slough/075376911/NEW ZEALAND/Maser Digitek/Auckland/444-3583/4/ISRAEL/More Productions/Tel Aviv/03-454003-442697/ARGENTINA/Lagos Sarmiento/Buenos Aires/40-6455/NORWAY/AUDIOTRON/OSLO/2 35 20 96

APPLIED RESEARCH & TECHNOLOGY INC., 215 Tremont Street, Rochester, New York 14608, (716) 436-2720, TELEX: 4949793 ARTROC, FAX (716) 436-3942

Circle #070 on Reader Service Card

The logo for Applied Research & Technology (A.R.T.) Inc. features the letters 'ART' in a bold, stylized, blocky font. The letters are white with a black outline, set against a dark background. The 'A' and 'R' are connected at the top, and the 'T' is separate. The overall design is modern and industrial.

For the sake of *some* attempt at readability, I have omitted several (actually, all) of the parallel technologies that contribute to my Sim City Virtual Studio Scenario. For those who like to stay after the movie so they can see if any of their buddies did work on it, I will roll a few of those credits here: magnetic hard disk media; optical media; wire and glass data transmission; high-speed, solid-state, infrared data systems; most DSP chips; video, LCD and LED displays; and many more.

Obviously, none of these technologies were invented for us—the audio guys. But, without today's incorporation of even any *one* of them, our industry's advancement would have been seriously impaired. *With* them, we have come to the point where these combined technologies have put us on the threshold of a new era. We find ourselves, for the first time, able to move out of the traditional awkward physical recording studio environment into a virtual world that may be optimized instantly to the task at hand, no matter how specialized.

If this all sounds a little like a commercial for the coming generation of virtual digital studios, it *is*. I think that you should all go out and get one this year. Remember, operators are waiting.

Now, those of you who know me are probably aware I have designed at least one of these major workstation/workplaces that I allude to above. Those same people already know I feel everyone should have one.

Some even joke that the only reason I took on the design project in the first place was that I wanted one for myself, and I was too cheap to go out and buy one.

This is, in fact, very close to true. I took on the project for the best reason I can think of. It wasn't that I didn't want to buy one; it was more like there wasn't one out there I wanted to buy. None of the existing approaches made sense to me, so I wanted to design one that did. One that acted the way I wanted *my* recording environment to act.

Actually, I hope everyone who designs for this industry does so with similar motives. I know I can tell when a piece of equipment was conceived with that in mind. I generally buy these machines. If this attitude is

not at least a major part of the goal, it shows as another "me-too" product, which contributes nothing to the advancement of our industry.

*We live in a world where hundreds of initially non-related technologies have evolved to the point where they are fully understood only by those who lead the evolution.*

There are already more digital disk recorders out there than you can count with your shoes on. Some of them are simply that, while some are

viable editors. Some have DSP, and some offer it in real time.

The life of the engineer who uses a good digital editing machine has never been better. Instead of spending time worrying about hum and buzz, tape noise, splice pops, song or spot length, ping-pong transient loss, sync track crosstalk and that type of stuff, you can put all your time into the *creative* aspects of tracking and mixing. Curious about that vocal? Want to try 15 different versions of that bridge without destroying a single note of the original track? Need to fit that 33-second masterpiece into 28? Need to replace four flat choruses with the one that's actually right? Man, do you live in the Right Time!

After you have done all that and the mix is perfect, and you get out of that chair two days sooner than you would have last year, hoist a brew and salute the techno-nerds all over that world that made it possible. After all, they did it for you, even though they didn't know it at the time. ■

*Contributing editor Steve St. Croix wonders what Les Paul was thinking when he first decided to try multi-tracking.*

## THE DAT STORE

We are the only Digital Audio Tape-Only store in the U.S.A. and the largest D.A.T. Dealer in the world.

### SELECTION

We carry every major brand of D.A.T. Recorders—Professional, Consumer, Home, Rack Mount, and Portable—and not just one or two discontinued models. We keep in stock: PANASONIC, JVC, SONY, FOSTEX, AIWA, AKAI, NAKAMICHI, SHARP, CASIO, TASCAM, & PIONEER MACHINES; as well as: MAXELL, TDK, FUJI, DIC, SONY, & DENON Tapes; in addition to a vast variety of Accessories & Pre-Recorded Tapes. No deposits required. No long delays for delivery.

### QUALITY

We employ only the most knowledgeable, experienced Sales Staff. We can answer your technical questions and provide you with the most complete information on all available D.A.T. options. We sell and stock ALL brands, so we are not restricted to pushing the units we have in stock that particular day.

### PRICE

We will beat any verifiable retail price. Owing to our volume purchasing, we can guarantee the lowest prices on virtually every available D.A.T., as well as all related Accessories and Tapes. Exceptional quantity Discounts are available.

### WARRANTY/SERVICE

We guarantee the finest, swiftest Service/Repair, as well as temporary Loaner Machines. Various Digital Modifications are also available from our experienced technicians.

(213)828-6487 / fax:(213)828-8757

2624 Wilshire Boulevard Santa Monica, California 90403



by Mel Lambert

# THE SOUL OF THE PRODUCTION PROCESS

## COMMUNICATIONS IN THE STUDIO

**P**art 3  
The pivotal role played by the producer can be likened to that of a film director, who serves as both creator, mentor, catalyst and, on occasion, bully while bringing an impressionistic vision to the movie screen.

All audio projects involve at least one individual who has the sometimes dubious honor of converting a musical idea or statement into reality. The producer is the one who usually selects the material from demos of the artist's material, if they write for themselves, and structures the session or concert so that each song or performance can be realized by using the available technology; for recording, this can range from direct-to-digital stereo to extensive multitrack overdubs.

If the musicians and artists represent the creators of a musical message, and the engineers and studio technicians represent the message carriers through the recording process, then the arbiter of what constitutes a viable musical expression is the session producer. In basic terms, it is the task of the producer, or musical director, to establish an environment in which the creative processes can be maximized, and then to maintain

that mood throughout the completion of the project or performance.

How best, then, to ensure that an artist or band conveys its best while in the studio or onstage? First and foremost is the establishment of a trusting and close relationship between the producer and the music creators. Of course, it might be that the producer on the date is also a member of the band. In which case it should be stated early in the proceedings that because of potential conflicts of interest—the need to set aside a close friendship, let's say, for a critical appraisal of a particular performance—the project should not be compromised because of individual necessities. Above all, a

producer must maintain an impeccable sense of objectivity and have a sense at all times of whether the project is achieving its goals.

It is often said that a good producer is born to the craft, and that while circumstances can allow talent to develop, it is an innate talent you either possess or you don't. Like almost every leadership position, producing is not for the fainthearted. But I disagree with the assumption that the necessary talent cannot be learned. Anyone with a sense of maturity, musical

**Like almost every leadership position, producing is not for the fainthearted. But I disagree with the assumption that talent cannot be learned.**



## Not your average woofer and tweeter.

Loudspeakers are wholly man-made devices. In the evolutionary calendar of man, the loudspeaker is just milliseconds old. By sheer ingenuity, man has refined a system which is capable of mimicking natural sounds.

The degree of realism, and hence the quality of natural reproduction, can simply be defined as **characteristics added** to the original sound. The quantification of these clues given to the human ear, decipher whether the sound is real

or reproduced by a loudspeaker on the end of an audio system.

The design and production of high quality loudspeakers is dependent on being able to measure, assess and therefore, rank and quantify these **added characteristics**. Having assessed the characteristics, the next and most important step is to select materials and techniques which will minimize or eliminate these

added characteristics altogether.

**Differential Material Technology**- An essential in the realization of Advanced Reference Monitoring.

For more information on Differential Material Technology call or write:

### TANNOY

Tannoy / TGI North America Inc.  
c/o Bill Calma  
300 Gage Ave., Unit 1, Kitchener,  
Ontario, Canada N2M 2C8  
(519) 745-1158 Telex 069-55328  
Fax (519) 745-2364



appreciation, patience and the instincts of a communicator can, with time, fill the role.

Not all producers are musicians, although most possess a fine sense of musical empathy. For some projects, the ability to play as well as the band or artist can be a handicap and reduce the necessary sense of objectivity. Not that musical empathy, for certain projects or with specific artists, is absolutely essential. Mutual respect usually takes time to develop prior to a session. But if a seasoned artist is to respect the judgment of a new produc-

er—or even one with whom he or she has worked previously—then they must be able to communicate their ideas to one another, using a language strong in the vocabulary of music and musical performance.

Because of the wide diversity of musical styles on today's international charts, and performed in concert halls around the world, the narrow definition of producer that might have been valid two decades ago has broadened. In this age of MIDI and digital multi-tracks, an increasing amount of music is being created electronically and requires the full capabilities of a state-of-the-art recording studio or stage rig.

Certainly, a producer needs to have a full palette of available musical colors, sonic textures and nuances, including recording and processing techniques.

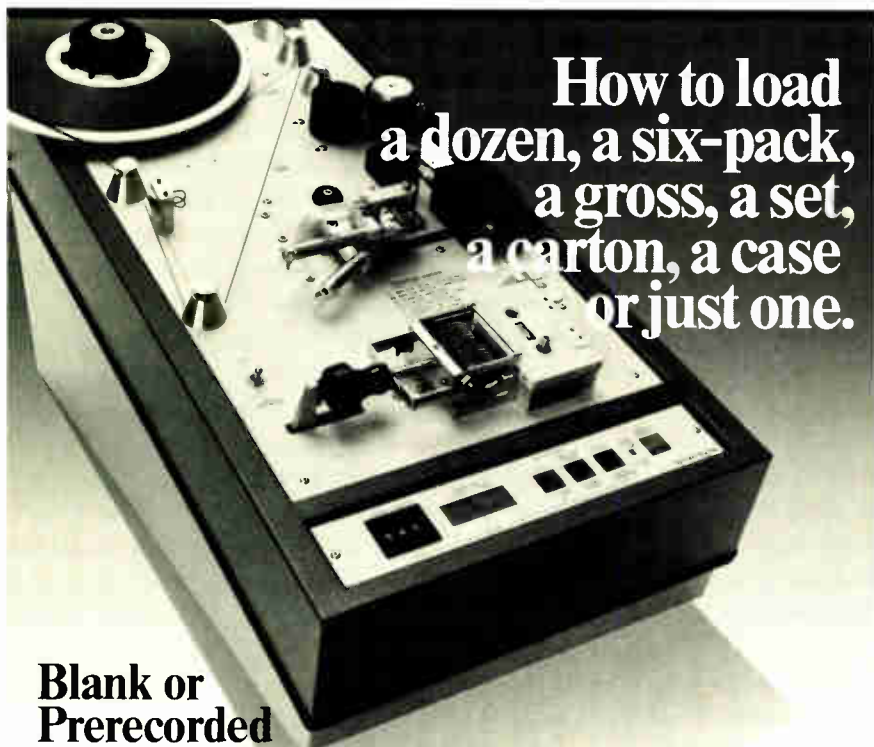
While technical skills are undeniably important, it is far more appropriate to focus on the band or artist, and to delegate to the engineer the responsibility of capturing the event as faithfully as possible. With so much going on during a "typical" session, it is sometimes impossible to listen for everything. Some of the more creative producer-engineer teams I've seen working in the studio need very little verbal communication; each knows that the other is handling his or her respective job.

Because so much of today's music involves complex, multi-instrumental overdubbing, or playing against pre-sequenced material, it is sometimes difficult for all those involved in a session to maintain a viable perspective. How far has the concept progressed since the first lyric or chords were suggested? How complete is the final message? Are we relaying the full impact of the music to the audience?

This all-important sense of objectivity, allied with a finely honed sense of empathy and communications skills, is the key to successful production. Even high-tech producers—individuals with a strong engineering/technical background—need to retain an overview of the project and ensure that the layering of each successive sound element adds to, rather than masks, the evolving musical statement. And for musicians who have made the transition from one side of the glass to the other, the discipline and intimacy that comes from developing new, objective musical ideas will stand them in good stead when dealing with kindred spirits in the studio.

As I stated at the beginning of this miniseries, ours is, most definitely, a "people-oriented" business. Without the essential interpersonal skills, all our technical and/or musical expertise on either side of the control room window, or stage apron, will not save us from a short and precipitous slide into oblivion. ■

*With over a dozen years of active involvement with professional audio on both sides of the Atlantic, Mel Lambert heads up Media&Marketing, a high-tech consulting marketing service for pro audio firms and facilities.*



## Blank or Prerecorded

It's easy and economical. Use Electro Sound's 1850 Cassette Loader with blank tape and empty cassettes in bulk and save.

The 1850 sets to load the exact time or length you need. One, or hundreds, at a time.

Automatically, and at a fast 360 inches a second, the 1850 splices and loads magnetic tape onto a cassette.

Its built-in microprocessor monitors every function and stops operation in case of a problem, preventing production losses

—saving extra production costs.

So simple to operate, one operator can handle three 1850's simultaneously. Plus, it's easy to maintain, with built-in diagnostics and lift-top cabinet.

Call to order your 1850 and a *Loading a Sound Success* brochure—full of tips on how to load your own cassettes. Fast and Economically.

It can take a load off your mind.

408/245-6600.



**electro sound inc.**  
a MAFK IV company

160 San Gabriel Dr., Sunnyvale, CA 94086 TEL: (408) 245-6600 FAX: (408) 733-0632 TLX: 34-6324  
Audiomatic Corporation: International Representative  
400 Madison Ave., New York, NY 10017 TEL: (212) 308-6888 FAX: (212) 308-5817 TLX: 12-6219




# If Michelangelo had a QUADRAVERB, he might have mixed music instead of paint.



It's true. Music and painting are very similar. A stroke of red, a touch of chorus. A splash of blue, a wash of reverb. Either way, it's art. And every artform has its masterpieces. And its tools.

Introducing the Alesis QUADRAVERB. An all-new 16 bit digital, simultaneous multi-effects processor and dead-serious musical tool. With QUADRAVERB, your mixes will be mirror images of the sound in your head. No letdowns. No noise. No nonsense. No boundaries between art and creation.



Inside, QUADRAVERB is alive with colors. Chorus, flange, phase shift, pitch detune and delay... all in stereo, to give your music depth and space. For absolute tonal control there are 5 bands of parametric and 11 bands of graphic e.q. And, of course, there's the unmistakable clarity and drama of the award-winning Alesis digital reverb programs.

With full programmability, 100 memory slots, and 90 factory programs created by the best ears in the business, QUADRAVERB gives you total artistic freedom. Plus, in QuadMode™, four of these flawless 20kHz bandwidth effects occur simultaneously. Like crunching thousands of dollars worth of studio gear into one rack space.

With very little cash, and even less effort, you can use QUADRAVERB on your next mix... plug it into your instrument rig... perfect your sound.

See your Alesis dealer today and hear what state of the art really means.

Michelangelo would agree,  
QUADRAVERB is a masterpiece.

**ALESIS**  
STUDIO ELECTRONICS

**LOS ANGELES:**  
Alesis Corporation • 3630 Holdrege  
Avenue • Los Angeles, Ca. 90016

**LONDON:**  
Alesis Corporation • 6, Letchworth  
Business Center • Avenue One,  
Letchworth, Hertfordshire SG62HR

**TEC**  
TECHNOLOGY FOR ARTISTS  
1990 NOMINEE

Circle #057 on Reader Service Card

World Radio History



# FLEETWOOD MAC

**L**AST NOVEMBER, WHILE THE members of Fleetwood Mac were deep into the recording of their new album *Behind the Mask*, a strange thing happened. Some of the band and its entourage were crowded around a large TV in the lounge adjacent to Studio C at The Complex in Los Angeles. They were glued to the screen, watching the dramatic dismantling of the Berlin Wall.

The TV camera was focused on a portion of the wall where the word

*Enjoys Its  
New Freedom*

**BY BRUCE C. PILATO**

“freedom” had been spray-painted. At exactly the same moment, only a few feet away, an original Stevie Nicks song from the new album was blaring out of the huge monitors in the control room.

“We just played there last year,” says Nicks, in awe of the entire situation. “We played in West Berlin. I even have photos of the people in Fleetwood who went to East Berlin, standing right in front of the Wall. I didn’t want to go there because I was too frightened.”

Twenty-three years and 40 million records after drummer Mick Fleetwood and bassist John McVie left John Mayall's Blues Breakers to form what was essentially a blues quartet, Fleetwood Mac is returning to the pop mainstream after a three-year recording absence. *Behind the Mask* is their first album to include new members Billy Burnette and Rick Vito (guitarists), who joined following the much-publicized, acrimonious departure of leader/producer Lindsey Buckingham two years ago.

"It has become as much fun for me now as my solo career," says Nicks of the group. "There are no fights anymore, no disagreements. It's like being in the greatest eighth grade class in school. Everyone gets along beautifully, and I have developed a really close friendship with Rick and Billy.

"When I walk into the studio with Fleetwood Mac, I can't help but smile," she continues. "I mean, this week I could have really used the rest, but it was important for me to go and do what I needed to do these two days."

A brilliant blend of the heavier Peter Green-era Fleetwood Mac sound with the concise pop sensibility that Christine McVie and Nicks are best known for, *Behind the Mask* may be their strongest album since 1977's classic, *Rumours*. It was that LP that won Fleetwood Mac four Grammy Awards (including Album of the Year), sold a staggering 21 million copies and sat at *Billboard's* Number One position for eight months (a record broken only by Michael Jackson's *Thriller* LP).

*Behind the Mask* is much more than just another Fleetwood Mac album. In a sense, it marks the rebirth of the group. With this record, Fleetwood Mac has become a genuine band once again, not merely a bunch of solo artists using the others as backup musicians.

"There's a lot more interplay now," says Mick Fleetwood, opening a fruit drink while the others listen to a playback in the control room. "I think you will find it's less insular-sounding. Lindsey, especially on the *Tango in the Night* album, was very, very much a part of the total sound."

"As a producer with the band, there are things that I am very careful with," says Greg Ladanyi. "One of them is to let them express themselves as a group a lot more. From what I was told, a lot of the organizing came from Lindsey and the way he wanted to do things. This time, they're all collec-

**Left: Stevie Nicks, Mick Fleetwood, Rick Vito, Christine McVie, John McVie, Billy Burnette.**  
**Below: Fleetwood, Burnette and producer Greg Ladanyi at The Complex.**



PHOTO: RON DELANY

tively putting in their thoughts, and I just kind of shove it all together."

Fleetwood Mac came to Ladanyi (best known for his work with Don Henley, Jackson Browne, Warren Zevon and Toto) in 1988, after a series of lengthy sessions with another established producer came to an abortive end.

Since the band had become used to recording "the Lindsey Buckingham way" (with Buckingham overseeing the lion's share of the recording in his typically long, meticulous way), and their first attempt at working with an outside producer proved fruitless, Ladanyi was a bit concerned at first that the album might be difficult to



PHOTO: NEAL PRESTON

# MIDI Made Clear

## MA 36

36 function MIDI Analyser from

*StuDiomaster*

- Indicates any MIDI information being transmitted or received on all 16 MIDI channels
- Instantly identifies and isolates any faults occurring within 19 different parameters on each MIDI channel being used—indicators stay lit if an error is sensed
- MIDI in and thru connections. Can stay permanently connected in line with your MIDI system
- Operates on a conventional 9V battery or optional AC adapter
- The MA 36 is as valuable to a MIDI user as a tuner is to a guitarist. Inexpensive and indispensable, you'll wonder how you ever managed without it!



(Actual size)

**Available now at most major music and pro audio dealers**

*For more information contact:*

Jim Giordano or Paul Reeve at  
STUDIOMASTER, INC.,  
3941 Miraloma, Anaheim, CA 92807  
Telefax (714) 524-5096  
Telephone (714) 524-2227

*StuDiomaster*

the sound experience

make. But soon after the sessions began, he knew that wasn't going to be the case. Today, he views *Behind the Mask* as "probably the most fun I've had making a record since I've been making records."

"We really, quite frankly, didn't miss a beat in terms of momentum," says Fleetwood of the period between Buckingham's departure from the band and the making of the new album. "We went out on the road [with Burnette and Vito], and it went extremely well and we became a working unit. So to come into making this album was not a big trauma—Oh my God, Lindsey's left!"

"It's been amazingly smooth," adds bassist McVie. "You'll be able to tell from the new album that they more than carry their weight. They're not a replacement, but rather, it's a transition. When you start saying replacement, you start getting into 'better than' or 'worse than.'"

"The thing is, they've proven themselves live to the public and they were accepted with open arms," says Christine McVie. "Nobody really seemed to mind that Lindsey wasn't there. That angle of it is out of the way. Now, just wait till you hear some of these new guys' songs, too."

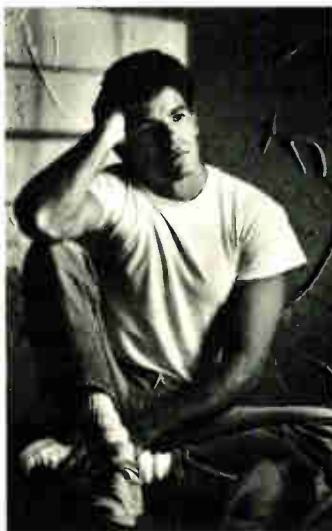
"There's a platform, a forum that is Fleetwood Mac, which is there to be used and utilized for them," comments Fleetwood. "And in terms of changing...of course it's a change. But it's very much Fleetwood Mac."

On another day in the studio, the band is hard at work on a song that features vocals by Billy and Christine, called "In the Back of My Mind." Built on a pulsating rhythm and driven by a powerful wall of electric guitars, the song is likely to remind fans of the classic "Oh, Well" era of the band.

"That song is very reminiscent of the old 'Manalishi' days," Christine McVie notes. "I don't mean the song 'Green Manalishi,' but rather, that era when Peter [Green] was starting to change and write all those kind of things. We've got four or five very heavy guitars in it. It isn't typical of all the songs on the album, but it is very typical of the variety that will be offered."

On the new album, Christine McVie, Nicks, Vito and Burnette all contributed to the songwriting. The lead vocals are divided almost evenly among those four. Also, Vito and Burnette, working off each other, have added a new dimension to the band.

## What a difference a year makes.



Every musician has a choice. You can wait for your big break, hope it comes, and hope it's something you can handle. Or you can make your own break — by getting the finest, most *practical* music education available. Doing it right may not take as long as you think.

If your music is worth a year of your life, a wide choice of one-year programs is waiting for you at the acclaimed Grove School of Music in Los Angeles. Each program offers the intensive precision education you'll need to cut through the competition as a versatile composer, arranger, instrumentalist, singer, or recording engineer.

Dramatically expanding your knowledge of musical styles, harmony, and the

latest technology, the Grove School has one constant mission: preparing you to meet the real demands of today's music industry. That's why all Grove instructors are working professionals with proven ability to make

a living in music.

If you want to make a living doing what you love, find out what a difference a year can make. Send us the coupon below, and we'll send you more information. Or call us toll-free at 800-234-7683 (818-904-9400 within California). See why Grove graduates are the lifeblood of tomorrow's music.

*Grove*  
SCHOOL OF MUSIC

*Building careers in music.*

*Grove*  
SCHOOL OF MUSIC

MAIL COUPON TO: Grove School of Music, 14539 Sylvan Street,  
Van Nuys, California 91411  
800-23-GROVE (818-904-9400 within California)

PLEASE PRINT

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

ZIP \_\_\_\_\_

PHONE (\_\_\_\_) \_\_\_\_\_

I'd like to know more about the programs checked below:

Mix 3/90

- General Musicianship  
 Composing and Arranging  
 Electronic Composing and Arranging

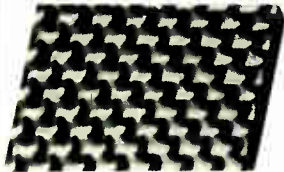
- Percussion  
 Professional Instrumental  
 Recording Engineering  
 Songwriting  
 Film/Video Composing

- Bass  
 Guitar  
 Keyboard  
 Synthesizer  
 Vocal

Circle #006 on Reader Service Card

# Uniquely Markertek!

## MARKERFOAM™ ACOUSTIC FOAM



**GIANT**  
54"x54"  
**\$19.99**  
Per Sheet!!

Blue  
or  
Grey

**KILL NOISE QUICK!** Soundproof studios, rehearsal spaces, vans, rooms with super-effective, E-Z mount, 2" thick studio gray or natural blue (specify color). Markerfoam offers outstanding sound absorption qualities. Immediate shipping. Add \$3.50/ sheet shipping. NYS residents add 7% tax. MC Visa Amex COD Check Terms. 3-inch sheets also available at \$29.99.

### MARKERTEK PATCHADAPS™

America's largest selection of highest quality studio patch cords—60 types let you interface anything quickly to your patch panels.

DIGITAL MASTER    AUDIO ON BOTH CHANNELS    EDITED MASTER    **DUB**    DAT CLONE

### MARKER MARKERS™

America's largest collection of over 500 hot orange status labels plus blank pin-fed & laser labels for audio & video.

**Get our FREE 120-page catalog of over 3,000 exclusive and hard-to-find supplies for audio & video.**

**800-522-2025** America's most unique catalog for audio & video!  
(In NY 914-246-3036)

**MARKERTEK™**  
145 Ulster Ave., Saugerties, New York 12477 USA  
**VIDEO SUPPLY**

Circle #004 on Reader Service Card



**At Last! An Affordable Master Recording Program Taught by Award-Winning Professionals**

If your goal is to succeed in the music and recording industries, our professional training program will give you the hands-on experience and technical know-how you need.

CALL FOR INFORMATION AND FREE CATALOG

**1-800-562-6383**

Licensed By The State of Arizona.  
Approved For Foreign Students.

Circle #005 on Reader Service Card

"Asking them to do what Lindsey did really wasn't the issue here," says Ladanyi. "There's a lot more electric guitar in the sense of that live performance value. And again, there's a feel that is different than the other records."

"There are a lot of people that love Fleetwood Mac," Ladanyi continues, "and they don't want to come out with a record that totally abandons that charisma they've created for the last 21 years. I'm just trying to enhance that and make more of it."

"We've definitely developed a system now," says Christine McVie when asked to explain why the recording of this album seemed smoother than previous ones. "I think that Lindsey used to go the long way around all the time. Now we chop corners by using samples, rather than having Lindsey go in and overdub ten guitars, speed them all up and slow them all down. That would take three days."

"We just go and get a nice sound on the sample, and it goes fast now. Everything's sounding colorful. This record seems to be far more feel-oriented. We're going for a live sound."

"Let me add to that," says Ladanyi.

breaking in. "This album has more to do with the band playing as a band than in sitting and doing ten tracks of guitar to make up one sound. We don't go to that end of the spectrum to make the album feel good."

"The arrangement to a song means everything to me," he adds. "If you don't have a good arrangement, technically, there's nothing you can do to it that'll make it be a good song. You've got to have a good song, first of all. You've got to have a good melody and you need good lyrics. Then you need a good arrangement of that."

The band recorded the album employing various methods. Some tracks were cut almost entirely live in their group formation, others were begun with drums and rhythm guitar and built from there. Still others were started by sampling the original demos into a Synclavier and re-recording layer after layer, eventually replacing all the old demo tracks.

The album took nearly a year to complete and was recorded and mixed entirely at The Complex in L.A. Most of the basic tracks were recorded on a large soundstage, in an effort to

## At Home in The Complex

Eleven years ago Earth, Wind & Fire, Maurice White and their management, Cavallo, Ruffalo and Fagnoli, purchased the property on which a bank clearing house stood (the back bathrooms used to be a bank vault!) and structured a studio, now The Complex, where Greg Ladanyi and George Massenburg renewed their acquaintance. The instant Ladanyi and Massenburg heard the facility was for sale about four years ago, they investigated procuring financial investors in Japan.

"I knew George a long time ago, from the old Sound Factory days when he was working there with Little Feat, and he would come in there with his boxes and wires and reattach the console to his stuff," recalls Ladanyi of Massenburg's well-known wizardry. "When we met again here and started working together, it became obvious that we both enjoyed using the studios and the soundstages and kind of teaming up in a way, and combining his genius mind in every possible area with my emotional mind."

While today Massenburg is only a consultant to the studio, Ladanyi maintains that one of the studios' unique points is that both studios house Massenburg consoles.

"Even the new control room we're building will have one," Ladanyi says. "We're going to spend \$700,000 building a new analog console that is automated and everything, but if I wanted to think about saving money..." his voice trails, the unfinished implication being he wouldn't own a studio.

"With the whole studio 'Massenburg,' it will be something different in Los Angeles from other studios that are predominantly SSL and Neve," he continues. "There have been a lot of people who have come in here who have really loved working on the console because when they go home they hear sounds that are very similar to what they remember hearing in the room when they were listening to it."

The other special feature of The Complex is that Studio B (32 x 23 feet) and Studio C (20 x 26) wrap around soundstages used in the recording as rehearsal rooms.

—CONTINUED ON PAGE 42

212 • 333 • 2206  
800 • 445 • 3330

THE INNOVATIVE RENTAL PEOPLE

*The* **TOY** *Specialists*

## Pro-Audio Rentals

333 W. 52ND ST.

NEW YORK, NY

10019

### WE PROUDLY OFFER:

- ▶ The largest selection of synthesizers, drum computers, and MIDI devices anywhere.
- ▶ A comprehensive collection of vintage outboard and microphones.
- ▶ All the finest in digital recorders:
  - Mitsubishi X-880/X-850/X-86HS/X-86
  - Sony 3348/3324A/3402/1630/DAE-3000
  - AMS Audiofile IV • Studer D820X
- ▶ 'Round the block support anywhere in the USA
- ▶ The best on time record in the industry
- ▶ Offices opened 7 days a week
- ▶ Service available 24 hours a day

▶ **WE'RE THE ONLY CALL YOU NEED TO MAKE!** ◀

capture Mick Fleetwood's huge drum sound (see sidebar).

Nearly all the keyboard parts for the album were played into a Synclavier programmed by Steve Crows. Both Ladanyi and Christine McVie credit Crows for being able to take her performances and alter the sound to fit whatever was required for the song.

"He's so good at imaging a feel," Christine says. "You tell him you want this chorus to have this movie-esque kind of atmosphere, and in 20 minutes you've got it. He puts all this stuff together in this little room back there, where he does everything. When he's done, he calls us in and we listen, and we can either like it or not like it. Most of the time we like it and we just send it to the tape machine."

Adds Ladanyi, "Chris just goes in there, plays the part and then Steve just lets his little mind go. He adds atmosphere to it. But for me, everything that is played on this album has got to come from the band. So, she plays it and he just kind of puts the fairy dust on it. He's become a very big part of this record, and everyone loves what he does."

"On this album, we used a lot more keys," Christine says. "I'm not saying I'm doing a lot of solos, but just the arrangements, which I've done in my head. I've been allowed to be a lot more creative."

"There's an underlying fact and it's that we've never been restricted to what style of music that we write," Christine adds. "Whoever has been in the band at that time has been allowed to inject his or her personality into the usual sound. Somehow, underneath it all, are John and Mick, flowing right through. They're so distinctive, they can play under anything and they can glue it all together. And when it's all

together, then that's Fleetwood Mac."

Says Nicks, unashamed of her devotion to the band's new sound, "I love the new record. This album is my favorite Fleetwood Mac album. I think this album covers bases that we never have covered before. Plus, it definitely goes back into rhythm and blues. I love that."

The members of Fleetwood Mac say they also plan to continue their solo careers. Of them, Nicks has seen the most success. All, however, agree that Fleetwood Mac is an institution at this point, and they seem committed to keeping it going for years to come.

"There's never been a time limit on it," says John McVie. "It'll end when we don't want to do it anymore, and frankly, I don't see us thinking that way."

As she gets ready to catch a plane to Europe, Nicks pauses for a moment to reflect on where the band stands and what it has become. "Fleetwood Mac never left," she says. "Fleetwood Mac just took a long time to do what they wanted to do. We have never been the kind of people who say money is that important, because we all invested our money well. We're all comfortable. We've done the big things and gone to the big hotels and driven in the big limos. We've had the beautiful hotel suites and had all the adulation. We've played to 150,000 people. We've done *all* that."

"Now, what's left for Fleetwood Mac is something that is really sacred. And that's the only reason that this band is still together. It's because Fleetwood Mac is precious to all of us." ■

*Bruce Pilato is a Mix contributing editor who lives with his wife and three children in upstate New York. He is currently writing his first book.*

## Miking Mick's Drums

Mick Fleetwood's distinctive drum sound on this new album is the result of a combination of many drums, microphones and techniques. Mick has one of the best-sounding kits I've ever recorded, with great tones from the toms, the bass drum, and an especially nice, bright high end. To start with, I used Neumann M50s to capture the room ambience. The M50 is a tube

mic with a large, warm response and a full circle pattern that picks up the whole kit. I elevated the M50s about six feet away from the kit, close together but angled away from each other, and I panned left and right for an implied stereo room sound.

Once I got the room sound of the entire kit, I started concentrating on the individual pieces. For the five toms I used Sanken CU-31s about three inches above each

—CONTINUED ON PAGE 41

## Critics Praise The Shure Beta Series



### Mix

"I found the (Beta mics) supercardioid pattern to be extremely consistent at all frequencies. The gain-before-feedback levels were impressive, and off axis coloration was minimal.... All in all, the Beta Series mics proved to be excellent performers for vocals, snares, toms, congas.... We may be witnessing the birth of a new Shure dynasty."

\*\*\*\*\*

### Gig

"When I first used the new Shure Beta 58 at a rehearsal I was pleasantly surprised by the difference it made in my vocal sound.... When I used this mic at a recent gig, it was the *only* mic on stage that did not feed back.... Another plus for the Beta 58, it's really loud.... The Beta 58 ensures that every nuance of your vocal performance will reach the audience."

\*\*\*\*\*

### Home and Studio Recording

"If you're shooting for that ever-elusive extra beef on electric guitar and snare drum, check out the Beta 57—it's a real winner. Overall, the higher output of the Beta 57 and 58, combined with their generally extended frequency responses and smooth 'presence peaks,' just about guarantees their success in the marketplace."

\*\*\*\*\*

### BAM

"... While it seemed impossible that Shure Brothers Incorporated could have improved on the SM line of microphones, they did. With a limited budget and a lot of miking chores to take care of, this would be my first choice."

\*\*\*\*\*

### The Music Paper

"If you're looking for a high-performance, good-value mic that'll really take a lickin', look no further than the new Beta 58 from Shure.... All in all, the Shure Beta 58 is a high-performance workhorse and a great value. Check it out!"

**SHURE® BETA**  
THE SOUND OF THE PROFESSIONALS®  
... WORLDWIDE





**WARRANT** is one of today's hottest rock groups because of their great performances and sound. And Shure Beta microphones help Warrant deliver both.

The key is in the true supercardioid polar patterns provided by Beta 58 vocal microphones and Beta 57 instrument microphones. Unlike many mics that claim "supercardioid" polar patterns, Shure Beta models actually maintain these patterns throughout the entire frequency spectrum. That means unprecedented monitor gain-before-feedback and better performances—on stage, where it counts. And Beta microphones' neodymium magnets give you the extra-hot output many performers demand.

If you want to take your career to another level, give yourself the edge Warrant enjoys—the extraordinary sound and performance of Shure Beta. For the name of an Authorized Shure Beta Dealer near you, call 1-800-257-4873. Shure Brothers Inc., 222 Hartrey Avenue, Evanston, IL 60202-3696.

**WARRANT  
WANTS  
MAXIMUM GAIN  
BEFORE  
FEEDBACK.**

**WARRANT  
USES  
SHURE BETA  
MICROPHONES.**



**SHURE® BETA**

THE SOUND OF THE PROFESSIONALS®..WORLDWIDE.

# ENLIGHTEN YOUR SOUND SYSTEM.

Ultimate Performance  
with Rane Analyzers.

**Y**our sound system is a lot like your car. If it's not tuned up properly it will perform poorly for you.

If you've got lots of time, training and patience you can keep on shooting in the dark by ear. Or you can spend a mere 5 minutes with one of Rane's affordable analyzers and get the kind of sound from your system you'll have to hear to believe.

Our unique 3-color LED display offers the accuracy of laboratory models costing 10 times as much, yet is incredibly easy to use. You get everything you need for consistently exciting sound every place you play, including an ultra-flat response microphone with 40-foot cable.

You paid big bucks for your sound system. Why not get the performance you paid for? Ask your dealer for a demonstration of the RA 27 analyzer, the RE 27 or the RE 14 matching equalizer/analyzers. Thousands of performers who used to swear at their sound systems are now swearing by Rane analyzers. Enlighten your sound system and your music, with Rane.



**RANE**

10802-47th Ave. W.,  
Everett, WA 98204.  
(206)355-6000

Circle #052 on Reader Service Card



—FROM PAGE 38, MICK'S DRUMS

drum head. I brought up each of the tom mics to fill out what the room mics weren't getting in terms of presence and bottom end. The Sankens get a big, warm, tight bottom, which is great for Mick.

Sanken microphones, which are relatively new to the American market, are easy to use on drums, especially the CU-31 pencil-types. You don't have to use much EQ to make them sound good. Their direct pattern is extremely accurate, so you don't get much leakage from the snare, hi-hat or cymbals. I've found that you don't have to gate them to keep other sounds out, which is helpful when adding to the initial room miking.

The room mics gave me about 50% of the sound I wanted, then when I brought up the 31s I got good stereo imaging and the sensation of listening to a drum fill going across the speakers.

For the kick drum, I used an AKG D-12 about two inches away from the skin inside the drum and a Neumann U47 FET two to three inches on the outside. Mick has a skin on the front with a hole in it, and the 47 is lined up with the hole. When he hits the bass drum, you get a resonant sound that rings, as opposed to a bass drum with no

front head that is just pushing air through. The D-12 can take a lot of level, and it's got a good bottom end. You get all the attack from the beater hitting the skin and none of that click we used to hear on kick drums. If you stand in a room and listen to a bass drum, you get a natural bottom sound, which is what I wanted. With the 47 on the outside, you get all the air that the bass drum throws out. Combine the two mics, maybe add 2 dB at ten, 1 dB at three, barely anything on the bottom, and you've got a good bass drum sound.

Mick used a number of different snare drums from his exceptional collection. The Fleetwood sound is created to a large degree from these different snares, which have different musical personalities. Rito, Mick's drum tech, does the initial preparation and tuning, and then Mick comes in for the final tweak. I put a Shure SM57 on top, about four inches away from the skin. If you get too close, it will fold and you won't get a nice, clear snare sound. I put a Sennheiser 441 about three inches below the snares, with a lot of the bottom rolled out. Be careful with the 441 underneath; you don't want to get much of the resonating bass drum. I mixed this

—CONTINUED ON PAGE 42

## ENGINEER YOUR OWN FUTURE!!

### RECORDING TECHNOLOGY AUDIO/VIDEO ENGINEER PROGRAM

Due to the recent success of **MUSIC VIDEOS**, **MTV** and other **VIDEO PROMOTION SHOWS**, a number of multitrack recording studios have been modified to use video equipment that can be interfaced with multitrack recording equipment. This new development has created a huge demand for a new type of **AUDIO/VIDEO ENGINEER**, one who can perform all the duties of a first Engineer as well as work with Automatic Dialogue Replacement (ADR) and video sweetening (audio mixing for video). **University of Sound Arts** fully qualifies its audio engineer for these modern job specifications.



#### ADDITIONAL PROGRAMS AVAILABLE

- Video Sweetening Program
- Electronic Keyboard Program
- Adv. Recording Program
- Record Label Programs
- Adv. Audio/Video Engineer Programs
- Entertainment Industry Business Management Programs

#### FINANCIAL AID AVAILABLE FOR QUALIFIED STUDENTS

This school is authorized under federal law to enroll non-immigrant students by helping provide them with student visas.



Call or write for catalogue

**University of Sound Arts**

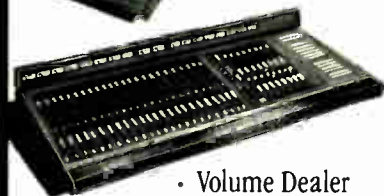
1645 N. Vine Street  
3rd Floor, Hollywood Vine Plaza  
Hollywood, CA 90028 (213) 467-5256  
Fax: (213) 962-3376

Circle #007 on Reader Service Card

## AUDIO·VIDEO·MIDI



- Studio packages
- Automation
- Synchronization
- Digital FX
- MIDI Work Station



• Volume Dealer

- Leasing Available
- Experienced Staff
- Buy/Sell/Trade New and Used Equipment

**(602) 267-0600**

**EAR PROFESSIONAL  
AUDIO/VIDEO**  
2641 EAST McDOWELL  
PHOENIX, ARIZONA 85008

Circle #029 on Reader Service Card

## HEARD BY MILLIONS BUT SELDOM SEEN

### ducer

#### STUDIO QUALITY CONTACT CONDENSER MICROPHONES

- 42Hz to 22KHz Frequency response
- Superb clarity — true acoustic sound
- Complete isolation
- Easy to use
- More than 5000 systems in use world wide
- Systems from \$199



FOR MORE  
INFORMATION

OR YOUR NEAREST DEALER CALL:

**1 - 800 CT AUDIO**

C-T Audio,  
3050 SW 14th Pl, Ste 3, Boynton Beach,  
FL 33426.

In Canada call: Reid King,  
(604) 222 8190

Circle #030 on Reader Service Card

—FROM PAGE 36, THE COMPLEX

"While we were waiting to build Studio A [to be finished this year] to test this out, we ran mic lines to both rooms so that either studio or both could use either stage at any time. It's all done with video cameras and monitoring back into the control room, so any client can use the stage at any time, which is where you get great drum, guitar and vocal sounds. Or you can stay in the studio, which is a deader environment. It's got all-concrete walls and a real flair to it. It's a matter of people's preference," Ladanyi explains, adding that Stage A (44 x 60 x 18) has a higher ceiling than Stage B (68 x 48 x 30) for two different-sounding choices. "I really enjoy working with this because you can close curtains surrounding the concrete walls to get a softer live sound and then it's not so bright, but it's still very tight because it's concrete."

The soundstages are definitely a prime attraction for clients, including Cher, Randy Newman with his soundtrack to *Parenthood*, Taylor Dayne, J.D. Souther, Alice Cooper, Linda Ronstadt, the Bonedaddies, Jennifer Wames and Go West. They were also used by Little Feat on their last album, on Steve Lukather's first solo LP and certainly by Fleetwood Mac, who inhabited Studio C for a year.

"It was talked about to record certain songs certain ways," begins Ladanyi, who produced the project. "One or two with the band playing, others with just Mick playing with the guitar player, but using the sound of the rooms for certain songs trying to give off a certain feeling."

The more sound options Ladanyi has available to him, the happier he is. "We do have something unique at the Complex in that Lexicon rents space upstairs in the building here. Obviously, what we get from that is whatever Lexicon comes out with, we know about before anybody else," he smiles. "The outboard gear is pretty standard, though. We have your AMS, harmonizers, reverbs and things like that. We have three different EMT plates. We don't have any live chambers yet, but we hope to do that when we build the third control room. The things I really enjoy having are my Fairchild limiters and my two different harmonizers, mainly because I have four different ways to use effects on four different things. For me, part of the fun of hearing the record when I'm making it is not overusing any one echo or effect on a number of things. That's more of what I have an obsession with, having enough of it to go around."

—Robyn Flans

—FROM PAGE 41, MICK'S DRUMS

snare sound into the 57, which was getting the impact of the strike.

For this album, we used a P.A. in the room with two sidefills behind him and a front stack. The sidefills had only the bass and snare and a little of the toms. You don't want much high end, or it'll come back into the mics. Mick uses headphones, and the danger is that you have to turn them up loud for a drummer to hear properly. By using the P.A. I could keep the phones at a listenable level, and he could actually feel the bass drum with his body. This is the first time I've used this technique, which is very much like a live performance. You could walk around and find the drum sound filling the room everywhere.

I've found that recording the drums at a relatively low level gives greater depth to the finished product. If you need to hear the drums louder, it's

better to push up the monitor faders than to record at hotter levels. The bass drum is at about minus 7, or at most, minus 5. There is no way that a VU meter can react fast enough to let you know what levels you can actually take. I try to keep the recording of the drum kit at about minus 5, or 3. That way I have more flexibility later in the mix and within the drum kit itself to make certain elements louder. But if you record too hot, you can't accentuate certain things; it's recorded so hot that it folds with too much information.

Mick's playing is about feeling and spontaneity, with a lot of energy. Each musician requires a different way of recording, and my goal for this album was to continue his legacy and faithfully capture his unique personality as a drummer.

—Greg Ladanyi



# SOUNDS LIKE A GREAT MOVIE

A new generation of epic adventures has drawn audiences back to the cinema. Their sophisticated soundtracks bring a realism to the action that is both dynamic and exciting. Film scores are regularly in the chart.

Solid State Logic produce the world's most advanced audio production systems for film. Under the creative control of engineers at Lucasfilm, Disney/MGM, Todd-AO/Glen Glenn and Universal, they are creating new standards in entertainment.

## Solid State Logic

**AUDIO PRODUCTION SYSTEMS FOR FILM**

Begbroke, Oxford, England OX5 1RU (0865) 842300

London (01) 706 4948 • Paris (1) 34 60 46 66 • Milan (2) 612 17 20 • New York (212) 315 1111 • Los Angeles (213) 463 4444

• Toronto (416) 363 0101 • Tokyo (03) 320 1101

U.S. Toll Free Number 800 343 0101

# P

# icking Up the Pieces

Southeast

Studios and

National Rental

Companies Talk

About What's

**Hot**

In Studio

Equipment

Rental



MasterMix in Nashville, Tenn.

**S**ometimes equipment breaks down in the middle of a session, and you need a replacement *now*. Sometimes a client wants a unique, hard-to-find piece of gear for one project only. And sometimes you might want to test-drive an expensive multitrack machine before making a major capital investment. You can't buy everything, so what do you do?

## Media Associates in Atlanta, Ga.

For many recording studios, equipment rental has become an increasingly attractive option. No commitment and no headaches. Whether you're in the Louisiana backwoods or in the heart of Nashville's Music Row, you can usually get any piece of gear overnight. Pick up the phone and wait for the UPS carrier in the morning.

*Mix* decided to look at this emerging business of equipment rental from a supply/demand perspective. We called studios throughout the Southeast and asked them what clients are requesting. Then we called rental houses nationwide and asked them what they are providing. We didn't exactly come up with a graph and intersecting lines, but...

## MASTERMIX

Nashville, Tenn.

**Hank Williams, studio manager**

"Most clients in our remix room know what we have and augment it with their own stuff. I've observed that sort of thing increasingly over the last three years. They are buying more and more equipment. Three years ago, an engineer might walk in with one or two pieces of gear; now it's one to three racks worth of stuff. As a result, MasterMix does very little rental of equipment for clients.

"I don't rent my own equipment to outside clients, either. For one thing, they are disappointed when they walk in and something they need is not here. But the biggest reason is that it always comes back in worse shape than it goes out. I used to rent out my MTR-90 24-track, and my Publison and some other things. They just got trashed."

## MEDIA ASSOCIATES

(formerly New Age Sight & Sound)  
Atlanta, Ga.

**Mitch Dorf, studio manager**

"In terms of audio gear, we don't own the AMS, so occasionally we'll rent that in a rack that also has GML and some outboard processors from Eclipse Audio Rentals. We also do a lot of video business here, and on that side we've had a lot of calls for the Betacam system, so we rent that. As soon as we can, we want to change over from 3/4-inch to Betacam ourselves so

Morrisound in Tampa, Fla.



## ALFA RECORDING STUDIOS SANTURCE, PUERTO RICO

The Neve 8232 has encouraged Alfa Recording Studios of Santurce, Puerto Rico, to start reaching beyond the local market. Studio manager and vice president Freddy Bellaflores says, "We have pro audio dealers in Puerto Rico, but we can't get rentals locally. Plus, we can get better prices in the States." Martin Audio of New York has been the studio's supplier.



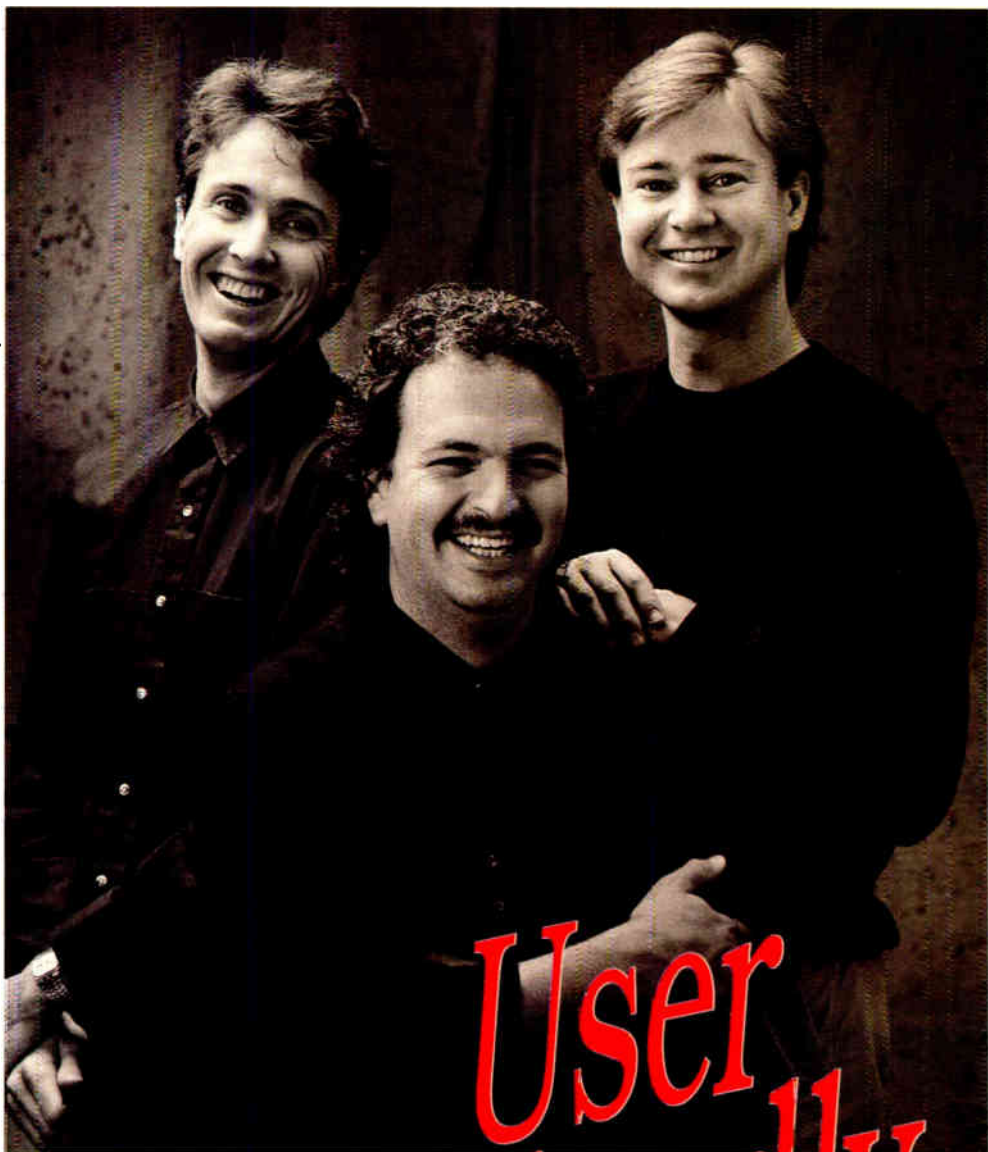


Reid Hall, Tom Race  
and Greg Crawford  
of Crawford Audio.

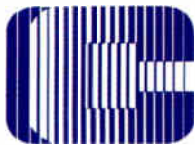
**O**ther "user friendly"  
devices you'll find in our  
recording studios:

- ▲ Neve 8128  
mixing console
- ▲ Necam 96  
automation
- ▲ Otari 32 track  
digital recorder
- ▲ Synclavier  
sampler/composer
- ▲ New England Digital  
Post Pro

*Let us custom design the  
sound of your next video!*



**User  
Friendly**



**CRAWFORD**

**A U D I O**

*The Sweetest Sounds You'll Ever See!*



535 Plasamour Dr., Atlanta, Georgia 30324 404-876-7149 / 1-800-831-8027

Circle #077 on Reader Service Card



we can shoot and edit on it—it's really a great system.

"We rent out a fair amount of equipment, too. Because we have the only [Sony] 1610 [recorder] in town, we've rented that on occasion. We have a nice package where we rent out the 1610, the editor and a couple of black-and-white monitors in a case on wheels."

### THE CASTLE RECORDING STUDIO

Franklin, Tenn.

*Jozef Nuyens, owner/manager*

"The Massenburg EQ is what some clients request, [although] it does cost extra." He adds that The Castle will also rent "microphones or sometimes even the digital machines" to other studios. "For new purchases, most companies or dealers would lend it to us before we buy. We recently did that with the Neve Prism rack. We tried it out with clients, decided we liked it, then bought it."

### CHESHIRE SOUND STUDIOS

Atlanta, Ga.

*Tom Wright, Jr., owner*

"We have our own rental operation here, and, in general, we've tried to keep it stocked with items we like to use ourselves. I guess we still get the most requests for various pieces of processing gear, like the PCM70 and AMS. We also get a lot of calls on our Mitsubishi digital 2-track. We have a digital 32-track, too, but it's a pain to move around so we don't really encourage that going out of here. The rental side of the business has been good for us."

### CRAWFORD POST-PRODUCTION

Atlanta, Ga.

*Steve Davis, studio manager*

"We don't rent very much for sessions because we have most of what we need. But there are some outboard EQ modules, like Focusrite and Spectrum, that are high-end items some clients might want. Another item that might be common to rent are PCM encoder-type devices, like the Sony 1630 or a JVC system, because those items are pretty expensive and you might just use them on a mix session. They're good for mixing down for CD."

### ELEVEN-ELEVEN

Nashville, Tenn.

*John Abbott, studio manager*

"The recent rental trend in this city is



## LEARN THE ART OF RECORDING

THE RECORDING WORKSHOP IS THE WORLD'S LEADING SCHOOL FOR "HANDS-ON" TRAINING IN MUSIC RECORDING TECHNOLOGY. IN OUR INTENSIVE, 5-WEEK PROGRAM, YOU'LL LEARN THE CREATIVE OPERATION OF PROFESSIONAL RECORDING EQUIPMENT. WE'LL TEACH YOU THE JOB SKILLS NEEDED TO SUCCESSFULLY START YOUR CAREER AS A RECORDING ENGINEER, PRODUCER OR STUDIO MUSICIAN.

- ▶ 6 STUDIOS FILLED WITH THE LATEST EQUIPMENT: DIGITAL RECORDING TO HARD DISK, DAT MASTERING, AUTOMATED MIXING, MIDI AND MUCH MORE
- ▶ SMALL CLASSES, PERSONAL ATTENTION
- ▶ NO PREVIOUS EXPERIENCE REQUIRED
- ▶ INTENSIVE, 5-WEEK PROGRAM GIVES YOU MORE QUALITY, IN-STUDIO EXPERIENCE THAN MOST LONG-TERM SCHOOLS
- ▶ JOB/INTERNSHIP PLACEMENT ASSISTANCE
- ▶ FINANCIAL AID AVAILABLE
- ▶ LOW-COST, ON CAMPUS HOUSING

FOR FREE BROCHURE, PLEASE CALL OR WRITE TODAY

**THE RECORDING WORKSHOP**  
1-800-848-9900 1-614-663-2510

455-X MASSIEVILLE ROAD, CHILLICOTHE, OHIO 45601

OHIO STATE BOARD OF SCHOOL AND COLLEGE REGISTRATION #80-07-0696T  
©1989 THE RECORDING WORKSHOP

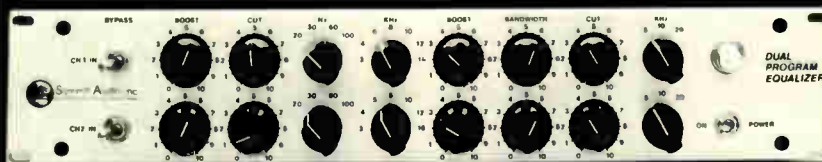


Circle #047 on Reader Service Card

## VACUUM TUBE SIGNAL PROCESSING AT ITS FINEST



• TUBE LEVELING AMPLIFIER  
TLA-100A



• DUAL PROGRAM EQUALIZER  
EQP-200

• DUAL CHANNEL  
PREAMPLIFIER  
TPA-200



• DUAL CHANNEL  
-10db to 4db  
PREAMPLIFIER  
WI-200



Summit Audio Inc.

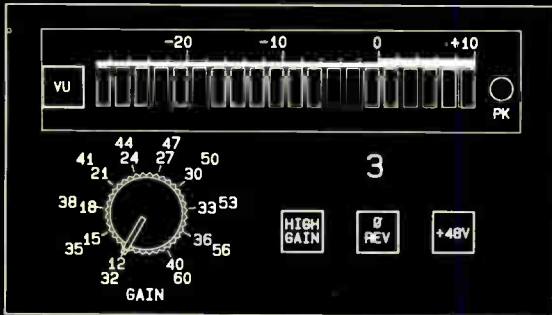
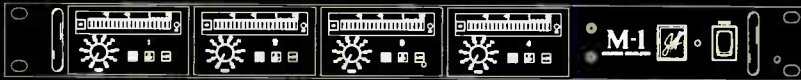
P.O. Box 1678, Los Gatos, California 95031 U.S.A.  
408-395-2448 FAX: 408-395-1403

Circle #048 on Reader Service Card

# M-1

## MICROPHONE PREAMPLIFIER

SUPERIOR SOUND QUALITY. RE-DISCOVER YOUR MICROPHONES!



(ACTUAL SIZE)

- THE BEST JENSEN INPUT TRANSFORMER: THE JE-16-B.
- THE BEST OP-AMP: THE 990 DISCRETE OP-AMP.
- DC-SERVO ELIMINATES ALL COUPLING CAPACITORS.
- THE BEST JENSEN OUTPUT TRANSFORMER OPTION: THE JE-11-BM.

- ILLUMINATED SWITCH BUTTONS.
- TOROIDAL POWER TRANSFORMER.
- UNIVERSAL POWER SUPPLY.



- XLR CONNECTORS. GOLD OPTIONAL.
- TWO METER OPTIONS. VU-1 SHOWN.
- CUSTOM KNOB & PUSH BUTTONS.

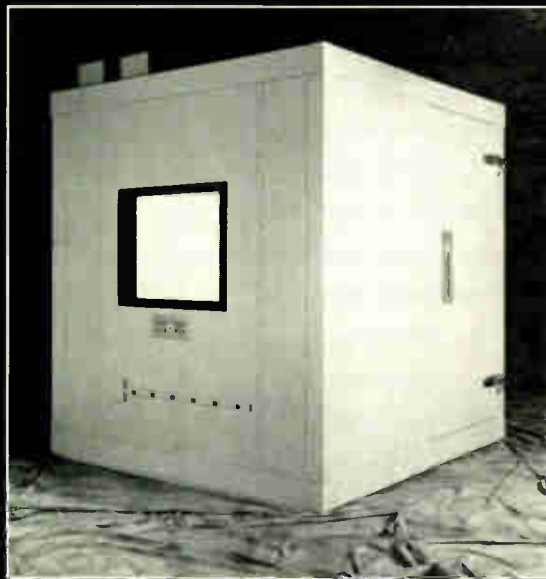
### THE JOHN HARDY COMPANY

P.O. Box AA631  
Evanston, IL 60204

(708) 864-8060

Telex: 910-380-4670  
(JOHN HARDY CO)

Circle #125 on Reader Service Card



## VOICE OVER BOOTHS

Acoustic Systems' Voice Over Booths combine acoustic integrity with the ordering simplicity of standard models. Voice Over Booths, which include eleven BB models, are self contained, acoustically engineered enclosures with isolated floor

systems, panel construction with predetermined acoustic performance, sealed doors, acoustically engineered ventilation and prewired electrical service. BB Voice Over Booths provide studios, studios and production facilities a fast-track alternative to conventional, standard construction.

Designed as modular units BB Voice Over Booths can also be disassembled, relocated and reassembled if changes in location occur.



415 E. St. Elmo Road • Austin, TX • 78745  
(800) 531-5412 (512) 444-1961  
FAX: 512/444-2282

Thomas Register

Sweets Catalog 13.C

Circle #126 on Reader Service Card

to make available complete racks with Lexicon 480s, AMS 15 delay lines, AMS RMX 16 and usually PCM70s and TC Electronic. It's about as cheap to rent the entire rack as a 480." He adds that the studio will often rent equipment or borrow before making a major purchase.

One dilemma is that clients come to expect certain pieces of gear in the studios, so owners may be reluctant to spend money on unfamiliar items. Abbott says he borrowed a Roland R-880 digital reverb after seeing a demo. "We're trying to decide if clients will like it, since they're not used to seeing it. We're here for the clients—we try to keep them comfortable."

### MORRISOUND

Tampa, Fla.

*Jim Morris, chief engineer*

"There are no rental companies in Florida. We have to call Nashville or New York to rent equipment. Digital reverbs are our number one rental. We already have a lot, but sometimes we need more for mixing. We also rent Dolby noise reduction when we need it."

Morris doesn't find renting helpful when shopping for new equipment. "It doesn't make sense to pay for a three-day rental to try something out for a half-hour. We go to AES when we want to try out new gear."

### NEW RIVER STUDIOS

Fort Lauderdale, Fla.

*Virginia Cayia, studio manager*

"If there is a large demand for a particular item, we may rent it and eventually buy it. For example, customers were starting to ask for more gates than we had. We have since purchased what we need." The last thing the studio rented was a pair of SR cards. Cayia adds that it's hard to get the client to pay extra to rent equipment. "We have just about everything they need here. Sometimes other studios rent from us."

### KIVA STUDIOS

Memphis, Tenn.

*Gary Belz, owner*

"We don't rent much equipment ourselves, but we do rent a fair amount to other studios in the area. The most common things we have calls on are some of the vintage EQs, like the Pultecs or the old Neve 1078 modules. We also get calls on the Massenburg EQs. Our Adams-Smith synchronizer is popular, and we also have a small 16-channel API console that we rent

quite a bit. Sometimes a particular engineer or producer will ask for specific near-fields, so we keep a number of those in stock—Yamahas and Tannoys.

"Tube mics are popular again, and we've been renting out a lot of those—we have three U48s and a U49 that people like. The AMS 15-80S leaves the building a lot, and you know what's surprisingly popular? Our MIDI equipment. All that we ask is that people know how to use it before they rent it, and I'm afraid that hasn't always been the case. We can get it to you, but it's not our job to teach you how it works!"

### REFLECTION STUDIOS Charlotte, N.C.

**Mark Williams, engineer**

"We seem to have a larger variety of outboard gear in-house than some of the other studios around here. A lot of our out-of-state clients have been surprised at how little they have to rent. Also, two of the producers who work here a lot—Don Dixon and Mitch Easter—both own a lot of their own outboard equipment and bring it in for their own sessions.

"We do have some equipment in-

house that's rented, such as a Sony digital 2-track DASH machine. And we rent our equipment to other local studios, such as TC samplers and various synthesizers. We've recently brought in some Tube-Tech equipment that other studios rent from us. They also rent our DAT machines, like the Sony 2500."

### SIXTEENTH AVENUE SOUND Nashville, Tenn.

**Traci Sterling, controller**

Focusrite EQs, Drawmer gates, limiters and MIDI equipment, such as the Roland S-550, are commonly rented for Sixteenth Avenue Sound clients. "We don't have much in the way of MIDI equipment here," says Traci Sterling. "The Focusrite modules are probably the most common item we rent. I've been working for studios for about five years, and it used to be that no one rented anything. They just used what you had. Now every time I book a session I get requests for this or that special equipment. So they're renting more outboard gear all the time. We just did a project with Peter Wolf of J. Geils, and we had to rent quite a bit of outboard gear."

### SOUND EMPORIUM

Nashville, Tenn.

**Susan Howell, studio manager**

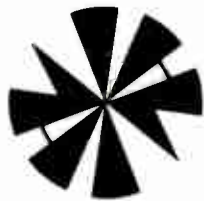
"I'm real familiar with the rental companies, so I'll work with them as far as delivery and scheduling is concerned. But most of our clients handle their own rentals. They bring in the special equipment that they need." That special equipment usually is smaller outboard gear, but with the demand for digital, Howell is finding new uses for rental companies. "Because we're not a digital studio at this time, digital is at the top of the list."

### STUDIO IN THE COUNTRY Bogalusa, La.

**Eugene Foster, owner**

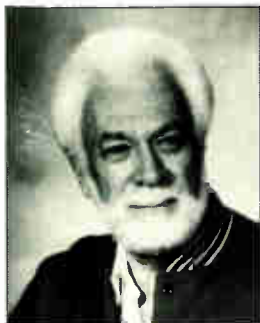
"I prefer to buy if we don't already have the piece of equipment the client is interested in, and it appears it's going to be commonly used. We're out in the middle of the woods in Louisiana. Still, if anybody wants anything we don't have, we can get it in overnight."

Foster recently purchased a Lexicon 480L effects processor and AMS 15-80S sampling delay, after renting each a few times. As far as other common requests—tube mics and such—he already has them in-house,



## ALLEN-MARTIN PRODUCTIONS

presents



Bill Porter



J.D. Miller



Nick Stevens



Mark Noderer

**WE HAVE THE TALENT... AND THE TOYS.**

**9701 TAYLORSVILLE RD • LOUISVILLE, KY 40299  
(502) 267-9658**

**THOROUGHbred**  
**MUSIC** Inc.  
 2204 East Hillsborough Avenue, Tampa, Florida 33610

OUR SALES PEOPLE ARE KNOWN WORLD-WIDE. WE ARE ONE OF THE LARGEST MUSIC COMPANIES IN THE U.S.A. WE INVENTORY IT ALL FOR FAST DELIVERY: KEYBOARDS, MIXERS, RECORDING STUDIO PACKAGES, DRUM MACHINES, ACCESSORIES, STAGE GEAR, MICROPHONES, COMPUTERS AND SOFTWARE.

HAVE YOU GOT A PROBLEM? OUR AWARD-WINNING FACTORY TRAINED SERVICE DEPARTMENT WILL ASTOUND YOU.

WE ARE THE INNOVATORS WHO CREATED MAIL ORDER LAY-AWAY.

CALL OUR TOLL-FREE ORDER HOTLINE  
 1-800-780-4654  
 OR  
 (813) 237-5597  
 FAX:  
 (813) 238-5443

**FREE T-SHIRT**  
 WITH MOST PURCHASES

Circle #121 on Reader Service Card

along with a new Neve V Series and Studer A820 24-track recorder.

**ULTRASONIC STUDIOS**  
 New Orleans, La.

*Jay Gallagher, owner*

"We don't do too much renting because we're sort of out in the boon-docks, and we have to remain as self-sufficient as possible. But, for instance, right now I'm hooking up Dolby SR that we rented for the 24-track for a project. Another thing we rent occasionally is specialized limiters and that sort of thing. We rented a Mitsubishi X-850 digital multitrack for a project, and that worked out well. We also rent some of our equipment to other studios, like our F1s or Sony 1000 DAT recorders. Occasionally, we'll rent our Sony 5003 1/2-track with center-track time code."

**RENTAL COMPANIES**

**AUDIO AFFECTS**  
 Burbank, Calif.

*Mark Napier*

"The hottest hotcake is Dolby SR, both in 24-channel and 2-channel racks. Dolby SR and old tube mics—AKG C-12s, Neumann U47s, Telefunken 251s—are all first-call rental items, but the bulk of our business is multitrack rentals. Right now I've got a digital multitrack in Las Vegas, and I've got analog machines in Florida and Colorado. Some of these areas don't have big rental companies available, while in places like Nashville, there's a real boom going on and we've gotten calls to ship stuff there.

"Over the past couple years, there's been a shift to artists working in home studios," Napier explains, "and that affects us, too. Now we're servicing both established pro facilities and home studios. This has opened up a whole new field for us."

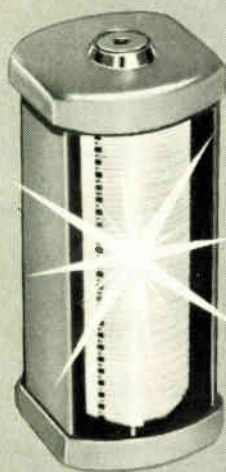
**BLEVINS AUDIO EXCHANGE**  
 Nashville, Tenn.

*Randy Blevins, owner*

With the establishment of a solid contingent of rental firms in Nashville, such as Dreamhire, Digital Associates and Underground Sound, equipment rental has become less of a priority to Blevins Audio Exchange, a leading Nashville retailer. "We primarily sell equipment, but we also do some rental business," says Blevins. Among the

**EXCELLENCE** is the result of uncompromising dedication to quality and service.

JRF is proud of its reputation as a leader in the field of magnetic heads. Our technical and engineering staff is committed to providing the finest products and services:



- Magnetic Head Refurbishing
- Optical/Digital Assembly Alignment
- Full line of replacement heads IN STOCK
- MCI/Sony parts dealer
- 3M parts dealer
- Technical Assistance
- Fast, reliable service that's unmatched for quality



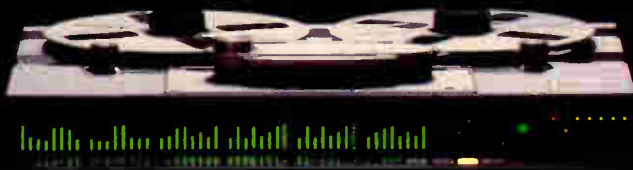
Responsive to the needs of the recording industry, we at JRF feel there can be no substitute for **EXCELLENCE**.

Kennedy Road • P.O. Box 121 • Greendell, NJ 07839  
 Tel: (201) 579-5773 • Fax (201) 579-6021 • Telex 325-449



Circle #122 on Reader Service Card

# THERE'S A BIG IDEA BEHIND OUR NEW PCM-3324A



It's the PCM-3348, Sony's 48-channel digital breakthrough. The technology behind our new PCM-3324A.

The PCM-3324A is Sony's second generation DASH 24-channel multitrack recorder, incorporating key technologies developed for the PCM-3348. Like 2X oversampling with digital filters for enhanced sonic performance. Reduced power consumption. And upward compatibility with the PCM-3348.

But as remarkable as the technology of the PCM-3324A and PCM-3348 is, the true beauty of the family of DASH products is that they complement the way music is made. Tracks laid down on the PCM-3324A play back flawlessly on the PCM-3348. And are undisturbed as the

PCM-3348 adds up to 24 more channels of digital audio to the original recording.

Clearly, the creative possibilities are limitless. To explore them, call your regional Sony Professional Audio office: East: (201) 368-5185. West: (818) 841-8711. South: (615) 883-8140. Central: (312) 773-6001.

Sony Communications Products Company, 1600 Queen Anne Road, Teaneck, NJ 07666. ©1989 Sony Corporation of America. Sony is a registered trademark of Sony.

# SONY®

PROFESSIONAL AUDIO

World Radio History

most oft-requested pieces are Yamaha SPX90s, Lexicon PCM70s and Neumann U87s. Blevins also acts as a broker for scarce, yet in-demand, rental items such as Pultec EQs and LA-2A limiters that are popular with many Nashville studios. According to Blevins, a growing source of rental revenue is from console rentals for people who want to do projects in their houses.

**DESIGN FX**  
Los Angeles, Calif.  
*David Soran*

"Dolby SR seems to be the busiest item—it's especially popular for movie soundtrack work." Digital multitracks are always in high demand, according to Soran, with "the Mitsubishi X-880s and X-850 staying quite busy, while the Sony PCM-3348 is starting to pick up. We also rent a lot of vintage gear: Neve EQs, Pultecs and tube mics, especially the Neumann U47 and AKG C-12."

**DIGITAL ASSOCIATES**  
Nashville, Tenn.  
*Todd Kidd*

"In Nashville, digital multitracks always do well as rentals, and two of the

hottest, most-requested items right now are the Mitsubishi X-880 digital 32-track and the Sony PCM-2500 DAT machine.

"The use of DAT recorders has definitely cut into the digital 2-track rental business," Kidd explains. "We have some Mitsubishi 2-tracks, but since DAT came into play, the rentals of 2-tracks has come down dramatically. We used to rent a lot of 2-tracks to studios, and later, they'd also end up being rented to the mastering houses. Today, a lot of the studios are mixing on DAT and sending DAT tapes to the mastering houses."

**DREAMHIRE**  
New York City, N.Y.  
*Chris Dunn, general manager, Dreamhire USA*

Dreamhire has been in the New York market since July 1989, in London since September 1984 (where, like New York, they share business ties with Battery Studios) and Nashville since October 1988.

"People rent whatever they need, and they need a helluva lot. The most popular items—those that go out most frequently—are Dolby SR racks and the Mitsubishi X-880. I could say the

[Lexicon] 480L is popular, but that's just one of four dozen other things that are extremely popular.

"We're working on establishing ourselves in the studio market with one eye on broadcasting. We are beginning to get across to the jingle houses and the post-production people, because we are the only rental company carrying a brand new, fully updated Lexicon 2400 Time Squeeze. Same with our Calrec Soundfield. The only problem with jingle and broadcast work is they only want equipment briefly—one day at a time. "But it's business."

**S.I.R.**  
New York City, N.Y.  
*Joe Kernich*

"Our studio business is primarily keyboards and musical instrument amps. Our outboard department is just getting off the ground, so we have a limited inventory, and I couldn't tell you what's hot in that area. Of the keyboards, the Korg M1 is our most popular rental.

"We also rent Hammond B-3s. I've been here about two-and-a-half years, and over the past year I've definitely seen a lot more B-3 rentals."

If you thought you'd never hear anything better than the SPX90, it's only because you haven't yet heard the new SPX900 Professional Multi-Effect Processor.

It's got more features, more functions, and more effects. It's got an awe-inspiring sound, and an amazingly friendly price. Just name it, and the SPX900 Professional Multi-Effect



*RCX1 optional full-function remote.*

Processor does it better. In fact, exceptionally better than anything that most likely impressed you before.

At the heart of the matter is Yamaha's new second generation DSP processing chip. A powerful little guy that gives the SPX900 fuller, lush, smoother reverbs. Simultaneous effect programs. And 20 kHz bandwidth. Not to mention more MIDI

Its most spectacular effect is o



## TOY SPECIALISTS

New York City, N.Y.

**Bill Tesar, president**

Six years ago, Bill Tesar and his wife, Rita, began Toy Specialists in New York City with one piece of equipment: a LinnDrum. Today, the company rents nationwide.

"Right now, we're seeing a large demand for Dolby SR. The Sony 3348, 48-track digital is starting to get real popular. That and our Mitsubishi X-850 32-track digital. So we're doing a fairly brisk digital multitrack rental. I think the 48-track machine is going to have a great future, because a lot of studios are used to working 48-track analog. It's a wonderful machine. The tape transport is extremely fast and sophisticated, and the editing on it is really good. I guess the next jump is going to be hard disk, random access storage.

"We have a pretty diverse catalog—everything from mics to outboard gear to digital multitracks—and we also carry a considerable amount of MIDI equipment, probably more than anyone else in the country. That stuff comes out about every two weeks, some MIDI box or drum machine, so it becomes increasingly tough for us to determine what to buy. You want

to offer all the bells and whistles; that's kind of what people come to expect in a rental company."

## UNDERGROUND SOUND

Nashville, Tenn.

**Mike Casey, representative**

Business is up at Underground Sound, a rental company that has come a long way in its three-year existence. According to Casey, some of the most sought-after items in recent weeks have been the Tube-Tech and Summit tube limiters; the Panasonic SV-3500 R-DAT; Eventide H3000 Ultra-Harmonizer; Focusrite processors; and a Stephen Paul-modified C-12 mic that "everybody seems to like." Full outboard racks have also been popular with studios and producers, says Casey. "We have a cutting rack with EQs and limiters—which stays busy—and for mixing, we have a full reverb rack with Lexicon 480s, AMS reverbs, delays and more. It stays out quite a bit.

"I run two rental companies—Underground Sound and Ears Audio Rental," Casey explains. "Ears is a brokering company that doesn't own much equipment but handles re-rentals. This is pretty easy to do here in Nashville; to a degree, this town is all

one big happy family."

## V.R.I. SCHARFF

New York City, N.Y.

**Mike Mueller, director of sales**

When New York's Martin Audio changed hands last July, its rental company was merged into the already merged A.T. Scharff and Video Rentals, Inc. The new company is called V.R.I. Scharff.

"We have been doing a lot of rentals of DAT recorders," says Mike Mueller of Scharff. "Right now our most popular models are the Sony PCM-2500 and the Panasonic SV-250. We're also renting both Dolby A and SR units in 2-channel and multitrack versions, and analog 24-, 16- and 8-track recorders, as well as 2-track—whether it be 1/4-inch, 1/2-inch or center-track time code. We use Otari tape recorders. We've found that they are the best machines for us. We need a durable machine here in the New York marketplace. We're also doing well with processing packages—digital reverbs, compression units, gates and things of that nature." ■

*This equipment rental forum was compiled by the Mix editorial staff.*

control and a new reverb algorithm that lets you design your own three-dimensional space. All controllable from its own optional dedicated remote.

Meanwhile its companion, the SPX1000, has digital inputs and outputs for direct digital access to professional quality processing.

The SPX900 and SPX1000 Professional Multi-Effects Processors. Now performing

special effects at a Yamaha Professional Audio dealer near you.

Yamaha Corporation of America, Professional Audio Division, P.O. Box 6600, Buena Park, CA 90622-6022. In Canada, Yamaha Canada Music Ltd., 135 Milner Avenue, Scarborough, Ontario M1S3R1.

**YAMAHA**  
Professional Audio Division

# outperforming its predecessors.





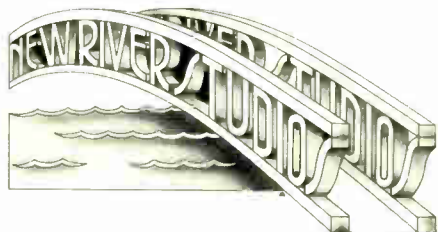
**W**arm up this winter at New River Studios and enjoy the tropical old world charm of Florida's premier recording facility.

Nestled in the heart of Ft. Lauderdale along the New River, you're just minutes away from sun-drenched beaches, gourmet restaurants and exciting night spots.

**I**n the midst of this vacation paradise you'll find a world-class recording studio featuring a NEVE 8108 with NECAM 96, and twin STUDER A800's.

**W**ith platinum albums and Addy Awards to their credit, you can see why New River Studios offers the finest in recording excellence under the sun.

Call New River Studios today!  
Ft. Lauderdale (305) 524-4000  
Miami (305) 947-9393  
408 South Andrews Avenue  
Fort Lauderdale, Florida 33301





by Robyn Flans

# NASHVILLE'S NEW BREED

**PRODUCERS ON THE MOVE—JOSH LEO, BARRY BECKETT, JAMES STROUD AND WENDY WALDMAN**

**T**he times they are a-changing for what has long seemed a recording formula in Nashville. There used to be an indelible line drawn between the live and recording bands (where never the twain did meet). Drums were a mere formality, and the apparent sameness of the recorded music created a stigma surrounding the product coming from what is sometimes known as the Third Coast.

In light of that traditional approach, it is surprising that Nashville record companies and country radio have embraced four new producers—Josh Leo, Barry Beckett, James Stroud and Wendy

Kim Carnes and Glen Frey. While his production track record consisted of only one project for Timothy B. Schmit (recorded in L.A.), record label heads Jimmy Bowen and Jim Ed Norman, who knew him as a songwriter of hits that some of their artists recorded, encouraged his move. When he did so in 1985, Leo's transition was remarkably painless, and after he co-produced



Josh Leo (clowning above) and Wendy Waldman (L) are both transplants from L.A.



Waldman—spouting some rather revolutionary viewpoints. It is interesting that all four of these producers are transplants.

Josh Leo came to Music City via the L.A. recording scene, where he played guitar with artists such as J.D. Souther, Jimmy Buffett,

J.C. Crowley for RCA, president Joe Galante asked him to work with Juice Newton.

Although he says Newton's record was one of the best he's ever recorded, the record company thought they went over the line, sonically.

"The drums are always the main offender," Leo says. "I'm a frustrated drummer. I think they should be the loudest thing on the records, then the vocal, bass and guitars. Keyboards should be buried. That's a guitar player saying that. We had four guitar players playing at the same time on that album—electric, acoustic, 12-string.

distorted guitars, weird guitars, guitars recorded at half-speed.

"I think [engineer] Eric Prestidge, one of the best engineers I've ever worked with, has the distinction of being the first person to put a backwards snare drum on a country record. People don't know what they're listening to, but there's a backwards piano on the Dirt Band's 'Baby's Got a Hold on Me,' on the intro, and there's a backwards snare drum throughout 'Fishin' in the Dark.'

"The most important thing is to hire a bunch of really good players who you

have confidence in, and don't tell them what to do. Let them be creative."

As for favorite studios, there is no hesitation before he says, "Emerald, without a doubt, is my favorite studio in town because it's the most updated. I like the SSL. I love API, but nobody has one down here. I wish they would open up a studio with APIs in this town. But Emerald has a big room to put the drums in and then four or five isolation booths, which I really like because, while I like to do a record as live as possible, I do need isolation rooms. I like Masterfonics or Emerald for mixing. Emerald just has the most outboard gear. Masterfonics has a

Fairchild, and everybody in town is trying to get them now. When we were doing Kim Carnes' 'Bette Davis Eyes,' Val Garay would have four or five Fairchilds just sitting around, so I got spoiled. Nobody has got *the* studio in town yet; they still need to build a huge room with isolation rooms, but you can make records here just as good as you can in New York and L.A."

• • •

Barry Beckett, who split an Alabama record with Leo (side B), has also been concerned with sonic sensibility within the format. Renowned as a member of the famed Muscle Shoals Sound Rhythm Section, keyboardist Beckett moved to Nashville around the same time as Leo, but had a much harder time breaking into the production scene.

"I called up every producer in town and only five returned my calls," he reminisces at Digital Recorders during a Ray Benson [Asleep at the Wheel] session. "None of them hired me to play. I sat in that apartment for three or four weeks, watching soap operas, waiting for a call. Finally, I got a little mad about it and said, 'I'm not going to get anything by sitting around here,' so I talked to some publishing companies and they started hiring me to play on some demos. I had to come in as a player; nobody was going to hire me to produce.

"The move was a very big transition," adds Beckett, lighting another in a series of cigarettes. "I was very nervous about it. 'It doesn't matter how good you are,' they used to tell me. 'You're not going to get anywhere unless you know somebody,' and a lot of that is true."

A manager by the name of Bill Carter convinced Shelly West's manager to take a chance on Beckett. Jim Ed Norman lent his name to the project, and Beckett was off and running in country music. In fact, he and Norman got along so well that Beckett worked in A&R at Warner Bros. until he decided he just had to be a full-time producer.

"There is a certain feel that I just have got to have and a lot of it involves being live," Beckett says. "What's important to me is energy, obvious dynamics and melodic lines. I like the fills to be melodic and different sounding. I take great pains to come up with different lines or to be involved with

# FIRST CLASS

*...in Nashville*



- SSL SL4064E Series Console; 56 Channels
- SSL G Series Studio Computer with Total Recall
  - Mitsubishi X-850 digital/Studer A-800
- LYNX Time Code Synchronization System
- Most in-house outboard gear in Nashville
  - On Site IDB Satellite Uplink/Downlink
- Radio Production and Live Broadcast Facility
  - Deluxe lounge and kitchen facilities
  - Security



(615) 321-0511

1033 16th Avenue South  
Nashville, TN 37212



someone who comes up with different lines.

"I'm working with Chris McKay, who is a new act on Arista's pop division. Good songs, good singer. It's music I haven't had a chance to do since I left Muscle Shoals, and I'm having a ball with it. We're cutting at Digital, and we cut her stuff on the Neve with musicians who could think pop. I used Eddie Bayers, Michael Rhodes, Reggie Young, Mike Lawler, her own acoustic player and myself. Justin Niebank was the engineer," says Beckett, who likes the convenience of Digital Recorders' four rooms when he has to stack projects, as well as the two Neves. "For mixing, I like Castle and Masterfonics. If I record on a Trident, then I'm going to want to mix on an SSL or a Neve. If I record on a Neve, I'm going to want to mix on an SSL or something else."

• • •

Like both Leo and Beckett, James Stroud came from a background of R&B and pop, having started as a partner in Malaco, Inc., a record and production company in Jackson, Mississippi. He worked as a sound

engineer, studio drummer and producer on such acts as Paul Simon, the Pointer Sisters, Dorothy Moore, Paul Davis and Eddie Floyd. After working with Melissa Manchester, Dionne

Warwick and Eddie Rabbitt in L.A., Stroud moved to Nashville to be a player.

"I figured the best way to learn would be to play for the best," he says.



Barry Beckett at Digital Recorders in Nashville.

PHOTO: M.J. MORRIS

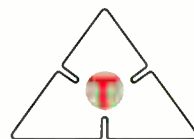
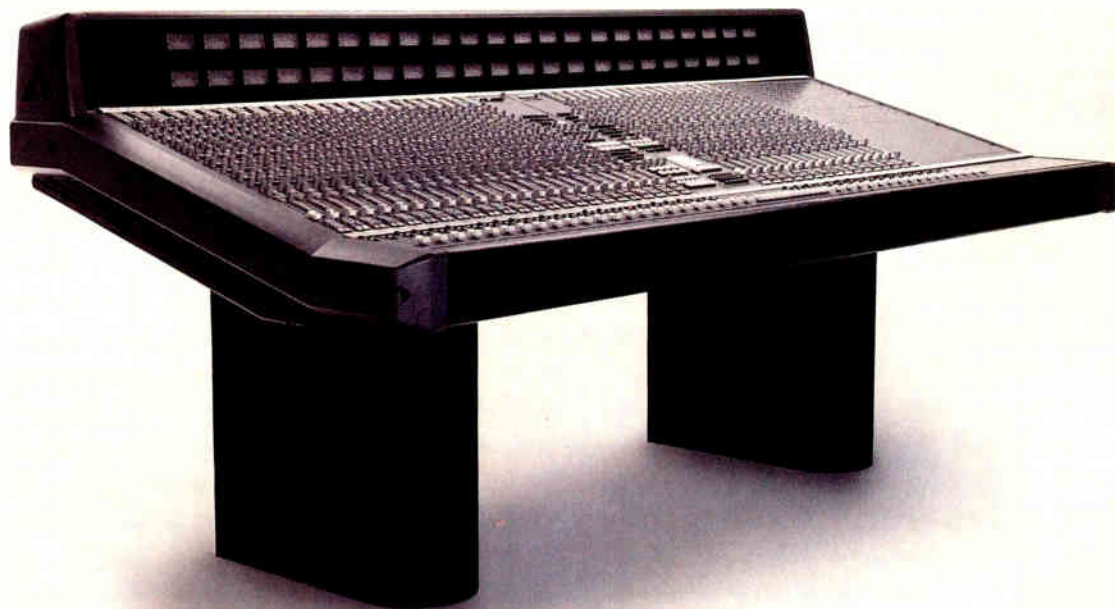
**sound emporium**  
(615) 383-1982 3102 Belmont Blvd. Nashville, TN 37212

## Advancing The Art.

Trident pioneered sophisticated audio mixing systems over two decades ago. You cut and mixed your best tracks on a Trident and have since longed for our legendary sonics in a mixer designed for your application. The wait is over.

A new standard is emerging from the company that continues to define audio integrity. Vector, the latest in Audio for Video mixing technology. It's heritage is firmly rooted in the finest audio tradition: a tradition unique to Trident.

With four stereo busses, dynamics, stereo inputs, integrated machine control and fader automation options, there really is no other choice. Audition a Vector and hear for yourself. After all, you've been listening to us for years.



TRIDENT

"I learned different ways of getting sounds out of my drums for the market, and I watched how the producers here treated the textures of instruments, as well as song structure and song arrangement from them and the artists. Then I applied the things I learned to my method of production. I had to come up with a completely different method. Specifically, the sound was a little more subdued, and the chord structures were not as intricate. Also, the music was much more acoustic, which means I had to tone my drums down a little bit so they wouldn't overpower the acoustic instruments. When I started producing here, the things I produced were a little too brittle and too aggressive for the market."

He also learned from owning Writer's Group, a publishing company that had the incredible fortune of publishing "On the Other Hand," the monster hit that won every award for a then-fledgling Randy Travis.

"When I got that going, I went back to the writers and developed them as artists and produced them [Schuyler, Knobloch and Overstreet]," Stroud

says. "When I sold the Writer's Group to Screen Gems, I wanted to turn my attention fully to producing records. I figured if I could look at production from a player's standpoint, a publishing and song standpoint, and from a label standpoint, then I have pretty well covered the bases."

As director of A&R for Universal Records where he was also a staff producer, his production philosophy created a huge hit in Clint Black, one of the few projects he is allowed to do outside the Universal label. *[Editor's note: Just before Christmas it was learned that Stroud has moved from Universal to become head of A&R for Capitol Records.]*

"Eddie Rabbitt's *Horizon* was the first country record I played on, and that was cut as a band. With Clint, I went back to my old thoughts of, 'Let's use his band; let's not hire studio players. Let's see if we can get Clint's music to match his lyrics. They're really real.' I went down to Houston and worked with his stage band during the day at a club he was playing. He would play that music at night, and if it wasn't working, we could see it in the crowd. The next day we'd work on changing it and try it again that night. Then we

went into the studio and cut tracks as a band.

"I did the same thing with Charlie Daniels, but he did most of the pre-production work. Charlie writes the songs, and his band has been with him for years, so we wanted to have his band playing. We wanted to update his sound, song structure and arrangements, though, so that's what we did with him. His last two albums are quite different from his earlier work. We got a little more technical with the sound.

"I'll use digital for some bands and analog for others. If I'm going for a real aggressive, Charlie Daniels-type drum sound, I'll cut it analog and then move it over to digital. With Wild Rose, they have a lot of acoustic instruments, mandolin and steel work, and they do a lot of brush work and real crisp solos, so I did that digitally because I wanted the most crisp, clear sound. If I'm cutting digitally, I use both rooms at Sound Stage and Emerald and I mix at Masterfonics. If I'm cutting analog, I'll use Quad Studios or Reflections, which are both Neve rooms. Plus, I have all my outboard gear, which I take with me. I have two racks of echoes, limiters, a lot of Sontec equip-

— CONTINUED ON PAGE 130



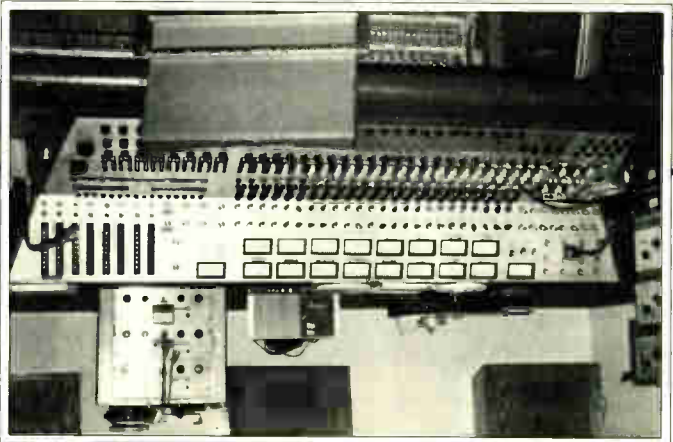
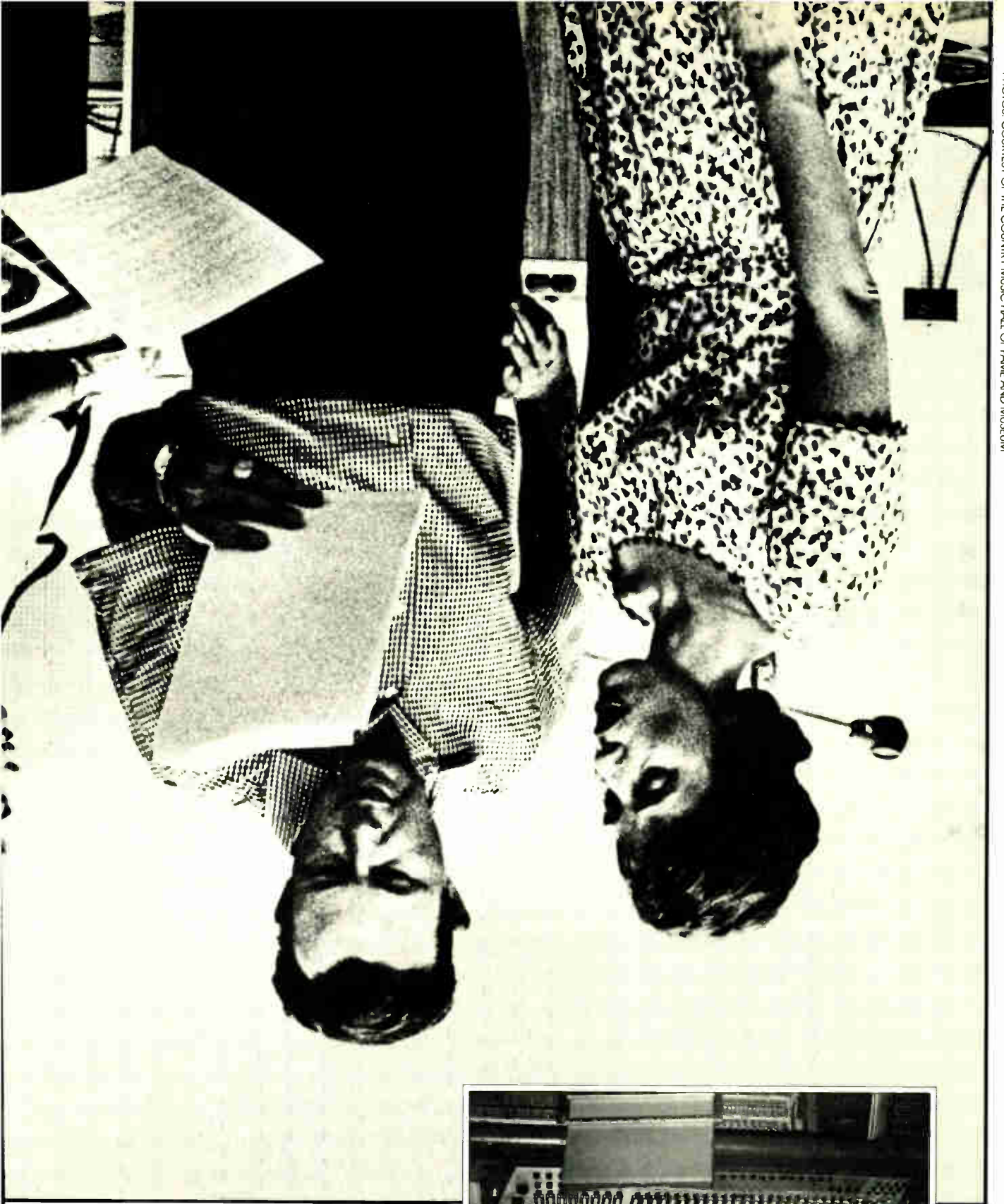
## PROFESSIONAL AUDIO AND MUSICAL EQUIPMENT RENTALS

NEW ACQUISITIONS TO BE FOUND ON OUR NEXT RATECARD—AVAILABLE SOON!

**LONDON:** AKAI ADAM • EMU PROTEUS-XR • MITSUBISHI X880 • MITSUBISHI X86 (20BIT VERSION) • FOSTEX D20 DAT • OTARI MTR20 ½" 4TRACK • FORAT F16 • NEVE PRISM EQ'S & DYNAMICS • ROLAND RD300S & A80 • ENSONIQ VFX • ANOTHER DOLBY XP24SR

**NEW YORK & NASHVILLE:** SONY PCM3348 • MITSUBISHI X880 WITH APOGEE FILTERS • MITSUBISHI X86 • OTARI DTR900 WITH APOGEE FILTERS • OTARI MTR12 ½" 4TRACK • FOCUSRITE 12 CHANNEL SIDECAR WITH SSL INTERFACE • LEXICON 2400 TIME SQUEEZE • NEVE PRISM EQ'S & DYNAMICS • GAMMA ELECTRONICS B.A.S.E. • APPLE MAC SE30 • EVENTIDE H3000SE • SOUNDCRAFT 200B SEQ16 MIXER • PANASONIC SV255 DAT • EMU SP1200 • ROLAND TR909 • SUMMIT TPA200 TUBE MIC PRE'S • ROLAND M16E RACK MIXER • BLANK SOFTWARE ALCHEMY 2.0 SAMPLE EDITING SOFTWARE FOR MAC • FORAT F16 • CASIO FZ1 • KURZWEIL 1000PX/SX/HX MODULES • ACOUSTIC RESEARCH AR18BX MONITORS • TANNOY SGM10B MONITORS • SONY BVU800 U-MATIC VIDEO DECK • PANASONIC AG1830 S-VHS DECKS • SONY PVM2530 CUBE MONITORS • KORG DVP1 DIGITAL VOICE PROCESSOR-VOCODER • SONY PCM1630 WITH APOGEE FILTERS + DMR4000 • TASCAM MS16 1" 16 TRACK RECORDER • KLARK TEKNIK DN780 •

LONDON, ENGLAND: 01-451-5544 • NEW YORK CITY, USA: 212-691-5544 • NASHVILLE, TENNESSEE, USA: 615-321-5544



# RCA

# STUDIO B



## *Memories of Little Victor*

BY *MISSY BAKER*

**B**efore every major record label and numerous other music industry personnel had offices on Sixteenth Avenue in Nashville, what is now known as Music Row was a quiet, residential neighborhood. Then, in the mid-1950s, Chet Atkins, an RCA recording artist and assistant to Steve Sholes in the A&R department, persuaded RCA Victor to build a new recording studio in the area.

Quite a bit has changed in Nashville since the unsuspecting residents

(Photo left) Country crossover star Jim Reeves recorded several hits in RCA Studio B, including "He'll Have to Go," "Welcome to My World" and "Love is No Excuse." Pictured here are (l-r) Anita Kerr, Reeves and Chet Atkins.

(Photo top left) This RCA custom-built mixing console was installed in RCA Studio B in 1971. With 25-input capability and 16 outputs, it accompanied a 16-track Ampex MasterMaker 1000. The speakers in the background are Altec 604s and are original to the studio.

**Sixteenth Ave. Sound**  
RECORDING STUDIOS

LIVE TO RECORD  
RECORD TO LIVE

**NASHVILLE**  
32 TRACK DIGITAL-24 TRACK ANALOG  
(615) 327-8787  
1217 16th Ave. South  
Nashville, TN

**MITSUBISHI**  
DIGITAL PRO AUDIO

Circle #139 on Reader Service Card

# "Please pass the Talkback"

**Finally...**  
A high performance infrared remote that activates your talkback from *anywhere* in the control room.

- No aiming necessary
- Easy installation
- Very affordable

**Call for more information.**

**Brainstorm Electronics, Inc.**  
(213) 475-7570  
1515 Manning Ave. #4  
Los Angeles, CA 90024

**TB-4 Communicator**

Circle #140 on Reader Service Card

of Sixteenth Avenue welcomed Little Victor in 1957. Now known as RCA's Studio B, it is a historic site operated by the Country Music Hall of Fame and Museum. The unassuming, pastel-hued, cinder-block building has been called the birthplace of the Nashville Sound, as well as the birthplace of some 47,000 recordings.

The studio was originally built to the specifications of William Miltenburg, RCA Victor's chief engineer and recording manager. "Bill Miltenburg drew the plans for the building out on a dinner napkin," Chet Atkins recalls. After only four months of construction by the J.B. Regen Company, the "house that Chet built" was completed November 6, 1957, at a cost of \$39,515. The quaint building, which measured 65 by 150 feet, had a single story in the front and two stories in the rear. Offices for Atkins, Ed Hines (manager of RCA's custom service), and the engineering office were located in the front, leaving the studio in the rear with a two-story session room and an echo chamber over the control room.

The echo chamber was a small, square room with plaster walls. "After a couple of years," Atkins says, "we bought a German echo unit, which was a metal plate enclosed in a wood cabinet that is about the size of a bed and stands up on end." Due to lack of space, the new German unit was placed in the echo chamber. "I remember I had quite an altercation with Miltenburg," Atkins continues. "I said, 'Yeah, we had an echo room, but you've put this German unit in there. Now we have a good plate unit, but we don't have a good room unit.' So he got smart with me and gave me a lot of technical talk. I got Aaron Shelton, who was at WSM Radio, to explain how it affected our room technically by putting that German unit in there. I squawked enough, and so they built other rooms. We had mostly German units, and we didn't use the room much anymore."

The other rooms were built in 1961. An 18- by 150-foot addition was put onto the front of the building and provided more office space and a mastering lab, as well as room for the German reverb units.

In 1964, RCA built a much larger office building and recording studio. The new studio was twice the size of the previous one and was called Studio A. Little Victor was then dubbed Studio B. Although the new facility was better





L.A. Fast Studios, Salt Lake City, Utah

# Drive your performance to a higher level.

Strap on your seatbelt. DigiTech just turbo-charged signal processing.

Introducing the DSP-256. A High performance, multi-effect digital signal processor with features like: 20 KHZ to 20 KHZ bandwidth, 16-bit resolution featuring 24 different effect configurations, plus 128 factory programs and 128 user programs, effect routing and full MIDI mapping capability. Now that's power.

Take a look under the hood. The DSP-256 features independent, full operation of all effects, programmable level controls,

program titling, comprehensive MIDI implementation, continuous control of all parameters and the most powerful motor ever.

And a studio remote controller puts all that performance in the palm of your hand.



*Studio remote included.*

Check out the DSP-256 at your DigiTech dealer. It's hard driving, high performance signal processing.

**DigiTech**  
Start at the top

DigiTech is a registered trademark of the DOD Electronics Corp. © 1989 DOD Electronics Corp. Manufactured in the U.S.A. 5639 South Riley Lane, Salt Lake City, Utah 84107 (801) 268-8400

Circle #096 on Reader Service Card

## Tweaking Studio B

Veteran engineer Bill Porter has been credited by many as helping to create the "Nashville Sound." He engineered 37 gold records, 11 Number Ones, and through his work with Elvis, Roy Orbison, Don Gibson and others, he was instrumental in blending pop with country music. But when he walked into RCA Studio B on March 31, 1959, he wasn't at all pleased with the sound.

"Acoustically, that room was bad in terms of not being proper," Porter says. "The numbers should not di-

vide into each other or you get standing waves. We had those out the rear end.

"Tommy Strong and I went out and bought these acoustical tiles, 24-inches wide and 4-feet long," Porter continues. "We cut those up into sections of three and made triangle tents out of them. We hung them from different heights around the ceiling, and it solved so much of the problem that musicians would come in during playback and say, 'My God, it's never sounded that good in here before.'

"They called those tents 'Porter's Pyramids.' The room took on a neu-

—CONTINUED ON PAGE 69

New York to press records from. And we ran a 3-track master as a safety copy.

"We did have one artist at that time who was overdubbing, as such, named Skeeter Davis," Vandervort adds. After Betty Jack Davis, Skeeter's partner in the Davis Sisters, died in an automobile accident, Skeeter began overdubbing her own songs. "At that time we didn't have the facilities to overdub, so we had a 3-track machine in the back room and we'd play the tape back there and then record it again in the control room. We couldn't actually overdub onto the same tape at that time, so it was like making a copy of a tape and then adding something onto it at the same time."

Before the success of Studio B, RCA executives were giving the operation used equipment from RCA's other studios, and the engineers often improvised and made their own. "At one time we had a little outboard mixing thing that we built ourselves," Vandervort says. "We'd cut a 16-track on [the 3-track board], do four tracks, and then we had a little outboard mixer that we'd use and play those back through one of the knobs. Then we could record two or three more tracks

equipped. Studio B had already earned a reputation for its sound.

"There was always a lot [of recording] in Studio B because it had been so successful," Atkins says. "Jim Reeves had cut so many hits there. Elvis finally recorded in A a couple of times, but he preferred B. A was a big barn of a room."

The first mixing console installed in Studio B was an RCA radio station

tube console with four inputs and one output for monaural recordings. In the early '60s a 3-track mixing board with 12 inputs and four submasters was installed. "When I first started working here [in the early '60s], we were cutting everything to a 2-track master," says Bill Vandervort, a former engineer for RCA. "We didn't do any overdubbing. We just cut the 2-track master, edited that out and sent it to

# Maxell has the classics.



Elvis Presley recorded numerous hits in Studio B, including his biggest selling single, "It's Now or Never." Pictured are Presley, the Jordanaires and Millie Kirkham at one of Presley's last recording sessions in Nashville. (l-r) Neil Matthews, Gordon Stoker, Kirkham Presley, Hoyt Hawkins and Ray Walker. Photo courtesy of the Country Music Hall of Fame and Museum.



on the 16-track. We would do that until we filled the 16-track up. Then we'd have to take it next door to mix it down, because we didn't have enough knobs over here."

The early 3-tracks were recorded in stereo but mixed in mono and, for the most part, mixed live. "We didn't have a lot of mics back in those days," Vandervort recalls. "I remember the time we cut Bobby Goldsboro's 'Honey.' We had more musicians on the session than we had mics to accommodate, so we had one of the guys that worked here running around with a microphone. When one of the guys was

# And now, heavy metal.



D2 Composite Digital Video Cassettes

1/2 inch Betacam SP

Whatever you're into, Maxell makes a full line of superior media. Like new BQ betacam tape. And, after a decade of making innovations in metal, we offer new SP metal betacam and D-2 tapes.

These new metal tapes have a ceramic surface coating to inhibit corrosion, not output. A conductive backcoating to resist dust, static,

and instability. With an ultra-smooth binder system to make our oxide coatings invincible, even to relentless shuttling while editing.

Of course, all our video and audiotapes, and video floppy disks share this level of durability. And technology. But most of all, Maxell shares your taste — for the very best.

## maxell

22-08 Route 208, Fair Lawn, NJ 07410  
© 1989 Maxell Corporation of America

playing vibes, he'd hold the mic over the vibes, and when another was playing timbales, he'd come over and hold it there."

In 1971 Vandervort installed a new mixing console. It had been designed with suggestions from all of RCA's engineers and was built in New York. "They got everybody's ideas together on what they wanted in a board and built this," Vandervort says, referring to the 24-input, 16-output board still on display at Studio B. There were four or five consoles built at the time, and all were used in various RCA recording studios across the country.

Engineers at Studio B made a few of their own changes to the 16-track unit. "When they designed this console," Vandervort says, "nobody was using echo on the monitor. If we used echo, we had to actually put it on the track that we were echoing, which we didn't like because you were stuck with it once you got it there. We took all the submasters out, which we never used anyway, and made monitor echo sends."

In 1975 the mastering lab was converted into Studio D, a vocal overdubbing studio and a quad mixing room. The session room was

revamped: The ceiling was lowered and lined with perforated acoustical tiles, the floor was carpeted and the walls covered with carpeting and burlap. A rhythm hut was constructed and divided into two sections—a smaller one for the upright bass and the other for the drummer.

The studio was popular because it provided a quiet sound. Good isolation techniques were improvised even when no one understood all the advantages. Owen Bradley, who was recording around the corner in his Quonset Hut, was also playing around with isolation. "We were doing basically the same thing," he says. "We were getting there a little different way sometimes. We had similar equipment. We were both trying to get lots of isolation for the soloists, which we found we needed. When we got stereo, we found out it was very desirable."

These similar recording styles enabled RCA and MCA to simulate Patsy Cline and Jim Reeves duets for a complete album in the early '80s. As luck would have it, they had recorded many of the same songs. "Jim Reeves was recorded in Studio B and Patsy Cline was recorded at the Quonset Hut," Bradley says. "It was nice to find that

they matched up, and it was not too difficult to take the voice from one and put them together because of the isolation. We were both practicing very good isolation on the voice so that the instruments didn't come in and cover. We didn't know we were ever going to do that."

After selling his Quonset Hut to Columbia in 1961, Bradley was one of the many producers on other labels to book RCA's facilities, recording Carl Perkins, Red Foley, Ernest Tubb and a few others in Studio B. Other producers to use Studio B were Archie Bleyer, who traveled from New York to record the Everly Brothers, and Fred Foster, who brought in Roy Orbison. The Everlys and Orbison recorded some of their greatest hits there, including "Cathy's Clown" and "Only the Lonely," respectively.

Buddy Harman was one of the session drummers who recorded in Studio B from beginning to end. "In the early years they didn't use [baffles], because I didn't actually use a full set of drums," he notes. "When I first started recording, I just used a snare drum and a hi-hat because they were scared of drums in country music. Later on, when I went to a full set, they

# Hear the Apogee Difference

Over the past few years, Apogee has become famous for enhancing the sound of digital audio recorders and processors. Now Apogee quality is available for virtually any digital audio system, with the introduction of the **AD1000** and **DA1000** Portable Reference Converters.

They're free-standing, can be battery-powered, and use the very latest Apogee digital components. They'll interface with most systems with digital I/O, including DAT machines and EIAJ processors.

Contact us today for full details.

Then hear the Apogee difference for yourself.

*Apogee's portable digital I/O modification may be required for EIAJ processors. Apogee also produces a range of OEM digital products; data sheets and leaflets are available on request.*

**APOGEE ELECTRONICS CORPORATION**  
1517 20th Street Santa Monica  
California 90404 USA  
Tel: (213) 828 1930 Fax: 828 9720

started using the baffles."

Elvis Presley wasn't afraid to use drums, however. Harman used to play along with D.J. Fontana, Presley's regular drummer. "We used to try to outplay the other one," Harman jokes. "Elvis wanted a lot of heavy drums—backbeat on a lot of his stuff. Two drummers used to give him that." Isolation for two drummers was a little more difficult, but it was easily resolved by hanging heavy theater curtains around the kits.

Gordon Stoker of The Jordanaires, Presley's backup singers, attributes some of Studio B's popularity to its size. "It's an extremely comfortable studio," Stoker says. "It wasn't crowded in there, and we had quite a bit of room in the control room to just go in there and listen to our playback."

Everyone agrees that the routine for most recording sessions was very similar with the exception of Presley's. "His first sessions were just ordinary sessions," Atkins says. "Then when he got famous, he would record at night and always have a bunch of police around to keep the girls out. And the Colonel [Tom Parker] was hoping that there would be dozens of them out there. I'm sure, for the publicity."

Stoker has fond memories of the late-night Presley sessions. "Elvis loved that piano in there," he says. "He played the piano, and we all stood around and sang with him on numerous occasions and on many spiritual songs."

But apparently not everyone was at home in Studio B. Stoker remembers the first Roy Orbison session: "He was so timid and backward and shy, he couldn't sing. We tried to encourage him by walking over and patting him and saying, 'Hey, man, we'll all work together and it'll be good.' His voice just quivered and shook so bad, and he was so scared that Chet had me sing in his left ear, right past him."

In 1977 the RCA studios were closed abruptly due to the demands of the National Association of Broadcast Employees and Technicians union, which drove up the costs of recording. Jerry Bradley, Owen's son, had taken over as manager. According to Vandervort, "We had a lot of things going on here that really shouldn't have been, like two guys working sessions together where one guy is just sitting here working the tape machine when it could have had a remote control and one guy could have done it. [Bradley] wanted to do away with that extra guy

## RECORDING EQUIPMENT

—All Major Brands—



### FOR STUDIOS/HOMES CHURCHES/CLUBS

- Reel to Reel Decks (2-4-8-16 Track)
- Cassette Decks • Mixing Boards
- Mikes • Studio Monitor Speakers
- Special Effects Units Accessories

**TASCAM**  
Hi-Fi Production Products

- VOLUME DEALER
- NEW & USED
- E-Z TERMS
- ALL MAJOR CREDIT CARDS
- PROFESSIONAL ADVICE



Call for a catalog and pricing information.

## RHYTHM CITY

287 East Perry Road N.E.  
Atlanta, Georgia 30305

1-404-237-9552 • 1-404-237-8526

CALL TOLL-FREE IN GA 1-800-282-7995

Circle #147 on Reader Service Card

# Post Office

**Y**ou're always handled with care at Platinum Post. Our package includes a Neve™ VR 60-input console with Flying Faders™ for Air Mail service. Express yourself with one of our 3 Synclavier™ suites and 2 Direct-to-Disk™ recorders, always ready to address your every creative need. Platinum's postal service includes a 7-studio audio-video complex in beautiful Orlando, Florida to help you lick your dead-



lines. Our superb in-house food service also gets the stamp of approval to soothe even the most fragile clients. Need a special delivery? Our 48-track mobile unit ships right to your door, and neither rain nor snow nor gloom of night will stop us from getting the job done. Because when it positively, absolutely has to be done right, Platinum Post delivers the goods.

A Siemens Company

# PLATINUM

*Post*

YOUR LETTER PERFECT POST FACILITY  
3300 University Blvd., Winter Park, FL 32792 (407) 671-1111

Circle #148 on Reader Service Card

# ON THE WORLDWIDE MUSIC SCENE WHERE ARTISTRY MEETS TECHNOLOGY

*Castle Enterprises offers a complete music production facility with state-of-the-art recording studios boasting the SSL 4056G-series, Mitsubishi X-880 32 track digital recorder, Studer A-820, and a midi room featuring the Fairlight Series III.*

Circle #094 on Reader Service Card

*An advanced and versatile production/engineering team specializing in rock, pop, r&b, college, and jazz music works with Castle Productions' major label artists and develops all its new talent for presentation and signing to the major record companies.*

*For more information, call Jozef Nuyens, Jr.*

 **MITSUBISHI**  
DIGITAL PRO AUDIO



**CASTLE**

PRODUCTIONS & RECORDING INC.

1393 Old Hillsboro Road • Franklin, TN 37064 • Tel. 615 791-0810 • FAX: 615 791-1324

World Radio History

—FROM PAGE 64, TWEAKING STUDIO B

tral characteristic, and the coloration that was there before went into the background. So the signals from the instruments were basically clean. And, of course, I'm not a person who's into close-miking. I never was. My attitude is that "the right mic in the right place will get you the right sound."

Mic placement was crucial to Porter, because there were so many acts coming into Studio B—usually four a day, seven days a week—that he didn't have time to tune the room for each setup.

"We found these dead spots where the standing waves canceled each other," Porter says. "Then we marked X's on the floor where we put microphones that we had to do a lot of gain with, like a vocal mic or acoustic guitar, so we'd get minimal leakage. For our sound source we beat on a tom to get a low-frequency, resonant-type sound, then

we'd move mics around."

By "the seat of his pants," Porter learned the personalities of different mics. He used mainly Neumanns, the U47, U48, M49 (which he liked for strings), and the KM56 ("nice silkiness, reinforces the toms") and KM54. "I know the way I placed mics made a difference," Porter says. "I could not go in there with a rock 'n' roll band and get a decent sound. The room would, to coin a phrase, regurgitate to you, throw it back at you. No matter what you did you could not get isolation. If you listen to some of those early Elvis recordings I did in stereo, the room acoustics give an illusion that it was a big stereo stage.

"If you get brainwashed in the fix-it-in-the-mix concept, you're always going to do that, but then you lose the naturalness of the sound. The instrument, including the voice, should speak for itself."

—Tom Kenny

except in cases where he was really needed, like on live sessions."

According to Atkins: "We must have had ten or 11 people. The personnel man came down [from New York], and

he said, 'We're not going to give in to your demands, and, if you insist on them, we'll close the studios.' They finally decided he was bluffing, and they called his hand and he closed the

studios."

During the studio's 20-year history, there were more than 16,000 recording sessions, generally four a day, seven days a week. The famed "Nashville Sound" musicians, including The Jordanares, Harman and Atkins, were present at many of these sessions. With 40 gold records and an average of 60% of the records on the country charts during the studio's operation, Studio B had quite a record of its own. Almost all of RCA's artists, as well as many others, came to Nashville to record in Studio B—Barbra Streisand, The Monkees, Perry Como, Ann-Margret, Eddy Arnold, Floyd Cramer, Dolly Parton and Porter Wagoner.

The Country Music Foundation acquired the building in 1977 and has since run daily tours through the legendary studio. Music fans of all sorts are fascinated by the opportunity to experience the recording studio as many of their favorite recording artists did over a decade ago. ■

*Missy Baker is a student at Xavier University and an occasional tour guide for the Country Music Hall of Fame and Museum.*



*Makin' it*  
**MEMPHIS-STYLE**

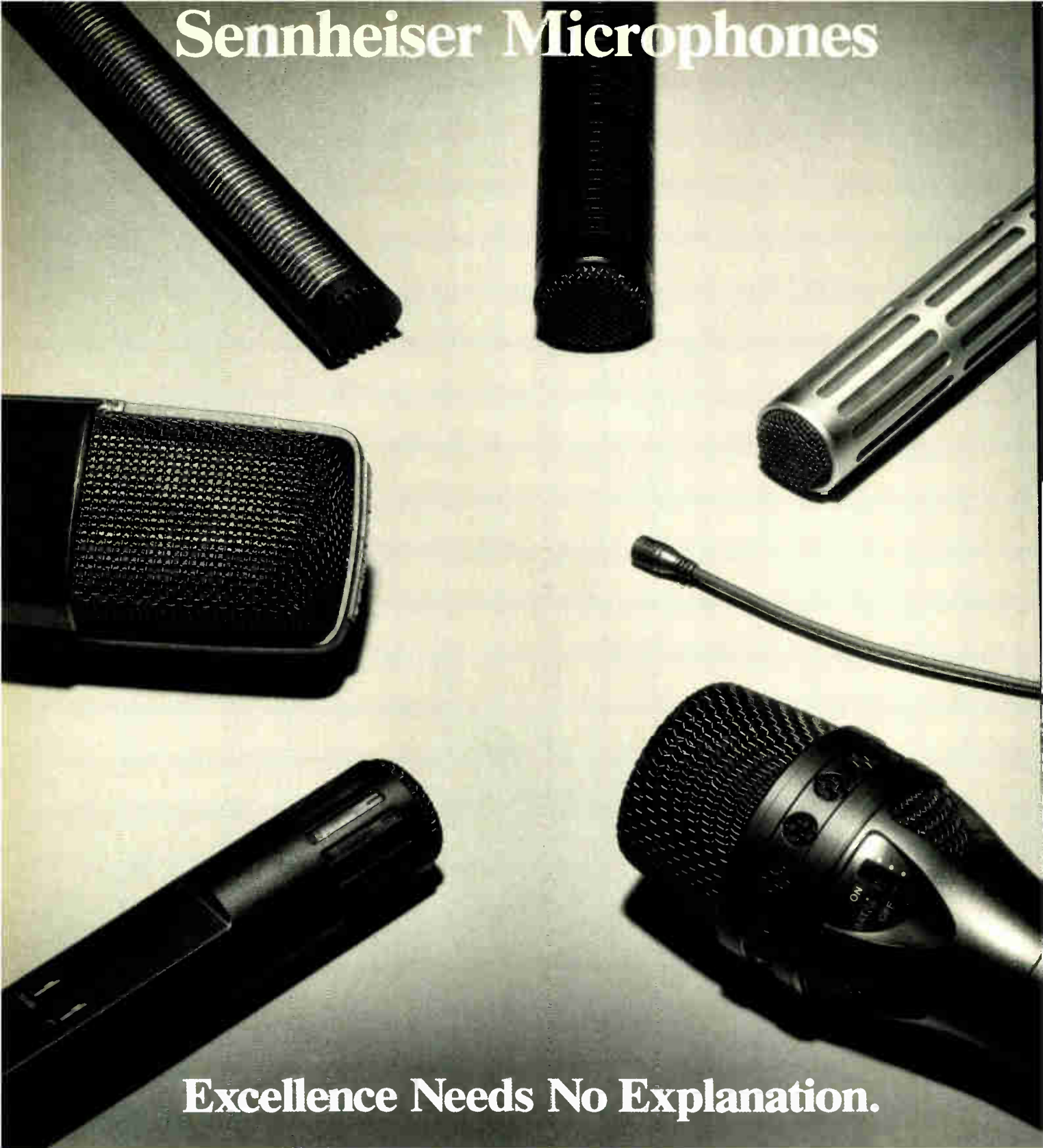
**CONTROL ROOM A**  
Truly an incredible room. Designed by Tom Hidley and tuned to 24Hz with Kinoshita Monitoring system. SSL 4056 G console with total recall and automation, 16 channel API with 550 A EQ discreet console, impressive selection of outboard equipment, 1400sq/ft tracking space with three adjoining iso booths and live echo chamber.

Tape Room Equipment by  
**MITSUBISHI**  
DIGITAL PRO AUDIO

**The Soul of Rock 'n Roll**  
904 RAYNER STREET, MEMPHIS, TN 38114  
PHONE (901) 278-1888 FAX (901) 725-1983

Circle #049 on Reader Service Card

# Sennheiser Microphones



**Excellence Needs No Explanation.**

To learn more about the Sennheiser excellence in design and engineering,  
please call or write.

 **SENNHEISER**<sup>®</sup>

6 Vista Drive, P.O. Box 987  
Old Lyme, CT 06371

Tel # 203-434-9190 FAX # 203-434-1759

MICROPHONES • HEADPHONES • BOOM SETS • RF WIRELESS • INFRA-RED TECHNOLOGY

Manufacturing Plant: D-3002 Wedemark, Federal Republic of Germany

World Radio History

Circle #083 on Reader Service Card



by John Craig

# JOHN KEANE'S STUDIO GROWS WITH ATHENS' MUSIC



A decade ago—around the time the members of R.E.M. began getting together in an old church in Athens, Georgia, to experiment with making music—Athens native John Keane bought a used TEAC 4-track recorder. He took it home to the dilapidated 1890s house he had purchased a few years earlier with the help of his parents, and mounted it in a supermarket shopping cart. The cart allowed him to wheel the machine around the old house and record his own band, Phil & the Blanks, in first one room then another as he strove to get the best possible sound.

Shortly thereafter, for the fun of it, Keane started recording the bands of his friends. Enjoying the work, he

decided to begin recording professionally. During the '80s he worked at building his skills as an engineer and producer, upgrading his equipment and studio space, and expanding the list of local bands who looked to him to capture their sound on tape.

Today, the John Keane studio—in the same 19th century house—boasts 24 tracks, and Keane works regularly with such recording artists as R.E.M., Dream So Real, Pylon and members of Atlanta's Drivin' & Cryin'. At his studio last year Keane engineered the main tracks of four songs for the first major-label album by the Indigo Girls—the Atlanta duo's first album for Epic. And he is currently working with a new generation of Georgia bands who are

signing or about to sign major label contracts.

Keane built his success around—and designed his studio in accordance with—his gut feelings about music. These are feelings shared by most of the Athens music community. “I’m not into techno-pop,” he says. “Music generated with sequencers and synthesizers kind of leaves me cold.” His preference is for music “played by human beings instead of machines,” and it’s not surprising that he has not bothered much with computers, synthesizers, samplers or drum machines. Keane is also wary of an overconcern with sound processing. “In the interest of getting everything sparkling clean and absolutely perfect, a lot of producers kind of miss the point as far as how music feels as opposed to how technically perfect it is.”

Keane’s ideas about music guided the evolution of his studio. By 1983 he acquired an 8-track recorder, and soon afterwards he settled on using his home’s dining room as the control room and the parlor as the studio. The parlor was cramped and box-like, and because he did not yet know much

about acoustics and covered its walls with foam rubber, it was so dead that

---

*In the interest of getting everything sparkling clean, a lot of producers miss the point of how music feels as opposed to how technically perfect it is.”*

---

musicians at times could hardly hear each other. Still, with this setup he recorded his first project on a significant

label—a 1984 single by the Hindu Love Gods for IRS, featuring Warren Zevon on piano. It was at about the same time the budding R.E.M. began coming over to record.

By 1987 Keane wanted to get more serious about recording albums, so he bought an Otari MX-70 16-track recorder and a new TAC Matchless console equipped for upgrading to 24 tracks. He then planned the renovation and expansion of the parlor into his current studio, “because that little square dead box wasn’t cutting it.”

Using drafting skills he acquired at Southern Tech in Atlanta and a couple of books on building small recording studios, he designed the room himself. His primary consideration was his desire to allow musicians to play together while recording instead of separating them in iso booths. The bands he works with, he explains, want the music on their demos and records to “sound like it does in a club. They want to have the energy they have live, and the only way for them to really do that is for them to all get in a room together, watching each other and playing together.” Playing in each other’s presence is especially important for some of the new bands Keane

# NEVE, SSL, STUDER

## The Right Equipment

## The Right Attitude

## The Best Music



**SOUNDSCAPE STUDIOS**

677 ANTONE STREET, NW ATLANTA, GEORGIA 30318 404 351-1003

Circle #041 on Reader Service Card

works with—groups that sometimes have no studio experience. Another important consideration for Keane in designing the new room was that it gives him the big garage sound and a good acoustic drum sound.

The studio Keane built and uses today delivers both the environment and sound he was looking for. Finished in August 1988, it is a non-rectangular floating room approximately 27 x 20 feet at its widest points, with neoprene absorbers. The angled ceiling peaks at 16 feet. The studio has only one windowed iso booth—used usually for vocals. Two other closet-like iso booths are used for guitar amps, allowing musicians to play together while maintaining sound separation.

The room has a red oak floor and Sheetrock walls and ceiling. To create a studio with one end more live than the other, Keane affixed beveled exterior cedar siding to the walls at one end of the room and absorptive fiberglass panels covered with burlap at the other end. He puts the drum kit at the more live, cedar-lined end of the room to get the sound he wants. With the design assistance of Steve Hartman, an acoustic consultant from Atlanta, Keane also built and installed absorptive acoustic ceiling panels.

The control room, he says, is still "basically a dining room. It's not exactly acoustically designed, but it sounds good in there and I'm used to it." Hartman is now building Keane new monitors.

Last spring Keane upgraded to 24 tracks with the purchase of an Otari MTR-90II 24-track recorder. His studio also has a Tascam 42 2-track recorder and a Sony DTC-1000ES DAT. His monitors are UREI 809s. Other gear includes Lexicon PCM70, Lexicon PCM42 modified for sampling and a dbx 900 rack with extensive processing equipment. He's stocked the mic selection with ones from Neumann, Beyer, AKG, Sennheiser, E-V, Shure and Countryman.

These days Keane continues to work with emerging Athens bands, Atlanta bands and projects involving members of R.E.M. Last August he engineered a record of acoustic music written and performed by Kevin Kinney of Drivin' & Cryin'; Peter Buck of R.E.M. produced the album. This year Mike Mills, bass player for R.E.M., is in Keane's studio working on a film score.

One of the newer Athens bands Keane has been working with and is

excited about is the Chickasaw Mudd Puppies, an offbeat group whose music is based loosely on primitive country blues and who have appeared onstage playing garbage can lids—with kudzu and cow skulls hanging from the ceiling. The band and their fans alike were surprised when PolyGram signed them for their first album. Their second album is now in the planning stage. Half of it will be recorded in Los Angeles with Willie Dixon producing, the other half at Keane's studio in Athens with R.E.M.'s Michael Stipe as producer.

Looking toward the future, Keane wants to move into more of a pro-

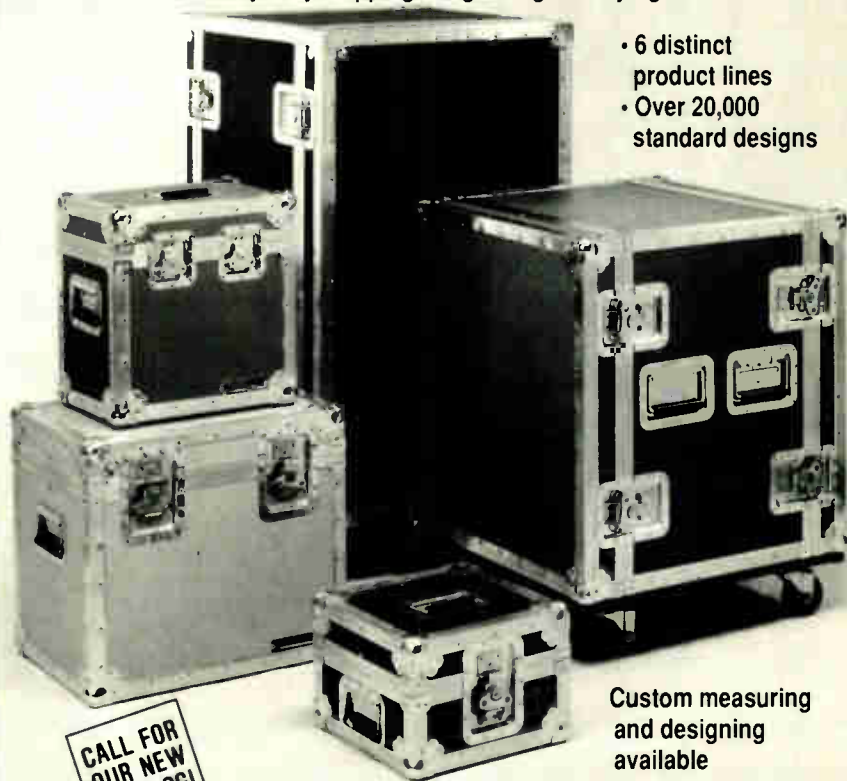
ducer's role and work with more artists on major label projects. He is especially on the lookout for groups with a real message, both because he enjoys working with such groups and because he feels they will go farthest. "I guess mainly what I look for in a band is honesty and emotion," he says. "It doesn't really matter whether they play rock or country or folk or new wave or thrash—if their lyrics are honest and they have something to say." ■

*John Craig is a freelance writer in Athens. He has written for Southpoint and Emory University and the University of Georgia alumni magazines.*

## BUILDING QUALITY CASES SINCE 1952

A.T.A. heavy-duty shipping to lightweight carrying cases

- 6 distinct product lines
- Over 20,000 standard designs



Custom measuring and designing available

CALL FOR OUR NEW CATALOG!

Call Today For More Information



# ANVIL CASES

SUBSIDIARY OF ZERO CORPORATION

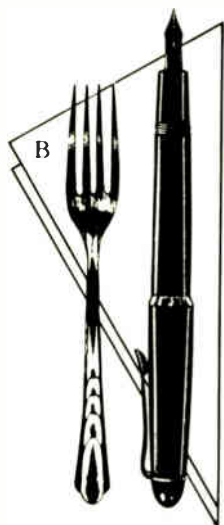
15650 Salt Lake Ave., City of Industry, CA 91745 • P.O. Box 1202, La Puente, CA 91747

(800) FLY-ANVIL (800) 359-2684

Circle #042 on Reader Service Card

by Mr. Bonzai

# HERBIE HANCOCK: COOL FUSION



Both Picasso and Herbie Hancock mastered traditional forms and styles at an early age, gained critical acclaim, and went on to shock their followers with innovation and abstraction. Picasso used found objects in his collage and sculpture; Hancock uses concrete sounds and found samples in his music. The rules were broken as the rebels drew from international sources and freely mixed. Both artists make us rethink our ideas of reality and open our doors of perception, yet they both make us feel comfortable in the twilight zone between art and life.

Barely out of his teens, Herbie Hancock became a leading force in the heyday of '60s jazz. The jazz crowd is a tough audience, and he won them



over in his work with Donald Byrd, Miles Davis and the cream of the serious contenders. Compositions such as "Watermelon Man" became worldwide standards. His first film score was for Antonioni's 1967 breakthrough *Blow-Up*. Herbie came on strong, then took jazz to new levels of cool fusion. In 1973 his *Headhunters* album helped define jazz funk, and in following years he has swung easily with his old fans and new. The '80s brought a Best Original Score Oscar for his *'Round Midnight* music and a Best Concept Video MTV award for "Rockit." A master with many forms, he has consistently taken the newest technology

and made it his own.

**Bonzai:** I couldn't find your *Harlem Nights* soundtrack album...

**Hancock:** I don't think there is going to be an album, 'cause they usually want a soundtrack that is going to sell. The picture takes place in the late '30s, so a lot of the music is period piece mu-



sic. Doesn't seem to be much of an audience for that.

**Bonzai:** Let's go back to that period—your beginnings. Born in Chicago in 1940, so your life follows the decades neatly.



PHOTOS: MR. BONZAI

**Hancock:** [Laughs] Funny thing, actually. There is something in what you say. I haven't had a whole lot of big hits, but the few I've had seem to have happened every ten years. Pretty strange.

**Bonzai:** You were trained in the classics as a kid. Did you have a musical family?

**Hancock:** Not particularly. On my father's side they were mostly into the visual arts—painters, sculptors, potters. Both my mother and father took piano lessons when they were kids, and they both sang in church. But as far as I knew, I was the only musician in the family. Then about five or six years ago, my father told me about "Uncle Jack," whom I had never heard of. I think he was my grandfather's brother, and he used to play in brothels around the turn of the century. This was where jazz was played in those days, but my father told me, "Oh, you could play anything for Uncle Jack—classical, jazz—he could hear it one time and play it by ear." It was a surprise for me to learn about him.

**Bonzai:** Was piano your instrument?

**Hancock:** Yeah, always. I started playing when I was seven.

**Bonzai:** But you studied engineering in college, right?

**Hancock:** For two years I was an engineering major. But I had kept up my piano lessons, even in college. Although I was mentally geared toward music, I thought it would be impractical to assume that I could make a living as a musician. I had been playing jazz for two or three years by the time I got to college. I could play a few tunes and improvise a bit. But I thought I would be sensible and pick a profession where I might be able to get a job and survive.

I had always liked science, and liked tinkering and taking watches apart, building model boats and planes, that sort of thing. It made sense to choose engineering or some field of science.

**Bonzai:** What changed the direction of your life?

**Hancock:** At the end of my second year of college, I stopped one day and looked at myself in the mirror and said, "Who are you trying to kid?" All the while at college I had been playing solo piano every night in the women's dining hall during dinner. I went to school in Iowa. They didn't

have too many jazz musicians in Iowa, and this was a small liberal arts college, Grinnell. I decided to put together a jazz concert during my second year. I took anybody who had played in a dance band, picked up a saxophone or trumpet player, and put together this 16-piece jazz band.

I had to arrange, so I started listening to Count Basie and Stan Kenton records, and I tried to transcribe the parts from listening. This taught me a lot about arranging, and it was also great for ear-training. Then I had to teach the different sections how to phrase the stuff, because they didn't know how to do that. I wound up almost flunking all of my classes and had to cram for all the exams. To put on this concert, I got copies of arrangements from jazz groups at the University of Iowa and Iowa State, in Ames, Iowa. I took the whole semester to do it, and when it was done I realized I was kidding myself trying to be an engineer. I knew the only thing I wanted was to be a musician. I didn't have a choice, so I decided to quit screwing around and changed my major to music. You'll either survive

or you'll die, but you have to do it. I changed my major and got my B.A. in music.

**Bonzai:** How did you get from college in Iowa to joining Donald Byrd in New York, 1960?

**Hancock:** Well, during the summer after school I used to work in the post office as a mailman. After I graduated, I was a mailman again, except when September came along I wasn't going back to college. I didn't go for my master's right away—I think it was probably because my sister was starting college and money was tight. My folks could barely put me through school, so now it was time for my sister.

I worked as a mailman and played piano at night. The first international musician I played with was Coleman Hawkins. He came through Chicago and always hired a pickup rhythm section. The guy he normally hired, the best piano player in Chicago, was Jodie Christian. Jodie had a gig with somebody else, so I was suggested and got to play with him.

**Bonzai:** All the while being a mailman?

# Hal Blaine and The Wrecking Crew

*The Story of the World's Most Recorded Musician*

**E**xclusive stories from the musician who recorded over 350 Top Ten hits and became the heartbeat and backbone of pop music's golden age. Twenty-four pages of scrapbook photos provide a rare glimpse into Hal's unique musical history. An entertaining and educating book for musicians and fans alike.

*"Hal Blaine set the standard for creative and inventive drum sounds in the '60s."*

**Herb Alpert**

*"Hal Blaine is an original."* **Neil Diamond**

*"Thanks, Hal, for the tom tom tom toms!"*

**Ringo Starr**

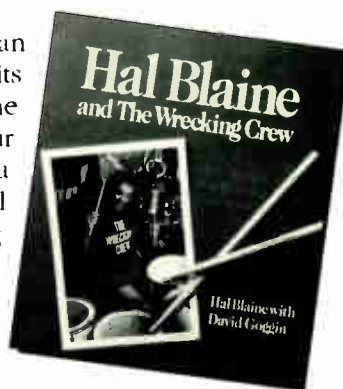
192 pages  
\$19.95

Published by

## MIXBOOKS

To order:

Call or write Mix Bookshelf, 6400 Hollis St. #12, Emeryville, CA 94608 (415) 653-3307 Toll Free (800) 233-9604. Include \$3 for UPS shipping. NY, CA, IL residents add appropriate tax. Free catalog available.



**Hancock:** Yes, but I have to tell you the hours for a Chicago musician are the longest in the world. We played from 9 in the evening to 4 in the morning, every day except Saturday, when we played from 9 in the evening to 5 in the morning. We would also work 14 straight nights, which was against the musicians' union rules. You're supposed to have a night off, unless it's billed like a Broadway show. Hawkins would bill the show like this, and we also made more money, but after the third day I was getting sick. I'd get off at 4 in the morning and have to be at the post office at 8—you don't get much sleep. I could do it now [laughs]—here I am almost 50—but back then I couldn't handle hours like that. I was used to sleeping eight hours a night.

I had to choose between the gigs, so I quit the post office. And everybody in the post office said, "You'll be back."

**Bonzai:** Did you ever go back?

**Hancock:** No, but you know what happened? I was in Chicago three or four years ago playing a big festival, and I ran into a maintenance man

## Pushing the Envelope

When I started with Herbie Hancock in 1976, his live system consisted of a Fender Rhodes piano, clavinet, Oberheim 4-voice, two Arp Odysseys and an Arp string ensemble, all amplified through guitar amps. My first task was to create an onstage mixer complete with bi-amped stereo P.A. cabinets for his keyboards. I also built a complete bi-amped stereo backline for each member of the Headhunters, making the onstage sound clearer than ever and more in the control of the band members rather than the sound crew.

The next chore was to incorporate the Sennheiser vocoder for creating artificial lead vocals. To that end I teamed up with synthesizer wizard John Vieira to design a modified portable Minimoog with special touch sensing and modulation modifications to simulate vocal-style vibratos. We rack mounted the vocoder with the signal processing equipment, and added a wireless headset microphone to Herbie's

glasses. A custom digital switcher mounted on the portable keyboard controlled all of the signal routing from each source into and out of the vocoder rack and finally into the sound system.

The success of the vocoder system gave Herbie new confidence in exploring custom technologies. He wanted to be able to control all of his instruments from one common source, and E-mu Systems had just created a 16-voice polyphonic sequencer keyboard with a manual patch bay for CV outputs that was ideal for that purpose. With the help of Vieira, Will Alexander and Jim Cooper, I modified two Minimoogs, two Arp 2600s, two Arp Odysseys, the Oberheim 8-voice, and Prophet-5 to include CV/gate input and output.

This system required a master tuning interface that would allow tuning and trigger conversions for Herbie's entire system from a single rack-mounted unit. Around this time, Wayne Yentis had created a portable CV controller called the Clavitar. We simply cross-patched

## THE FIRST CHOICE OF RECORDING STUDIOS IS THEIR SECOND CHOICE, TOO.

There's been an interesting phenomenon developing since the release of the ATR 60/16.

Seems when it comes time to expand, major studios already owning a 60/16 always buy a second.

100% of the time.

The studios sometimes look at other models. But what they discover, is that feature for feature, dollar for dollar, no other 16 can compete.

That's because of, among other things, the 60/16's superior head technology. It's so accurate that final EQing decisions to be made right in the sync mode, without rewind or repro verification.

And our special circuitry provides transparent punch-ins for gapless edits.

There's also incredibly fast lock-ups, at speeds limited only by the quality of your other equipment.

So, get into your Tascam dealer and see the machine that has them coming back for seconds. The ATR 60/16. It's the industry's first and second choice, because it's second to none.

# TASCAM®

© 1989 TEAC America Inc., 7733 Telegraph Road, Montebello, CA 90640, 213/726-0303



the Clavitar and the E-mu into Herbie's master tuning interface, and we had our first real multivendor interface system.

As a result of a year-long patch bay R&D project, Michael Lerner (patent holder for console automation display and designer of the Automatt Studios) and I created a 16-bit, single-board computer system that could control each component of Herbie's system. The result was an Apple 2+ terminal with light pen for user control, SMPTE interface, and high-speed access to each instrument processor. This system was much faster than the

MIDI of today.

During these years Herbie constantly came up with new musical ideas that were impossible to execute. Each design invention followed from turning Herbie's musical dreams into practical composing and performing reality. His multivendor interface system inspired other designers to create MIDI and similar composing workstations. Today, Herbie continues to push the envelope of modern composition and instrumentation with the most powerful tool available—the Apple Macintosh.

—*Bryan Bell*

sweeping up near the dressing room. He came up to me and said, "You're Herbie Hancock, right?" I said, "Yeah," and he shook my hand. He says, "You know, I knew you before, at the post office. You never came back." I said, "Yeah, you're right," and we both laughed.

Anyway, I quit the post office. Then I'm stuck, right? I was living with my folks, and I would just wait around the house for the phone to ring for gigs. I got some work and there was

no real problem. December came around and I got a call from this club owner that I knew. Donald Byrd was coming through, and, as usual in Chicago, there was a blizzard. His piano player had gotten stranded somewhere, and Donald needed a replacement for the weekend to play in Milwaukee. The club owner suggested me, and I put on the one maroon jacket that I owned and went down to meet them—Donald Byrd, Pepper Adams. We got in the car and started

to drive to Milwaukee, except we didn't get very far because of the snowstorm. We came back to Chicago and they wanted to hear me play, so I took them to this place where they had jam sessions. I was so nervous, and thought I sounded terrible.

**Bonzai:** You were only a teenager, right?

**Hancock:** I was 20. So I came off the stage after playing and said, "Thanks so much for the opportunity. I guess you'll be looking for somebody else." Donald says, "No, are you kidding? You're going out tomorrow with us." I couldn't believe it. So we made it to Milwaukee and played for the weekend, and the next day he said he had talked it over with the band and they liked the way I played. They asked if I wanted to stay on with them and go to New York and be a permanent member. I called my folks and told them what I wanted to do. They said they were behind me all the way, even though they didn't really want me to do it. So, that's what I did.

**Bonzai:** Were your first records with Blue Note?

**Hancock:** No, the first was with a label called Warwick, which came and went. I think the label was around for



about six months. A vibes player named Teddy Charles was one of the owners. He was a friend of Donald Byrd, who had a contract with Blue Note. I don't know how he managed to do a record with Warwick, but Donald was always a good talker. [Laughs] He worked something out, but I don't even have a copy of that record I made. I wish I had one—maybe one of the readers has one. I have the jacket, but no record. Anyway, that was the beginning. I went to New York, January 18, 1961.

**Bonzai:** Blue Note has such stature, such class—what was so special about that record company?

**Hancock:** So many of the serious, young leaders in the forefront of jazz were on Blue Note—people like Lee Morgan, Wayne Shorter, Donald Byrd, Art Blakey's group, Horace Silver. Blue Note and Prestige were the hot jazz labels, but Blue Note was number one, because of the people and the reputation.

**Bonzai:** Was it because of the treatment of the artists, the recording situation?

**Hancock:** Actually, both Blue Note and Prestige used the same studio. Rudy Van Gelder was the engineer. Miles also recorded on Blue Note.

**Bonzai:** You started with Miles in 1963. What did that do to your life?

**Hancock:** I was with Miles from the age of 23 to 28, and those were my real formative years—years when I learned to develop as an individual musically. I couldn't have been in a better band, a better position. Miles was a guy who developed people, and I found my own style of playing during that time, developed things of my own, even developed things that influenced piano players in subsequent years. It was a very important period in my life. Also, I did my first film score during that time, for *Blow-Up*. And I did my first jingle for a television commercial: Yardley's Men's Cologne.

**Bonzai:** Can you still hum it?

**Hancock:** Yeah. [Laughs] Da-de-da . . . It's "Maiden Voyage," but originally the music was for the commercial.

**Bonzai:** Wasn't Victor Feldman playing with Miles at this time?

**Hancock:** Miles came out to the West Coast and hired Victor to play with

him, but I guess Victor was doing real well with his studio work and didn't want to stay with Miles. That's what I heard. He was a great musician—had such a great touch, and a conception. Miles did record with Victor out here, and the first record I was on with Miles had both of us on different cuts. An album called *Seven Steps to Heaven*.

**Bonzai:** What happened after Miles?

**Hancock:** I recorded an album called *Mwandishi*, the Swahili name that was given to me. I had been thinking about moving on, because when I played with Miles, all the tunes were geared for Miles and that group. I had a contract with Blue Note which started in 1962, and I continued to record for the label as a leader during the time I was with Miles. But I never got to perform any of the tunes I recorded. So "Maiden Voyage" never got played until after I left Miles' band. All those tunes, "Dolphin Dance," the tunes that a lot of people now know me for . . .

**Bonzai:** "Watermelon Man" . . .

**Hancock:** I wrote that in 1962 and recorded it on my first album. I recorded it again in '73 for the *Headhunters* album. It was interesting, be-





cause when I joined Miles' band, "Watermelon Man" was a hit by Mongo Santamaria. It got into the Top Ten of the pop charts, and I was the writer. Many times you don't even know who the writer is, but because I was a piano player working with Miles and a sideman on other albums, people were aware of me as the writer. With that record, I didn't have to depend on my salary with Miles to sustain myself. I was getting some nice money from "Watermelon Man" because everybody was recording it.

**Bonzai:** In the late '70s you had some big hits in England with the vocoder. You're probably more well-known for vocoder work than anyone else.

**Hancock:** I was at the time. People still use them, and there are new vocoders being built. From what I understand, I think I was the second person in the world to record with a vocoder. The first guy was French, Henri Salvador, but he was a singer. I'm not a singer, and I didn't use it that way. I hadn't done any vocal albums, and I started thinking about my voice as an instrument. I was working on a new album called *Sunlight*, and I had written lyrics to one of the songs.

## HERBIE HANCOCK CUSTOM SYSTEMS

### Live Vocoder Performance, 1978

- Portable Minimoog keyboard
- Headset microphone on eyeglasses
- Remote digital switching from keyboard for vocoder rack
- Custom signal processing
- Rack-mount packaging

### E-mu Systems 4060 Master Keyboard Sequencer, 1979

- Portable Minimoog keyboard
  - First 8" disk drive on 4060 keyboard
  - RAM expansion
- ### Master Time Clock, 1979
- 4-channel clock divider

### interface with tape sync Multivendor Controller Interface, 1980

- CV, gate interface for multivendor (Moog, Oberheim, Arp, Sequential)

### Master Patch Bay, 1980

- 32x32 digital control patch bay for audio and CV/gate

### 16-bit Master Computer, 1981

- Apple 2+ terminal interface
- 16-bit parallel high-speed interface
- Master library software for sequences and voices
- Telecom support

### SMPTE Interface, 1982

- Console automation
- Tape machine control
- Master keyboard interface

Then I saw an ad for the vocoder, and I thought I might be able to plug my synthesizer into it. The ad said something about replacing the voice, or making the voice sound like a machine. I thought I might be able to use it for singing.

We called the Sennheiser people

and went to a recording studio for a demonstration. They had the lamest demo I ever heard. I brought one synthesizer, and there weren't many at the time, around '75. I think I was using a Minimoog, or a [Sequential] Prophet-5. I also had the multitrack tape for my album and asked if I could

## THE BOARD FOR PEOPLE WITH BETTER THINGS TO DO WITH THEIR MONEY THAN BUY A BOARD.

Let's face it.

As an electronic musician, the new board you'd really like to buy has keys, not faders. In fact, you probably wouldn't be buying a new board at all if you didn't need more inputs.

That's why Tascam's M-600 Input Console is the board for you. It gives you top panel access to as many as 64 stereo or 128 mono inputs. That's capacity.

Equally accessible is the M-600's surprisingly low price. You can put one in your studio for less than \$10,000, thanks to its modular design. Starting with 16 channels, the M-600 expands to a full 32 as you need them.

But despite its attractive price, the M-600 has that great sound of boards costing twice as much. And when you experience its intuitive feel, the way everything is where you need it when you need it, you'll know this is the board you've been looking for.

Write for our free *Configuration and Installation Guide*. Then get your hands on the powerful M-600 Input Console at your Tascam dealer.

It may be the last board you ever have to buy.

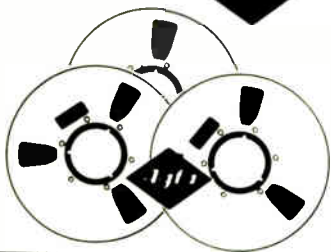
# TASCAM®

© 1989 TEAC America, Inc., 7733 Telegraph Road, Montebello, CA 90640, 213/726-0303

Circle #059 on Reader Service Card

World Radio History

Tape for  
the '90s



**B Burlington**  
Audio/Video Tapes, Inc.  
106 Mott Street  
Oceanside, New York 11572

468 & 469 Audio Tape,  
Cassette Pancakes & a Full  
Line of Audio Products  
Plus Reels, Boxes,  
Leaders & Splicing Tapes,  
Custom Cassettes

In Stock and Priced Right!  
Immediate Delivery



Call for FREE Catalog  
Toll Free: 1-800-331-3191  
In N.Y. 516-678-4414  
FAX (516) 678-8959

Circle #014 on Reader Service Card

LUNCHING WITH BONZAI

try something. I plugged my synthesizer into it, and a mic, and then played the album and started scat-singing.

They almost jumped out of their seats. They couldn't believe what they were hearing. I was able to go way beyond my vocal range in both directions. I was goin' to town with this thing. I had them eating out of my hand, and that thing was expensive—about \$15,000.

I started singing the song with the lyrics and using the vibrato of the synthesizer, which gave me perfect vibrato. When I started singing the lyrics, they really flipped out. Henri Salvador had sung normally and then put the vocoder track way under his regular voice. I wasn't using my vocal at all, it was all vocoder.

**Bonzai:** It's this kind of thing that has separated you from other musicians. . .  
**Hancock:** And I usually get flack for it. I get rapped on the knuckles for it. [Laughs]

**Bonzai:** What about your "Rockit" video? Didn't that odd approach help you reach a new audience?

**Hancock:** Well, it was the biggest seller I ever had. I've been very fortunate to have been in a position to be a part of some innovative technology in my life.

**Bonzai:** I was talking with Bryan Bell this weekend, someone who worked with you for many years as an inventor, satisfying your many technical requests. He said that he could give you a strange sound, like a dish breaking, and you could turn it into a symphony. What did he mean by that?

**Hancock:** Did he say that? [Laughs] I guess that he meant had to do with the fact that I've been involved with so many different types of music in my life, and I had a taste of the avant-garde in jazz with the Mwandishi band. I was very much into listening to music as sound and organizing it as sound, and playing things because of the quality of the sound and not just because of the notes. That is not foreign to me at all. I hear a sound that interests me and find a way to use it. It doesn't have to be a musical sound.

For example, I just made some samples in my studio using the springs that elevate a stairway so it can be closed up when I'm recording. It's a big spring, and I hit it, scraping it with

metal, wood, my thumb, and snapping it. I used it to make a rhythm track, and for the bass drum I sampled hitting a piece of cardboard. I do things like this because of the way I hear.

**Bonzai:** Do you work alone?

**Hancock:** Yes, I've been doing that for a few years now.

**Bonzai:** How do you compare that with the incredible symbiotic jazz relationships you've had?

**Hancock:** Well, you can't replace that synergy that happens between musicians. When I make records by myself, I don't even try to do that, but I do have the advantage of being able to realize all the ideas that I have, much like an orchestrator who is arranging for a symphony or a chamber group. They are supposed to read the music you wrote. When you're playing with a jazz group, the tendency will be to use the creative powers of the other members of the group and write something that is minimal so you can get right into the improvising.

**Bonzai:** In performance, have you ever gotten lost while improvising?

**Hancock:** Sure, because I always challenge myself and push myself to my musical limits. I try things, and experiment. I get lost—a lot of people get lost—but the other guys in the group can tell if you're lost and one of them will establish something to let you know where you are. I've gotten lost with the time, turned the beat around so that what I thought was beat four was actually beat one. The drummer can usually flip me back around by playing certain things, maybe a crash at the beginning of a phrase. If it's a matter of form, and I can't remember exactly what bar I am on, the bass player can usually straighten me out by certain standard approaches to the chord structure, and I'll hear it right away and know where I am. And I'll know where they are. [Laughs]

**Bonzai:** I know that your time is in incredible demand. How have you maintained your composure and your openness toward other people?

**Hancock:** For one thing, I really love people. Even though I've had a lot of great fortune in my life and my career, and gained a degree of popularity, I think most people would say my personality hasn't changed that much. It's just basically the way I am.

The other thing—had I not started practicing Buddhism back in 1972, I

—CONTINUED ON PAGE 86

CAREERS IN

music and video  
BUSINESS

Enter the exciting and lucrative world of the entertainment industry! Learn the business and the technical aspects of music & video production from top professionals! An 18 month degree program. Check choice of school location below.

CALL TOLL FREE, OR WRITE  
**1-800-424-2800**

Atlanta  Houston  Seattle  Ft. Lauderdale  
 Dallas  Pittsburgh  Colorado  Philadelphia

YES, I would like information  
about your Programs!

NAME \_\_\_\_\_ YR. H.S. GRAD \_\_\_\_\_

ADDRESS \_\_\_\_\_

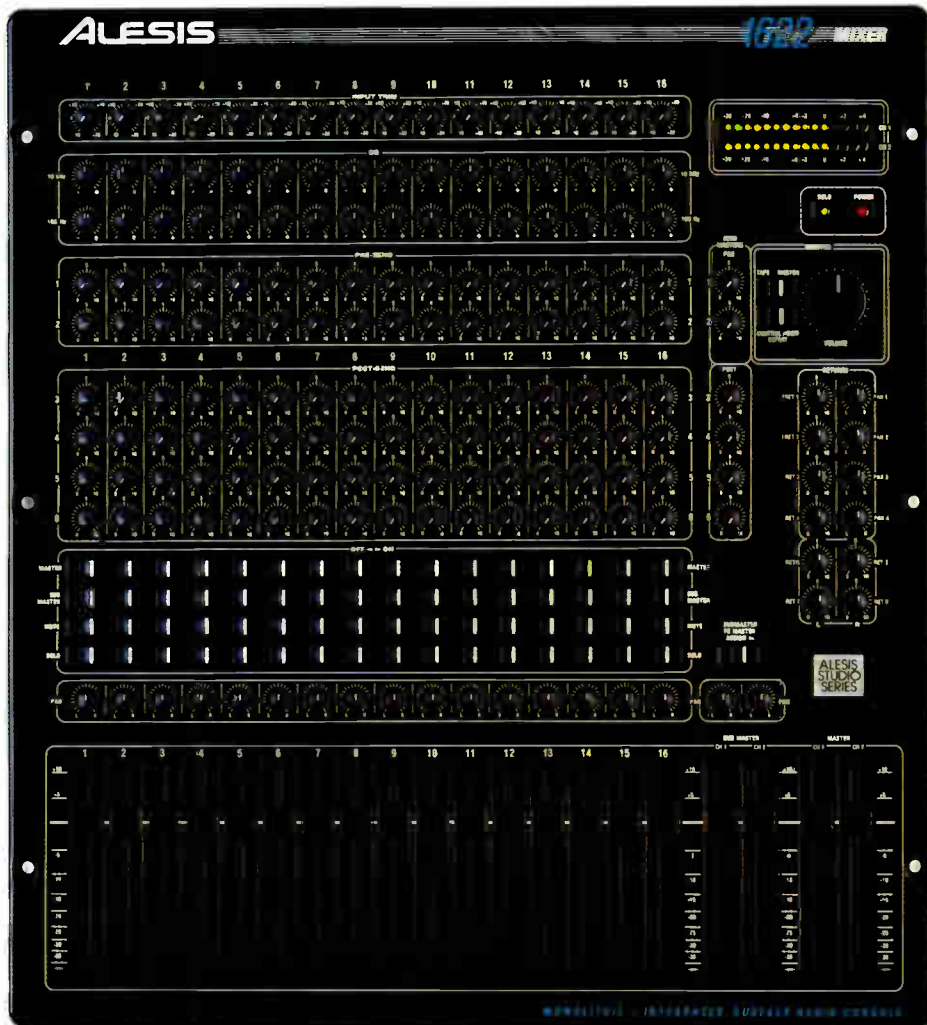
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_ SC49MX

**The Art Institutes**  
626 Penn. Ave., Pittsburgh, PA 15222

Circle #015 on Reader Service Card

# 16 Channels    6 Sends 8 Receives    \$799



This is the product everybody's talking about. The mixing console that will put you in total command of your music.

We invented a new way to build this mixer to deliver more features and sonic performance than ever before possible. At less than \$50 a

channel, it belongs in your studio right now.

Alesis is very proud to introduce the **1622 MIXER**. The world's first Monolithic Integrated Surface™ Audio Console.

The mix starts at your Alesis dealer now.



LOS ANGELES: Alesis Corporation • 3630 Holdrege Avenue • Los Angeles, Ca. 90016

LONDON: 15, Letchworth Point • Letchworth, Hertfordshire SG6 1ND.

# TAC Magnum

QUALITY ASSURED, PRICE UNBEATABLE



You need an edge. The world is competitive and you're creative but hard-pressed. You need a console that allows your creativity to shine through without compromising your finances.

Building consoles to meet that specification is what TAC does to perfection. We deliver an unbeatable combination of performance, features, construction and price.

We know console technology. The MAGNUM is proof positive and is perfect for multitrack, video post and broadcast production. Look at this checklist for comparison:

**CONFIGURATION:** 24-buss in-line console with dual-input technology, allowing each channel to have two independent signal paths.

**EQUALIZER:** the powerful 4-band semi-parametric equalizer can be split between channel and monitor paths, giving 72 inputs with eq on mixdown in the 36 input chassis.

**AUXILIARIES:** 8 Auxiliary sends – four mono and two stereo – can be fed from channel or monitor signal paths. Sends 7 & 8 can also be routed to the 24 busses for extra effects feeds. 8 effects returns, with sends to all 8 Auxiliaries, are provided.

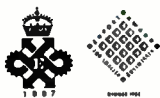
**SOLO/PFL SYSTEM:** MAGNUM has a Master Status controlled in-place solo switch on both channel and monitor paths. When de-activated, solo switches provide a full Pfl facility. MAGNUM also has two independent Mute groups.

**AUTOMATION:** channel mutes can be automated via MIDI; C-MIX fader and mute automation system can be fitted.

**CHASSIS:** welded steel with a pcb-based bussing system and an expandable 288-point TT jackfield.

Some of the many other vital facilities include channel fader reverse, 30-segment LED meters with peak hold, optional stereo line inputs, 8 audio subgroups and comprehensive control room monitor system.

TAC MAGNUM. The only choice.



Total Audio Concepts  
Unit 17, Bar Lane Industrial Park, Bar Lane, Basford,  
Nottingham NG6 0HU.  
Telephone: 0602 783306.  
Telex: 37329. Fax: 0602 785112.

In the USA:  
10815 Burbank Blvd, North Hollywood,  
California 91601.  
Telephone: 818/508 9788. Fax: 818/508 8619.



# 3-D AUDIO

In this second of a two-part series on the emergence of systems that address a commercially viable third dimension in audio, I talked to Auris Perceptual Engineering, Crystal River Engineering, Holophonics, Hughes Aircraft and Pete Myers. (See the February issue for a look at products by Audio & Design, Bedini Audio Spatial Environment and QSound.)

## AURIS PERCEPTUAL ENGINEERING

The most recent entry in the stereo spatial enhancement game is Auris Perceptual Engineering of Evanston, Ill. Formerly known as SoundSphere, Auris' founders are Gary Kendall and William Martens, both of whom worked at nearby Northwestern University with Carolyn (Puddin') Rogers in her groundbreaking research into spatial hearing (see sidebar), as well as having done sound effects processing work on the 1985 *The Twilight Zone* TV series.

Auris' stated goal is the discrete localization of sound in a three-dimensional space via real-time processing, which it expects to demonstrate sometime this year. Auris vice president Gary Hall (a longtime signal processing professional, formerly with Lexicon and Sony Pro Audio) says that the system, called "spatial reverberation processing," is neither sweet-spot dependent nor sensitive to reproduction system characteristics, and will address spatial diffusion as well as sound location effects.

Hall says that Auris is sensitive to the "vaporware" issue and acknowledges that without any demonstration, the company's product is still only an assertion at this point. But he also says that Auris is looking forward to

## PART TWO SPATIAL MANIPULATION: THE FUTURE OF STEREO BY DAN DALEY

joining the "party," as he refers to the burgeoning field of spatial enhancement devices.

## CRYSTAL RIVER ENGINEERING

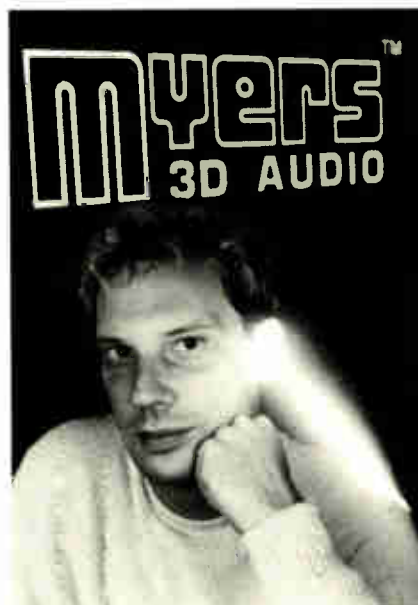
This Groveland, California-based company markets the Convolvotron, a high-speed, real-time digital signal processing system consisting of two cards for IBM PCs and compatibles. The system is programmed for a

variety of signal processing tasks, such as linear and time-varying filtering, with its primary application being the presentation of 3-D audio signals over headphones. In this application, four independent sound sources are filtered with large, time-varying filters that compensate for the real-time head motion of the listener and possible motion of the virtual audio sources.

Said to be significantly faster than ordinary DSP systems, Convolvotron contains 128 parallel multiply/accumulate/shift processors, offering a peak convolution speed of 320 million taps/second. Other performance specs include: 16-bit resolution, 50kHz sampling rate and up to 512 coefficients per ear from a single input source (or 128 coefficients/ear using all four of the system's audio inputs as sources). Originally developed under contract to NASA in a project headed by Elizabeth Wenzle, Convolvotron is now available to researchers and commercial users.

## HOLOPHONICS

One of the earlier entries into this three-dimensional sweepstakes has been somewhat dormant lately. In an article that first appeared in the May 1985 issue of *Mix*, Mr. Bonzai reported that Holophonics' developer/discoverer Hugo Zuccarelli developed a theory of human audio perception that is somewhat at odds with putative thinking, which states that the ear's cilia are frequency-dependent, each detecting different frequencies. Zuccarelli maintains that the interaction of the cilia produces an audio hologram that the brain analyzes. The whistling tones that the ear emits on occasion have been ascribed by scientists to a seepage of biological energy from the ear's active sensory cells reacting physically



Pete Myers modeling a remote sensing laser probe used in the development of Myers 3-D Audio.

# GOLD LINE LOFT

**NEW: SOUND LEVEL  
METER with  
DIGITAL NUMERIC  
DISPLAY**



Standard: 45 to 120 dB  
RANGE OPTION  
Preamp: 25 to 120 dB

## CONTRACTOR PRICES

Send for free catalog:

Box 500, West Redding, CT 06896  
PH (203) 938-2588 FAX (203) 939-8740  
(800) 433-6373

Circle #044 on Reader Service Card



**Holophonics system in use on location in the Florida Everglades, recording stereo sound effects of helicopter fly-bys.**



### REMOVES VOCALS FROM RECORDS!

Our VOCAL ELIMINATOR can remove most or virtually all of a lead vocal from a standard stereo record and leave most of the background untouched! Record with your voice or perform live with the backgrounds. Used in Professional Performance yet connects easily to a home component stereo system. Not an equalizer! We can prove it works over the phone. Write or call for a free brochure and demo record.

**Listen..**



### Before You Buy!

- Time Delay
- Reverberation
- Crossovers
- Noise Reduction
- Compressor/Limiters
- Expanders
- Spectrum Analyzers
- Parametric EQ

Don't have regrets about paying too much for a lesser product. In demos and comparisons, we'll show you why we're Better! Our Factory Direct sales allow us to produce a Superior product and offer it to you at a Lower price. Call or write for a free full length Demo Album and 24 page brochure.

**LT Sound**, Dept. MX-9, 7980 LT Parkway  
Lithonia, GA 30058 (404) 482-4724  
**24 HOUR PHONE DEMO LINE: (404) 482-2485**

to vibrations they detect, a phenomenon known as the Kemp Effect. Zuccarelli theorizes this sound acts as a reference beam that accounts for a holophonic image contained in the ear.

The human hearing process is said to be duplicated in Holophonics recording using a reference tone encoded with spatial and dynamic information. The method does not use microphones; rather, it employs transducers to change mechanical energy to electrical energy. That last phrase could be the definition of a microphone, except that Zuccarelli's approach claims to use a liquid medium as part of the process. Actual recording to tape can use either analog or digital equipment and is compatible with either mono or stereo.

Holophonics is unique in that both its supporters and detractors are a bit more virulent than is the case with other spatial audio technologies. And in this field at this time, that's saying a lot. According to Zuccarelli, a major concert event (featuring newly developed speakers said to effectively reproduce the Holophonic sounds in a large area) and an upcoming feature

film with Holophonically recorded audio should increase the visibility of his Los Angeles-based company in the coming year.

### HUGHES SRS

Hughes Aircraft has developed the Sound Retrieval System (SRS), a circuit that refines sound by a series of electronic comparisons with servo systems that assess the directionality of the signal's components according to its azimuth in either stereo or mono. Joe Allrich, manager of audio products for Hughes, says the SRS system is based on the spectral characteristic change of a sound as it moves in a manner that mimics the transfer function of the human ear/brain system. After algebraically subtracting all right-channel information from the left channel and vice versa, the results of this process are then output as left-minus-right (discrete left), right-minus-left (discrete right) and a left-right center channel. Allrich says this particular transfer function is filtered so the listener perceives the result as having a specific location.

An outgrowth of research into making in-flight entertainment audio

clearer, the company is licensing SRS directly to OEM manufacturers of consumer hardware, bypassing the black box market in both pro and consumer. The first is Sony, which has the circuit on 11 U.S. MTS (stereo)-equipped monitors already, and discussions are underway with other consumer manufacturers. Head down to your local electronics store and judge for yourself.

#### MYERS

Myers Spatial Digital Audio Technology (MSDA) and its second generation, Myers 3-D Audio, were developed by Pete Myers, who at the age of 19 was the youngest NASA consultant ever. Myers says he still consults to NASA, but his main focus has been bioelectrical engineering, specifically man-machine interfacing, particularly in the audio domain. Myers' research into how to get localized audio cues to military and commercial pilots evolved into the system he now offers for compact disc use exclusively via his PM Productions.

Myers 3-D Audio claims to use technology that alters certain frequencies of recorded sound to make specific sounds appear to come from various points in a room, including behind the listener, using just two stereo speakers. "With this technology," he says, "we can position each sound at an infinite number of points in the room." His approach is based

**"The human auditory system has bigger capabilities than we're feeding it. Psychoacoustics is where the next dramatic steps will come from."**

on psychoacoustic theory regarding how the brain receives and interprets aural data. The brain works off cues consisting of minute differences in the sound characteristics coming from various directions. Myers' method uses a computer to manifest his 1985 design, which, he claims, for the first time emulates mathematically the human auditory system in real time. The Myers system is perhaps best expressed in the abstract section of his U.S. patent, which states, "... (It) artificially imparts localization cues to a multifrequency component electronic signal that corresponds to a sound source. The cues imparted are a front-to-back cue in the form of attenuation and boosting of certain frequency components of the signal, an elevational cue in the form of severe attenuation of a selected frequency component, i.e., variable notch filtering, an azimuth cue by means of splitting the signal into two signals and delaying one of them by a selected amount, an out-of-head localization cue by introducing delayed signals corresponding to early reflections of the original signal, an environment cue by introducing reverberations, and a depth cue by selectively amplitude scaling the primary signal and the early reflection and reverberation signals."

"What we're doing is going into the next dimension of audio," Myers asserts. "Digital audio will be the ultimate step in audio. The human

### PSYCHOACOUSTICAL STUDIES

The history of auditory research is long and rich in the academic field, particularly the seminal work of the late Puddie Rogers at Northwestern University over a decade ago. Rogers' psychoacoustic studies measured and documented pinna (outer ear) transforms, which are fundamental to understanding how the brain perceives sound localization. These studies definitively documented the audio "shadow" of the head and its effect on the timing between the ears. The pinna is critical in the hierarchy of cerebral localization cues; the concha (the section of the ear leading to the ear canal) has been found to have an effect on the frequency at which the ear canal is resonant.

Near-field and headphone environments are optimal for these various proprietary technologies, according to Chips Davis, a consultant with Paoletti/Lewitz Associates. Heard over speakers, these technologies are still effective, but not to the same degree because early reflections near the speakers mask the pinna cues. However, Davis says, these speaker problems should be relatively simple to overcome.

—Dan Daley

**"AUDIOPHILE QUALITY"...**

**EUROPADISK LTD.**

#### • CASSETTES

*Finest European HX PRO Equipment - Lyrec/Studer  
THE BEST AT NO EXTRA COST!*

#### • COMPACT DISCS

*Low-cost packages from ANY source!*

#### • DMM LP MASTERING & PRESSING

*ONLY THE FINEST!  
DMM Quality  
-Imported Vinyl!*

#### • GRAPHICS PACKAGES

*Cassette, CD, LP  
Printing & Artwork*

#### • DIGITAL STUDIO

*CD Premastering, Sony  
Editing, Neve Digital EQ,  
Format Conversion*

**Call, write or FAX  
for our brochure**



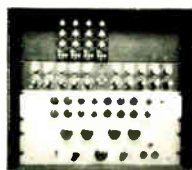
**EUROPADISK LTD.**

75 Varick Street,  
New York, NY 10013  
(212) 226-4401 • FAX (212) 966-0456

Circle #098 on Reader Service Card

# VR

## Valley Rental



4 api 550a's  
GML 8200  
SUMMIT AUDIO  
PULTEC EQP-1

**ALL FOR ONLY \$160/day!**



H 3000 SE  
AMS RMX16  
T.C. 2290  
KORG 3000

**ALL FOR ONLY \$165/day!**

### CHECK OUT OUR NEVE'S

(6) 1073's-3 BAND EQ  
w/MIC pre-RACKED  
\$100/day!

(2) 1081 4 BAND EQ  
w/MIC pre  
AND (2) 32264a LIMITERS  
THE NEVE CUTTING RACK  
\$125/day!

**We have Singles of  
GML, NEVE, LEXICON  
MICS-INSTRUMENTS, ETC.  
PLEASE CALL FOR  
WEEKLY-MONTHLY RATES**

**WE ALSO SELL  
NEW AND USED GEAR  
Call to List Your Used Gear**

**PHONE: 818-842-6500  
FAX: 818-848-4861  
BURBANK, CA**

## JOHN WORAM'S BASICS

### THE BINAURAL SYSTEM

The term *binaural* refers to any sound field heard by two ears and has come to be associated with a recording system in which two microphones are set up to simulate the characteristics of the human head and the interaural spacing of the ears. The system consists of a dummy head with a microphone

mounted at each ear. Binaural recording provides a startlingly realistic impression when the program is monitored over headphones, since in effect it places the listener at the location of the dummy head. Unfortunately, the system may not be very effective when heard over loudspeakers, as most of the subtle time-of-arrival and head-shading cues picked up by the dummy head are lost.

©1989. J. Woram, *Sound Recording Handbook* (Howard W. Sams & Co.)

auditory system has bigger capabilities than we're feeding it. That boils down to psychoacoustics, which is where the next dramatic steps will come from." Myers stresses that his technology will be used solely on product generated by his own company and only released on compact discs.

While systems listed here differ considerably in what they can do—and what they can't do—they seem to share several criteria: Some lay claim to primacy and singularity of effect

and, to one degree or another, they are going after similar markets, combinations of professional audio, cinema, broadcast television, aerospace and car audio markets. Apparently, the marketing side of these entities are carrying the ball now, an indication that these technologies are well along. In fact, several are in their second generations. ■

*New York City-based Dan Daley is an engineer, producer, studio owner and Mix contributing editor.*

—FROM PAGE 80, BONZAI

would probably have become a lot more selfish. The more popular you get, the more frustrating it is when several people bombard you at the same time. If that happens a lot, it can really get on your nerves, 'cause you're just a human being. After a while, you don't want to be bothered with it. You need a little peace, and you might get snappy with people.

Buddhism has affected my perspective about the importance of human beings and everyone's life. It's made me automatically feel compelled to acknowledge another human being if someone taps me on the shoulder, or stretches out his hand to shake my hand.

You must respect people, and I realize that my popularity came about because people bought my records. The least I can do is shake their hands. They paid for this house, and all the food, and all my synthesizers. They even brought you out. If it wasn't for them, you wouldn't be interviewing me. They pay all our salaries. ■

*Editor-at-large Mr. Bonzai is a watermelon man himself.*

**If you provide professional services for the pro audio industry, we want your name! Why? An all-new section of our 1990-91 Annual Directory, including:**

**HELP!**

- ▶ Advertising & Public Relations Firms
- ▶ Legal Services
- ▶ Financial/Business Consultants
- ▶ Miscellaneous Services

Call Lauri Newman at Mix Directories for a questionnaire: **(800) 344-LIST.**

**MIX** THE RECORDING INDUSTRY MAGAZINE





## New Beginning for digital multitrack recording.

The Akai Digital Audio Multitrack format provides a unique blend of superb 16-bit digital audio performance, ease of operation, programmability, and system expansion. Akai has combined its engineering expertise in digital audio, video, and multitrack recording to produce A·DAM - the warmest-sounding, and the most affordable, digital multitrack available. Whether used alone, or in sync with your other audio/video transports, the A·DAM system offers you fully professional specifications at a price point unapproached by any other manufacturer.

A·DAM - the machine that will change your mind about the *sound* and the *cost* of digital multitrack!



**DIGITAL**

P.O. BOX 2344  
FORT WORTH, TEXAS  
76113-2344  
(817) 336-5114  
FAX (817) 870-1271

# NEWS

## FROM AROUND THE WORLD

### MASTER SOUND ASTORIA LAUNCHES SOVIET VENTURE

**M**aster Sound Astoria, a music and audio post facility located in Astoria, Queens, N.Y., has signed an agreement for a joint venture with the Soviet Republic of Latvia for the design, construction and installation of a new facility, to be called Master Sound Riga.

The new complex, to be located in Riga, Latvia, will open with two fully equipped, state-of-the-art recording studios. "This will mark the first opportunity for artists from Western Europe, the Baltic Republics and across the Soviet Union to have their product compete more effectively in world markets from a technological perspective," Rizzi says.

In 1987 Master Sound Astoria pioneered the world's first interactive, all-digital bicoastal recording session via fiber optic and satellite transmission. Plans are being made to create a permanent link between the Riga and New York facilities using similar technology. Musicians will be able to record simultaneously in Riga and New York. The digital signal would be sent between the two locations without

any loss in quality. Performers no longer have to be in the same room or in the same country to make music together.

Additional features of Master Sound Riga will include multitrack analog and digital recording, computerized mixing, internal fiber optic interfacing and superior acoustics. The contract signifies the first joint venture agreement of this magnitude entered into with the U.S. by a member of the Baltic Republics since they were promised economic autonomy from the Soviet Union last summer.

### NOMIS JOINS FORCES WITH WARNER CHAPPELL MUSIC

London's Nomis Studios has signed a special publishing and production contract with Warner Chappell Music. The agreement will involve the studio in four to five recording and production projects a year for new artists signed to Warner Chappell.

The new artists will make use of Nomis' extensive facilities, which include rehearsal studios; a state-of-the-art Mitsubishi digital multitrack room with a 64-channel SSL G Series console; in-house producers and engi-



### Studio Spotlight: Logic Studio

Located in the same building as CGD, a major Italian record company recently purchased by Warner Bros., Logic Studio is one of the most successful recording operations in Italy, annually playing host to dozens of artists. Among the top names to work there in the past couple of years are Robert Palmer, Paul Young, Depeche Mode, Johnny Hates Jazz, and Italian favorites like Vasco Rossi and Gianna Nannini.

Studio A, "The Red Room," is the

largest of the three rooms at this facility, with a capacity of up to 80 musicians. Designed by Andy Munro, the room's most attractive feature is probably the movable floor-to-ceiling acoustic panels—wood on one side, leather on the other, for different reverberation characteristics. Equipment in the adjoining control room includes an SSL 4056 G Series console with 56 (soon to be 64) channels, a pair of Studer A800 recorders with 48 tracks of Dolby SR, Studer 2-tracks, Sony Pro DAT, Roger Quedstedt QMS and Yamaha NS-10 monitors, and a full selection of outboard gear.

—Fiorella Tirenzi

neers; on-site accommodations; and management, marketing and production services.

The deal has clear advantages for all parties concerned: New artists can record quality masters without financial risk; Warner Chappell has at its disposal a complete music recording and production facility; and Nomis has the guarantee of studio bookings spread over the course of the year, plus responsibility for the development of talented new musicians.

The first project has already been successfully completed, with Norwegian band Nova recording three songs at the Nomis facility.

Nomis also will continue to operate as an independent facility open to all comers.

### CLASSIC RECORDINGS RESTORED BY NEW "NO-NOISE" SERVICE

Classic live recordings, unreleased demo tapes and other rarities of cultural value and financial worth may now enjoy successful commercial release, thanks to a new service called "No-Noise." Europe's first No-Noise service is based at the London premises of specialist audio facility Chop 'Em Out. Developed in California by Sonic Solutions, No-Noise is a powerful, computer-based system that can "rescue" poor quality or damaged audio from virtually any source.

No-Noise can repair audio signals suffering from background hum and tape hiss as well as isolated scratches, clicks and dropouts. After the source

— CONTINUED ON PAGE 94

## Making Records the Aussie Way: A Comparison of American and Australian Producing Styles

by Lisa Roy

For decades there's been a healthy live music scene in both Melbourne and Sydney, but it's only in recent years that Australian acts have gained attention worldwide. An Australian influence can be heard in most forms of rock music today, and several Australian acts have made their way onto *Billboard's* Top 100 charts throughout the '80s.

With so much "noise" coming from Down Under, many top American producers have gone to hear and see for themselves. The following five producers express their viewpoints on the American and the Australian music scenes.

John "Tokes" Potoker: A Los Angeles-based producer/engineer, Tokes has worked with some of the top names in the industry, including Phil Collins, Quincy Jones, Genesis and Herb Alpert. His most recent production is the new Jellybean record, which he co-produced. While in Australia, Tokes produced GO 101.

Mark Opitz: One of Australia's leading record producers, Opitz has worked with acts such as INXS, Divinyls and Jimmy Barnes. Formerly a senior A&R rep for EMI and WEA, and six-time Australian Producer of the Year, he produced Cats

in Boots for EMI in Los Angeles and Steel Heart for MCA.

David Kershenbaum: Kershenbaum has produced Joe Jackson, Duran Duran, Supertramp and Grammy Award-winning Best New Artist of the Year, Tracy Chapman, among others. While in Australia, he worked closely with Mushroom Records owner Mike Gudinski in discovering and developing new talent. He produced Kids in the Kitchen and Kings in the Sun, both for Mushroom.

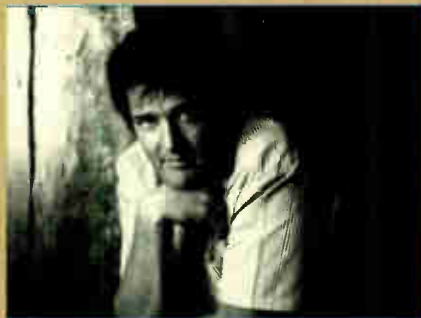
Mark Moffatt: Moffatt has received widespread recognition both as a producer and musician. He has been Australia's Producer of the Year, and has produced Aussie artists including Tim Finn, Peter Blakeley, John Farnham and The Saints.

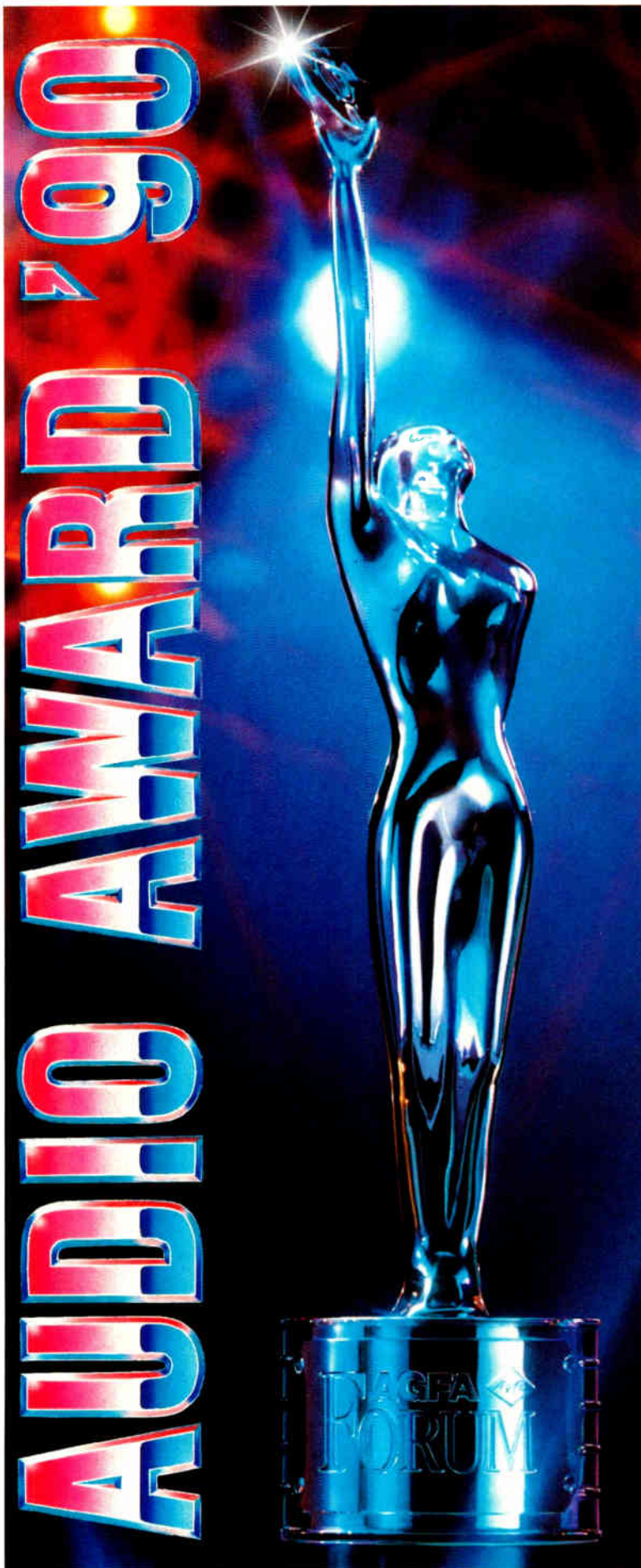
Chris Lord-Alge: Over the past year Lord-Alge has worked with Tina Turner, Peter Dinklage and Eddie Money, and most recently he mixed the soundtrack to *Batman* for Prince. In Australia, Lord-Alge produced a Number One record by ex-Cold Chisel member Ian Moss.

**Mix:** How would you compare your experiences in Australia and the U.S.?

**Tokes:** From a work perspective, I really didn't enjoy too much of my time in Melbourne... only because it seemed like the Australian attitude of "let's not hurry" kind of frustrated me. I found that in Sydney the pace was a little bit different, and that people were more service-oriented. They seemed to

(Clockwise from top-left): Mark Moffatt, Chris Lord-Alge, John Potoker, Mark Opitz and David Kershenbaum.





# AUDIO AWARD '90



The Event:

AGFA FORUM presents the 1990 AUDIO AWARD accompanied by US-Dollar 15,000 for the world's best rock/pop music cassette.

The Audience: The world's leading record producers, engineers, musicians, duplicators and record company executives.

The Date: AES, October 1990.

The Place: Los Angeles, California.



AGFA FORUM, the international organization of audio and video professionals, is now conducting a worldwide search for the rock/pop music cassette that best exemplifies the creative interplay of music, technology, and design. The winner will receive the 1990 AUDIO AWARD – to be presented in a gala industry event next fall. Entries are now open to record labels and recording companies worldwide. Entry details are available from your local AGFA representative:  
 Agfa Corporation  
 National Secretariat  
 AGFA FORUM  
 100 Challenger Road  
 Ridgefield Park  
 New Jersey 07660  
 Closing date for entries:  
 April 16, 1990



## READY, SET, ROLL...

AUDIO VIDEO PROFESSIONAL **AGFA** 

have their act a little more together when it came to the operation of a studio.

**Opitz:** At Australian record companies, the A&R reps tend to stay in their jobs longer than two minutes, as opposed to their American counterparts. Still, both seem to have the "musical chairs" situation going. The A&R people that I work with in America are by and large very professional people. They take an extreme interest in what they're doing, because their life depends on it. They're in the studio, they listen to the material, they're there to help and they usually go with what they believe. I'd say you've got to respect that!

**Kershenbaum:** Australia is a real interesting market because it combines both American and British influences. It's small enough that they can experiment with these influences, which we don't have the ability to do, because of the size of the market and its slowness to change. Much like England, there has always been a good sounding board and a platform for groups to step off and get to the world market. Australia has a vibrant music scene—real young and aggressive people—strongly influenced by American taste.

**Moffatt:** The Americans that I've dealt with have built their careers by following sets of rules. You get to point A by doing 1, 2, 3... all these guidelines. Here, people reach those points by making big mistakes and just getting this energy from the situation. Trial and error, but just don't make the same mistake again. There's this incredible energy that comes from that, and it's very hard to plug into unless you've grown up here. We've got American and English influences coming at the same time. There's always been much more live music every night in pubs here than anywhere else in the world. The whole AMS thing happened here first. I was using non-linear and drum samples in 1981. At that time, Australia didn't figure very high in the international stakes. It was a big part of the whole sound that developed here. That intrinsic sort of Australian sound—the combination of that pop/rock energy.

**Lord-Alge:** There's more bluesy rock 'n' roll coming out of Australia.

Since it's tougher to make a lot of money as an artist, they're a bit more determined about their music, whereas, a lot of bands in L.A. don't really care. There tends to be a little more excitement toward artists that make a Number One record than there is here.

**Mix:** How do you feel Australia has influenced the American music market?

**Tokes:** In the way that it absorbs the influences, be it British and/or American music, just the way that they take those same ingredients and digest them and spit them out in a different manner. I think everybody can learn from that. To be so influenced by where you are geographically, I think that's what makes them unique. Bands like INXS sound familiar to us, yet they sound different. That's what I think people find appealing.

**Opitz:** Like Crowded House, the thing that most Australian bands have to offer (if they have the songs) is the ability to perform. The ability to play live, as a band, is what I feel is the strength of most Australian bands. I think some peo-

ple can learn a bit from bands like INXS, AC/DC and Crowded House. They're good bands, they're not just one person. INXS is like that, definitely. One for all and all for one!

**Kershenbaum:** One of the things that I admire about what the Australians do is that they're able to take fresh ideas and be very quirky and try things from both a music and fashion standpoint. They're not afraid to take chances. The system doesn't push them down from taking chances. It's something that's welcome. It causes a lot of interesting things to develop that never would have had the chance in much more sophisticated and bigger machines like we have here. I'd like to see the next phase of what's going to happen with the natural sounds and real players. I think that both England and Australia are capable of producing that, not only from the standpoint of the songs, but the presentation of ideas!

**Moffatt:** When I heard the Pretenders single "Don't Get Me Wrong," I thought for a moment when it first started that it was an Australian record, just from the balances and



Introducing... CD quality, stereo high fidelity, digital audio you record and playback on your PC-AT/286/386/Model 30 or compatible.

Featuring... real time direct to disk data transfer... 16-bit resolution... 20Hz to 20kHz audio response... 0.005% THD... 6.25 to 50kHz programmable sample rate... 92dB dynamic range... 90db s/n... digital input... 4 to 1 ADPCM compression.

Use for digital audio recording, editing, mastering and transmission in broadcasting, entertainment systems, film production, audio/visual presentations and interactive CDI/DVI systems.

If you're an audiophile with microcomputer resources call 1-800-338-4231 (ex. CA.) for details on our Audio Pro... the Series 2/Model SX-10.

**ANTEX ELECTRONICS**

16100 S. Figueroa St. • Gardena, CA 90248 • Tel (213) 532-3092 • FAX (213) 532-8509

Circle #120 on Reader Service Card

**COMPLETE MASTERING SERVICES:**

DMM and Lacquer Cutting

**COMPLETE DIGITAL SERVICES:**

Music Editing, Format Conversion, CD Preparation

NEVE & HARMONIA MUNDI

DIGITAL CONSOLES



**K disc mastering**

6550 Sunset Boulevard, Hollywood, California 90028  
(213) 466-1323

Circle #037 on Reader Service Card

**So  
Discrete**



**New audio processing modules from API, featuring the famous all-discrete 2520 op-amp.**

**550 B** A four-band version of the classic 550A equalizer, with the same circuit design, components, and great sound.

**560B** 10-band graphic equalizer.

**512B** Microphone preamp and direct box, with the same package format and pin-out as the API equalizers.

**3124** 4-channel microphone preamp and direct box, with optional mixer section.

*Also new 2, 4 and 10-position powered racks to hold any combination of 500-series modules.*

AKG, AMS, Aphex, API, Bryston, Calrec, Soundcraft, T.C. Electronic, Valley International, Westlake, White Instruments, and other exceptional audio products.

**studio consultants, inc.**

321 West 44th Street, New York, NY 10036 (212) 586-7376

Equipment, support, and design services for professional audio facilities and broadcasters.

Circle #038 on Reader Service Card

sound. I don't know whether that's a conscious thing on anyone's part, but that's just one example of that sound, which is really a rough-edge thing.

**Mix:** What do you feel are some of the advantages to working in America as opposed to Australia?

**Tokes:** Probably just the technical level of musicianship. In L.A. the level of musicianship of a player, even in an ordinary rock 'n' roll band, is probably better than someone from another country. I think it's because of the competitiveness here. Whereas in other countries, you might find the ideas come quicker or they might be better. It seems like people's minds are open to trying things a little different. Here in the U.S. it's like, "This is the school and this is the way we do it."

**Opitz:** I prefer to work in L.A. because it's a new era and it makes you sweat a little harder. It's a bit more competitive, so you have to come up with the goods. I like working in Australia, but I just don't want to work there for a while because I've worked there for so long. The musicians in L.A. are great. I'm blown out with some of the players I've worked with in L.A., but I also find that they lack a bit of feel. Technically, they're great!

**Kershenbaum:** L.A.'s a real good place for an engineer to get exposed to techniques, monitoring and recording systems that might not be available beyond a certain point in another country. I do think that it's a different level of competition here, which causes a higher degree of excellence.

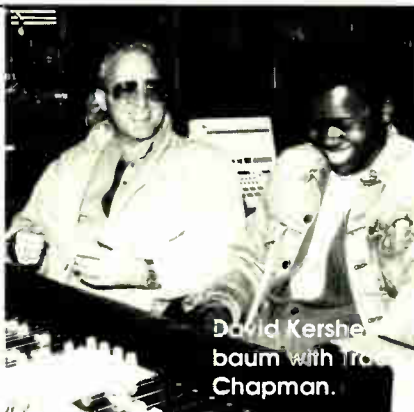
**Moffatt:** As much as I love the way records are made in Australia, there are a lot of shortcomings. I like working with solo acts, whereas Mark Opitz's thing has always been bands. That's how we've coexisted in a very small market. I think that I can see an extension in America. I can see progression there, even if it's taking acts from here and recording them there. The musician factor is just times 10,000. There's a lot of musicians I'd like to work with there. Studios don't matter, but the musician factor, for what I do, is more interesting in America.

**Mix:** What would you say is the biggest contrast between the Aus-

tralian and American music scenes?  
**Tokes:** Besides the level of musicianship, I'd have to say it seems to be the pace, just in terms of the work perspective.

**Opitz:** One of the differences is that Australian record companies really don't allow producers to be developed. They should! Not enough Australian producers are allowed to develop, and the fault, I think, lies with the record company staff. Well, they probably won't give me work again for saying that. But that's a crucial point. I really believe for Australian music to develop its own sound, it has to develop its own producer staff. There's just not enough of them.

**Kershenbaum:** I noticed that there's Melbourne and Sydney and Perth and a couple other cities, but for the most part the land mass is almost the same as the U.S. But there's such a small population that the industry is not that large. It was interesting what they have to choose from just in numbers. We have 250 to 300 million people. The odds are that there will be a



David Kershenbaum with Iro Chapman.

couple hundred that are going to have that standard of excellence. Australia is dealing with 10 or 15 million, maybe, so the fact that they're able to do what they've done and make the impact that they've made—which is similar to the same thing with Britain, that a country a tenth the size of the U.S. is able to produce that kind of quality—that's really great!

**Moffatt:** There's an energy here in the music business that doesn't exist there, and that's because the American business things get distilled. An English influence will hit

America and then get distilled into this version that the American radio people can swallow. Here we just make records and that's that. I don't think there's any attempt to distill it into mainstream radio. I think American producers are probably conscious of doing that. Corporate rock is a bad word here. Americans are seen as the bogeys because they make corporate rock. Everything here has got to be anti-corporate rock!

**Lord-Alge:** I think that they're a young nation, musically. I think that if there's a million people down there, 900,000 are buying records. Whereas if there's a million people here, only 500,000 of them are buying records. People of all ages down there listen to the same kind of music. It's not divided into age groups as much. People in their 30s and 40s are still listening to rock 'n' roll. Here it changes pretty drastically. That's the difference between them and us! ■

*Lisa Roy is a studio manager and freelance writer based in Los Angeles.*

## SAMPLE STEREO.



Sony's ECM-MS5 stereo microphone puts high quality stereo miking from a single point within your reach. Incorporating Sony's MS (Mid-Side) capsule technology, the MS5 brings true stereo imaging to your recordings. Coupled to Sony's TCD-D10 PRO portable DAT recorder, the MS5 provides digital sampling results of startling clarity and realism. To find out more call 1-800-635-SONY.

### ECM-MS5

- Three matched condenser capsule MS design
- Light weight: 7.6 oz.
- Six position adjustable directivity (0-127 degrees)
- Accepts 12-48V external power
- Optional DC-MS5 DC power supply allows 20 hour operation on a single AA alkaline battery
- Low-cut roll off switch

**SONY**®

PROFESSIONAL AUDIO

Sony Communications Products Company  
1600 Queen Anne Rd., Teaneck, NJ 07666  
© 1989 Sony Corporation of America. Sony is a registered trademark of Sony.

— FROM PAGE 89

material has been loaded onto the system, highly sophisticated software is able to reconstruct missing or corrupted sections of a waveform. Tape hiss and other background noise can be fingerprinted by the computer and removed without degradation of the signal itself.

Although Chop 'Em Out's No-Noise system was first installed in March of last year, the company decided to devote more than six months toward achieving total mastery of the complex technology. Since then the new service has been used in a variety of projects, including "de-noising" work for Phonogram and Thames Television, and "de-clicking" recent digital recordings by Tears For Fears and Japan.

#### INTERNATIONAL BITS & PIECES

**Studio L'Equipe** in Brussels, Belgium, has purchased a 64-input Amek Classic fitted with GML moving fader automation. It's the second Classic sold that has been fitted with GML... **Sound Studio "N"** in Cologne, West Germany, purchased a pair of Boxer 5 monitors for use in its SSL-based facil-

ity. The monitors were supplied by the British-based acoustical consulting firm Harris, Grant Associates... A Soundtracs PC Midi 24 console was installed recently in the newly equipped programming suite at **Island Studios** in Chiswick, UK, and London's **Pacific Studios** recently installed a 48-channel Soundtracs In Line console with Tracmix automation... Another London facility, **Livingston Studios**, has invested in a Mitsubishi X-880 32-track digital recorder. Other recent X-880 sales have been made to three studios in Milan, Italy: **Nuovo Fonit Cetra**, **Morning Studio** and **Water Melon Studios**... New England Digital has appointed three new distributors to represent the company in the Far East. Tokyo's Japan Digital Systems will assume distribution responsibility in that country, while in Taiwan and Hong Kong NED will be represented by Linfair Engineering, based in Taipei. Singapore and Malaysia will be covered by ECM Research Ltd. (Singapore)... Digital Audio Research distributor SSE Marketing delivered a 4-channel SoundStation to **Sounds Effective**, a London-based post-production facility... Bristol's four-month-old **Coach**

**House Studio** has become one of the first UK users of Audio Kinetics' MasterMix II console automation system. It was fitted into the facility's DDA AMR 24 console... Located in Port-of-Spain, Trinidad, **L.A. Sound** was scheduled to open in January with a new Neve VR console with Flying Faders automation and Mitsubishi X-880 32-track and X-86HS 2-track digital recorders... In Madrid, Spain, **Molinaire SA** has become the first operator of SSL's ScreenSound digital audio-for-video editing suite. Installed in the facility's 24-track audio dubbing suite, it is used primarily for digital audio editing on commercials... Two leading UK movie studios—**Goldcrest Facilities** in London and **Pine-wood Studios** in Buckinghamshire—have ordered SSL SL 5000 M Series film consoles. Goldcrest has selected two desks, both with G Series automation, while Pinewood ordered a 60-channel board with programmable joystick film panning and automation. *If you have international news items of interest to our readers, send them to Mix magazine, International Editor, 6400 Hollis St., Suite 12, Emeryville, CA 94608. Fax (415) 653-5142.* ■

## Fast. Simple. Inexpensive. And It Works. Today. The ADAP II Digital Audio Recorder/Editor.

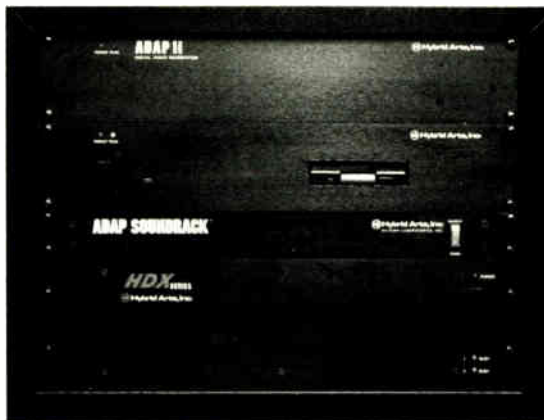
Hybrid Arts' ADAP II™ is the affordable digital audio recording and editing system that lets you record and edit up to two hours of stereo 16-bit, CD-quality audio directly on a hard disk.

#### RAW SPEED.

ADAP II is quick. Say goodbye to rewind and locate time. Cut, copy and paste audio in an instant. Sync sound effects to picture as fast as you can think.

#### PURE AND SIMPLE.

ADAP II is easy to use. You can view your sound on the screen as tape tracks or as waveforms. Lay in up to 200 markers and locate to any one with a single keypress.



 **Hybrid Arts, Inc.™**

8522 National Blvd. Los Angeles, CA 90230  
Phone: (213) 841-0340 Fax: (213) 841-0346

#### A COMPLETE SYSTEM.

ADAP II is a complete, high quality system. There are no computers to disassemble and no cards to install. ADAP II comes in its own 19" rack, with connections for analog and digital audio, SMPTE time code, and MIDI. And we include all the software you need.

#### HOW INEXPENSIVE?

ADAP II Turnkey Systems start at under \$10,000. Complete.

#### IT WORKS. TODAY.

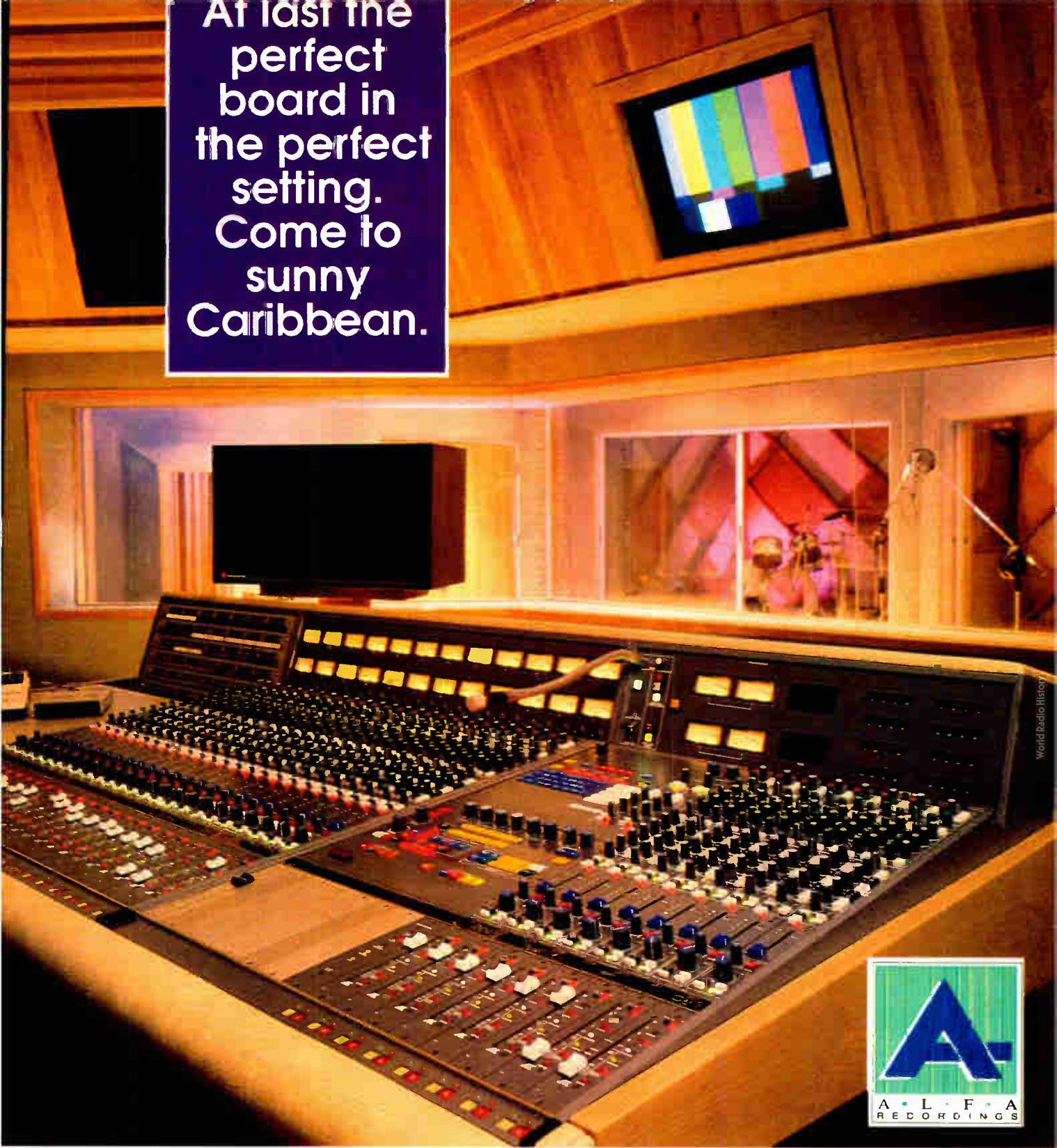
Edit your DAT masters. Conform dialog tracks. Spot a sound effects session. Why buy the future? Go get an ADAP II and get the job done. Today.

We thought so. People do read the fine print. ADAP II, Hybrid Arts, and Hybrid Arts logo are registered trademarks of Hybrid Arts Incorporated. © 1989 Hybrid Arts Incorporated

Circle #040 on Reader Service Card



At last the  
perfect  
board in  
the perfect  
setting.  
Come to  
sunny  
Caribbean.



#### Suite

- Neve 8232 Console with Master Mix Automation
- Studer 24 track with Dolby SR
- Studer 2 track 1/2" with Dolby SR
- Tannoy/JBL Monitors
- Hafler Amplifiers
- Neumann/AKG Microphones
- Drums/ Piano Isolation Booths

- DAT Recording
- Plus two audio to video Post Production Suites equipped with AMS Audio file and one of the most complete sound effects and music libraries outside the USA.

**For more information contact  
Freddy Bellaflores at (809) 793-8821**

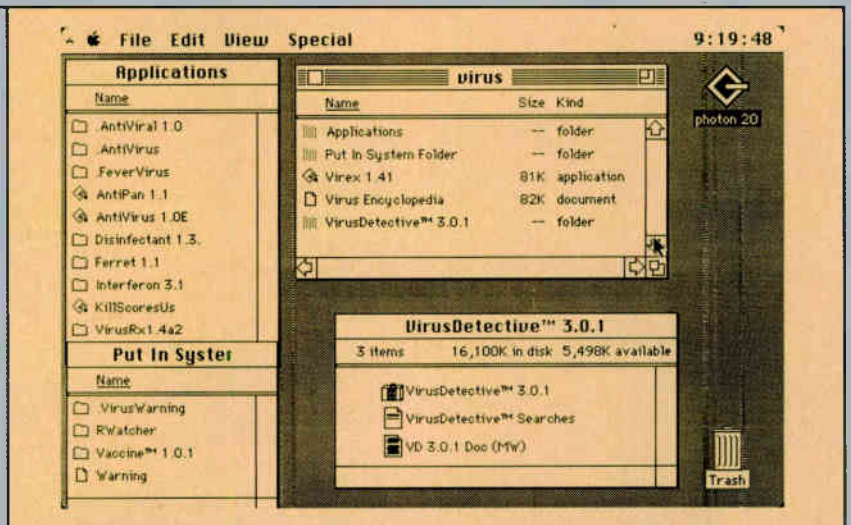
by Paul Potyen

# PRESCRIPTIONS FOR MAINTAINING A HEALTHY COMPUTER

Chances are that you have a computer in your home or your studio. (The results of *Mix's* Audio Production Facilities Survey 1989 indicate that 80% of you use computers in your job, with 51% of those being a Mac of some sort.) Whether it is used for accounting, music or any other purpose, you have already invested a lot of time and money above and beyond the cost of the computer.

Think about what you have paid for software, and what it has cost you to enter data in the files you've created with that software. If you have not taken steps to protect that information, you're playing with a time bomb. Actually, two time bombs: Hard drives *do* break down. Not very often, but when they do, you won't be happy if you haven't backed up your files. And then there is the whole issue of computer viruses. This second point is particularly important if you have a MIDI studio and your computer is used by outside clients who bring in their own floppy disks for projects, or if you use a modem to download applications from a BBS. Viruses can wreak havoc on your system if left unattended.

So I want to talk about two related issues: options for backing up your data and ways of protecting your computer from viruses.

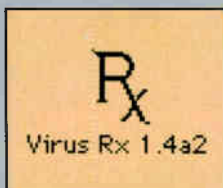


## BACK UP OR SHUT UP

Tape backups are valuable if you have a network and/or a large-capacity storage medium. Here at *Mix* we use a Novell network with a combination of IBM clones and Macs. All data is stored on a 155MB hard drive on our file server, an 80386 clone. Every week we run a tape backup of the whole system using an Emerald Systems tape backup unit (attached to one of the terminals) and associated software. Each time we do a backup, we use two 60MB tape cartridges. The procedure takes upward of 30 to 40 minutes, and that's a major disadvantage of this process. It's maddeningly slow.

Another inherent disadvantage has to do with the sequential nature of tape. If and when you have to retrieve a particular file from tape, you have to fast-forward to that point on the tape (sort of like what you do with those other machines you have in the room there). Again, a time-consuming process. But

The **BMUG virus utility disk contains a variety of applications to safeguard your data.**



The MIDI LAN\*  
has Arrived...

MidiTap...  
Create the  
Virtual  
Studio...

COMMAND EDIT EXIT ENTER

DISCONNECTED  
LINKS - 01 20:00

MODE

STATUS

PARAMETER

MidiTap

MediaLink



**LONE WOLF**

1505 Aviation Boulevard Redondo Beach CA 90278 (213) 379-2036 Fax: (213) 374-2496

\* MIDI LAN - MIDI Local Area Network

World Radio History

Circle #090 on Reader Service Card

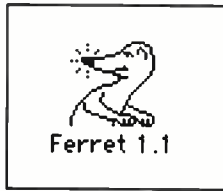
tape is an option for larger systems, especially when archiving is important. Several companies, including Everex and CMS, make 60MB tape backup units for the Macintosh that retail for less than \$1,000, and at about \$100 apiece, 60MB tape costs a lot less than a 60MB hard drive.

Seymor/Radix makes a DVT VCR Hard Drive Backup System for the Atari ST. Retailing for under \$200, it connects the ST's cartridge port to RCA jacks on any VCR, allowing backup and restoration.

Another approach is to use a floppy disk backup system. Apple ships *HDBackup* with its hard drive, and it's rather slow and cumbersome. I prefer *DiskFit 1.5* from SuperMac Technology. At \$99.95 it's not too expensive, easy to use and there are many user options. There is also a network version available for \$395. Other excellent programs are *Redux 1.5* and *Fastback II*.

For the Atari ST family of comput-

ers, Winners Circle (an Atari dealer in Berkeley, Calif.) recommends *Diamond Back*,



a backup-to-floppy program by Data Innovations, Inc. It's fast, full-featured, easy to use and well-documented.

In the Commodore Amiga environment, the more popular backup utilities are *Quarterback* from Central Coast Software, *RawCopy V.1.3* from Micro Systems International and *EZ-Backup* from E-Z Soft.

An increasingly popular option for backing up files is the removable hard drive. Once you pay for the drive (anywhere from \$800 for a 45MB unit to \$5,000 and more for a 600MB optical cartridge system), extra cartridges are available for roughly the same price as tapes, with the advantage of fast, random access. I've been using a 45MB removable drive from Microtech International for a couple of months now without any problems.

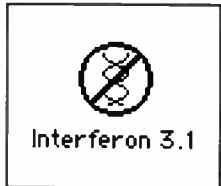
Removable floppies with 10MB are another route for backing up and archiving on both the ST and the Amiga. Also, 44MB removable hard

drive systems are available for these machines at similar prices to those used in the Macintosh environment.

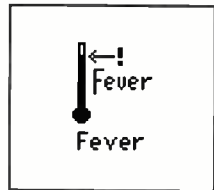
One final caveat regarding backing-up applications: Most backup programs don't like to copy installed versions of copy-protected applications. If you have any applications installed on your hard disk, you must remove them *before* running your backup program. Your other alternative is to drag a copy of the application from the master to your hard disk and put up with the irritating master disk verification procedure each time you run the program. Your backup program will happily copy applications that are set up in this manner.

**VIRUSES: HAVE YOU BEEN INOCULATED?**

One good reason to back up your files is in the event your system becomes infected by a virus. Viruses commonly enter your computer in one of two ways: either from a bulletin board service using a modem, or via a floppy disk that contains an infected file. Unless



ferret 1.1



# Dynamic Processing Has Reached A New Peak.

The name Klark-Teknik has always been synonymous with audio technology at its highest level. Innovative engineering combined with quality components ensure products of outstanding musical purity and durability.

Now, that same commitment has been brought to dynamic processing. With the new Series 500.

The DN500 is the only two-channel compressor/limiter/expander that lets you use its processing functions in any combination — with full function variable knee compression, independent peak limiting and clipping. Plus a variable ratio expander/gate for total dynamic control.

Most importantly, it delivers all the clean, quiet sound quality and reliability you'd expect from Klark-Teknik.

The same high standards are common to all Series 500 products — from the compact DN504 Quad Compressor/Limiter, to the flexible DN510 Dual MIDI Noise Gate and DN514 Quad Auto Gate.

If you're looking for the ultimate in dynamic processing, visit your local Klark-Teknik dealer and find out more about the Series 500. Because at Klark-Teknik, we never set a limit on quality.



Klark-Teknik Electronics Inc.  
30B Banfi Plaza North,  
Farmingdale, NY 11735 U.S.A.  
Tel: (516) 249-3660 Fax: (516) 420-1863  
Klark-Teknik Plc., Klark Industrial Pk.,  
Kidderminster, Worcs., U.K. DY11 7HJ  
(0562) 74 1515



you have installed a virus-detection program, such infection might not be obvious for as long as several days or weeks. You can discover its presence by the disappearance of your hard drive as a result of its having been reformatted, the disappearance of files, and creation of another virus that can lie dormant for a period of time before it becomes active. In the IBM PC world, the "Israeli" virus was programmed to wake up and erase hard drives on Israel's Independence Day.



I am unaware of any viruses in any environment that can attach themselves to data files. They reside only in applications, desk accessories or system files, and spread themselves from one application to another.

Several software companies sell virus detection and eradication programs. Among the most popular for the Macintosh are *Virex 2.0* by HJC Software and *S.A.M. 1.1* by Symantec Utilities. There are also a number of excellent freeware and shareware programs available. The Berkeley Mac User Group (BMUG) sells a disk for \$4 that contains a wealth of virus detection and eradication programs. Some of them function as normal applications—you double-click on the icon to use it—like *AntiVirus*, which removes nVIR viruses from your system and immunizes it from future infection. Others are INITs, designed to be installed in your system folder: They operate in the background and alert you when something fishy is about to take place. *Vaccine* is one of the more comprehensive programs of this type. Finally, there are desk accessories, such as *Virus Detective 3.0.1*, which can be run from the Apple menu while other applications are open. As of this writing, *Disinfectant 1.3* (also on the BMUG disk) is the only program that can detect JUDE, a relatively new virus that has found its way here from Europe.

Viruses have also been reported in the Amiga environment. In one case, a disgruntled employee of a software company imbedded a virus in one of that company's applications. (That particular situation has since been rectified to everyone's satisfaction, with the exception of the ex-employee.) Some programs available for

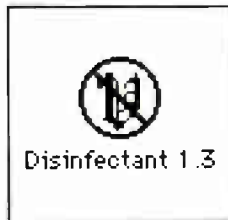
checking and protecting against viruses in the Amiga environment are *Anti-Virus* by DevWare, Inc., *V.I.P.* by Discovery Software and *Virus Protection Toolbox* by Abacus Software.

For the PC, viruses reportedly can affect main boards as well as storage media. Among the many virus detectors for the PC are *Virusafe*, *Disk Watcher*, *Virus Guard* and *Vir-X*. At *Mix* we use *Vaccine* by WorldWide Data Corp. The developers recommend that you run the system once a month to check for viruses. In this program the task is accomplished by typing "checkup." There is also a companion *Antidote* program designed to repair infected files.

Viruses on the Atari seem to be less common. However, there are two public domain programs available: one called *VKiller*, which is written by George Woodside, and another called *Virus Killer*, which is a desk accessory that checks for nonstandard boot sectors and gives you the option to write over them. A stand-alone virus-destruction utility, *Atari ST Virus Killer V.3.6* from CRI Group in London, checks boot and link sectors as well as connected hard drives, and gives you the option of rebuilding infected data files. It retails for \$24.95.

A couple of final comments. You should initially check the contents of your hard drive by launching a virus detection program from a *locked* floppy disk *before* you place the program on the hard drive. If your hard disk *is* infected, this is the only way I know to check it without infecting the detection program itself. Also, antivirus utilities can't detect or eliminate viruses in nonstandard file formats, such as *StuffIt* archives, applications that come compressed and most backup utility formats.

Actually, not all viruses are malignant. Benign viruses replicate, but they may only cause your computer to beep, display a message or do something equally innocuous. And there's no guarantee that any of these virus detection programs will be able to identify every virus out there. Unfortunately, as long as there are those who continue to create new viruses that can avoid being seen by current detectors, we will be faced with this annoying



and potentially costly problem.

## CHIP SHOTS

*Genedit* is a universal MIDI patch editor and librarian from Hybrid Arts, Inc. (Culver City, Calif.) that uses system exclusive commands to control any MIDI synthesizer, drum machine, effects device or mixer. A template editor lets the user create a virtual control panel for controlling any instrument from the computer. Several preset configurations and templates are included with the program, providing support for the Korg M1, Casio CZ Series, Roland D-50, Lexicon LXP-1, Yamaha DX and TX Series synthesizers and DMP7 digital mixer, and others. *Genedit* for the Atari ST is available now for \$249, and a Macintosh version was expected to ship in January at a suggested retail price of \$349.

*SmpteTrack II*, also from Hybrid Arts, is a professional 60-track sequencer with built-in SMPTE capability designed to run on the Atari ST. The software includes a *SmpteMate* interface module that reads and writes SMPTE time code in all formats. Other features include graphical and list-based editing, tempo and meter changes during a song, and support of the MIDI Sequencer File format standard. The program is now available for \$495, with upgrades of previous versions at a nominal cost.

Finally, Hybrid Arts has announced several software enhancements to its ADAP II digital audio recorder and editor for the Atari. These include variable crossfade editing, SMPTE chase lock and *MIDI Performer Page*. This third enhancement allows ADAP II to play back sounds in response to commands from any MIDI keyboard, and allows the system to mimic a 16-bit MIDI sampler.

Both crossfade editing and SMPTE chase editing are now standard with the ADAP II Turnkey system. *MIDI Performer Page* retails for \$400.

*Cadenza* is the latest sequencer from Big Noise Software, Inc. (Jacksonville, Fla.). Designed for use with IBM PCs, it has an interface similar to that found on programs for the Mac or Atari ST. Priced at \$199.95, it provides 64 tracks, high-resolution graphic editing, a built-in system librarian and other advanced features. ■

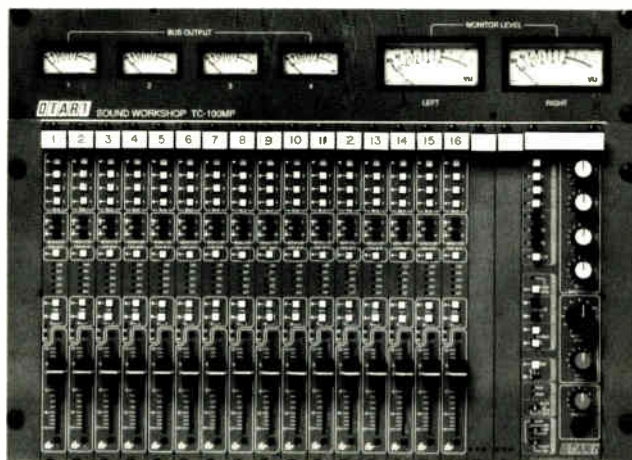
*Mix* associate editor Paul Potyten is not a real doctor. He has a master's degree in a completely unrelated field.

# NEW PRODUCTS

## OTARI TC-100

The TC-100 from Otari (Foster City, Calif.) is a compact, high-performance analog console designed for transferring audio sources between various storage mediums. Essentially a 9- to 18-input, 4-bus output mixer, the TC-100 offers numerous features specifically for video and film transfer rooms: recessed trim pots on each module (allowing precise, repeatable transfers), large bus and monitor VU meters, fader bypass, and extensive monitoring and solo facilities. A rack-mounted power supply can be located remotely, and multiple TC-100s can be ganged together for larger system configurations.

Circle #111 on Reader Service Card



remotely controlled bass roll-off, attenuator for high source levels, coincident stereo signal up to 10 kHz, linear frequency response on and off-axis, mono compatibility, extreme low noise and flexible powering requirements. Accessories included.

Circle #112 on Reader Service Card

## AKZO ENKASONIC SOUND CONTROL MATTING

When placed beneath a floor, the compression-resistant Enkasonic sound control matting creates a natural, sealed barrier of air, effectively shutting off transmission of impact sounds. The material is exceptionally thin (0.4 inches) and was developed by Akzo Industrial Systems (Asheville, N.C.) to meet strict sound-rated flooring codes. It is composed of extruded nylon filaments that form a durable—yet pliable—3-D geomatrix. Ideal for new construction and retrofit, the cost-effective Enkasonic has been STC-tested for use between floors

covered with hardwood, ceramic and vinyl tile, marble, stone, wood parquet and carpeting.

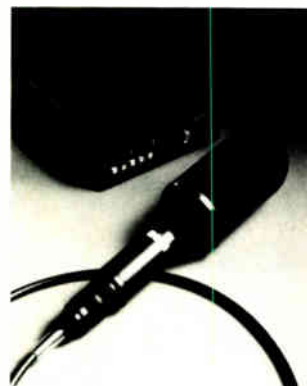
Circle #113 on Reader Service Card

## RAMWARE SEARCHFX AND SLAVEDRIVER

Post engineers have a new way to handle sound effects and manipulate transports, synchronizers, CD players, and DAT and video decks. Using the IBM PC as a platform, Ramware Designs

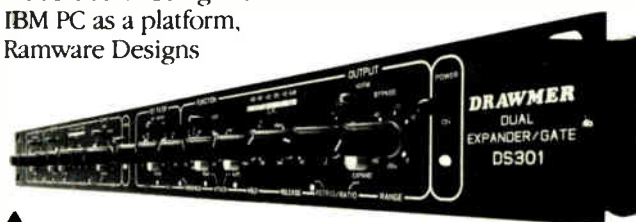
(Toronto, Ontario) built two companion products that allow comprehensive, creative control of audio-for-video. SearchFX locates, cues, loops and plays effects, even searching effects from user-entered libraries; SlaveDriver (ouch) provides synchronized control of one master and eight slaves, features a loop cycle with real-time pop-up displays and allows automatic capture of time-code points on the fly. Combined with SlaveDriver, SearchFX can be programmed to sync, rehearse or record an effect or effects list at any destination point. Prices are \$11,550 for SearchFX (includes all hardware and software required, including FX, plus Sony auto-CD loader) and \$13,390 for SlaveDriver (all hardware and software, including customized keyboard); a complete SlaveDriver/SearchFX turnkey system is available for \$16,750.

Circle #114 on Reader Service Card



## AMS ST250 MICROPHONE ▲

More than a microphone, it's a mic control unit... it's the ST250 stereo mic from AMS Industries (Seattle). All controls for the self-powered ST250 are on the compact control unit, allowing complete remote adjustment of the mic after placement (including capsule angle, polar patterns, vertical or end-fire setups of A-B or M-S formats). Features include 20-20k Hz response,



## DRAWMER DS301 DUAL EXPANDER/GATE

The DS301 from Drawmer (distributed in the U.S. by Quest Marketing of Auburn-dale, Mass.) is a 2-channel unit offering expander, gating and ducking functions in a single rack space. Features include: low- and high-frequency filter controls on key inputs (a key listen switch allows the user to hear the filters while adjusting them);

auto or manual attack; expand and ducking switches; and independent threshold, release, hold and ratio/retrigger mask controls. Priced at \$1,249, the DS301 also provides balanced XLR ins/outs, a trigger output jack, stereo link switching and LED meters that display gain reduction from 0 to -100 dB.

Circle #115 on Reader Service Card

**KLOTZ OAK LINK SYSTEM**

Unveiled at the New York AES convention and now available is the Oak Link System, made by German manufacturer Klotz & Co. It's distributed in the U.S. by Electronic Systems Laboratories of Ft. Lauderdale, Fla. Designed for studios, concert venues and broadcast facilities, Oak Link eliminates conventional multicore wiring and replaces it with fiber optic cable that can handle 64 audio channels at distances up to 6,000 feet. MIDI or control data, as well as digital or analog audio can be accommodated using various interface cards, and Oak Link can also serve as a multi-channel digital format converter by inserting different cards at various ends of the system. Programming and control of patching, switching and other routing functions can be enabled from one or more rack-mount controllers (with large LCD display, keypad and alpha wheel) or from an optional computer monitor and software package.

Circle #116 on Reader Service Card

**INTERNATIONAL AIR FILTER PRODUCTS**

Designed for studios and other high-tech work environments are the IAQ<sup>3</sup> and FPAC air filtration systems from International Air Filter of Elgin, Ill. The IAQ<sup>3</sup> system features three levels of filtration: a prefilter removes large particulates; second-stage carbon cells remove fumes and odors; and a micro-synthetic, bipolar, electrically charged medium maximizes efficiency. Another product, the Final Particulate Air

Control (FPAC) system, retrofits existing HVAC systems and is said to deliver 99.1% particulate-free air. The company also makes two portable models mounted on wheels for easy mobility from studio to studio.

Circle #117 on Reader Service Card

**ASC 11-INCH TUBE TRAP**

Those clever folks from Acoustic Sciences Corp. (Eugene, Ore.) have added a high-efficiency broadband sound absorber to their Tube Trap acoustical-control line. The new 11-inch Super Trap features extended bass response and enhanced damping of standing waves into the 70Hz range. Specified for rooms with 8-foot ceilings, it controls irksome, fundamental floor-to-ceiling resonances. Its built-in, patented Sound Diffusion Panel adjusts to



Sennheiser ME 80/K3U

scatter mid and high frequencies. Available in 3- and 4-foot and custom lengths, the Super Trap is covered with commercial, fire-resistant fabric (many colors available).

Circle #118 on Reader Service Card

**SENNHEISER ME 80/K3U MIC**

You can pick up sound noiselessly, even in acoustically poor rooms or amid PA. feedback, with the ME 80/K3U supercardioid/lobe microphone from Sennheiser (Old Lyme, CT). The ME 80 part of the deal is a back-electret condenser of the supercardioid shotgun persuasion, featuring

extremely high directivity. Indeed, it's a pressure-gradient interference tube transducer. The K3U is the power module, for phantom or 600-hour battery usage, and features a balanced, low-Z output transformer, low-battery LED and three-position roll-off switch; the K3U can also power any of five other modular heads. With its non-reflective black finish, the ME 80/K3U is suitable for overhead miking, distance recording and film/video/theater applications.

Circle #119 on Reader Service Card

**HOT OFF THE SHELF**

Manuals for the **Solid State Logic SL 4000 G Series** console and automation system are now available through any SSL office. Call (212) 315-1111 or (213) 463-4444 in the U.S., or (416) 363-0101 in Canada for details. . . Third Planet offers **The Shuttle**, a line of lightweight, padded carry bags with a tough cordura nylon covering for audio, video, computer and music gear. Call (818) 330-4186 for info . . . Now shipping: the new line of **3M Professional DAT Cassettes** in 46-, 60-, 90- and 120-minute lengths, available at your local 3M dealer. . . The **MIDI Beacon** is a simple \$29.95 test device that

plugs onto the end of any MIDI cable; an LED confirms the presence of MIDI data. A "pulse stretching" circuit ensures that short messages—even a 32-microsecond system reset pulse—will cause a visible flash. Available direct from Musonix: call (818) 845-9622 for more info or (800) 888-0848, ext. 227P, to order by credit card . . . TimeLine has unveiled a **Lynx Supervisor-to-SSL Interface**, allowing up to five time code transport synchronizer modules to be controlled from an SSL G Series Studio Computer, as well as affording unlimited master/slave designations. Many

optional configurations are available for expanded SMPTE, MIDI and GPI event control. For more info, call (212) 431-0330 . . . **Physonic™ Solution** is a new contact enhancement liquid designed for improving conductivity and signal transfer on any audio or video connector. Prices start at \$8.99 for a 2ml bottle; call Tayo Industries at (818) 765-0782 for more info. . . **"The Best of Themes"** is a six-CD set of production music, containing over 170 cuts (including industrial, sports, classical and more), buyout priced at \$1,499.95. For details, call (609) 786-0612.

# Confused About "Exciters"?

## Read the Facts.

Seems like a good thing always leads to imitators. Which is why there seems to be a rash of so-called "brightness enhancers," "phase correctors" and "exciters."

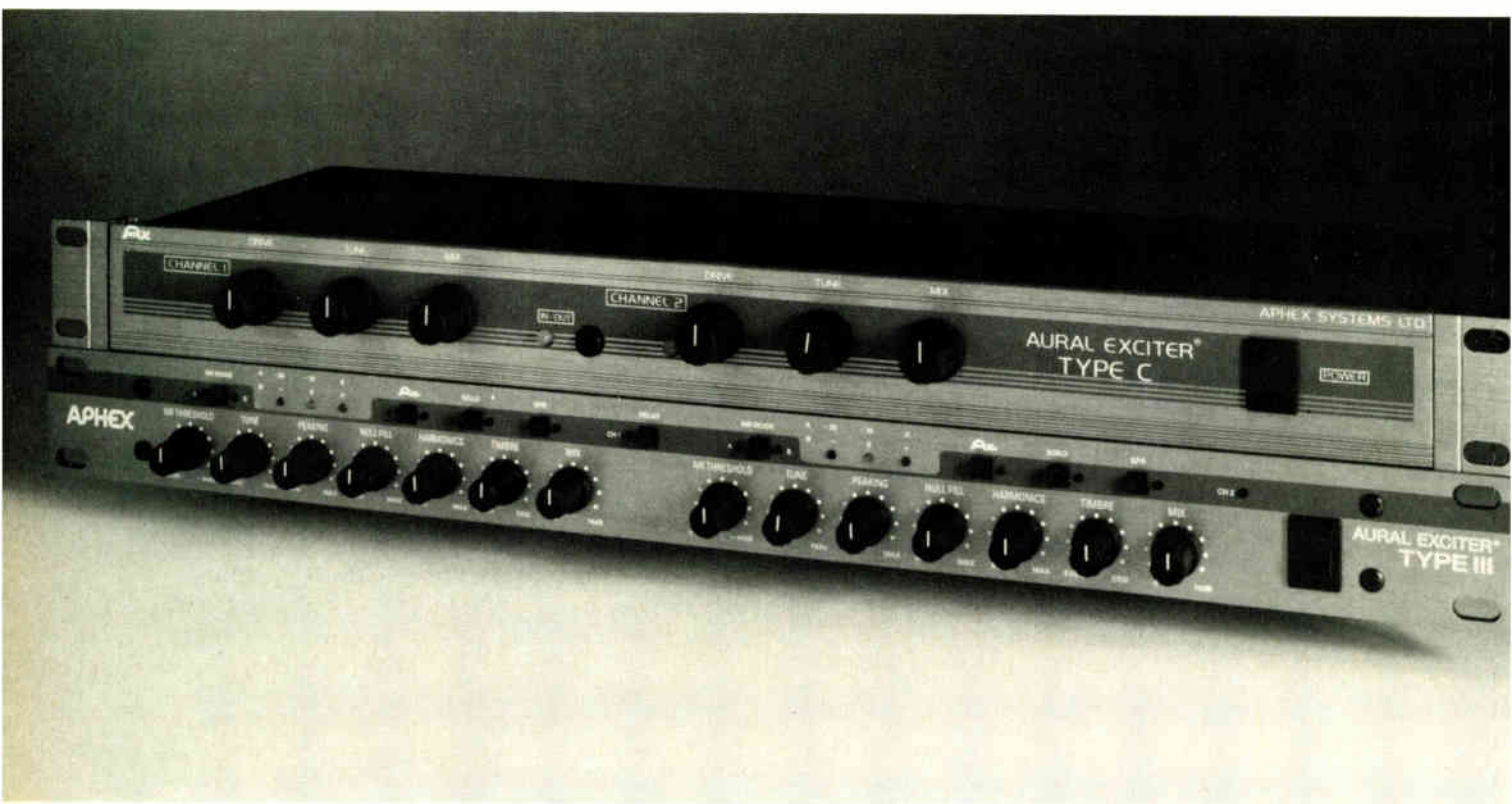
The Aphex Aural Exciter® is a *patented* audio process that will recreate and restore missing harmonics. When added, they restore *natural* brightness, clarity and presence, and actually extend audio bandwidth. All without adding any appreciable power to the signal.

As a result, the Aural Exciter has become a standard tool in the recording, film, broadcast and sound reinforcement industries around the world. It has been licensed for use in prod-

ucts sold by Yamaha, Numark, AKG, Proton, Gentner Engineering, MacKenzie Labs, and Vestax.

Other "brightness enhancers" only boost existing high frequencies, pumping as much as an additional 12dB, which can distort the amp or even blow your speakers... in addition to sounding unnatural. In fact, you could probably achieve the same effect more flexibly and economically by using any equalizer.

Don't be confused by hype. Listen to any device claiming to do what only an Aphex Aural Exciter does, then listen to the real thing. Your ears will hear the difference.



**APHEX**  
SYSTEMS

All Aphex products are designed and manufactured in the U.S.A.  
© 1989 Aphex Systems Ltd.  
Aphex and Aural Exciter are registered trademarks of Aphex Systems Ltd.  
Circle #087 on Reader Service Card

11068 Randall Street  
Sun Valley, CA 91352  
(818) 767-2929

World Radio History



by George Petersen

# SOUNDCRAFT 200 DELTA MIXING CONSOLE

**I**f there is any term that would best describe Soundcraft's 200B Series of consoles, it would have to be ubiquitous. Over the years, these mixers have been a popular choice in 8-track studios, video post suites, club and theater P.A.s, musicians' racks, church sound systems...the list goes on and on. Offering respectable audio performance, affordable pricing and solid

construction, it's little wonder that the 200B Series has been so successful.

At last fall's AES convention in New York City, Soundcraft announced the 200 Delta, the successor to the 200B Series (the 200B-VE—designed for audio-follows-video applications—remains in production). I was curious to see how this new version stacks up, especially since the 200 Delta offers



numerous new features and improvements, while carrying the same price as its predecessor.

Cosmetically, the difference between the two consoles is striking. While the old 200Bs had a boxy appearance, the freestanding Delta consoles (rack-mountable versions are also available) have a sleek, distinctly 1990s appearance, and even include a padded armrest—a nice comfort touch that was lacking in the 200B mixers. Certainly, a more functional enhancement is the replacement of the 200B's four VU meters with six (two master and four subgroup) LED bar graph displays. These large, easy-to-read, 20-segment meters can be switched (via internal jumpers) to provide either peak or average ballistics and are a welcome addition.

The 200 Delta's input, group and master modules incorporate a new design, whereby all input and output connectors are mounted directly onto the back of the module. Delta modules are not interchangeable with any previous Soundcraft modules; however, this approach to module design offers a substantial reduction in internal looms and harnesses, decreasing

manufacturing costs while increasing overall reliability.

By far, the 200 Delta's most impressive feature is its wide range of available modules, allowing the user to custom-configure the console to suit nearly any application. A choice of four input modules, a separate stereo master module and the option of using up to four group modules—with a selection of five mainframes (32-, 24-, 16- and 8-input freestanding and 8-input rack-mount) makes for endless variations. Actually, the names used by Soundcraft to refer to the frame sizes can be somewhat misleading. For example, an "8-input" frame, fitted with stereo or dual line input modules, can provide a configuration of up to 24 x 2.

Mono input modules are available in standard or deluxe versions. The deluxe module features 48V phantom power switching; line/mic input select and trim; phase reverse switch; 4-band EQ with sweepable high-mid and low-mid adjust; 100Hz low-cut filter; EQ in/out switch; six aux sends (a switch changes aux 3/4 to function as 5/6); peak LED; illuminated switches for PFL (solo) and channel on (mute); and 100mm long-throw faders. The rear of the deluxe module includes an XLR,

balanced mic input, 1/4-inch line input that accepts balanced or unbalanced sources, 1/4-inch TRS insert jack (tip=return, ring=send) and a 1/4-inch balanced direct output jack. The standard module is similar, but substitute a 3-band equalizer (with sweepable midrange, but without the EQ in/out switch and low-cut filter), and deletes the phase switch and direct output jack.

One notable difference between the two modules is that the deluxe version has an internal link that can select aux 1/2 to pre-EQ/pre-fader/post-fader operation, while the 1/2 auxes on the standard module send the signal pre-fader only. This is an important point to note; if the console is intended for applications where pre-fader "monitor" sends are rarely used—such as in electronic music/MIDI production or as a front-of-house P.A. board (in conjunction with a dedicated monitor console)—then the deluxe modules would be the preferred choice. Since the actual price difference between the standard (\$140 list) and deluxe (\$180 list) modules is fairly small, I would expect that most buyers opt for the deluxe version. In fact, a 24x4x2 deluxe console (\$8,190)

— CONTINUED ON PAGE 143



**Atlanta's Finest...**

- NEVE V60 with FLYING FADERS Automation
- BOSS 2 Automated Audio Editor
- DASH & PD Digital Multi-Tracks
- Otari Analog Multi-Track
- Digital Audio Mastering & Editing
- CD Prep

**MEDIA ASSOCIATES**

120 Interstate North Parkway East • Suite 164 • Atlanta Georgia 30339 • 404 956 7956

CARVIN



**FX1244 12 CH Multi Track Mixer**  
• 24 input capacity • Six Monitor / Effects sends

MADE IN THE  
**USA**

# The Flexible Solution

Live. In Studio. As a complete Live Sound/Recording mixer, the new Carvin FX44 Series stands alone. With channel features like four sub groups, six programmable Monitor / Effects sends, four band EQ, and dual input capacity, the FX44 outperforms the competition hands down—at a stereo price. If you want a console that gives you the best of both worlds, the FX44 Series is the solution.

For Live Sound, these compact mixers provide you with the flexibility of four sub mixes and the simplicity of a straightforward and clearly marked panel design. The powerful 500 watt (250/250) FET amps are available on the FX844 and FX1244 making set ups as simple as hooking up mics and speakers. The larger FX1644 and FX2444 are perfect for bigger applications.

For Recording, the FX Series is the perfect console to fit comfortably in the home studio. With its substantial effects routing capabilities, powerful EQ, and quiet operation, the FX44 console works best side by side with multi track and MIDI equipment.

FX844 8 x 4 x 2 x 1 (500 watts) Mixer \$1349  
FX1244 12 x 4 x 2 x 1 (500 watts) Mixer \$1699

FX1644 16 x 4 x 2 x 1 - Mixer \$1699  
FX2444 24 x 4 x 2 x 1 - Mixer \$2299

Foreign Sales — See your dealer

## CARVIN

**THE DIRECT ADVANTAGE™**

For more information or to order, call:  
toll free: (800) 854-2235

Please send me Carvin's FREE catalogs:

PRO SOUND  GUITAR AMPS  GUITARS  \$1 For Rush 1ST class

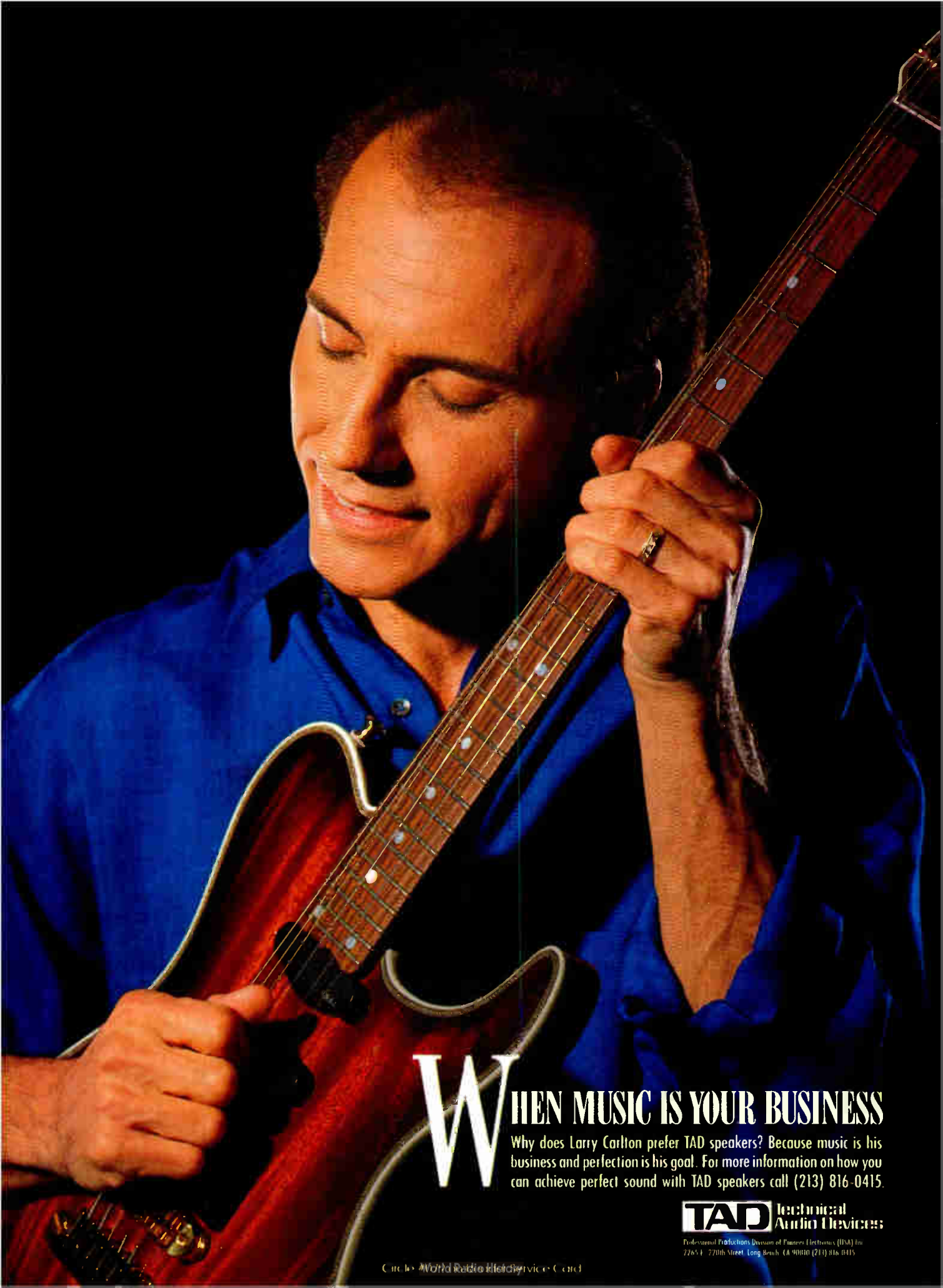
Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Send to: MX-181155 Industrial Ave., Escondido, CA 92025

Hollywood Showroom: 7414 Sunset Blvd. (213)851-4200



# WHEN MUSIC IS YOUR BUSINESS

Why does Larry Carlton prefer TAD speakers? Because music is his business and perfection is his goal. For more information on how you can achieve perfect sound with TAD speakers call (213) 816-0415.

**TAD** Technical Audio Devices

Professional Productions Division of Pioneer Electronics (USA) Inc.  
7285 E. 770th Street, Long Beach, CA 90801 (213) 816-0415

Circle 10 World Radio & Television Service Card

by George Petersen

# PROFESSIONAL DAT BUYER'S GUIDE

# W

hile digital audio tape has not exactly blossomed into the darling format of the consumer audio public, pro users have welcomed this technology with open arms. Manufacturers have been quick to notice this growing market, and offer a variety of models tailored to the needs of studio, broadcast and production professionals.

Just a year ago, choosing a DAT recorder was a simple procedure, based on the limited availability of pro-level models. However, there are about a dozen machines on the market today that address the sophisticated user with versatile features such as digital connection ports, balanced inputs and outputs, multisampling rate operation and advanced autolocation facilities.

So far, 1990 holds even more promise for this fledgling format, with a seemingly endless array of new features and options for existing recorders, new machines making their debut, and the IEC's impending ratification of a DAT time code standard later this year, possibly by September. With this in mind, we decided to take a look at what's in, what's out and what's to come.

ProDAT 1A, from Audio + Design of Pangbourne, UK, integrates a Sony DTC-1000 DAT deck into a three rack-



Sony PCM-2000

space unit. However, the ProDAT 1A goes far beyond merely providing the convenience of rack-mounting, as it also includes electronically balanced inputs and outputs, Apogee 944G input filters, output trimpot adjustments (for up to +20dBm levels), switchable 44.1 or 48kHz recording (in the analog or digital domains), four-stage error status display and copy-prohibit switching. AES/EBU digital ports are standard, as is a sync facility (this allows slaving record/reproduction functions to the word clock sampling

Audio + Design  
ProDAT



San Francisco's Full-Service  
Professional Audio Dealer

# AUDIO Images

- SALES AND SERVICE
- DESIGN AND INSTALLATION
- AUDIO FOR FILM AND VIDEO
- MULTI-TRACK RECORDING
- DIGITAL AUDIO WORKSTATIONS
- SOUND REINFORCEMENT
- COMPUTER MUSIC SYSTEMS
- TAPE AND ACCESSORIES

70 Oak Grove Street  
San Francisco, California 94107  
Fax: (415) 957-1531

**(415) 957-9131**

Circle #032 on Reader Service Card

## READY TO IMPROVE YOUR RECORDING SKILLS?

**THEN SIT NEXT TO A TOP FLIGHT  
ENGINEER AS HE DEMONSTRATES  
ALL THE ELEMENTS THAT GO  
INTO GREAT RECORDING!**

The *SHAPING YOUR SOUND* series is five indispensable new videotapes covering multi-track recording, mixing, signal processing and microphones. They bring better studio technique to life using the power of video to do "WHAT NO BOOK ON THE SUBJECT HAS EVER BEEN ABLE TO ACCOMPLISH!" (Mix Magazine)

Every tape is packed with demonstrations and examples that cut through time consuming book study and get you down to better recordings.

CALL FREE TO FIND OUT MORE  
ABOUT *SHAPING YOUR SOUND*, THE  
PROFESSIONALS' TRAINING PROGRAM.

**1-800-777-1576**

FIRST LIGHT VIDEO PUBLISHING  
374 N. Ridgewood Place, L.A., CA 90004

Circle #033 on Reader Service Card

### AUDITIONS

rate derived from an external source).

The ProDAT 1A is priced at \$3,995, complete; the ProDAT interface can be installed on a customer-supplied Sony DTC-1000, Aiwa or Harris XD-001U recorder for \$1,995. Just announced is a \$250 optional interface for connecting the unit to a Sony DTA-2000 digital tape analyzer. Audio + Design also offers the ProDAT 2A (\$4,995), having all the features of the 1A, plus an SDIF interface to the Sony 1630 with word clock in and out.

Audio + Design is distributed in the U.S. by Gotham Audio Corp., 1790 Broadway, New York, NY 10019; (212) 765-3410.

The Fostex D-20 digital master recorder (\$8,000) has the distinction of being the only DAT machine currently on the market that can record and play back time code. It reads codes at all functions and speeds, including pause mode. If and when a universal DAT time code standard is adopted, Fostex will offer a plug-in card ensuring com-



Fostex D-20

plete compatibility. In fact, the D-20 is designed with an unused internal card slot for such a purpose.

The D-20's four-head design allows both direct off-the-tape monitoring of recorded signals, as well as instant punch-in/out. Other features include  $\pm 10\%$  pitch control, copy-protection switching, 44.1/48kHz recording, AES/EBU digital I/O, +4dBm balanced XLR analog inputs/outputs, external sync in/outs, emphasis switching, RS-422 serial control port, synchronizer port (for machine control via external audio/video sync devices, such as the Fostex Model 4030, 4035 and others) and 31 LEDs to indicate operating status of every function at a glance.

Fostex continues to refine its D-20 digital master recorder with the introduction of the Model 8320 Intelligent Controller, unveiled at the Ana-

heim NAMM show last January. Scheduled for delivery within the next month or so, the 8320 is a full-function remote control that provides display of SMPTE or absolute time, offers 799 locator points and duplicates all the D-20's front panel controls.

Fostex Corp. of America, 15431 Blackburn Avenue, Norwalk, CA 90650; (213) 921-1112.

At last fall's AES show in New York, JVC showed a prototype of a time code-based DAT recorder, but does not plan to market the machine until the adoption of a time code standard later this year. More specific details may be released at next month's NAB convention in Atlanta.

JVC Professional Products, 41 Slater Drive, Elmwood Park, NJ 07407; (201) 794-3900.

With a list price of \$10,000 and tipping the scales at over 70 pounds, the Nakamichi 1000 professional digital audio recording system is clearly not for everyone. However, the key word here is *system*. The 1000 incorporates a modular approach throughout, from its two-box processor/transport design to its extensive use of interchangeable circuit boards that allow a machine to be tailored to a user's specific needs. For example, the processor unit can control up to two transports for digital dubbing, parallel recording and tape backup functions.

Nakamichi has recently announced three new plug-in interface boards to simplify interconnection and format conversion processes: The IF-102 provides AES/EBU and SPDIF inputs and outputs; the IF-103 offers two sets of AES/EBU inputs/outputs, along with a switched digital source input (AES/EBU or SPDIF); and the IF-104p provides AES/EBU and SDIF-2 I/O ports, as well as a word sync out and digital source input switching.

Some of the Nakamichi 1000's standard features include: a hard-wired remote controller, record/play capability at 48/44.1/32 kHz (the latter is digital only), four-head design (with true read-after-write capability), balanced XLR and unbalanced RCA analog inputs/outputs, 32-segment digital level displays, and a unique half-load mode that can rewind a two-hour cassette at 400-times play speed—in as little as 19 seconds.

Nakamichi America Corp., 19701 South Vermont Avenue, Torrance, CA 90502; (213) 538-8150.

Priced at \$2,500, the SV-3500 is a

full-function, rack-mount studio DAT deck from Panasonic Professional Audio Systems. The SV-3500 features a hard-wired remote control, balanced XLR analog inputs/outputs, AES/EBU digital ports, 48/44.1kHz recording (44.1 from analog inputs only), switchable +4/-10dB output level and 200-times high-speed search mode. The deck employs MASH analog-to-digital converters with 64-times oversampling, which allows the use of simple third-order analog filters for improved phase response.

Panasonic's SV-255 (\$2,700) is a second-generation portable DAT deck based on the popular SV-250. A few of

mode. When the machine is set in this mode, the signal present at the right channel is recorded at full level and is automatically routed to the left channel at -15 dB, offering a convenient backup in field recording applications where unexpected high-level sources, such as gunshots, jet planes or emergency vehicles, could put the normal-level channel into clipping. This 3.2-pound (including rechargeable battery) package also features MASH A/D converters, XLR mic/line inputs, 48kHz recording, 44.1/48kHz playback, internal limiter and mic pad, and a SPDIF digital output jack.

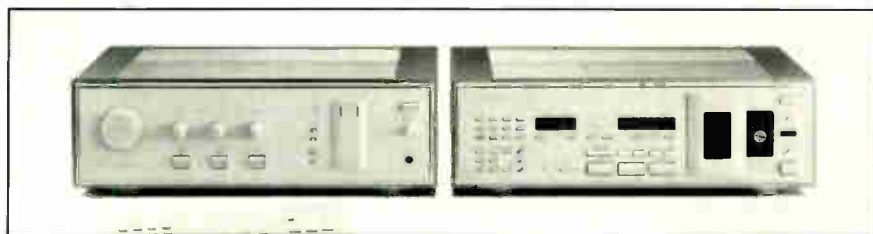
Panasonic/Ramsa, 6550 Katella Ave-

deck based on the Sony DTC-1000 recorder. Designed for broadcast applications, the RS-1000 provides large, quick-access controls that are as simple to use as a cart machine. In fact, the deck's microprocessor-based con-



**Panasonic SV-255**

troller allows start and skip IDs to be written on the subcode portion of a DAT tape to act like the primary and secondary tones on a broadcast cart, for fast cueing-to-audio and recueing at the end of a cut. The system can handle other automation data, including audio muting, "next event" sequencing relay closures and logging. Plus, the RS-1000's software is written so the unit appears like a multi-slot cart carousel machine to an automa-



**Nakamichi 1000**

the SV-255's enhancements include greatly improved mic preamps (with an EIN spec of under -128 dBm) and a new dual-channel mono recording

nue, Cypress, CA 90630; (714) 373-7277.

The RS-1000 from Radio Systems is a highly modified, high-performance

# CREATIVE STANDARDS



The AMS range of digital processors is designed to deliver creative audio solutions.

From the same family of products as the AudioFile, the world's leading hard disc editor and the SoundField surround sound microphone, their pedigree is guaranteed.

Happily these digital processors are now so widely used, they have become standards in more ways than one. Perhaps that's because we apply only one standard ... excellence.

- (A) TimeFlex Digital Audio Time Compressor/Expander
- (B) S-DMX Digital Audio Delay and Pitch Changer
- (C) RMX 16 Digital Reverberator
- (D) A/V Sync Auto Compensating Audio-for-Video Delay



**See us at NAB Booth #6338**

For information and literature contact...

AMS Industries plc  
Billington Road, Burnley BB11 5ES, UK  
Tel: (0282) 57011 Fax: (0282) 39542

AMS Industries Inc  
1180 Holm Road, Suite C, Petaluma, CA 94954, USA  
Tel: (707) 762 4840 Fax: (707) 762 4811

tion system.

Some of the RS-1000's other features include balanced XLR inputs and outputs, SPDIF digital I/O, 44.1 and 48kHz recording/playback, serial and parallel control interfaces, and thumb-wheel controls for manual access to cut sequencing. The RS-1000 is priced at \$3,495; also available is the RS-1000-PRO, a simpler version (lacking the microprocessor functions, but still offering 44.1/48kHz recording and balanced audio) priced at \$2,295, including hard-wired remote control.

Radio Systems Inc., 110 High Hill Road, Bridgeport, NJ 08014; (609) 467-8000.

The newest member in Sony's line of professional DAT recorders is the TCD-D10PRO (\$2,900), a compact portable machine featuring XLR balanced mic and line inputs, mic attenuator and switchable low cut filter and limiter circuits. Supplied accessories include two rechargeable battery packs, digital I/O cables for connecting to AES/EBU and SPDIF devices, and a handheld "remote controller" that combines a mic-mount with fingertip access to record, play, stop and

pause functions. The TCD-D10PRO records at 48 kHz through the analog inputs, 32/48 kHz from SPDIF sources, and 32/44.1/48 kHz from the AES/EBU port; the deck can play back tapes at all three sampling rates.

Sony's award-winning PCM-2500 was the first DAT machine developed specifically for professional recording



**Sony TCD-D10PRO**

applications. While the unit shares the same basic transport as the consumer DTC-1000, the PCM-2500 offers a variety of features for studio use, including balanced, transformerless XLR inputs and outputs; 44.1 and 48kHz recording (32 kHz from digital input only); AES/EBU, SPDIF and SDIF-2 digital ports; word sync output; and copy-prohibit and emphasis switching. The PCM-2500 is priced at \$3,550, including both wireless and hard-

wired remote controls.

The Sony PCM-2000 is a rugged, DC-powered portable deck designed for location recording. The recorder provides balanced line and mic inputs, with the latter also equipped with switchable phantom powering, a three-position low-cut filter, and a choice of -10/-20dB attenuation. Other features include: emphasis switching; AES/EBU digital I/O; 44.1 and 48kHz recording from analog or digital sources (32 kHz from digital only); word sync input; and powering via the same NP-1A batteries used with Betacam camcorders and Sony PCM-F1 digital processors. The PCM-2000 is priced at \$5,000, and at next month's NAB convention in Atlanta, Sony will show the BBG-2000, a piggyback SMPTE reader/generator adapter for the PCM-2000.

Sony Professional Audio, 1600 Queen Anne Road, Teaneck, NJ 07666; (201) 833-5200.

At last fall's AES show in New York City, Swiss recorder manufacturer Stellavox unveiled a prototype of the StellaDat portable DAT recorder; deliveries are slated to begin in the last quarter of this year. The machine boasts a rugged, all-aluminum body, and an

—CONTINUED ON PAGE 133

## everything for professional audio... everything but excuses

A working philosophy and commitment to your success. At VRI Scharff, we never give you excuses, we give you results. Our inventory of professional audio, wireless, communications and RF equipment is one of the most current and complete in the world. And our innovative and knowledgeable staff is dedicated to always providing you with the best possible service and technical support in the industry. So, don't listen to excuses... Get Results!

212-582-2345

Michael Mueller



Scott Schachter

A Video Services Corporation Company

Circle #031 on Reader Service Card





# THE PROFESSIONAL CD PLAYER FOR THE PROFESSIONAL CD PLAYER.

Like all professional CD players, the new Technics SL-P1300 is technologically advanced.

But you don't have to be a technical genius to operate it.

In fact, even if you haven't spent years in the studio, it will only take you a few minutes to figure it out.

You see, the SL-P1300 is ergonomically designed to give you greater control over playback than you've ever had before.

Perhaps that's because it's built like a recording console. Which means the disc well and all the other controls are right at your fingertips.

First, the control panel features a long stroke sliding pitch control. It's continuously variable with a range of  $\pm 8\%$ . In addition, it lets you restore quartz lock accuracy at the touch of a button.



There's also our two-speed search dial with audible pause. Which makes finding your in point extremely easy.

Our professional CD player has other features professionals enjoy working with. Like one-touch memorization by time code, A-B repeat, and our exclusive rocker control search buttons. It's the digital equivalent of dragging your

finger on the edge of a record.

A great deal of thinking also went into things like our balanced outputs ( $-10$  dBm nominal into 600 ohms). There's even a port for a wired remote. And separate power supplies for digital and analog circuits. Given this, it's not surprising that its S/N ratio is 112 dB.

If you're a professional CD player, chances are you're ready to hear what our professional CD player can do.

Call your Technics representative. You'll find that our pro CD player isn't the only thing from Technics that's a pleasure to work with.

**Technics**  
The science of sound



# MORE SOUND PER POUND

## The Bose® 302 Series II Acoustimass® Bass System.

**T**his compact bass system, designed and optimized for use with Bose 802™ Series II speakers, delivers *more bass and purer sound* than larger components. From nightclubs to stadium concerts, the 302-II bass system delivers clean, powerful performance that's easy to transport and easy to connect.

The key to large-system performance in a small package is the patented Acoustimass system with the Electro-Magnetic Braking (MB-12) woofer. Rather than producing sound by a cone surface vibrating directly into a room, Bose uses the MB-12 woofer to energize the Acoustimass system, which actually launches sound into the room using two precisely controlled air masses. The Acoustimass system also acts as an acoustic filter, removing unwanted distortion where no electronic filter can



—after sound is produced but before it reaches the audience. The result—the 302-II system gives you more bass output with less cone motion and lower distortion than any conventional bass bin its size.

Listen and judge for yourself. Compare the 302-II system to any other bass system. Then *you* decide how well we stack up (and how easily). The 302 Series II Acoustimass bass system . . . just one of the reasons Bose is becoming the professional system of choice. For the name of your nearest authorized dealer, write Bose Corporation, Professional Products, Department M, The Mountain, Framingham, MA 01701-9168 or call us at 1-508-879-7330.

© Copyright 1989 Bose Corporation. Covered by patent rights issued and/or pending. Features and specifications subject to change without notice.

**BOSE**  
Better sound through research.

## TROUBLESHOOTING

# MORE CARGO LESSONS THE CARNET

by Mark Herman

American touring acts are increasingly expanding their audience and financial potential by traveling to various foreign countries. Sound reinforcement, lighting and production companies find that additional paperwork, expenses and logistical scheduling rise dramatically when national boundaries are crossed. Phil Eastick of Quick Cargo Systems (Burlingame, Calif.)—who gave us some great cargo lessons in the October 1989 *Mix*—explains why the carnet is such an integral part of customs requirements and international touring.

**Mix:** What exactly is a carnet?

**Eastick:** A carnet is an internationally recognized document that allows the duty-free entry and exit of items going into a particular country for a specific period of time for a specific purpose. The carnet tells the customs officers exactly what items you have, what they're for and essentially that you guarantee the equipment will leave within a specified period of time. When goods enter a country under normal circumstances, the importer has to pay customs duty or post a temporary import bond assessed on the value of the goods to guarantee that they will not be left behind.

**Mix:** How is a carnet obtained and how much does it cost?

**Eastick:** The carnet is set up with a chain of chambers similar in operation to the Chamber of Commerce. To get a carnet you

apply to the U.S. Council for International Businesses and supply them with a manifest. They assess a fee through an in-

urance company. You bond the USCIB to protect them. They guarantee to all the other chambers around the world that your



ILLUSTRATION: CHARLIE POWELL

goods will go into and out of the country as specified, on schedule. All the main countries have their own chamber.

The standard rate of the bond is assessed at 1 percent of 40 percent of the value. In some countries it can be as high as 50 percent to 100 percent of the value. The USCIB insists that you provide a financial statement that proves you have the means to cover the full declared value of all your equipment. They may ask for a bank guarantee or line of credit. Most people choose not to raise the carnet themselves

and instead get a freight forwarder to prepare one, typically for a \$100 to \$200 fee. The forwarder prepares the statement but does not assume the responsibility.

**Mix:** Is there anything special about preparing the carnet

equipment lists?

**Eastick:** It is simple, really. Give a complete description of every item with the product name, serial number, quantity, country of origin, weight, case description and value. Computer-

new items may be added. Any additional gear will require another carnet. Subtracting an item is no problem, though. After preparing your lists it is always wise to double-check every serial number. Band gear is often trouble, because the artist might, for example, switch one of his red Les Paul guitars for another one that looks exactly the same. But, of course, the serial number is different.

I recommend you have a realistic value stated on all documents connected with your equipment. The temptation is to reduce the cost of the bond by understating the value, but if there was an accident, your insurance company would pay only the lower stated bond level. I have seen cases where a band paying for the bond asked the sound company to get the carnet cost lower by understating the value

*Customs will never be swayed by the fact that your equipment has to be at a particular place at a given time. That is your problem.*

generated equipment lists developed from a word processing and database program is an excellent way to present the information. If you are not sure about a particular item, list it anyway, because once the carnet is submitted to the USCIB no

generated equipment lists developed from a word processing and database program is an excellent way to present the information. If you are not sure about a particular item, list it anyway, because once the carnet is submitted to the USCIB no

# don't forget your lunch!

## THE 512b MIC PRE:

The new API 512b- An all discrete EQ size mic preamp/instrument direct box in one.

## THE 550b EQ:

The new API 550b- The same circuit as the famous all discrete 550A, but with four bands and more frequencies.

## THE 500-b4:

The new API 500-b4- A portable rack for API modules, with the traveling engineer or musician in mind.



api

WORLDWIDE DEALER/REPRESENTATIVES:	
<b>EAST COAST:</b> STUDIO CONSULTANTS, INC. 212-586-7376	<b>MID-US:</b> MILAM AUDIO 309-346-3161
<b>WEST COAST:</b> EVERYTHING AUDIO 818-842-4175 WESTLAKE AUDIO 213-851-9800	<b>EUROPE:</b> SYCO SYSTEMS (LONDON) 01-724-2451 <b>JAPAN:</b> NISSHO IWAI (NY)212-704-6692

api audio products, inc.  
7951 TWIST LANE,  
SPRINGFIELD, VA, 22153  
703-455-8188 FAX 703-455-4240

of certain pieces of gear. Of course, these items got damaged or lost, and the sound company ended up losing out.

**Mix:** How is the duty determined?

**Eastick:** Each country sets its own duty rates, and every item on a carnet has a different rate. Some pieces could be charged at 3.5 percent and others at 7.8 percent. It just depends on the country involved. It is not an arbitrary number either; they publish tariff requirements on almost every item imaginable.

**Mix:** Do you have any advice on dealing with customs people?

**Eastick:** Always call them in advance and let them know what is coming. Communication is very important. Tell them what is happening in a forthright, polite and open manner. Remember that these officers are performing a job that is often very carefully spelled out in official detail. Customs officers at most major air, sea and trucking entries are very aware of the professional touring industry. They usually know that touring production people bring only what is necessary and usually have no intention of selling any equipment until a tour is finished. A good officer will usually listen to your side of things if your approach is civil. But don't back down if you have a valid point to make just because he or she has a uniform on. Once the agent makes a determination though, it is final. Stay on the level. If you are stupid enough to try to fool customs and get caught, you will forever be remembered in the computer as a troublemaker.

The language barrier can be a problem in non-English speaking countries. Fortunately, English is the language of international trade; but whether it is spoken with a high degree of competence, or at all, is another question. I would advise having an interpreter lined up in advance. If you were in Tokyo, for instance, it would be to your advantage to have a Japanese-speaking person with you to better communicate with the

Japanese customs officer. Often tempers flair when the language problem gets in the way.

**Mix:** What happens when you go into a country and don't leave within the period of the carnet?

**Eastick:** The consequences are dire. Let's just say the country is Switzerland. The Swiss customs agents are going to claim the duty that is accessible on your equipment. If you had \$100,000 worth of equipment claimed, and it was taxed at a 15 percent rate, a charge of \$15,000 would be collected if you violated the carnet. It is also possible that additional financial penalties will be billed. To get paid, Switzerland would go to the Swiss Chamber of Commerce, which will in turn go to the chamber of commerce that raised the carnet—which in our case is the USCIB. The USCIB will immediately demand the money from you. It is not interested in fighting your case even if there is a good reason for your

delayed departure.

**Mix:** How does the USCIB get the money from you?

**Eastick:** The USCIB can cause immense grief. It will take legal action if necessary to collect. And it won't write any more carnets for you. If you are a touring sound or production company, this would be a disaster.

**Mix:** What happens if some listed gear is destroyed, stolen or just plain left in a foreign country?

**Eastick:** Customs people everywhere are difficult but not totally unreasonable. They won't take your word for anything; you must show sufficient documentation supporting any valid claim. Anything left on purpose—like a stage set—must have a customs agent "attend its destruction." Individual agents will decide what proper destruction means.

**Mix:** How long does it take to have a typical sound system inspected by customs officers?

**Eastick:** That really depends on

## Manufacturers of quality case & cabinet hardware



# penn fabrication

Hawthorne, N.J.  
Tel: (201) 423-4404

Detroit Michigan  
Tel: (313) 961-9111

Newbury Park, CA  
Tel: (805) 499-5932

Houston, TX  
Tel: (713) 855-9772

Circle #020 on Reader Service Card

how difficult they want to be. Factors such as the time of day, the country involved, available officers, amount of gear and prior communication influence the total inspection time, but figure on about 20 minutes per case. Be prepared to spend some time in customs; they may inspect everything you have. It is foolish to arrive at customs minutes before your equipment is scheduled to be transported somewhere. Customs has the right to inspect every single item

on the list and will do so if they perceive anything suspicious. They will never be swayed by the fact that your equipment has to be at a particular place at a given time. That is your problem, so I advise scheduling transportation logistics with this in mind.

**Mix:** On a typical tour, who is usually responsible for customs and the carnet?

**Eastick:** Usually it is either the tour production manager, or a freight forwarder working in conjunction with the production

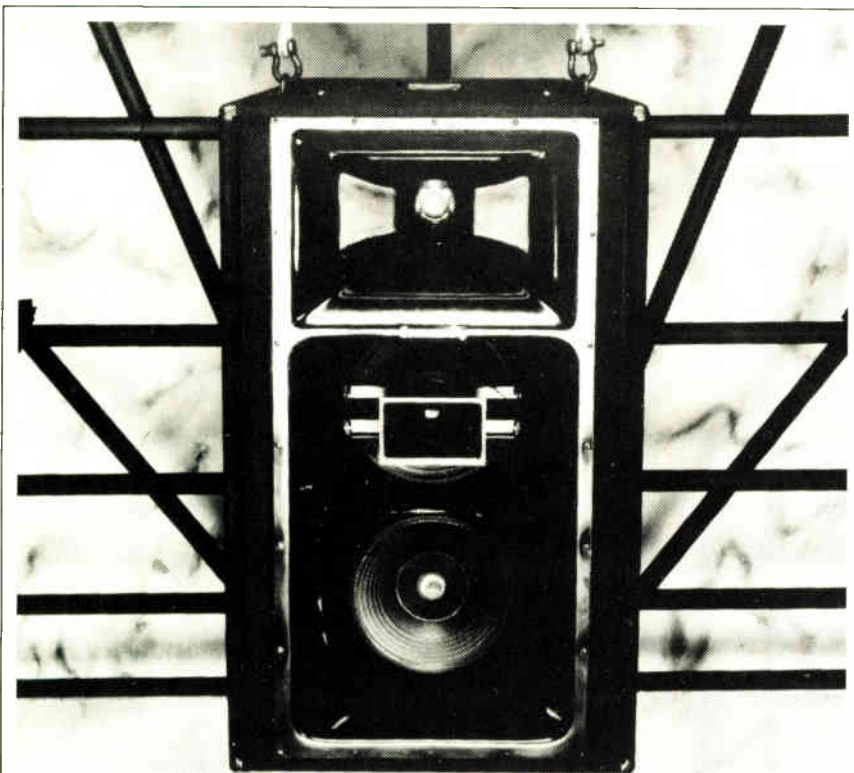
manager. More than likely the freight forwarder will be well-versed in the particulars of each country and almost always has a local representative who is very familiar with the local customs people.

**Mix:** Briefly run through the sequence for taking equipment overseas and then returning to the U.S.

**Eastick:** Get the carnet raised, double-check all serial numbers when the gear is loaded into the truck, and if you have made prior arrangements, it is possible to have a customs officer meet you at the particular airline that is transporting your goods. The U.S. officer may inspect the entire lot, but nowadays they will probably inspect just a few cases when you're leaving the U.S. After arriving in a foreign country, you will get inspected going in and out, and face the same routine each time you cross a national border. If you were to cross from France to Germany, for example, you would get checked twice, once for leaving France and another upon entering Germany. The final steps after you return to the U.S. (inspected once more) is to return the carnet to the USCIB. There are stubs in the carnet that were signed by customs at each place you crossed the border. These stubs provide evidence that there is no problem with your carnet. Generally, your freight forwarder would take care of this immediately.

**Mix:** What do you see happening to the carnet in Europe once the Common Market countries relax trade laws in 1992?

**Eastick:** Crossing national borders will be easier, with less paperwork, but some form of carnet will remain. Right now in Europe there is already a Euro carnet, which is used for 11 Common Market countries. Maybe in the future we will see a carnet for just entering and leaving the European Common Market. The European Economic Community has a hard time agreeing on anything, so we shall have to wait and see how things work out. ■



## *Puts the others in perspective...*

Community's new **RS880** loudspeaker system flies heads above all others with its trapezoidal, three-way Wavefront Coherent™ horn-loaded design. Dynamically controlled from a single rack space with our **880EQ**, the **RS880** additionally features unique feedback-loop sensing circuitry, and reinforced D-rings which can get you off the ground quickly and smoothly. For room-shaking bass response, our **VBS415** subwoofer can also be added to extend the system.

**Community**

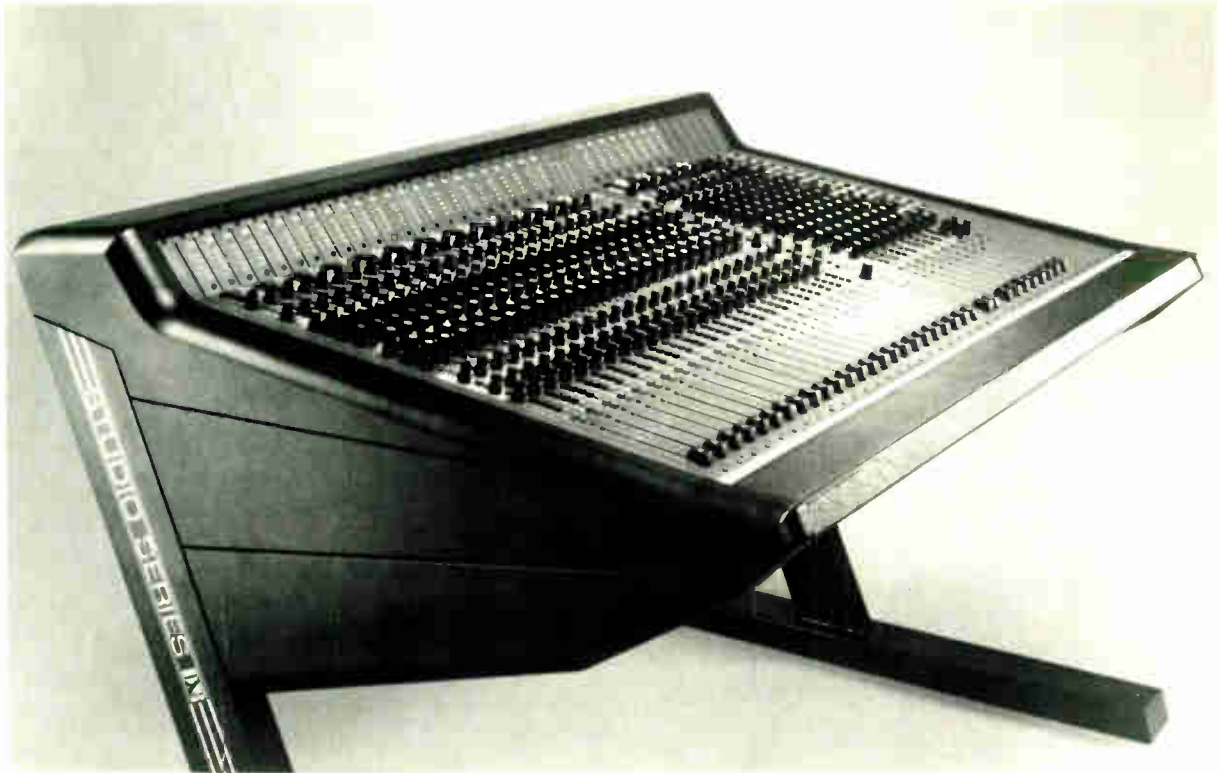
PROFESSIONAL SOUND SYSTEMS

333 East Fifth Street • Chester, PA 19013 • (215) 876-3400 • Fax (215) 871-0190

Circle #137 on Reader Service Card

# *The* \_\_\_\_\_ **Bottom Line.**

---



The fact is: it just doesn't get any better than the **D&R Dayner Series** when you need great specs, more inputs in less space, functions, and features like D&R's "Floating Subgroup System" and custom configurations utilizing the in-line and split formats together. You get all this and more for thousands less than our competition.

Now that's **THE BOTTOM LINE!**

**D&R**  
mixing consoles

**D&R USA** • Rt. 3, Box 184-A • Montgomery, Texas 77356 • Phone (409) 588-3411  
**D&R Holland** • Rijnkade 15B • 1382 GS Weesp • The Netherlands

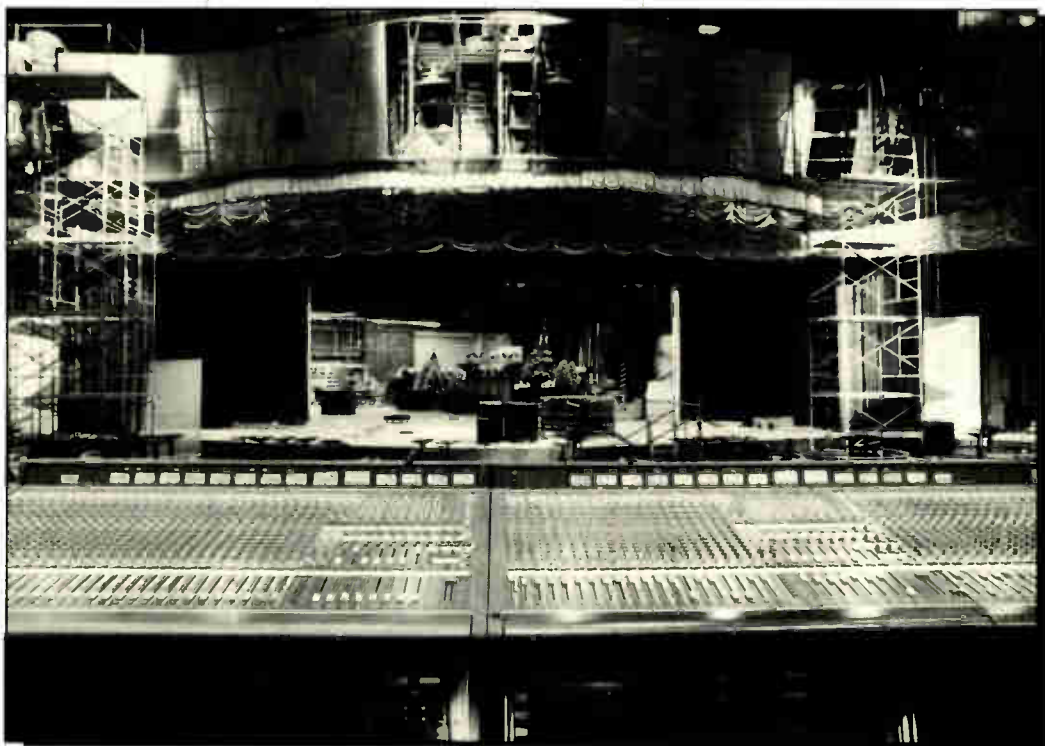
Circle #092 on Reader Service Card

by Mark Herman

# SOUND REINFORCEMENT NEWS

The hottest ticket for geographical expansion in the sound reinforcement business is Orlando, Fla. In the last few months a dozen sound and production companies have announced opening new offices somewhere near this rapidly growing city. All this flurry of activity is for a good reason. This part of Florida (where Disney is King) is becoming one of America's leading convention, hotel and theme park centers—which translates into substantial dollars for corporate and concert audio production. While some audio people think the steady influx of pro sound companies has already saturated the market, others are gambling on grabbing a share of the action and holding on through the inevitable shakeout. I, for one, think that going south for the winter sounds like a great idea.

Early this year **Sounds Good Audio** joined in the audio parade to Florida, opening a new office in Orlando. **Dan Hubbell** is managing the new satellite office; SGA's corporate offices will remain in Lansing, Mich. Spokesman **Keith Menne** says, "In the Orlando location we expect to be primarily in-



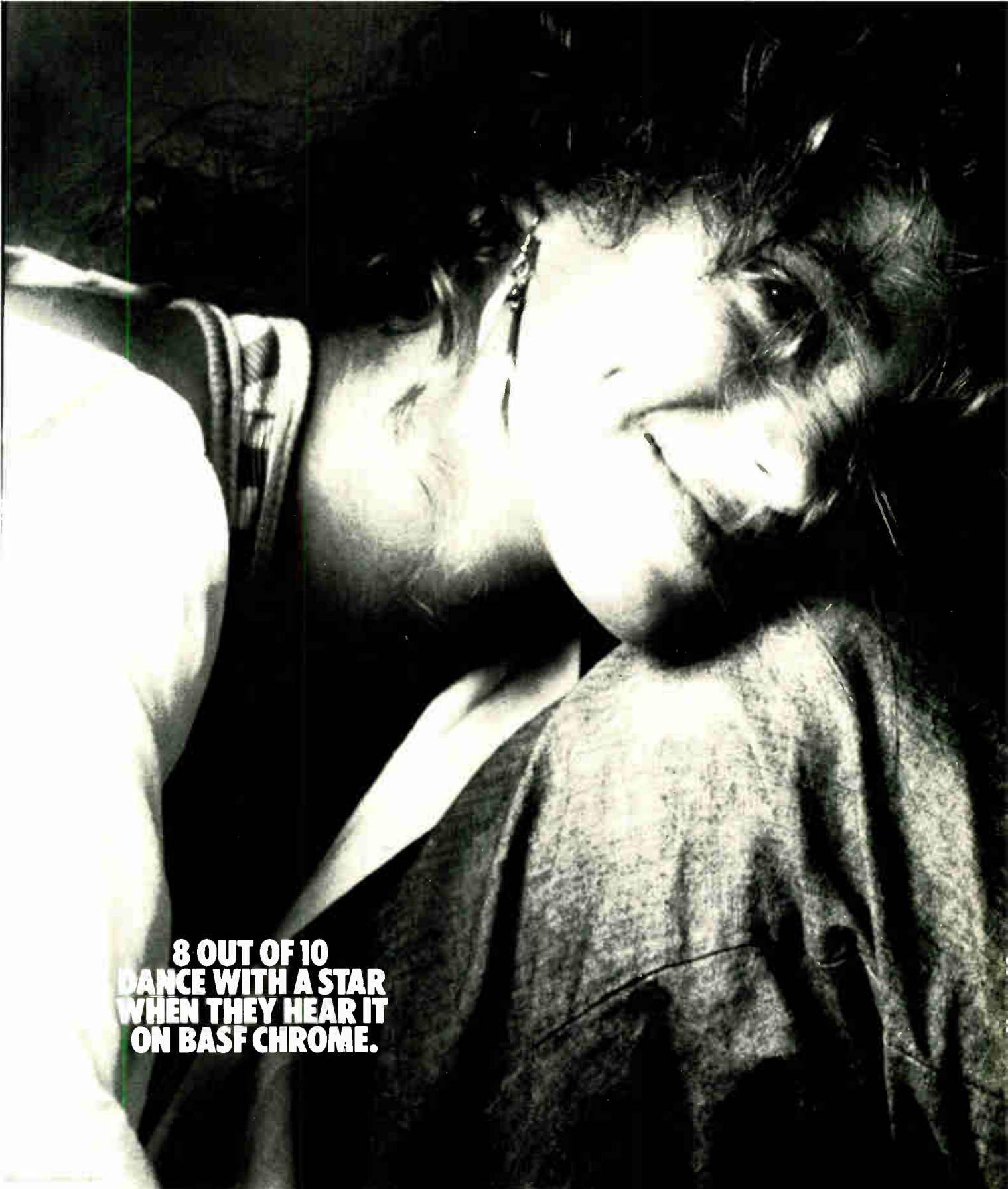
(Above photo) Designed by Stephen Rypka, the new system at the Las Vegas Hilton includes two Yamaha PM3000 house consoles, a 30-box Eastern Acoustic Works main speaker complement, Apogee Sound under-balcony cabinets and Meyer subwoofers mounted into the venue's side walls. Crown Macro-Techs supply over 40,000 watts of power, all controlled via Crown's computerized IQ System 2000. Also tied into the house computer are TC Electronic 1/3-octave equalizers, capable of storing up to 99 different house curves, so each engineer's settings can be saved for future recall. B.A.S.E. processors are employed to expand the room's "sweet spot" and provide enhanced spatial imaging.

involved in industrial theater with corporate clients. That has been our forte in the past. We are making our new audio systems more tantalizing by providing full multipin connectors, quick and easy patch bays, and well-known, high-quality equipment." A complete, new P.A. system was put together for Orlando that includes 16 Meyer MSL-3s, 12 UPA-1s, 16 UM-1s, four USW

subs and four 650 subs. Power amplifiers are a combination of QSC 1500 and 2000s and Crest. Also in the system is a pair of Yamaha PM3000s and Ramsa WR-S840 consoles and a complete microphone and signal processing inventory. Currently, Sounds Good has accounts with Disney and several hotels.

Just a few years ago, **Wolf Sound** (Miami, Fla.) was a rela-





**8 OUT OF 10  
DANCE WITH A STAR  
WHEN THEY HEAR IT  
ON BASF CHROME.**

Emotional impact. That's what music is all about. And what BASF Chrome is all about. In a nationally representative sample of the U.S., 8 out of 10 listeners heard more, responded more, were moved more by prerecorded music on BASF Chrome than on ordinary cassette tape. 8 out of 10.

An impressive figure that can mean

impressive sales. Because when you release on BASF Chrome, there's less tape hiss, greater music clarity, greater overall sound quality—greater emotional impact! All of which adds up to a tape that gives greater consumer satisfaction.

If you want them to dance. If you want to make them cry. If you want them

to go wild. If you want to make them sigh. Call us at 1-800-225-4350 (east or south), or 1-800-225-3326 (central or west). We'll show you what a difference BASF Chrome can make in the studio, in the store and on the deck.

Call us today.

After all, if 8 out of 10 people prefer it on BASF Chrome, shouldn't you be listening?

**The crystal clear sound  
of BASF Chrome.**



**BASF**

tively small regional sound company. All the action happening in central and south Florida has helped this company grow to where it now has a full calendar. Owner **Wolfgang Federlin** says, "We have been very busy with local and regional shows, national one-offs, touring with **Julio Iglesias** [see "On the Road"], and sporadic traveling in Latin America with the likes of **Air Supply** in Colombia and **Roberto Carlos** throughout Mexico." Federlin states that in Latin America, shipping costs limit the amount of gear that can go on tour. "We airfreight in the consoles, effects, monitors and a

few house cabinets to supplement what is there already. We pick up the main P.A. locally."

Wolf Sound's main touring client is Julio Iglesias. The company provided monitors for Julio's last world tour that traveled to the Far East and Europe before returning to the U.S. Wolf Sound then added an FOH system for venues in the U.S. including Carnegie Hall and Caesar's Palace in Atlantic City. Wolf has contracted to do the entire sound system this time with 60 Meyer MSL-3 boxes for the eight-month Julio Iglesias world tour that begins in May.

Federlin comments on his company's expansion, "We con-

tinue to purchase more and more equipment. A 120K Thomas lighting rig was just bought to help us be more competitive by offering full production service. Last year we purchased Yamaha PM3000 and Ramsa WR-S840 consoles to head up our all-Meyer sound system. The Meyer gear has performed well; we get a lot of business from people who come to Florida and demand Meyer equipment—and it helps that we have the largest Meyer inventory in the Southeast. We just placed an order for more MSL-3s."

Wolf Sound frequently works with Disney. Most of Disney's conventions, special shows and

# ON THE ROAD

## SOUND COMPANIES, EQUIPMENT, ARTISTS & PERSONNEL ON TOUR

Artist Sound Company Tour Dates Region	House Console #1 House Console #2 Monitor Console #1 Monitor Console #2 House Crossover	Main Speakers Main Speakers Subwoofers Monitor Speakers Monitor Speakers	Main Amplifiers Main Amplifiers Sub Amplifiers Monitor Amplifiers Monitor Amplifiers	Engineers: (B) = band (H) = house (M) = monitor (T) = tech (a) = assistant (C) = crew chief
Squeeze See Factor November - December U.S.	Yamaha PM3000 40x8x2 - Midas Pro 40 32x16 - Meyer M3T	(24) Meyer MSL-3 - (12) Meyer 650 Custom wedge/JBL-loaded	Crest 4001 - Crest 4001 Crown PSA-2	Ronnie Box (B,H) Mark Napier (B,M) Bill Fertig (aH) Thursby Pierce (aM)
Julio Iglesias Wolf Sound May - early 1991 World Tour	Yamaha PM3000 40x8x2 - Ramsa WR-S840 - Meyer M3T	(16) Meyer MSL-3 - (8) Meyer 650 Meyer UM-1, UPA-1	BGW 750E, Crest 7001 - Crest 8001 Crest 7001	Chris Carlton (B,H) Steve Cochran (M) Carlos Alvarez (aH)
Jethro Tull Eighth Day Sound Sept. 10 - Dec. 10 North America	Yamaha PM3000 40x8x2 Yamaha MC1202 Ramsa WR-S840 40x18 -	(48) Turbosound TMS-3 - (12) Turbosound TSW-124 EDS 2x15	Crown MA2400/IQ - Crown MA2400/IQ AB Systems 1200	Rob Braviner (B,H) Gareth Williams (B,M) Rod Price Mike Rodgers
Patti LaBelle Maryland Sound Industries November - March U.S.	Yamaha PM3000 40x8x2 - Ramsa WR-S840 - HC 301	(12) MS 10 (12) MS 10 B - MSI 2x12, 2x15	Crest 8001, 7001 Crest 8001, 7001 - Crest 7001	George Strakis (H) Anthony Stabile (M) Jim Risgin
M.C. Hammer Sutter Audio September - November Southeast U.S.	Yamaha PM3000 40x8x2 - Soundcraft 500 40x12 - BSS FDS 360	(24) OAP DP118 - - OAP 215, 212, 115	QSC 3800, 3500 - - QSC 3800, 3500	Felton Pilate (B,H) Peter Seven (B,aH) Steve Vandervort (M) Allen Laws (aH) Russell Whiddon
Lou Reed & John Cale See Factor November - December New York	Midas Pro 40 40x12x2 - Ramsa WR-S840 40x18 - Meyer M3T	(12) Meyer MSL-3 (8) Meyer UPA-1 (6) Meyer 650 Meyer UM-1	Crest 4001 Crest 4001 Crest 4001 Crest 4001	Jeremy Darby (H)
Randy Travis Electrotec Productions Ongoing World Tour	Gamble EX 56x16x2 - Soundcraft Lab Q 32x16 - BSS MCS 200	(64) Lab Q - - Electrotec Custom 115 Electrotec Custom BBC	Crown MA1200, UREI 6400 - - JBL 6233 JBL 6233	Bob Butler (H) Paul Danese (M) Dave Stogner (T) Dave Longwill (C)

**Y**OU WANT A COMPACT SPEAKER SYSTEM.

**BUT ON THE OTHER HAND, YOU DON'T.**



▶ The drawback with most compact speaker systems is that's exactly how they sound.

Compact.

Listen to the TurboSound TXD Wide-Dispersion Series, though, and you'll find it's worlds apart.

The TXD Series speakers are lightweight and portable – perfect for smaller venues, AV presentations and live shows. Yet their size doesn't compromise their power handling and exceptional transient ability.

The diminutive TXD-520, just 22" high, is rated at 125W RMS and 250W peak power, while at the other end of the scale the TXD-580 handles 650W RMS, 1300W peak.

But as with all our speakers, it's not just a case of sheer decibels.

Audio quality is equally prestigious, with unique Precision Devices drive units (designed to our own specification) for the clarity of a top level hi-fi system and a flat full-range response.

And all this without the help of compensating electronics.

Call your nearest TurboSound Authorised Agent for a

full demonstration. Because if you want a compact system, but you don't want it to sound like one, you'd better listen to the new TXD Series right now. ◀

 **Turbosound**  
**T X D S E R I E S**  
**PRECISION DRIVEN**

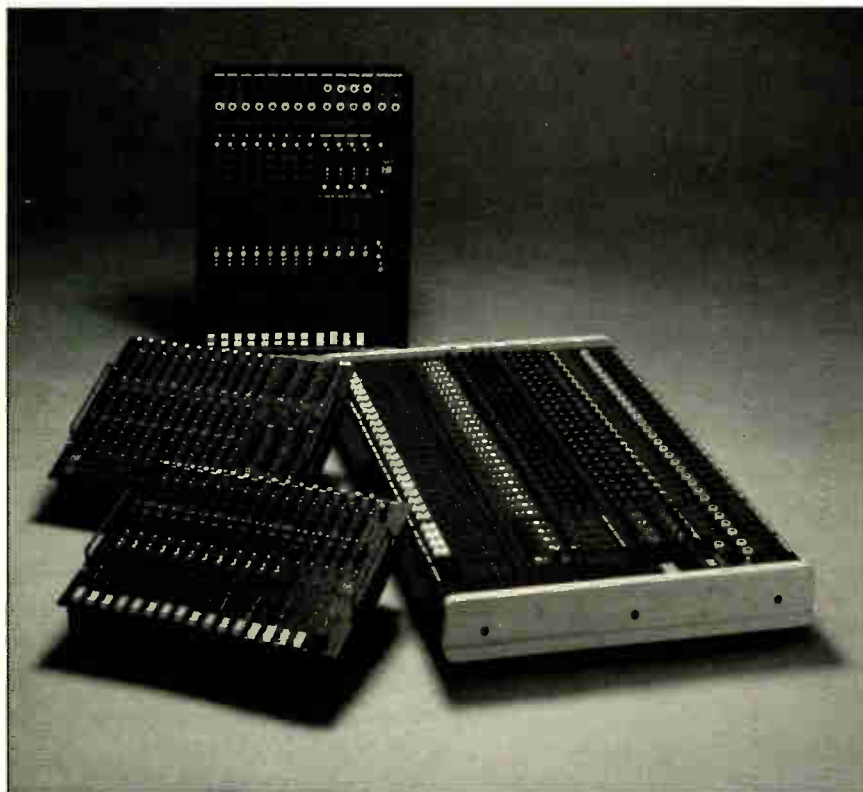
**TURBOSOUND, 30B BANFI PLAZA NORTH, FARMINGDALE, NEW YORK, NY 11735. TEL: (516) 249-3660 FAX: (516) 420-1863**  
**IN CANADA: OMNIMEDIA CORPORATION LTD, COTE DE LIESSE, DORVAL, QUEBEC, H9P 1A9. (514) 636-9971 FAX: (514) 636-5347**  
**TURBOSOUND LIMITED, STAR ROAD, PARTRIDGE GREEN, WEST SUSSEX RH11 5PZ. TEL: (0403) 711147 FAX: (0403) 710155 TELEX: 878723 TURBO G INC TURBO UK**

Circle #067 on Reader Service Card

# DID YOU MISS IT?

Anaheim, California, January:

Hill Audio introduced new three consoles that changed rackmount history. They join the "Mix Series" in March...



- **Multimix**  
16x4x2 (rackmount)
- **Stagemix**  
12x6 monitor console (rackmount)
- **Rakmix**  
8x4x2 (rackmount)
- **Soundmix**  
16x4x2 or 24x4x2



- **Remix**  
24x8x16



Hill Audio, Inc., 5002B N. Royal Atlanta Drive, Tucker, Georgia 30084  
Telephone (404) 934-1851 ■ Fax (404) 934-1840

World Radio History

Circle #066 on Reader Service Card

hotels on the grounds use Wolf's audio expertise and gear. Other work includes the Doral Ryder Open golf tournament (West Miami) in February (featuring a giant stage floating in water off the 18th hole); the sound at the owners' tent for the Super-bowl; the **Club MTV** spring break in Daytona; and many shows at the **Cameo** nightclub in Miami and at Fort Lauderdale's **Sunrise Musical Theater**.

The soon-to-be-opened 444-acre **Universal Studios Florida** (Orlando, Fla.) motion picture and TV production studio and theme park will be using over 240 QSC power amplifiers for live shows and attractions such as "King Kong Kongfrontation" and "Earthquake, The Big One." Sound contractor **Maryland Sound Industries'** general manager of permanent systems, **Will Parry**, says, "We've worked with QSC products on other major theme parks and have been very happy with their con-

sistency of quality."

**Jack Link Associates** provides audio, lights and staging for Florida and the Southeast. One of the oldest regional production companies in Florida, the company has been incorporated since 1974 and originally began as a lighting company. Namesake **Jack Link**—who started the business and still owns it—maintains offices and a warehouse in Rockledge, Fla., nearly 50 miles east of Orlando. "We do shows all over the Southeast. Our client base is split among promoters, the bands themselves, booking agents and facilities. We do a lot of regional concert touring and handle corporate clients like Disney and MGM," Link says. JLA also provides labor pool services when needed. Recently, the Rolling Stones contracted the company to provide close to 80 experienced people to help with staging for the Florida concerts.

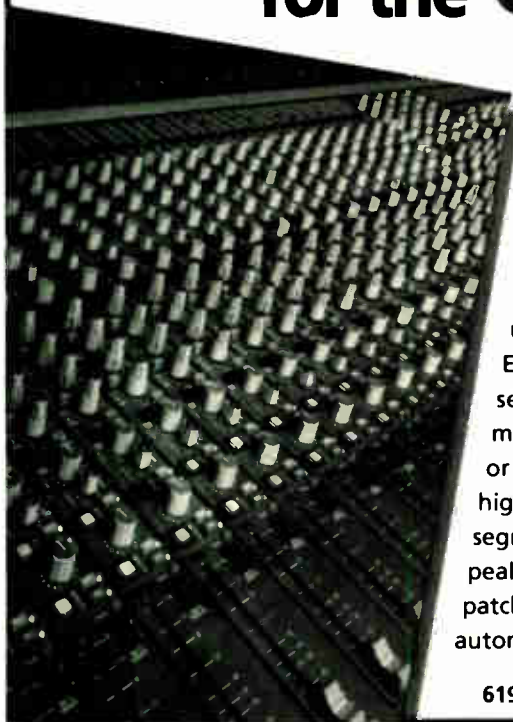
Jack Link's audio inventory shows Yamaha PM3000 and

AudioArts 32 x 8 x 2 consoles in the house, and Ramsa WR-S840 and AudioArts 24 x 8 onstage. The main P.A. uses Overture cabinets powered by Crest; monitor wedges are JBL-loaded double 12s with a 1-inch driver.

**In news from other parts of the world**, Japanese rental company **Kyoritsu** (Tokyo) uses a 24-box EAW KF850/SB850 sound system for the 11,000-seat **Makuhri Messe** multipurpose facility. The new P.A. system was first put to work with jazz and rock concerts this past October... Employing a 48-box P.A. system with 24 KF850 and 24 SB850 cabinets, sound company **Chunichi Onkyo** handled an outdoor rock festival commemorating the town of Shiojiri's 30th anniversary.

**Electrotec Productions** (Canoga Park, Calif.) reports steady touring through the late fall and early winter season. A brief summary follows: **Alabama** began a new tour in February... **Barry Manilow** ended his year-

## Get in Gear for the 90's

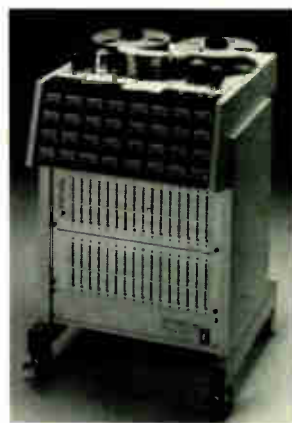


### ▼ TAC MAGNUM

24 buss in-line recording console with 32-track option, 4-band EQ, up to 72 inputs with EQ at mixdown, 8 aux sends assignable to monitors, in-place solo or PFL, 2 mute groups, high-resolution 30-segment bargraphs with peak hold, 288 point patchbay, fader muting/automation ready.

### ▼ OTARI MX-80 2" RECORDER

MX-80 features a microprocessor-controlled constant-tension transport, a full-function remote



controller, exceptional audio electronics, and connectors for interfacing to any SMPTE/ EBU timecode-based editing system, controller, or synchronizer. Available as: 24-track, 24/32-track.

**BEST SERVICE  
BEST PERSONNEL  
BEST PRICES**

**PROFESSIONAL  
AUDIO  
AND  
SERVICES  
SUPPLY CO.**

619 So. Glenwood Place, Burbank, CA 91506. Tel: 818/843-6320. Fax: 818/843-5754

For those  
who take it  
seriously...



Now  
providing advanced  
training in  
conjunction with  
**Solid State Logic**

It's not enough to study the "art" of recording. You simply must learn the *technology* of recording. That's the only way to insure your career for today and tomorrow!

"IAR grads are the most highly motivated and best trained of anyone entering the engineering field. I give IAR my highest endorsement."

Dan Healy, Chief Engineer  
The Grateful Dead

**800-544-2501**

NY, NJ, CT 212-777-8550

Lic. by NYS Ed Dept / HS Diploma or GED Required  
App for Veterans Training / Financial Aid if Eligible



**Institute of Audio Research**

64 University Place, Greenwich Village, New York, New York 10003

Circle #144 on Reader Service Card

long U.S. tour and in January proceeded to work eight weeks in the UK... Former **Yes** guitarist **Trevor Rabin** finished a club tour with engineer **Paul Mitchell** mixing house on a Ramsa 840 console... January 14 saw **Rush** rehearse in Toronto before embarking on a five-month large-arena tour that will feature a new Gamble Series EX 56-channel house console from Crest... **Tom Petty** was scheduled for a major arena tour in February... **Randy Travis** (see "On the Road") was in Europe for the fall season and then embarked on a USO tour of U.S. military bases in Spain, Egypt and Turkey. Travis then began another extended U.S. tour in January. Electrotec's **Pierre D'Astugues** says, "Stability is a cornerstone in some of the more successful sound companies. We've been lucky, in that respect, with our steady touring clients **Alabama** and, more recently, **Randy**."

**Crest Gamble Series EX news...dB Sound** (Des Plaines, Ill.) has a 56-channel EX on **Aerosmith's** world tour... **Eastern Stage Productions** (West Babylon, N.Y.) bought a 40-channel EX for regional work... The world's largest proscenium theater at Purdue University's **Elliot Hall of Music** is now home to a 56-channel EX... **Minnesota Public Radio** is using a 48-input EX with center groups for Garrison Keillor's radio show...

**South of the border...** The Mexican band **Los Bukis** (Mexico City) recently purchased 40 QSC 3800 amplifiers to go with their 64 QSC 3500s. The new 3800s will power 72 new JBL Concert Series 4852 P.A. cabinets. The band's tour rig is now the largest privately owned QSC-powered system in the world... **Producciones Catt** (Mexicali) now has an Electro-Voice MT-4 Series system powered by QSC MX1500 amps. Recent work included the inauguration of the newly elected governor of Baja Califor-

—CONTINUED ON PAGE 170

# Sam Ash

• DESIGN • SALES  
• SERVICE • PARTS  
• INNOVATIVE  
FINANCING PLANS  
• RUSH DELIVERY

PROFESSIONAL

INNOVATIVE SOLUTIONS FOR PROFESSIONALS



AKAI A.D.A.M. 12-TRACK  
DIGITAL AUDIO RECORDER

## NEW YORK'S LARGEST PRO AUDIO INVENTORY

• PROCESSORS BY EVENTIDE, LEXICON, DBX, SYMETRIX, VALLEY PEOPLE, ALESIS, T.C. ELECTRONICS & AUDIO LOGIC • D.A.T. FEATURING THE SONY TC-D10 PRO & PCM 2500 AND THE PANASONIC SV-3500 & SV255 • SAMPLERS FEATURING THE AKAI S-1000 & S1000HD, THE ROLAND S-770, S-550, & S-330, THE EMU EMAX II, EIII & PROTEUS • INTRODUCING D.A.R. DIGITAL WORKSTATION—POSTPRODUCTION POWER TOOL.

## A FEW EXAMPLES:

• SOUNDTRACS IL48/ERIC/CMX/MRX STUDIO CONSOLES • AMEK MAGNUM/TAC SCORPION II/BULLET CONSOLES • C.A.D. 16 TO 48 INPUT, DC SERVO POWERED MIXING CONSOLES • EVENTIDE H-3000S & B • NY'S EXCLUSIVE T.C. ELECTRONICS DEALER FEATURING THE T.C. 2290 • AKG ADR 68K DIGITAL REVERB • ROLAND R-880 DIGITAL REVERB & E660 DIGITAL E.Q. • CONDENSOR MICS BY JOSEPHSON, AKG, CROWN, NEUMANN, SONY & SENNHEISER • APPLE MACINTOSH COMPUTERS (NY'S ONLY APPLE MUSIC DEALER • SOUNDTOOLS DIGITAL AUDIO RECORDING & EDITING SYSTEM • TASCAM MSR-24 1" 24-TRACK BREAKTHROUGH PRICE RECORDER • MONITORS BY TANNOY, EV, JBL & UREI



TASCAM ATR-80 JAPAN'S FINEST 2" 24-TRACK

723 SEVENTH AVENUE (THIRD FLOOR)  
NEW YORK CITY • 10036 • (212) 719-2640

Circle #145 on Reader Service Card

## SOUND REINFORCEMENT NEW PRODUCTS

**PROSYSTEMS FP 251  
ULTRALIGHT ENCLOSURE**

The FP 251 from ProSystems (Meadville, Pa.) is a compact, two-way enclosure made of Fiberlite™, a strong, durable material that is 20% lighter than comparable plywood cabinets. The 54 lb. system features a 15-inch LF driver paired to ProSystems' 4640 compression driver and 8714 (80°×30-degree) constant-directivity horn, providing a stated frequency response of 70 to 20k Hz, with a power rating of 150 watts RMS. An internal 12dB/octave passive crossover is standard, as are biamp inputs. The FP 251 has a list price of \$396 and measures a compact 30×24×16 inches, including epoxy-coated steel grille, integrated handles and gray, carpet-type covering.

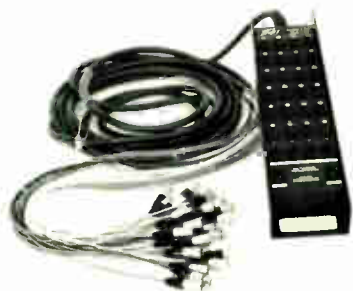
Circle #164 on Reader Service Card

**YAMAHA PC SERIES  
POWER AMPLIFIERS**

Designed to deliver high output, reliability and audiophile performance is the PC series of 2-channel power amps from Yamaha Pro Audio (Buena Park, Calif.). The PC2602M metered version (\$1,395) and PC2602 (\$1,295) each provide 400W/channel into 4 ohms, 260W/ch into 8 ohms or

800 watts mono bridged. The PC1602 (\$995) offers 240W/ch into 4 ohms, 160W/ch into 8 ohms and 480 watts mono. Response is given at 10 to 50k Hz ( $\pm 1$ dB). All models include: massive heatsinks and a thermally controlled fan for stable operation, dB-calibrated pots, security covers, clip indicators and balanced TRS and XLR inputs.

Circle #166 on Reader Service Card

**PEAVEY AUDIO LINK™ SNAKE**

Available in 12-, 16- and 24-channel configurations, the Audio Link from Peavey (Meridian, Miss.) features a Skintop® strain-relief cord, in addition to Neutrik cable and panel-mount connectors. All snakes in the series include: balanced inputs and returns (the 24-channel version has 24 inputs and six returns), 12-gauge steel chassis frame with 16-gauge top panel and large, two-color lettering for easy visibility in reduced-light areas.

Circle #165 on Reader Service Card

**MCCAULEY MODEL  
6520 DRIVER**

The Model 6520 from McCauley Sound of Puyallup, Wash., is a 2-inch, throated, HF compression driver offering a 150W RMS power rating, frequency response of 500 to 16k Hz and a sensitivity of 112dB SPL (1W/1m). Designed specifically for commercial installations and touring sound systems, the 6520 also features a field-serviceable, 4 inch, titanium-diaphragm assembly. The driver



has a retail price of \$383 and comes with a five-year warranty.

Circle #167 on Reader Service Card

**VEGA T-99A WIRELESS MIC  
TRANSMITTER**

New to Vega, Inc.'s (El Monte, Calif.) Ranger line of wireless products is the T-99A, a handheld wireless mic transmitter that features CVX® audio processing for lower distortion and wider dynamic range. An Electro-Voice

N/D757 N/DYM® mic element is standard, along with dual battery-life indicators, internal dipole antennas and a silent on/off audio mute switch that allows the transmitter to be turned off while the RF remains on.

Circle #168 on Reader Service Card



## GEORGE CLINTON'S CREATIVE ANARCHY

"All the rappers were starting to say how they were into the funk," says George Clinton, the man who lent a crucial hand to the development of the genre. Clinton is mulling over *The Cinderella Theory*, his debut album for Prince's Paisley Park label and first solo work since 1986's R&B *Skeletons in the Closet*. Considering its pared-back instrumentation and nine shapely songs, Clinton himself wouldn't locate the material "way, way out there. It's his pop record," chuckles Larry Ferguson, a fervent Clinton fan who engineered and mixed most of *The Cinderella Theory*, "but it's still funk."

The stylistic pull on this Clinton turn is hip hop, the still-emerging black music that, despite its vocal stamina and beat-box loyalties, is presented in terms of songs and shoots for an air-tight sonic focus. "All the rappers were edgy, real hard," Clinton says. "It was that edge that we used to do with Parliament-Funkadelic during the '60s and early '70s. And I said, 'Right.' But I wasn't going to do that again. I wasn't going to be warmed-over '60s. I was going to sneak in some of that somewhere along the way. But I knew I would be targeted, because I wasn't supposed to be around anyway."

On *The Cinderella Theory*, Chuck D and Flavor Flav of Public Enemy show up to help host a long, serious jam called "Tweakin'." However, the album's debt to current street pop runs deeper than guest appearances. "I fell in love with the concept as soon as I made myself understand how hip hop was done," Clinton says. "I put myself to the test. I learned Eric B & Rakim's 'Follow the Leader,' a booming 1988 creation that Clinton calls his favorite piece of music: "It's impeccably clever, hard and sophisticated. I never would have thought, being my age, that I would have enough concentration to even want to learn something like that."



Clinton says he plans to record the song himself, casting a choir of 20 voices and using somewhere between 30 and 40 musicians in addition to his 17-piece band. These are loyal singers, guitarists, bassists and, increasingly, keyboardists and programmers who worked wonders for him throughout the P Funk extravaganzas, Clinton's solo albums on Capitol Records, plus independent outside productions that he periodically undertakes.

Clinton has his own way of achieving results in the studio. "You either love it or you hate it," says the African-born Ferguson, whose studio credits include work with Kenny Rogers, Lionel Richie, Chicago and Michael Jackson. "Fortunately for me, I love the way George works. He'll just go into the studio and say, 'Set me up a mic' and start singing. And that will be the song. And it will all make sense. He makes it look so

easy. He has a way of making people feel relaxed. Sometimes he'll walk around the studio—and there are all these people hanging out—and he'll say, 'Who's the worst singer here? That's who I want.' "

Ferguson brims with stories about Clinton's odd techniques. When recording background vocals, Clinton occasionally asks singers for a reading of a particular line, then changes the lyric as they are delivering it. "Because as you sing it," Ferguson explains, "you'll add something you thought you heard that Clinton didn't give you, but that he might like." Also, "private" rehearsals are never sacred. "Sometimes somebody's playing in another room," Ferguson says, "and George will walk in and hear it, and he'll say, 'Come here. You're on this record.' He's very meticulous, in fact, but it doesn't seem like that when he's working. That's what makes it so pleasant."

Ferguson recorded and mixed most of *The Cinderella Theory* at United Sound Systems in Detroit. The studio recently sold its older Flickenger board, and now work is done with a Neve 8108 console and Ampex 1200 tape machine. For vocals, Ferguson chose tube mics—[Neumann] U47s and 48s, for backgrounds as well as leads. "They're warm," he says. "You hear much more than just a vocal; you get much more transparency. They're a lot more defined than your regular FET or solid-state mics."

To capture that all-important bottom of Clinton's funk, Ferguson used an Inovonics 201m. "You put a limiter on certain things and you lose all the bottom," Ferguson says. "Whereas with this limiter, I found a way of keeping the level down and raising the bottom end only so much. You don't have to bring in the stereo bus. You add bottom sometimes and it all becomes really dark."

Clinton's peer in funk is James Brown; however, in the studio the younger man cultivates a sort of creative anarchy, while Brown frequently took the opposite tack. "His band would tell you that," says Clinton, "but even producers who stick to a real game plan have enough sense to

PHOTO: GREG GORMAN



say, 'Well, drop the B-flat, let's go to the A,' so that other people can inject ideas. But if you do go in the studio with a tight game plan, *you better be bad*. You'd better be Stevie Wonder or Sly Stone or Paul McCartney. Not many people can hear like that. You can limit yourself otherwise."

Clinton's ways may, as he puts it, "wear somebody's nerves out," but he is convinced of their worth. "The reward is the bomb," he deadpans. "I've learned how to tell an engineer who might not like it [with a lot of people hanging around] that if it gets too crazy, then let me know, and I can get people out of there my way. But—especially if I'm not mixing—I can let people just walk in and around and everywhere, because I use their vibes to bounce the songs off of."

"So, if somebody's tapping, or somebody's humming something over here that I like a lot, I can use all of that. I say, 'Everybody come in here, let's sing this part.' When people are happy [recording]—especially people who've never had the chance to do it before—you get that on tape, the thrill of their being there. It comes off in the music. I don't care if it's crazy or loud. I like that. Some people can't take it, and it won't be like that when they come in. If [former James Brown Band member] Bootsy [Collins] is around, only certain people can be around before he gets real nervous. He got used to James Brown's serious discipline."

Clinton's permanent address is a telephone-free farm outside Detroit. Engineer Ferguson usually stays with Clinton when he goes to Detroit and drives him to the studio where they're working. He says Clinton gets a lot of his ideas while riding along in the car. The title song of *The Cin-*

*derella Theory* had its origins in Michigan at Clinton's farm. But another automobile—Bootsy Collins' jeep—figures in as well. Clinton explains:

"About four years ago, we were out at my house—Bootsy, [keyboardist Joseph] 'Amp' Fiddler and I. And Amp was just meeting Bootsy for the first time. Bootsy's one of these people who keeps about 1,000 watts in his jeep; when he's got a record, he puts it on there, and it's, like, the best-sounding record in the world."

"So Bootsy's out there playing his tapes, and they're sounding great, and Amp and I had been inside the house putting 4-tracks down. So when Bootsy drove up, we walked outside—we were getting ready to play some tapes for him. Bootsy put his stuff on. And, you know, it blasted the whole countryside. I felt like putting my tapes back in my pocket; I didn't want to play anything behind *that*."

"So Amp goes back into one of my bedrooms. He's in there about an hour or two while Bootsy has his music kicking around all the time. About two-and-a-half hours later, Amp comes out to the jeep and says, 'Put this on.' And, you know—you put 'The Cinderella Theory' track on and you've got all these samples, syncopations, jazz chords and licks on the piano. It just blew us clean out of the jeep. It was like, 'Holy shit!'—just so much counterpoint and syncopation."

"I named it right then. I was already into something about a theory... connections... affair... Who is it, Robert Ludlum? He does all those spy novels that have titles like that. This was a continuation of *Motor Booty Affair*, *Mother-ship Connection*, that espionage-type of trip."

**"I love the way George works.  
He'll go into the studio and say,  
'Set me up a mic' and start singing.  
And that will be the song."**

**DAT's  
incredible!**



**DAT**  
**IS THE**  
**CUTTING**  
**EDGE**

Casio  
Panasonic  
Sony  
Tascam



Full USA  
Manufacturer's  
Warranty. No grey market.

DAT tape is in stock from AGFA,  
Amplex, Fujii, Panasonic and 3M.



**Prices Too Low  
To Advertise.**

Call Now:  
**1-800-356-5844**  
608-271-1100

**300 LINES: AUDIO, VIDEO, LIGHTS**



5618 Odana Road, Madison, WI 53719

Circle #011 on Reader Service Card

# Cordless Performance Power!

Audio-Technica...  
the new standard in  
professional wireless systems



Make no mistake. Despite the affordable price, these are very serious wireless microphones. Designed to solve the most difficult problems.

### The Result of Years of Development

Despite their relative newness, the A-T Wireless Systems have literally years of development and prototype testing behind them. Their reliability has been amply proven in demanding field tests and in the lab. And every detail has been refined to insure performance that meets your highest personal standards.

### High-performance Receiver

At the heart of each A-T Wireless System is an advanced true-diversity receiver. Field tests provide dramatic proof of its ability to maintain full limiting when others are at the edge of distress. Two basic

microphone systems are available to meet your specific needs, whether used for live music performance, church sound reinforcement, trade show talent, theater sound...anywhere wireless freedom improves the presentation.

### Wide Choice of Inputs

The receiver is combined with a self-contained hand-held Audio-Technica uni-directional wireless microphone to create the Model ATW-1032 system, or choose the Model ATW-1031 UniPak™ transmitter system for unusual versatility. Two A-T lavaliers and a head-worn cardioid microphone are available for direct plug-in to the body pack. Any other Lo-Z microphone can also be plugged in, or a guitar or other instrument pickup can also be used with this versatile transmitter. Or use the system to create a "wireless podium" using our popular UniPoint® microphones.

### Put A-T Wireless to the Test

Before you invest in any wireless system, insist on a comparison test with the new Audio-Technica wireless systems. They offer you full freedom, superb coverage, great reliability, and better sound than you thought possible...all at reasonable cost. Call or write today for full details.



**audio-technica.**

1221 Commerce Drive • Stow, OH 44224  
(216) 686-2600 • FAX (216) 688-3752

Circle #078 on Reader Service Card

"But it took me another year to come up with [a lyric], because I wanted the vocals and lyrics to be equivalent to the track. I usually just take a track and go into the studio and start singing, but this took me a long time to even attempt [that part of the song]. I wouldn't even trust myself in the studio with that one, because it was so fresh that I didn't want to come off with my usual ammunition."

Talking about "The Banana Boat Song," another *Cinderella Theory* nod to a modern master's doo-wop beginnings—in this case, Harry Belafonte's much-covered '50s hit—Clinton mentions the scoring he's doing for *The Tracey Ullman Show* on the Fox Network. "It was a track that Bootsy threw up, the first thing I'd seen him play bass on in a long time. When I heard it, I was looking for tracks to show Tracey. But when I heard it—I always start singing an older song a tonally so it will fit the track, even if it isn't in the right key for the song, and "The Banana Boat Song" worked so well, making that melody slap through there, that we thought it was funny. We were aiming to do it with more than one person and put harmonies in there. But we thought it was hilarious! Everybody started saying it was a great track. So I put it on."

Clinton, for all his easygoing modesty, sounds serious about the jazziness he's integrated into his new hip hop-inflected tunes, such as the unplaceable jerks that lie beneath and anchor "The Cinderella Theory" and "(She Got It) Goin' On," the up-and-at-'em roll call of "canines" that swings freely through "Why Should I Dog U Out?" and, of course, "The Banana Boat Song." George Clinton, 49-year-old hip hop advocate, starts talking generations. "Right now, with sampling and scratching and remixing and all that, new rhythms are created. Just from someone's scratching one rhythm comes a whole 'nother rhythm. Since it's so anarchic for older people—for what they hear in their minds as music—one thing they might appreciate is jazz. If I can go way out there into the creativity of that [and address] people who might say, 'I'm sick of this noisy stuff,' all of a sudden older folks can appreciate the noise, as it were."

—James Hunter

## SONEX. Peak sound control.



Nothing controls sound better than the famous anechoic peaks of SONEX acoustic foam. Control reverb, reflections and resonances to leave just the true sound. Distributed by: Alpha Audio Acoustics, 2049 West Broad St., Richmond, VA 23220

Call (804) 358-3852

Circle #012 on Reader Service Card

**illbruck**

SOUND BUSINESS  
IN ASIA  
MEET ASIA'S SPECIALIST SOUND  
EQUIPMENT BUYERS AT.....

# Pro Audio Asia '90

JULY 11-13 1990  
HONG KONG CONVENTION &  
EXHIBITION CENTRE

For details, please contact  
**BUSINESS & INDUSTRIAL TRADE FAIR LTD.**  
28/F., Harbour Centre, 5 Harbour Road,  
Wanchai, Hong Kong  
Tel: 5756333 Telex: 64882 ASIEX -HX  
Cable: BIFCCAB Telex: 8341171, 8345373

PAA29 10/11X

Circle #013 on Reader Service Card

## Lowest Prices on AMPEX Tape

Ampex 456 Grand Master® Studio Mastering Tape

As low as... 2" \$114.08 per reel

As low as... 1" \$ 52.68 per reel

As low as... 1/2" \$ 30.43 per reel

As low as... 1/4" \$ 9.43 bulk

COMPLETE CATALOGUE AVAILABLE UPON REQUEST.

AEG-Telefunken Mastering • Telefunken/Lyrec Duplicating  
3M Audio Distributor • Audio-Video Cassette Duplication  
R-DAT Digital Tape • J-Card Printing  
Sony Pro Video • Custom Video Cassette Loading  
Audio & Video Accessories • Ampex Pro Video

HRC Magnetics 1611 Herring Waco, Texas 76708  
CALL TOLL FREE 1-800-443-8457 Nationwide FAX 817-756-0082

Circle #024 on Reader Service Card

# The Center of Attention.

**TEC**  
THE 1989  
TEC AWARDS  
WINNER

## FULL SAIL CENTER FOR THE RECORDING ARTS

3300 UNIVERSITY BLVD. WINTER PARK, FLORIDA 32792  
TOLL FREE OUTSIDE FLORIDA 800-221-2747 FLORIDA RESIDENTS 407-679-6333

The Industry Leader In Recording Career Education Since 1979.  
Breaking The Sound Barrier Coast-to-Coast.

Circle #025 on Reader Service Card

— FROM PAGE 59

ment, some Massenburg preamps, gates and all that stuff.

"I try to do the artists' music. I don't try to do mine. I change engineers, musicians and the ways of cutting people. Also, I still play rock 'n' roll and R&B in a band called The Snakes. The reason for that is I always want to touch music from that standpoint, and I can apply that freshness and edge to my productions. I never want to give that up."

• • •

Wendy Waldman feels it is appropriate that these players are becoming producers and even heads of labels. Now splitting her time between L.A. and Nashville, she holds the distinction of being one of the few female producers in contemporary music.

"In the last few years I've gone from producing a few demos to producing for every major label in Nashville. The truth about Nashville belies the myth. As much as it has a reputation for being a good ol' boy's town, I have found a lot of opportunity and a lot of support. I find I am still judged by the quality of my work. Whatever obstacles one encounters, they're not due to the location. It's just that women haven't been in this field too much before. It's going to be a long road until we see the first woman Bob Clearmountain and the first woman Jimmy Iovine. Certainly that's a worthy goal, and there isn't any reason why women can't do that."

Her track record from L.A. was as a songwriter who had produced her own Cypress release a couple of years ago. But after Suzy Bogguss requested that Waldman produce her debut LP, Capitol hired her to work with New Grass Revival.

"I think they were looking for somebody with a little more radio sensibility, but somebody who wasn't afraid of off-the-wall music. On Suzy's album, we had done a lot of interesting acoustic stuff." She won't, however, conjecture what it is country radio demands of its production, because she says it is constantly changing.

"It's going through a shift, just as heavy metal was doing one thing a few years ago and now those bands are suddenly cutting acoustic ballad stuff,"



**James Stroud likes cutting digital projects on the SSL at Emerald Studios (pictured here).**

she says. "You've got to make the best record you can for the level of the artist. Suzy Bogguss is evolving, the Forester Sisters are evolving, and it's my job as the producer to assist them in any way I can to achieve their goal, to try to walk that line between themselves and the record company and hope that we can encourage the record company to take chances.

"In rock music, production starts with the song and the production style. Often, the artists are tailored to the song and the production. In country music, more often the opposite is true, where an album is built around an artist. You sit down with the artist and try to develop their persona. As a producer, I tend much more toward artist focus because I'm an artist, too. So I'll ask, 'Who are you? Where are you going? Where do you see your career going? What kinds of songs do we need to either find or develop? What kind of a sound? I have friends, by the way, who are brilliant producers, who are totally song- or production-oriented, and who make some of my favorite records in the world, so I am by no means making a value judgment. I'm just saying that there are two different roads to the city."

Her favorite studio in Nashville is Sound Emporium. "It reminds me of Cherokee in L.A.," she says. "It's this big old funky rock 'n' roll room with an old Neve console. It's not the flashiest studio in town, but boy, is it good-sounding. There are big Westlake

monitors in there, and I like them and the console. I love the crew there: it's a small, neat family. Every track I've cut there has come out sounding really warm and solid. Josh [Leo] and I cut Matraca Berg's tracks there, and we had eight or nine people cutting at a time, and everything sounded great. We got good isolation. There is no shortage of good digital or SSL rooms in this town. I've enjoyed mixing at MasterMix, which is the Calrec board here in town. It's a beautiful-sounding room."

When it was suggested that she and Leo had a surprisingly easy acceptance into the Nashville recording community, Waldman stresses, "I don't know if Josh and I had an easy time, we just tell another story. I don't think we're particularly interested in shining a light on what's been difficult about our lives here because we're pretty sensitive to the community, and the community has been tremendously supportive of us. We've been given a livelihood and, in my case, the support to go back out and do rock and film, cut records for Swedish artists and every crazy thing. Nashville has a tough enough time dealing with the stupid prejudices that are out there in the world. What's fundamental is where we are today: participating in a growing and interesting community of great players and writers—a community that has been generous to both of us and to anybody else who has something to offer." ■

*Robyn Flans is a Southern California-based freelance writer who frequently contributes to Mix.*



Accredited by NATTS

## Our Graduates Work

A practical education in audio and video recording arts and sciences for anyone who takes recording seriously.

## Institute of Audio-Video Engineering

1831 Hyperion Ave., Hollywood, CA 90027

Call Toll-Free: National 1-800-551-8877

Local (213) 666-2380

Circle #026 on Reader Service Card

## DISC \*\*MAKERS

### CD Replication

- Fast Delivery
- Small Quantities



**500 CDs and  
500 Chrome  
Cassettes for  
\$2990  
COMPLETE  
PACKAGE PRICE!**

Call today  
for complete  
details and our  
FULL COLOR  
CATALOG



**1-800-468-9353**  
In PA (215) 232-4140

### DISC MAKERS

1650 Broadway, Suite 1010  
New York, NY 10019  
(212) 265-6662

Circle #027 on Reader Service Card

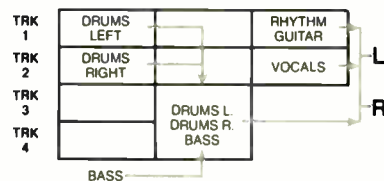
# Before you play ping-pong with a multi-track, read this...

The main weakness of four track recorders is their inability to adequately ping-pong tracks in stereo. If you want to record more than five instruments in stereo, you're going to need more than four tracks. The Sansui WS-X1 has six tracks that can play back and record simultaneously. This means you can maintain a true stereo mix of up to 10 instruments in just two tape generations.

## 6 vs. 4 in the Real World

Here's a real-world example of six versus four tracks. The four track story is pretty short. Use tracks 1 and 2 to record a stereo drum mix, then ping-pong those over to 3 and 4 adding bass as you go. Now you can record rhythm guitar on 1 and a vocal on 2. Without taking a second bounce, the only thing left to do is the final mix.

4-Track (stereo ping-pong recording process)



## 6 Will Get You 10

Now let's take a look at how the Sansui WS-X1 handles the situation.

The WS-X1's extra tracks let you record stereo drums, bass and rhythm guitar on tracks 1 thru 4 before you have to think about the first ping-pong. Selecting "Tape" on channels 1 thru 4 of the 8 channel mixer and choosing "Buss" on multi-track channels 5 and 6 are all you need to do to set up the ping-pong. You can add stereo keyboards to tracks 5 and 6 as you make the transfer. Just bring the left and right outputs of your keyboard into mixer channels 7 and 8 and record the keyboards as you make the mix.

Tracks 1 thru 4 are again available for recording. You can put a lead vocal on track one and a backing vocal on track 2. Using the above technique, you can transfer these tracks to 3 and 4 adding another backing vocal on the way.

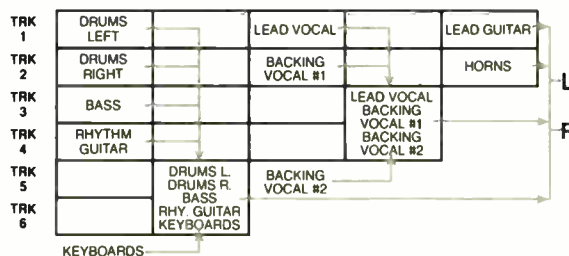
Now you've got a stereo rhythm track mix on 5 and 6, and a stereo vocal mix on 3 and 4. You can now go ahead and record lead guitar and horns on tracks 1 and 2. You now have 10 distinct takes in easy to manage sub mixes.

## That's Not All, Folks

With its extra tracks, full featured mixer and on-board mixdown deck, the WS-X1 has everything you need to make professional sounding recordings in one easy to use package. See your authorized Sansui dealer today for a complete demo.



SANSUI WS-X1 6-Track (stereo ping-pong recording process)



For a full color brochure send \$2.00 for postage and handling to: KDS Technologies, P.O. Box 507, Bloomfield, CT 06002, 203-286-0498

—FROM PAGE 110

extremely wide assortment of options will be offered for the deck, including: built-in mixers (with up to four inputs); individual mic phantom powering; wireless remote controller; DC powering for up to ten hours continuous operation; AES/EBU, SPDIF and SDIF-2 digital interfaces; and time code based on the IEC standard. Pricing for the StellaDat will not be available until later this year.

Stellavox is distributed in the U.S. by International Audio Technologies, Ltd., 13897 Willard Road, Chantilly, VA 22021; (703) 378-1515.

Tascam's DA 50 is a rack-mountable studio DAT deck that was introduced over a year ago, but has been updated to incorporate 44.1kHz recording in addition to 48 and 32kHz operation. The DA 50 is priced at \$3,999 and includes balanced XLR inputs/outputs, unbalanced RCA inputs/outputs, optical and coaxial digital ports, and a multifunction hard-wired remote control.



Tascam DA-30

Tascam unveiled the DA-30 at the January NAMM show in Anaheim. It's a low-cost, full-function professional studio DAT machine with a retail price of \$1,899. This rack-mount deck includes AES/EBU digital ports, 64-times oversampling dual A/D converters (using delta-sigma modulation technology) and 18-bit dual D/A converters. The DA-30 records at 44.1 or 48 kHz from the analog or digital inputs (32kHz recording from the AES/EBU port only), and will play back tapes at all three sampling rates. Initial deliveries of the Tascam DA-30 should begin next month.

Tascam, 7733 Telegraph Road, Montebello, CA 90640; (213) 726-0303. ■

Mix products editor George Petersen lives with his wife and two musical dogs in a 100-year-old Victorian house on an island in San Francisco Bay.

## Don't call us... We'll call you

Now, PAN Network members can have electronic mail and customized industry information automatically sent to their fax machines.

PAN's new FaxScan™ service checks your mailbox and *your* choice of forums or databases. Only the information that *you* want is sent to your fax.

FaxScan is one of the new and exclusive Automation services available to music professionals around the world on The PAN Network.

### FaxScan... Only on PAN

© 1990 PAN  
PAN and FaxScan are trademarks of The PAN Network

Circle #035 on Reader Service Card



THE  
PAN  
NETWORK

The PAN Network  
P.O. Box 162  
Skippack, PA 19474  
Tel: 215-584-0300  
Fax: 215-584-1038

# IMPERIAL TAPE Company, Inc.



- Manufacturers of custom length blank audio and video cassettes
- Top quality audio and video cassette duplication
- Shipment within 24 hours, same day L.A. service
- Call for free catalog

Service · Quality · Integrity

Nation's Leading Authorized Distributor  
AGFA AMPEX 3M MAXELL TDK BASF

1 • 800 • 736 • 8273

FAX 213 • 395 • 8255

213 - 393 - 7131

1014 Broadway, Santa Monica, CA 90401

Circle #036 on Reader Service Card

by Philip De Lancie

# DAT VENDORS SERVE PRO MARKET

The increasing acceptance of DAT in professional settings has been well covered in past issues. Everyone seems to agree that DAT works beautifully for a wide variety of production tasks, and the professional recording community has become the unintended beneficiary of R&D budgets allocated by electronics manufacturers dreaming of a consumer-sized market. With the impending acceptance of a time code standard and the likely development of editing capabilities, further professionalization of the configuration is already underway. Consumer DAT, meanwhile, remains in suspended labor as lobbyists wrangle and executives get their second ulcers (see "Tape & Disc News"). So DAT, regardless of the original intentions of its developers, is *de facto* a professional format.

One consequence of this turn of events is that DAT, like the F1 before it, is blurring traditional lines between "consumer" and "professional." Japanese tape manufacturers are in a happy position to supply the pro DAT market in America, because they are already geared up to make the tape for consumers. The major professional tape suppliers in the U.S., on the other hand,

have had to scramble to catch up with a market whose professionalization seems to have caught them off guard. Agfa was the first to wake up, marketing Japanese-made product under the Agfa name. Ampex came into the market later, using its professionally targeted DATpak to differentiate its product, also Japanese made, from that of its competitors. With the recent 3M announcement that it will soon be offering DAT as well, it's an opportune time to explore the development of a professional orientation in the DAT tape market.

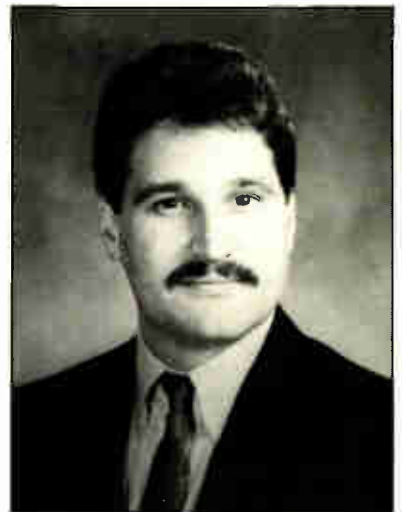
**Mix:** How long have you been offering DAT, and what trends do you see in terms

of demand?

**Andrew Da Puzzo, national sales manager, Agfa Corporation:** It's been a couple of years, now. Demand has been increasing quite dramatically.

**Steve Smith, product line manager, Ampex Recording Media Corporation:** We started DAT in early 1989. We had certain expectations, which we figured by taking the number of professional machines out there and guessing conservatively that each machine

would use a couple of cassettes a week. Based on those numbers, we decided it made sense to get into the business. Normally, when a product is introduced you have the initial filling of the pipeline, so to speak, as everybody gets their stock in, and then sales kind of ramp-up and eventually flatten off as you reach a stable business. But DAT hasn't followed that pattern. Our product has been very well accepted, and the business has continued to grow. We have discovered the market to be much larger and much stronger than we anticipated.



▲ **Kevin Kennedy, national marketing manager, DIC Digital Supply Corporation:** We have offered DAT since November 1987. The demand is increasing every month. We are selling more now in a month than we sold in all of 1988.

**Douglass Booth, national industrial sales manager, TDK Elec-**

**"If the consumer market opens up, we will obviously be there in a big way, but even if it remains essentially a pro or semipro market, we will continue to make it."  
"The demand is increasing every month. We are selling more DAT now in a month than we sold in all of 1988."**



**tronics Corporation:** We've had them in the market for about the last year and a half. Because of the limited installed base, it doesn't amount to a whole heck of a lot, but the trend is definitely up.

**Mix:** Is your distribution currently designed to reach both professional and audiophile markets, or is it targeted primarily toward one or the other?

**Da Puzzo:** Our market is all professional. I don't know if there is anybody really making any kind of numbers in the consumer market.



Our distribution is through pro audio stores and our own sales reps.

**Smith:** Our mission statement at Ampex is professional only, so we consciously do not have any consumer products. We do have distributors that could be classed as semipro, who sell both high-end stereo and professional products. Even so, I would say that the DAT tapes they sell are used for things like live recording rather than transcribing CDs.

**Kennedy:** We are available from both professional and consumer dealers, where there is a call for it. There is very little in the consumer business right now, but we do have some audiophile stores that stock and sell the product.

**Booth:** The majority of the tape we sell is finding its way into the studio market and to record companies, who are using it for transferring over their old masters. There are also a lot of people using it for data storage in the computer business. We do a certain amount of business with the larger houses directly, and also some through dis-

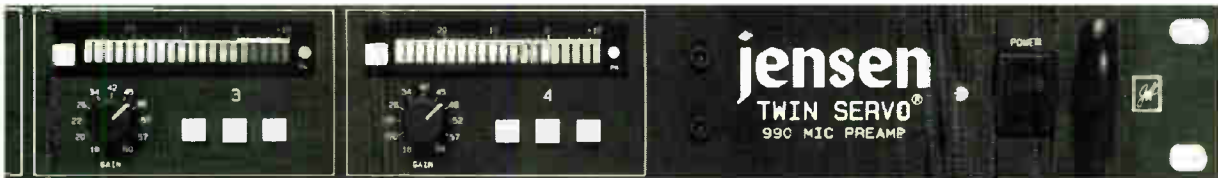


tributors. The amount of consumer business is limited, but what is sold goes through our distributors into the hi-fi stores.

**Mix:** Is there anything about your tape, shells or packaging that makes your product especially suited for professional applications?

**Da Puzzo:** We are not manufacturing our own DAT product at this time, though we will be in the not-too-distant future. Right now, we purchase from a third party, and we have very critical guidelines for what we purchase. We like to think that the quality control in our facilities is higher than most anybody

## Want To Get The Most From Your Microphones? The Jensen Twin Servo® 990 Mic Preamp



No amount of signal processing can recapture detail lost by the microphone preamp. Now you can capture vocals with *natural* clarity and make them stand out in the mix with *far less signal processing* using Jensen's discrete 990 technology.

Redesigned servo circuitry and new custom-core transformers sonically outperform the best transformerless designs. Enjoy unparalleled immunity from buzz, hum and noise—even near stage lighting on remotes. With low-noise pots for step-free level control and switchable peak/VU meters. You can own *proven* 990 Twin Servo® technology starting at under \$1500.\*

- Flat Group Delay to 65 kHz Yields Exquisite Transient Response
- New Transformer Core Alloy Reduces Low Frequency Phase Shift and Distortion
- DC Servos Eliminate Non-Linear Electrolytic Capacitors From Signal Path
- New Compact Size: 1 3/4" x 19" Rack Mount
- Immediate Shipment From Stock

**jensen transformers**  
INCORPORATED

\* Single channel price; factory expandable to 2, 3 or 4 channels. Manufactured exclusively for Jensen Transformers by John Hardy. *Twin Servo* is a registered trademark of Jensen Transformers, Inc.

10735 Burbank Boulevard • North Hollywood, CA 91601  
FAX (818) 763-4574 Phone (213) 876-0059  
Closed Fridays, visitors by appointment only

***The sound of tomorrow...today***



***DAT cassettes from SHAPER***

From beginning to end, inside and out, SHAPER's DAT cassettes stand alone. You can depend on SHAPER for the quality you seek in D-O's (shells), loading and packaging. We've built our world-wide reputation on innovation and excellence in design for the audio, video and computer markets. With every product, we're committed to surpassing customer standards for reliability and cost-effectiveness. When you insist on SHAPER, you insist on uncompromising quality.

***SHAPER—the measure of quality***

**SHAPER**

Gage Molding—A division of SHAPER, Inc.  
P.O. Box 717  
Scarborough, Maine 04074  
Telephone: 207-883-6316  
FAX: 207-883-1068  
Contact: Walter Gordon

else, so we are very careful to screen for only the best and most durable product. The tape has to perform flawlessly, and the cassette has to be constructed in such a way that it can withstand some abuse. Also, we have designed our packaging to enable the most efficient use of the small space available on the cassette for labeling. And we are looking into new packaging possibilities that are oriented toward the professional user.

**Smith:** We have the DATpak. We had heard a lot of stories about how hard it was for people to keep their written information with the DAT tapes. Because the F1 format had been around, people thought that the Beta box was about the right size. You can fit two DATs in there very nicely. So we settled on that box, and built a tray that is hollow underneath and clear so that you can see the paperwork in there. If you're missing the plastic box for the tape, you can stick it in the tray vertically and it will snap in. Plus, the insert card that comes with our tapes is a three-fold card, so you can put more written information on it. And it comes printed with spaces for producer, engineer, artist and other things that you wouldn't find on a consumer product. Also, our tape window is small, so people have more room to put information stickers on the tape.

**Kennedy:** Our shell is a high-strength U.S.-made cassette. As far as packaging, some people think something like the DATpak is great, while others think it defeats the purpose of the compactness of the format. We are trying to arrive at something that will be a medium between the regular cassette and a big package.

**Booth:** We are in the process of bringing to market a pure bulk pack, which has been requested by a lot of the studios. There will be fewer labels and fewer boxes that studios don't need. There are already people in the U.S. making a plastic box for DAT, and they can sell them cheaper than we can. So the bulk pack will allow us to get the tape to the studios at a more attractive price.

**Mix:** Are there great differences in tape formulations between manu-

facturers?

**Da Puzzo:** If there are, I'm not aware of them. I think when you get down to the tape medium itself, it either works or it doesn't work. We find that consistency and mechanical reliability are the most important characteristics of these digital types of media. Our choice of vendor is one that is able to supply us with that consistency.

**Smith:** I don't think there is a big difference between formulations, because there aren't a whole lot of people supplying the metal particles themselves. Also, because of

the nature of the digital recording process, the issues of signal-to-noise ratio and dynamic range, and all the one-half or one-quarter dB distinctions that you look at with analog tape, don't make any difference with DAT. The maximum and minimum specifications for performance of the tape have all been defined by the committees that put together the format. You need to be within the specifications, and not have any surface anomalies or defects that make dropouts. Since DAT doesn't have the kind of error-counting mechanisms that

**NO TROUBLE AT ALL!**

**COMPREHENSIVE SALES, RENTALS, SERVICE AND SUPPORT FOR ALL YOUR EQUIPMENT NEEDS.**

**AUDIO INTERVISUAL DESIGN**  
1032 N. SYCAMORE AVE. • HOLLYWOOD, CALIFORNIA 90038 • (213) 469-4773

Circle #133 on Reader Service Card

# KABA AUDIOPHILE DUPLICATION SYSTEM

recreates what was on your final mix down  
the way you want it heard.

## LISTEN TO AN EXAMPLE

Send for this free demo tape



Find out how easy and economical it is  
to produce cassette copies you'll be  
proud to have carry your name.



Toll-Free **800-231-TAPE** From California **(415) 883-5041**  
**KABA Research & Development** 24 Commercial Blvd., Suite E, Novato, CA 94949

Circle #134 on Reader Service Card

exist for systems like the PCM-1630, the issue of CRC errors doesn't really come up, and people's main concern with the tape is whether or not they have problems with muting.

**Kennedy:** If it doesn't meet the 1500 Oersted specification, it's not DAT tape. Beyond that, I don't know if there is a great difference between manufacturers or not.

**Booth:** The DAT tape formulation is not easy to manufacture because you are dealing with a metal. All the tapes are similar in that they are all metal particle, but it depends on the grind, the type of powder, how it's aligned, and the type of binder and base film. All these things figure in, and various people go at it in different ways. The studios have found out that there is no substitute for good quality, because once you've lost it on digital, there is no way of getting it back. To get something that's going to still be good after 50 passes, you have to address certain problems relative to shed and dropouts, and that kind of separates the men from the boys. And there are definitely some boys in the business.

Also, due to its size, the DAT shell is very complicated to make relative to conventional video or audio cassettes. There are a number of small parts that must be extremely high-precision. A poor shell can cause no end of problems, and there have been some of those out there in the field.

**Mix:** Has your company done any evaluation of the long-term stability of your DAT tape for use as an archival medium?

**Da Puzzo:** Agfa is involved in tape restoration, and because of our experience with the archival process and the needs of archivists, we have done as much as we can to see how the tapes handle over time. Of course, we can only simulate time, and you really need to give it time to find out how it will perform. But in all our simulations it has done well.

**Smith:** Ampex and 3M have issued a joint statement on archiving recommending ten years as a general figure that people should think about as far as shelf-life stability of audio tapes. That's not a guaran-



## COMPLETE DIGITAL MASTERING SERVICES FOR:

- Compact Disc •
- Records •
- Cassettes •
- Archiving Analog to Digital •

### NEVE DTC DIGITAL TRANSFER CONSOLE:

All mastering parameters performed completely in the digital domain and fully automated for precise accuracy and repeatability.

Sony 1630/DMR-4000  
Sony 3202 DASH  
Sony 2500 R-DAT  
Sony 601 (Beta/VHS)  
Mitsubishi X-80

**CREDITS:** Dirty Dancing Soundtracks, Eric Carmen, Expose, Will to Power, Eric Clapton, Betty Wright, Bee Gees, Judas Priest, Julio Iglesias, and many more.



Engineer: Michael Fuller

**FULLERSOUND, INC.** 1989 NOMINEE

1755 N.E. 149 STREET / MIAMI, FLORIDA 33181 / (305) 945-6697

Circle #135 on Reader Service Card

tee, it's just a time frame for archivists to know when they should start thinking about replacing their tapes. Obviously, an environment other than about 40 percent relative humidity and 70 degrees Fahrenheit, will vary that ten-year estimate. But we see nothing about metal tape that leads us to believe it will last less than other formats.

Ampex has also authored a number of technical papers on the stability of magnetic particles themselves. We found that some of the earlier high-coercivity metal particles would lose magnetism, and therefore output, when the tapes sat on the shelf after recording. So we did a lot of studies on that, and found that there were differences between particles, and we used that information in determining our choice of particles. Also, when pure metal particles were first introduced in the late '70s, they would oxidize or burn up with exposure to the environment. But now the particles are manufactured as a metal core with a thin layer around the outside already oxidized to stabilize it.

Regarding the technology of rotary head azimuth recording, we have a history that goes back as far as VHS, and I think we have nothing to worry about. People have proven that these formats are robust—that they can be used for digital recording and the quality will be maintained.

**Kennedy:** We are constantly doing testing. We've done accelerated testing of playback and recording, and we have seen no degradation of the tape.

**Booth:** We do ongoing testing, but the format is new enough that we can't say, "We've done ten years of torture tests." In general, as far as deterioration of the formulation, we've had no problems to date.

**Mix:** Are you committed to continuing to offer DAT to the professional market even if it fails to catch on as a consumer format?

**Da Puzzo:** Definitely. In this country, our only concern is with professional users.

**Smith:** Definitely. That's our business.

**Kennedy:** I hope the consumer

market takes off. We are getting strong indications that something is happening—that there will be a consumer market for it. In any case, we will continue to offer it to the professional.

**Booth:** Certainly. We figure it's a viable format. If the consumer market opens up, we will obviously be there in a big way, but even if it remains essentially a pro or semi-pro market, we will continue to make it.

**Mix:** If consumer DAT does take off, would you anticipate introducing a DAT tape formulated for either Otari's TMD or Sony's Sprinter high-speed duplication systems?

**Da Puzzo:** It is a little early to tell right now, but we are doing a lot with TMD for video already. The DAT recording technology, being a helical-scan system, is similar to video, so it is likely that high-speed duplication for DAT would follow along the same lines as high-speed video. We are already a major supplier of bulk tape to video duplicators, so I would expect that

—CONTINUED ON PAGE 170

# DAT

## AUDIO GALLERY

AMERICA'S BEST PLACE TO BUY  
DIGITAL AUDIO TAPE RECORDERS

- Best Prices
- Best Service & Best Warranty
- Newest Models in Stock
- Demos Available
- No Commission Sales Staff
- DAT Accessories, PCMs, more

*Call us before you buy elsewhere*

**Don't be deceived by imitators.  
We are the original DAT stereo  
store in the USA! We're the  
1st and we're still the best.**

FIRST IN USA! NOW IN STOCK

## NEW HD-XI AIWA PORTABLE DAT RECORDER

Fits in your palm, smaller than a paperback book.  
Digital in/out, stores video stills, call for low price.

*For five years, Audio Gallery has been offering the newest in high-end audio from Japan. Our Tokyo office gives us the unique ability to recommend and service the latest and the best in new DAT machines as soon as they become available.*

## AUDIO GALLERY

*"the friendly store"*

**213 • 829 3429**

2716 Wilshire Blvd, Santa Monica, CA 90403. Fax: 213 • 829 0304  
Hours: Monday–Friday, 10am–6pm. Saturday 12–5pm.  
MC ■ VISA ■ AMEX ■ DINERS ■ DISCOVER

Ask about the DATRAX 60,  
an attractive solid  
oak DAT tape  
storage unit!

by Philip De Lancie

# TAPE & DISC NEWS

The future of DAT for U.S. consumers remains clouded as deep divisions continue to grow within the professional music community over the DAT pact between the Recording Industry Association of America and a group of Japanese and European DAT hardware manufacturers. The agreement says the parties must support legislation mandating the inclusion of SCMS, a technical limitation on digital copying of DAT copies (see "After Mix," November 1989). It has been widely denounced by groups representing publishers and songwriters, including the National Music Publishers Association, Songwriters Guild of America and ASCAP. These organizations view the accord as a meaningless sellout, because it includes no provisions for paying their members "royalties" on audio recorders and blank tapes, an idea that's been pushed in Congress for years without success. The RIAA also favors tape and hardware levies, but maintains that SCMS legislation must be handled independently if it is to have any chance of passage.

Fearful that prospects for levies will grow even dimmer if SCMS gains acceptance in Congress as a viable approach to the home taping problem, close to 20 anti-SCMS organizations have joined forces recently to form the Copyright Coalition. According to Charles Sanders of NMPA, the group's initial goal is simply to thwart the RIAA's efforts to pass SCMS legislation. Consultants have been retained in Washington to "keep the leaders of appropriate congressional committees apprised of our

view that the kind of copyright protection provided by SCMS is inadequate. The legislators understand our problems and have generally been very receptive," Sanders states. Beyond defeating SCMS,

**So the RIAA and the Copyright Coalition appear to be headed for confrontation. The only hope left for avoiding fratricidal strife appears to be the strong interest both sides have expressed in the concept of a "debit card."**

Sanders notes, "So far there is no real consensus within the coalition on whether or how to proceed with its own plan of action on home taping. At this point, no deal is better than accepting SCMS."

Meanwhile, the RIAA revised its initial draft of the SCMS bill, the Digital Audio Tape Recorder Act of 1990. The chairmen and ranking minority members of the appropriate subcommittees in both the House and Senate are said by the

RIAA to be willing to introduce the bill, subject to their approval of the final draft. So the RIAA and the coalition appear to be headed for confrontation in the legislative arena. The only hope left for avoiding fratricidal strife appears to be the strong interest both sides have expressed in the concept of a "debit card." Would-be tapers could purchase cards at record stores that could be inserted into slots on their DAT decks to enable copying of a given amount of copyrighted material.

This idea has reportedly found favor among leaders of the European Economic Community. It's also been discussed within the Joint Working Group of record company and hardware representatives that hammered out the agreement on SCMS last summer. How all this will affect hardware manufacturers' plans for U.S. introduction of consumer DAT machines remains unclear.

...

Compact Disc manufacturers are in for another big year, according to Cal Roberts, sales and marketing VP with Disctronics, which operates replication plants in Anaheim, Calif., and Huntsville, Ala. Based on research conducted for a recent ITA Update Seminar presentation, Roberts expects U.S. CD demand to rise at least 30% in 1990 to 325 million units, fueled by estimated CD player sales of 6.6 million in 1989 and 8.1 million in 1990. While capacity is likely to rise as well, from 355 to 461 million, the gap between demand and capacity is not necessarily indicative of another capacity glut. "We are much closer to parity than

it appears," Roberts says. "The raw numbers are misleading, because some manufacturers give figures for capacity that is not actually in place yet. Even after equipment has actually been purchased, you can't just start it up and get it to yield usable product. It takes a while to put it in and get it working properly."

Because CD manufacturers were "swamped" with business in the second half of 1989, Roberts sees little likelihood of another industry shakeout on the horizon. "There may be one or two companies that have problems, but the rest of the industry is in reasonably good shape. I think 1990 will be an incredible year."

...

Shape, Inc., the largest U.S. independent manufacturer of video and audio cassettes, has announced plans for enhancements to its audio cassette shell line. Responding to consumer enthusiasm for the cassette single configuration, the Biddeford, Maine, company will introduce the Shape Cassingle, based on the existing Mark 1 cassette. The new product will contain fewer moving parts and will be offered at lower cost.

Shape also revealed that work is underway in the R&D division on the Shape Mark 10 Generation 2, an upgrade of the top-of-the-line Mark 10, which has sold more than half a billion units since its 1984 introduction. The new shell, featuring design and production improvements allowing the use of fewer internal parts, is expected to be ready for shipment within the first quarter of this year.

...

The International Tape/Disc Association has announced dates for two of its 1990 seminars. The group's 20th Annual Seminar will be held in Palm Springs, Calif., March 14 to 17. The conference will focus on the impact of technology and marketing on the global market of the 1990s. Speakers will include former Reagan adviser Murray Weidenbaum, who will examine the implications of the planned 1992 integration of European Community economies. From May 14 to 17, ITA will present the

**audio cassette printers**

**video cassette printers**

**r-dat cassette printers**

**apex**

**of course.**

**since 1903**

apex machine company

3000 n.e. 12th terrace ft. lauderdale, fl 33334-4497 u.s.a.  
phone: 305-565-apex telex: 271601 apex ur fax: 305-563-2844

Circle #142 on Reader Service Card

## **DISC MAKERS**

### **Complete manufacturing for the audio industry.**

#### **COMPLETE PACKAGES FOR:**

- Cassette Duplication**
- Record Pressing**
- Compact Disc Replication**

All packages are completely retail ready, and include all necessary steps.



In-house art department for complete design, typesetting, film work, and printing.  
In-house mastering department for a great sounding product.



**CALL FOR OUR FREE FULL COLOR CATALOG.**

**1-800-468-9353**  
(In PA: 215-232-4140)

## **DISC MAKERS**

1650 Broadway, Suite 1010 New York, NY 10019  
(212) 265-6662

Circle #143 on Reader Service Card

How-To Audio Seminar, dedicated to the improvement of the quality of audio cassettes, in Asheville, N.C. Further information is available from ITA at (212) 643-0620.

## SPLICES

**Kenwood** (Long Beach, CA) has developed the DR-5755 DAT Error Rate Counter for real-time evaluation of DAT mechanisms and tapes. The unit measures C1/C2 block error rates in incoming CMOS or TTL level NRZI signals...**Tape Duplication Technology**, a redesign/remanufacturing company specializing in high-speed audio duplicating equipment, has initiated a remanufacturing program offering stereo conversion for Magnefax-type common mandrel duplicators. A metal fabricated conversion module allows TDT's standard bin-loop electronics to be used on these machines. Additional electronic replacement modules are also available to field-update various duplication systems for greater

speed, quality and reliability...**TDK** has broadened its "CD-length" offerings with the introduction of SA-X, a Type II cassette tape, in a 100-minute version. According to the company, *Popular Mechanics* has studied existing 100-minute TDK cassettes and found them to be "virtually identical" in performance to its 90-minute counterparts...**AME, Inc.**, has consolidated its duplication operations into the new Trans-American Video Services Cassette Division. The move affects company facilities in Hollywood and El Segundo, CA, plus the assets of the Winkler Company in New Jersey. The new division, headquartered in Hollywood, has more than 2,000 duplicating units available for servicing corporate, entertainment, commercial and educational clients...Mastering has been completed by Bob Clearmountain for a forthcoming live Who album using the **Solid State Logic** 01 Digital Production Centre. The "Tommy" performances, whose cast included Elton John, Steve Winwood, Phil Collins

and Billy Idol, are said by SSL to be the first of their kind to have both audio and video recorded and posted entirely in the digital domain. The 01 was used to edit and EQ versions for CD, LP and cassette...**CMS Digital** of Pasadena, CA, reports the use of its recently installed Yamaha CDR-90 reference CD recorder to record direct-to-CD. The disc, featuring Chet McCracken's Jazz Rock Orchestra, was recorded at the AES holiday party in December by chief engineer Robert Vosgien...Sweden's **Audio Development** and Iowa's **CD Marketing Corporation** joined forces to establish CD Marketing, Technical Division, as the exclusive North American distributor of the Compact Disc Computer Aided Test System. CD CATS performs "full," "partial" or "quick" tests on optical media to verify product conformity with Red Book (CD-Audio) or Yellow Book (CD-ROM) specifications. The system, based on an AT-compatible 286 computer, includes software for control measurement, logging and presentation. ■

# Write or Call for FREE CATALOG



Toll Free: 1-800-331-3191

In NY: 516-678-4414

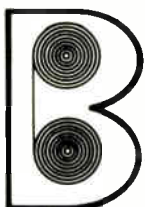
FAX: 516-678-8959



Distributors of **3M** Professional  
Audio and Video Products including:

- Digital Mastering Tape
- Logging Tape
- Leader & Splicing Tape
- Reels, Boxes, Flanges
- All hard-to-get audio & video products
- Custom loaded cassettes
- R-DAT & other packaged cassettes
- Calibration Tape & Splicing Blocks

Shipped From Stock - Priced Right - Immediate Delivery



**Burlington** Audio / Video Tapes, Inc.

106 Mott Street • Oceanside, New York 11572



— FROM PAGE 104

lists at only \$1,440 more than the standard version (\$6,750).

One thing on any console buyer's mind is the number of possible inputs, and two different 2-channel input modules are available for maximizing the input-to-mainframe size ratio. The stereo input module (\$285) offers: switching between two (A or B) stereo input pairs, along with 3-band EQ, phase reverse and mono sum controls, access to six aux sends, and a single 100mm fader. An RIAA stereo phono preamp input is optional. The stereo module seems ideally suited for broadcast and A/V applications, especially for cart machines, CD players, tape machines or any other application where two channels receive identical processing, equalization, etc. The dual line input module (\$225) has two electronically balanced inputs, each with individual gain, 3-band EQ, rotary fader and access to six aux sends. The configuration of the latter can be changed via internal link pins.

Each group output module includes two inputs that can function as effects or tape returns each with 2-band shelving EQ, pre-fade send, pan, PFL, mute and rotary fader. Tape effects return inputs are balanced, 1/4-inch type; the group output is an XLR-type.

The master module contains all the necessities: six aux sends (each with illuminated solo switch); 1kHz tone oscillator; built-in talkback mic with gain control and routing switches; headphone jack; control room monitor level control (this can be fed from either the main mix output or 2-track deck playback); and two long-throw faders that control the mix output level. The rear panel of the master includes the balanced XLR mix outs and a summed, unbalanced mono mix output, which could be useful in a variety of applications, such as: a subwoofer feed in a concert system; lobby or "green room" send in a theater, church or club; or a broadcast feed to video, radio or a press mult box.

The 200 Delta user manual is generally quite good, with a few exceptions. For one, the manual doesn't explain how to remove modules, which is an essential part of setting jumpers for configuring the aux sends, choosing +4dBu or -10dBV levels for the group outputs and 2-track returns, and setting meter ballistics. In fact, the

ability to change the latter is not even mentioned in the manual. To make matters worse, the module removal procedure on the Delta is not obvious, since *three* screws are used to secure each module, and two of these are covered by the channel numbering strips. [Editor's note: According to a Soundcraft representative, a second manual—detailing module removal processes and configuration, along with schematics, parts listings, circuit descriptions and technical information—is available at a nominal cost. Configuration should be made by a qualified technician, and any Soundcraft dealer can configure the console to the customer's requirements.]

Once I mastered the module removal procedure, I had the opportunity to examine the construction close-up. The board layout is quite clean and uncluttered, and the modules use quality, commonly available parts—such as Alps faders and pots—throughout, so servicing should be no problem. Each input module ties into the console by a single ribbon cable, and a hefty, 16-gauge, push-on lug ensures a solid ground connection.

The 200 Delta models incorporate rugged, one-piece, all-steel frames that seem extremely well-suited to handle the rigors of the road. The chassis' rear quarter is fitted with prepunched openings (covered with plastic plates) and designed to accommodate three optional variations using 56-way EDAC multipins for quick connection to snake systems, patch bays, etc. All of the consoles in the line use an external power supply; a 10-foot cable links the console to the PS using locking, multipin connectors.

I was quite pleased with all aspects of the 200 Delta, from both operational and audio performance standpoints. The board's layout is logical and fast, with everything exactly where you'd expect it to be. The equalization sections are flexible and musical, while the mic preamps are decidedly cleaner than those of the 200B. All in all, Soundcraft has done a fine job of updating the most successful console product in its history, and with the 200 Delta's market-wise pricing (8x4x2 models begin at \$3,250), this new model should have no trouble finding a niche in the pro audio community.

Soundcraft, 8500 Balboa Blvd., Northridge, California 91329; (818) 893-8411. ■

## LOOK NO FURTHER!



THESE FOUR UNSIGHTLY GENTLEMEN AND THEIR HIGHLY MOTIVATED STAFF ARE WAITING TO GIVE YOU THE BEST PRICES, EXCELLENT SERVICE AND FREE DELIVERY ON ANY PACKAGE PURCHASE OF AUDIO OR VIDEO EQUIPMENT

**CALL NOW!**

**NSE NATIONAL SOUND ENGINEERING**

6500 McDonough Dr.  
Norcross, GA 30093

**1-(800) 541-9140  
or (404) 447-0101**

Circle #128 on Reader Service Card

EXPERIENCE THE

“Ultimate Response”

of

Clarity

REAL-TIME  
CASSETTE  
DUPLICATION

TOLL FREE  
1-800-458-6405

IN MAINE  
1-207-873-3911

Real-Time for Real Ears

Circle #129 on Reader Service Card

# Some day, they'll build four discrete digital processors into a single rack space.



**They did.** Those relentlessly inventive engineers at ZOOM figured out how to build four completely discrete digital signal processors with professional studio sounds into an unbelievably compact single rack space.

The 9010's revolutionary microchip circuitry and four-way reroutable architecture gives you four totally independent configurations for the widest possible range of applications.

No matter what configuration you select, the 9010 features

stunning 16-bit, 44.1 kHz digital clarity and dynamic range greater than 90 dB.

You can get great individual effects. Or multiple effects combinations. It even has four isolated multi-effects channels for home recording. And configurations that let you use up to seven effects at once.

Effect programs include Digital Reverb, Chorus, Delay, Pitch Shift, Compression, Phasing and more. The 9010's oversized memory holds up to 60 factory presets and 30 customized user patches. Programs and routings

can be quickly updated via ROM cards.

Best of all, the 9010 is really easy to use. Its super friendly interface features "quick function" control for instant access to parameters and programs. MIDI control change data can be used to adjust program parameters in real time.

As usual, ZOOM thought of everything. The only question is whether or not the rest of the world is ready to ZOOM forward with the new 9010.

**Catch us if you can.**

# ZOOM 9010

100 Marine Parkway, Suite 435, Redwood City, CA 94065.

by Craig Anderton

# GUITARISTS MEET MIDI METAL



**F**unny how times have changed. Twenty years ago, guitarists were at the forefront of techno-tweaking—modifying their pickups, snapping up new-fangled processors like wah-wah pedals and fuzztones, and setting the stage for the explosion of flangers, delays and other signal processors that dominated the '70s. Meanwhile, the keyboard player was off in a corner somewhere, either lugging a vintage Rhodes or Hammond B-3 (and providing unparalleled job opportunities for chiropractors), or trying—usually in vain—to get a decent sound from a miked acoustic piano.

Eventually, guitar synthesizers hit the scene and in many ways turned guitarists off to high-tech because of

price and reliability problems. Meanwhile MIDI, designed with keyboard players in mind, shoved that breed of musician back into the spotlight. Although guitarists have staged a metal-driven comeback of late, the tools of that revival are the usual guitar/amp/fuzz combination, with maybe a bit of digital delay or reverb on the side.

Pendulums have a habit of being bi-directional, however, and now a number of companies are making rack-mount, MIDI-controlled multiple effects devices for today's guitarist. In the studio, these are particularly useful because it's often possible to obtain an exemplary guitar sound without having to leave the control room—just patch into the board and play. For

**One example of the new breed of guitar processors is the Roland GP-16, offering up to 12 simultaneous digital effects that can be programmed and stored in 128 memory locations.**

home studios, where noise can be a problem, not having to mike a stack of Marshalls to get a killer crunch sound is also welcome.

### MULTIEFFECTS TECHNOLOGY

These new boxes are based on DSP techniques that are almost purely digital (some boxes mix analog and digital modules, but more and more, digital is taking over). As a result, rather than string together a fuzz, chorus, delay, reverb, etc., a computer simply processes the signal to create a sound associated with multiple simultaneous effects.

While this approach saves space and cuts costs, there are some compromises. Computers have a finite amount of processing power, and this often must be divided between the various effects; it may not be possible, for example, to run a complex reverb algorithm along with a bunch of other processing (ART's SGE gets around this to a certain extent by implementing some effects in analog, which allows the computer to concentrate on a more limited number of digital effects). On the other hand, you will

probably be able to run several simpler effects at once.

### MIDI

From a guitarist's point of view, MIDI

*In the studio it's often possible to obtain an exemplary guitar sound without having to leave the control room—just patch into the board and play.*

is not (yet) that much of a selling point. Sequencer-based bands that can spit out program changes on cue to a guitar player's processors are not that common; the main advantage of MIDI is that a guitarist can buy a single MIDI footswitch and have it work with any MIDI-controlled effects unit (prior to

MIDI, each effects box used its own proprietary switching scheme). As a result, virtually all units respond to MIDI program change commands.

A more exciting aspect of MIDI is the ability to assign specific parameters to MIDI continuous controller messages, as provided by a sequencer or a device such as the Lake Butler Sound CFC-4, which consists of four pedals that generate MIDI continuous controller signals. This feature is extremely useful for adding expressiveness in real time, although generally not all parameters react equally smoothly to controller data.

Another important MIDI consideration is the option to dump the contents of memory to a system exclusive storage medium, such as a sys ex librarian computer program. Most multieffects devices have a limited number of presets (less than a couple of hundred, anyway), and you'd be surprised how fast you can use up that many sounds. MIDI data dumps let you build up libraries of effects for specific applications.

### LESS IS MORE, BUT LESS IS ALSO LESS!

While compactness and low costs

MINUTE FOR MINUTE. PAK FOR PAK.  
ON THIS YOU CAN RELY.



NOW SAFER STORAGE AND EASIER LABELING WITH DATPAK™ — AMPEX'S UNIQUE STORAGE SYSTEM  
Ampeg Recording Media Corporation • 401 Broadway • Redwood City • CA 94063 • (415) 367-3809



# There's a fine line that separates us from other keyboard controllers.

Somebody once said that a picture is worth a thousand words. Unfortunately, most of the companies that make mother keyboards didn't seem to be listening at the time. Otherwise Roland wouldn't be the only company making MIDI controllers that actually give you a picture of your performance parameters.

Our A-80 and A-50 have a menu-driven liquid crystal display that lets you access 25 different status screens. And while the best of our competitors limit you to seven

pre-set velocity and aftertouch ranges, our curves give you literally millions of combinations to work with.

You can even reconfigure your entire system with the push of a single button.

There's so much ingenuity in our mother keyboards that we could go on for another thousand words, easy. And in fact we will. Just call (213) 685-5141 ext. 331 and we'll send you a brochure.

Complete with pictures.

## Roland®

Roland Corp. US, 7200 Dominion Circle,  
Los Angeles, CA 90040-3647 213 685-5141

Circle #074 on Reader Service Card



make multieffects units attractive, you don't get something for nothing. Dedicated effects will often outperform equivalent sounds in a multieffects unit (no pitch transposer in an under-\$1,000 box is going to put the Eventide folks out of a job); and equalization, a crucial element to getting a great guitar sound, is often quite primitive by recording studio standards. Nor is it always possible to tweak sounds beyond certain tightly defined options; parameters are sometimes quantized into fairly coarse steps, and there may not be any way to, say, switch a filter pre- or post-fuzz.

Then there's the question of fuzz itself, one of the most subjective topics in all of guitar-dom. While a variety of multieffects units exist, not all offer fuzz, and those that do exhibit a wide variation of timbres. Often when choosing a multieffects device the determining factor will be the fuzz sound, with everything else being secondary.

And while we're talking about subjective topics, many of the lower-priced digital effects have a "grungy" character that is simply not present

with analog circuits. Although these may often be more limited than their digital equivalents, there is an undeniable sonic purity to analog circuitry that many guitarists prefer.

*The main advantage of MIDI is that a guitarist can buy a single MIDI footswitch and have it work with any MIDI-controlled effects unit. Virtually all units respond to program change commands.*

#### CAN ONE BOX DO IT ALL?

Well—almost. Frankly, the level of performance and cost-effectiveness that the new generation of multieffects delivers is nothing short of astonishing, but I must admit that no one box does everything I want. One might have a great fuzz, but no

compressor; another great compressor and fuzz, but minimal EQ; a third might have fabulous delay effects, but a screechy fuzz sound. My basic feeling is that guitarists will end up using two of these boxes, or perhaps a unit that does everything they want except for one function, for which they'll use a dedicated outboard box. For example, few boxes offer sophisticated pre- and post-fuzz equalization. The solution I devised, albeit a pricey one, is to route one channel of a Rane MPE-14 stereo MIDI equalizer before a multieffects unit, and one channel after. This not only gives me the sound I want, but thanks to the EQ's MIDI control options, allows it to change programs and real-time frequency response characteristics in tandem with the multieffects box.

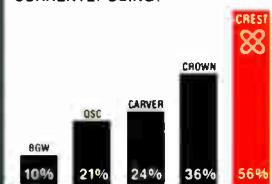
So which multieffects unit is best? There's no single answer, but in the months to come, we'll take a look at what various competing units have to offer. See you then. ■

*Craig Anderton would like to use these few column-inches to blatantly plug his latest album, Forward Motion, which is available on the Sona Gaia label (distributed by MCA).*

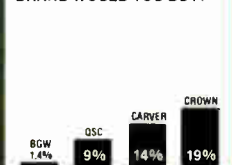
## Benefit from ears of experience.

A recent independent survey\* of the 70 largest U.S. touring sound companies proved conclusively that Crest has become the choice of these professionals.

WHAT POWER AMPLIFIER ARE YOU CURRENTLY USING?



IF YOU COULD UPGRADE ALL AMPLIFIERS TODAY, WHAT BRAND WOULD YOU BUY?



Totals are over 100%; some respondents mentioned more than one brand. \*conducted by Concert Sound Consultants, Julian, CA

Experienced professionals select Crest amps for their proven reliability and sonic superiority—even driving long lines and highly reactive loads. Whenever power is required, from 25/70 volt distribution systems to 2 ohm applications, Crest has the answer.

Benefit from ears of experience. Call today and learn more about the world's finest power amplifiers.

**CREST AUDIO**  
power is serious business.

Circle #073 on Reader Service Card

Models shown	7001:	8 ohms	4 ohms	2 ohms/Ch
	8001:	570W	810W	850W <sup>1</sup>
		750W	1225W	1400W <sup>1</sup>

<sup>1</sup>RMS limited by IMG circuit

World Radio History

# How To Get The Perfect Mix.

With MAGI II Console Automation Series from J.L. Cooper Electronics.

The mix down process isn't what it used to be. Recording engineers are finding it increasingly difficult to maintain calm, creative control over both the console and the battery of outboard gear. As these demands escalate, the need for console automation is further amplified by the need for perfection. The MAGI II and MAGI III Console Automation Series from J.L. Cooper Electronics are designed to save you time, money and give you the ability to achieve perfection!

## Freedom Of Choice

Both MAGI II and MAGI III interface with virtually any console to provide precision SMPTE-locked automation for 8 to 64 channels. The MAGI II is an outboard system for the audio facility preferring "portable" automation that can be moved from desk to desk. The MAGI III is an internally installed system that uses the console's existing faders.

## Flexibility & Control

MAGI II memorizes fader, mute and other real time events. These events can be performed in as many passes as you wish, or you can work on the mix one section at a time, or even one track at a time. MAGI II can be used to automate effects sends and sub-groups as well as controlling your outboard effects processors. The MAGI II allows



MAGI II External System

a very complicated mix to be quickly constructed, edited, and refined in real time or off-line with absolute accuracy. In addition, these mixes can be saved to disk for future use.

## Fast, Intuitive & Transparent!

Every aspect of MAGI II has been designed for the working engineer. MAGI II features a straight ahead user-interface incorporating clean, uncluttered moving fader graphics that make it extremely easy to learn and use. Even a "guest engineer" can be up and running in 15 minutes!

## MAGI II and MAGI III Features:

Both the MAGI II and MAGI III feature high quality dbx VCAs for audio transparency. The MAGI II Controller reads and generates all SMPTE formats. The powerful software program runs on either a Macintosh or Atari computer.

Mixes may be performed and edited in real time, or off-line with MAGI II's powerful cue list. Cut, Copy, Paste, Merge, Undo, Redo, and other precise numeric edit decisions are fully supported. Our MIDI Event Generator allows the recording and triggering of all types of MIDI events. Film and Video composers can take advantage of our hit list to spot cues in real time. No other automation system gives you this flexibility!

## The Bottom Line

Other manufacturers would like you to believe that an automation system must have a high price tag to be on the cutting edge. The MAGI II dispels that myth. The MAGI system with its wealth of professional features starts at just \$5,000.00, and it works! That's the bottom line.

MAGI is being used in a number of applications from

standard music recording, to film, TV, broadcast, commercial and live sound. MAGI is automating consoles from Trident, Soundcraft, Allen & Heath, Harrison, D & R, Biamp, Neotek, Tascam, DDA, Soundworkshop, Soundtracs, AMEK/TAC and Ramsa.

## Guaranteed Satisfaction!

J.L. Cooper Electronics and its Authorized Dealers are confident that once you own MAGI II, you'll never go back to manual mixing again. So confident that we're putting our money where our mouth is. For a limited time, our participating dealers are offering a money back guarantee.\* If you're not totally satisfied within 30 days, return the system and they'll refund your money.

With the cost of perfection finally within reach, why wait? Call us today for the location of a dealer in your area. It's time to see what MAGI II can do for your mixes.

## The Video

You can preview the MAGI II with our video demonstration. This Video offers a complete overview of the system's operation. It's just \$13.95 and can be charged to your VISA or MasterCard. To order, contact J.L. Cooper Electronics at:

**(213) 306-4131.**

**JL COOPER ELECTRONICS**

\*limited restrictions may apply, contact your local dealer for details

13478 Beach Avenue · Marina del Rey, California 90292 · FAX 213-822-2252

World Radio History

Circle #072 on Reader Service Card

# IT'S THE LITTLE THINGS ABOUT THE IL SERIES THAT YOU'LL APPRECIATE.

Take a close look at the Soundtracs IL Production console. An outstanding console that's achieving acclaim amongst commercial recording studios around the World. Designed to meet a production climate that's radically changing with engineering that matches efficiency with vision.

More important, though, listen to the way it sounds. This 32 bus console offers very low noise, minimal crosstalk and a degree of sonic transparency that sets new standards.

Combine these attributes with a sensitive yet effective equaliser section to create one of the sweetest sounds to be found anywhere, perfect for high quality track laying.

And while our crystal clear layout is free of gimmickry, we've included a number of unique features and sophisticated circuit designs which, together with Soundtracs Tracmix fader automation, provides versatility to set your creativity free.

Little things in themselves. But in the Soundtracs IL, add up to a rather special production console.



SOUNDTRACS PLC, 91 EWELL ROAD, SURBITON, SURREY  
KT6 6AH ENGLAND. TELEPHONE (01) 399 3392/8101  
FAX (01) 399 6821 TELEX 8951073 STRACS G

#### SPECIFICATIONS:

- ▣ 48 OR 36 CHANNELS ▣ 104 OR 80 INPUTS ON REMIX
- ▣ INTERCHANNEL CROSSTALK BETTER THAN  $-88\text{dB}$  @  $1\text{kHz}$
- ▣ MIX NOISE 32 INPUT ROUTED BETTER THAN  $-82\text{dB}$

EXCLUSIVE US DISTRIBUTOR:

**SAMSON®**  
Technologies Corp.

SAMSON TECHNOLOGIES CORPORATION, 485-19  
SOUTH BROADWAY, HICKSVILLE, NY 11801, USA  
TELEPHONE (516) 932 3810 FAX (516) 932 3815



# SOUTHEAST STUDIOS

Information in the following directory section is based on questionnaires mailed earlier this year and was supplied by those facilities listed. *Mix* claims no responsibility for the accuracy of this information. Personnel, equipment, locations and rates may change, so please verify critical information with the companies directly.



Studio A at Kiva Recording Studios in Memphis was designed by Tom Hidley and opened in October 1989. The room is fitted with an SSL 4000G 56 x 32 console with G Series computer and Total Recall. To the left is a 16-channel API board that can be used as a submixer or preamp. The room incorporates Mitsubishi X-800 32-track digital and Studer A80 24-track analog recorders. Photo: Greg Parrott.

## CONTENTS

153	LOCATION INDEX
155	24 TRACK
167	16 TRACK
169	2, 4 & 8 TRACK

*Mix* listings procedure: Every month, *Mix* mails questionnaires to recording studios and/or other vital facilities and services for the recording, sound and video production industries. There is a nominal charge to list a Boldface Listing (name, address, contact) and an Extended Listing (equipment, credits, specialization and photo or logo). If you would like to be listed in a *Mix* Directory, write or call the *Mix* Directories Department, 6400 Hollis Street #12, Emeryville, CA 94608; toll free 800-344-LIST!

### Upcoming Directory Deadlines:

Remote Recording and Sound Reinforcement Facilities: **March 15, 1990**

Recording Schools, Seminars & Programs: **April 17, 1990**

Pacific Rim Facilities: **April 17, 1990**

# The Complete Prescription

## The New Orban 290RX



One channel of Orban's 290RX Adaptive Enhancement Processor. 2u x 19" std. rack width. Black brushed panel.

### Powerful Medicine

The New Orban 290RX will bring your over processed, under sampled, and "older" material back to life! In broadcast, transfer records to tape with a "better than new" sound. In recording studios, dress up naked synthesizer or sampler tracks, or pull lost solo tracks back up out of the mud. In mastering, make your reissues sound fresher and years younger.

### Three unique processing functions

The 290RX provides three unique processing functions in two independent channels of audio problem-solving power. Orban's patented **Harmonic Restoration** circuitry recreates the desirable *even-order harmonics* which give a signal sparkle and life, *without* the grainy side effects introduced by previously available "exciter" circuits. Our **Spectral Restoration** circuitry dynamically adds just the right amount of high frequency air and shimmer to dull, flat material. And our **Open Sound™ Noise Reduction** circuitry's separately adjustable downward expansion and bandwidth control have been carefully integrated to produce outstandingly transparent results while virtually eliminating noise modulation and preserving natural sounding highs.

### An integrated system

The 290RX is the complete prescription for curing your audio ills. The two channels can be operated independently or as a stereo-coupled pair. The Restoration and Noise Reduction circuits provide outstanding value separately, and are unbeatable in combination. And, each channel has three separate LED displays to enable you to easily fine-tune the 290RX for peak performance on your most problematic material.

### Orban quality and service

Like all Orban products, the 290RX is built to work the same hours that you do, and is backed by a company-wide commitment to customer service. We employ unique and proprietary designs to bring you products that are worth listening to. Contact your dealer and arrange to try out the 290RX on your problem audio situations. Or call us. We will be happy to provide you with the name of one of the top quality dealers carrying Orban products worldwide.

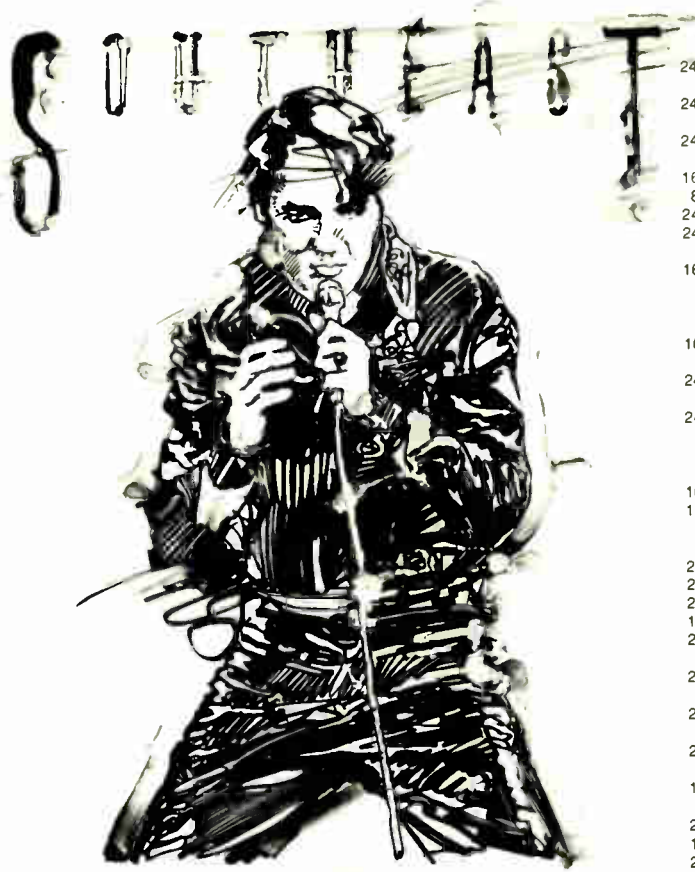
**orban**  
Listen to the Difference

a division of AKG Acoustics, Inc.  
645 Bryant Street  
San Francisco, CA 94107 USA  
Phone (415) 957-1067  
Telex 17-1480 FAX (415) 957-1070

Circle #062 on Reader Service Card

**ALABAMA**  
**Auburn**  
 16 Rainbow River Studios ..... 168  
**Birmingham**  
 24 Airwave Production Group, Inc. .... 155  
 24 Bates Brothers Recording ..... 156  
 16 M.A. Benington Co. .... 167  
 24 Boutwell Recording Studios, Inc. ... 156  
 24 Front Row Productions, Inc. .... 159  
 8 Persuasive Media ..... 169  
 24 Sound of Birmingham ..... 164  
**Decatur**  
 8 Bama Sound ..... 169  
**Fort Payne**  
 24 Cook Sound Studios ..... 157  
**Gadsden**  
 16 Grapevine Studios ..... 167  
**Greenville**  
 4 Ridge Recording Studios ..... 169  
**Huntsville**  
 24 Sound Cell Productions ..... 164  
**Mobile**  
 16 Dogwood Recording Studios ..... 167  
**Montgomery**  
 16 Montgomery Sound Recorders ..... 168  
**Ozark**  
 16 L.A. East, Inc. .... 168  
**Sheffield**  
 24 Muscle Shoals Sound Studios ..... 161  
**Tuscaloosa**  
 16 Underground Sound Recording Studio ..... 168

**FLORIDA**  
**Allamonte Springs**  
 2 Digital 1 ..... 169  
 24 Parc Studios, Inc. .... 162  
 24 Wolf's Head Productions ..... 166  
**Clearwater**  
 24 CPN-TV ..... 157  
 24 Florida Sound Recording Studios .. 159  
**Coral Gables**  
 24 Midiland Recording Studios ..... 161  
**Estero**  
 16 Important Recording Service ..... 167  
**Fort Lauderdale**  
 2 Audio Craft ..... 168  
 24 New River Studios, Inc. .... 162  
 24 Soundshine Productions, Inc. .... 164  
**Gainesville**  
 24 Mirror Image Sound & Recording .. 161  
**Hialeah**  
 24 Century International Studio, Inc. ... 156  
**Holly Hill**  
 24 Reel Time Recording ..... 163  
**Hollywood**  
 16 Hollywood Sync ..... 167  
**Jacksonville**  
 24 The Warehouse Recording Studio. 165  
**Key West**  
 16 Out of the Blue Recording Studios. 168  
**Miami**  
 24 Criteria Recording Studios, Inc. .... 157  
 8 LAIN Studios M-349 ..... 169  
 24 Limelite Video, Inc. .... 160  
 16 Pine Grove Studio ..... 168  
 24 Tropical Recording Studio ..... 165  
**N. Miami**  
 24 Soundtrack, Inc. .... 164  
 24 Studio Center ..... 165  
**N. Miami Beach**  
 24 Airwave Recording ..... 155  
**Ocoee**  
 24 Gettings Productions Starke Lake Studios ..... 159  
**Orange Park**  
 16 McTammany Audio Production and Design ..... 168  
**Orlando**  
 24 Digital Multi-Media ..... 158  
 24 Lone Pine Recording Studios ..... 160  
 24 St. John Creative Audio Services, Inc. 27th Dimension, Inc. 164  
**Palm Harbor**  
 8 RadioActive Productions Recording ..... 169  
**Pinellas Park**  
 8 Protolog Inc. .... 169  
**Pompano Beach**  
 8 Josh Noland Music Studio ..... 169  
**Sarasota**  
 24 Telstar ..... 165  
**St. Augustine**  
 24 Jim DeVito's Recording Studio ..... 158  
**St. Petersburg**  
 8 TCC Productions ..... 169



S T U D I O S

**Tallahassee**  
 8 The Mighty Mix ..... 169  
**Tampa**  
 8 Full Sky Recording ..... 169  
 8 Just In Productions/CMS ..... 169  
 24 Morrisound Recording, Inc. .... 161  
 16 Ron Rose Productions, Inc. .... 168  
**West Palm Beach**  
 24 Saturn Sound Studios, Inc. .... 163  
**Winter Park**  
 24 Platinum Post ..... 162

**GEORGIA**  
**Athens**  
 24 John Keane Studios ..... 159  
 16 Underground Sound ..... 168  
**Atlanta**  
 24 Arcadia ..... 155  
 24 Catspaw Productions, Inc. .... 156  
 24 Cheshire Sound Studios ..... 156  
 24 Crawford Post Production ..... 157  
 24 Creative Sound Concepts ..... 157  
 24 Doppler Studios ..... 158  
 24 Bert Elliott Sound, Inc. .... 159  
 24 Media Associates (formerly New Age Sight & Sound) ..... 161  
 24 Musiplex ..... 162  
 24 O'Connell Productions, Inc. .... 162  
 16 Rising Star Records, Inc. .... 168  
 24 RM Audio ..... 163  
 24 Soundscape Studios ..... 164  
 24 Southern Tracks Recording ..... 164  
 24 2560 Recording Studio/Twenty-Five Sixty, Inc. .... 165

16 Video Tape Associates ..... \*68  
**Augusta**  
 24 Studio South Recording ..... 165  
**Canton**  
 24 Roop Audio Consultants & Recording ..... 163  
**Columbus**  
 16 Mr. O Audio ..... 168  
**Covington**  
 24 "The Peach" Recording Studio ..... 162  
**Lawrenceville**  
 16 Oracle Recording Studio ..... 168  
**Lithia Springs**  
 24 Transmedia Sound Studios ..... 165  
**Maysville**  
 16 Studio Z ..... 168  
**Savannah**  
 24 Reeltime ..... 163  
**Smyrna**  
 16 Midi Twin Studios ..... 168  
**Smyrna (Atlanta)**  
 24 Twelve Oaks Recording Studios ... 165

**KENTUCKY**  
**Corbin**  
 24 Revelation Productions ..... 163  
**Lexington**  
 24 Advent Productions ..... 155  
 4 Host Communications, Inc./AVS ... 169  
**Louisville**  
 24 Allen-Martin Productions, Inc. .... 155  
 16 Artists' Recording Service ..... 167

**LOUISIANA**  
**Bogalusa**  
 24 Studio in the Country ..... 165  
**Crowley**  
 24 Mastertrack Audio & Video Studios 160  
**Lafayette**  
 24 Holbrook Media Productions ..... 159  
**New Orleans**  
 16 Loyola University Recording Studio 168  
 8 Rum Productions ..... 169  
 24 SouthLake Recording Studio ..... 164  
 24 Ultrasonic Studios ..... 165  
**West Monroe**  
 16 JY Recording ..... 168

**MISSISSIPPI**  
**Jackson**  
 16 Fernandez Creative Services ..... 167  
**Olive Branch**  
 24 Roadhouse Recording ..... 163  
**Ridgeland**  
 24 Parallax Recording Studio ..... 162

**NORTH CAROLINA**  
**Chapel Hill**  
 16 The Studio ..... 168  
 16 Synergen Ent.—The Garden Studios ..... 168  
**Charlotte**  
 24 Audio, Incorporated ..... 155  
 24 Lamon Sound Studios ..... 160  
 24 Reflection Studios ..... 163  
 16 Southland Audio/Video Productions 168  
 24 Studioeast ..... 165  
**Greensboro**  
 24 Acoustic Creations Recording Studio ..... 155  
 24 Sound Lab, Inc. .... 164  
**Hickory**  
 24 Charles Hix Studios ..... 159  
**Kernersville**  
 16 New Horizon Recording Studio ..... 168  
**Raleigh**  
 24 Associated Sound Products, Inc. ... 155  
 16 Sound Logic Studio ..... 168  
 24 Sound Trax Inc. .... 164

**Reldsville**  
 8 Miller Recording Studio ..... 169  
**Southern Pines**  
 8 Offbeat Studio ..... 169  
**Wilmington**  
 24 Southwynde Studio ..... 164  
**Winston-Salem**  
 8 Grant Blair Productions ..... 169

**PUERTO RICO**  
**Rio Piedras**  
 24 Melody Recording Studio ..... 161

**SOUTH CAROLINA**  
**Charleston**  
 24 On Line Audio ..... 162  
**Greenville**  
 24 Mark Five—Sandcastle ..... 160  
**Moore**  
 24 EBS, Inc. .... 158  
**Myrtle Beach**  
 16 Cherry Grove Studio ..... 167  
**West Columbia**  
 24 Strawberry Skys Recording Studio 164

**TENNESSEE**  
**Chattanooga (Lookout Mtn.)**  
 24 Pyramid Recording ..... 163  
**Franklin**  
 24 The Bennett House Studios, Inc. ... 156  
 24 The Castle Recording Studio ..... 156  
 24 The Pond Recording Services ..... 163  
**Hendersonville**  
 24 Sounding Board ..... 164  
**Knoxville**  
 16 Diversified Productions ..... 167  
**Memphis**  
 24 Ardent Recordings, Inc. .... 155  
 24 Commercial Music Recording Complex ..... 157  
 24 Kiva Recording Studio ..... 159  
 24 Memphis Sound Productions ..... 161  
 16 Mileage Recording Studio ..... 168  
 24 New Memphis Music/Cotton Row Rec. .... 162  
 24 Sounds Unreel Studios ..... 164  
**Murfreesboro**  
 16 Aural Canvas ..... 167  
**Nashville**  
 8 Brantley Sound Associates, Inc. .... 169

All studio information listed has been supplied to *Mix* by studios responding to questionnaires mailed in December 1989. People, equipment and locations change, so please verify critical information with the studios directly. *Mix* does not take responsibility for the accuracy of the information supplied to us by the studios.

# THE HIDDEN REASONS FOR SUCCESS



The AMS SoundField is internationally renowned as the cleanest sounding and most accurate stereo imaging microphone in the world.

But it's the SoundField's flexibility that really impresses producers and engineers. Because, either during the session or even after the artists have gone home, the effective position of the mic can be electronically altered by remote control, up-down, in a circle, or zooming in and out like a camera lens.

To experience how a SoundField can surpass your collection of studio microphones, and save you money . . . call AMS for a demo.

See us at NAB Booth #6338



**SoundField**  
More than a microphone

AMS Industries plc  
Billington Road, Burnley,  
Lancs, BB11 5ES, UK  
Tel: (0282) 57011 Fax: (0282) 39542

AMS Industries Inc  
Suite C, 1180 Holm Road,  
Petaluma, CA 94954, USA  
Tel: (707) 762 4840 Fax: (707) 762 4811

## LOCATION INDEX

24	Digital Associates	158
24	Eleven-Eleven Sound	158
24	Fanta Mobile Professional Services	159
24	Germantown Recording Studio	159
24	Great Circle Sound	159
24	Groundstar Laboratory	159
16	Mark Halfner Music, Inc./AI Recorders	167
24	Javelina	159
24	Masterfonics	160
24	MasterLink Studios	160
24	MasterMix	160
24	The Money Pit	161
24	Music City Music Hall	161
24	Music Mill	162
24	Nashville Cartage & Sound	162
24	Nashville Teleproductions, Inc.	162
24	OmniSound Recording Studio	162
24	Jim Owens Companies	162
24	Recording Arts	163
24	The Reflections Studios	163
24	Scruggs Sound Studio, Inc.	163
24	Sixteenth Avenue Sound	163
24	Sound Emporium Recording Studios	164
24	Sound Stage Studio	164
24	Soundshop Recording Studios	164
16	Spec-Trac-U-Lar	168
16	Studio 19	168
24	Suite 2000	165
24	Syncro-Sound Recording	165
24	Treasure Isle Recorders	165
24	Westpark Sound	165
<b>Paris</b>		
24	Clifty Studios	156
<b>Seymour</b>		
8	Underground Recording	169
<b>TRINIDAD</b>		
<b>Port-of-Spain</b>		
24	L.A. Sounds	159
<b>VIRGIN ISLANDS</b>		
<b>St. Maarten</b>		
24	Bronese Recording Studio	156
<b>St. Thomas</b>		
16	Tony Ash Recording Studio (T.A.R.S.)	168
24	Turtle Point Recording	165
<b>VIRGINIA</b>		
<b>Arlington</b>		
16	Inner Ear Studios, Inc.	167
<b>Chantilly</b>		
16	Goldreel Studios	167
<b>Charlottesville</b>		
24	Virginia Arts Recording	165
<b>Chesapeake</b>		
16	Woodhouse Recording	168
<b>Fairfax</b>		
24	Masterworks Studios	160
<b>Falls Church</b>		
24	Cue Recording, Ltd.	158
16	Gypsy Studio	167
<b>Fredericksburg</b>		
16	Wally Cleaver's Recording	167
<b>Harrisonburg</b>		
24	Alive Recordings	155
<b>Leesburg</b>		
8	Sound Plus	169
<b>Manassas</b>		
8	Sounds, Reasonable!	169
<b>Marion</b>		
16	CRS Recording Studio	167
<b>Merrifield</b>		
2	The Sound Category	169
<b>Richmond</b>		
24	Alpha Audio Music and Recording Services	155
24	Flood Zone Studios	159
<b>Springfield</b>		
2	Airshow, Inc.	169
24	Bias Recording Company, Inc.	156
<b>Virginia Beach</b>		
16	Earworks Audio, Inc.	167
24	Master Sound Recording Studio	160
8	Sharpounds Music Productions (formerly Starsounds)	169
24	Windmark Recording, Inc.	166
<b>WEST VIRGINIA</b>		
<b>Huntington</b>		
24	Chandler Audio, Inc.	156

## 24+ TRACK

STUDIOS

[24+] **ACOUSTIC CREATIONS RECORDING STUDIO, also REMOTE RECORDING**; 4813 W. Wendover Ave., Greensboro, NC 27410; (919) 632-1004. Owner: Kip Williams. Manager: Kip Williams

[24+] **ADVENT PRODUCTIONS, also REMOTE RECORDING**; 2518 Southview Dr., Lexington, KY 40503-2250; (606) 278-5852. Owner: RSD Enterprises. Manager: Rick Murray

[24+] **AIRWAVE PRODUCTION GROUP INC., also REMOTE RECORDING**; 1916 28th Ave. South, Birmingham, AL 35209; (205) 870-3239. Owner: Corporation. Manager: Conrad Rafield, Dan Whiteside. Engineers: Michael Panepento, Dan Whiteside, Barry Brooks, Lee Barger. Dimensions: Room 1 studio 34 x 18, control room 25 x 23. Room 2 control room 18 x 16. Room 3 studio 10 x 16, control room 21 x 16. Mixing Consoles: Trident 80B 30 x 24 x 24 modified, Trident Series 65 16 x 24, Quantum Gamma A custom 20 x 8. Audio Recorders: Otari MTR-90 24-track, Otari MTR-70 16-track, Ampex ATR-100 2-track, Ampex ATR-800 2-track, Revox T270-TC 2-track, Sony 2500 DAT, Panasonic 250 portable DAT. Cassette Recorders/Duplicators: Nakamichi, TEAC, JVC. Noise Reduction Equipment: (16) dbx (16-track only). Synchronization Systems: (2) Zeta-3 Echo, Reverb & Delay Systems: Yamaha REV-1, (2) Yamaha REV5, Yamaha REV7, Yamaha SPX90, Lexicon 224, Lexicon PCM70, EMT 140, Lexicon PCM41, Lexicon PCM42, Eventide H3000, Roland SRV-2000. Other Outboard Equipment: BBE 402, BBE 202, Aphex Compellor, Eventide 902 Harmonizer, Orban 602 parametric EQ, (2) UREI LA-3A leveler, UREI 1176 compressor, dbx 165A compressor, dbx 160 compressor, (4) Drawmer noise gate, (4) Furman noise gate. Microphones: AKG C-24 stereo, (10) AKG, (10) Shure, (8) Neumann, (3) Beyler, (2) Crown PZM, (4) Electro-Voice, (8) Sennheiser. Monitor Amplifiers: (6) QSC 1400, (3) Yamaha 2200/2100. Monitor Speakers: (2) Tannoy FSM, (2) Tannoy NFM-8, (2) Yamaha NS-10, (4) Auratone 5C, (2) JBL 431 1/4 301. Musical Instruments: Hammond B-3 organ, Yamaha grand piano, Dean Markley guitar amp, Fender Twin guitar amp, assorted drums and cymbals (2 sets), assorted percussion, NED Synclavier digital music system, (2) Roland D-550 synth module, Roland D-20 piano module, KAT percussion MIDI controller, (8) Yamaha TX8 16 rack. Other MIDI Equipment: Macintosh w/music program. Video Equipment: JVC CR850-U 3/4". Rates: Studio A \$80 per hour/\$550 per day. Studio B (Synclavier/MIDI room): \$45 per hour. Studio C (post, A/V room): \$60 per hour.

[24+] **AIRWAVE RECORDING**; 1830 NE 153rd St., N. Miami Beach, FL 33162; (305) 949-WAVE. Owner: Rob Walker. Manager: Rob Walker

[24+] **ALIVE RECORDINGS, also REMOTE RECORDING**; 1251 Virginia Ave., Harrisonburg, VA 22801-2497; (703) 434-6703. Owner: Mennonite Board of Missions. Manager: Abe Rittenhouse



ALLEN-MARTIN PRODUCTIONS, INC.  
Louisville, KY

[24+] **ALLEN-MARTIN PRODUCTIONS, INC., also REMOTE RECORDING**; 9701 Taylorsville Rd., Louisville, KY

40299; (502) 267-9658. Manager: Nick Stevens. Specialization & Credits: Synclavier studio; full Macintosh-driven Synclavier system with iso booth. Linked to main 24-track studio via MIDI, audio and video. Main 24-track studio: 30 x 40 x 20 room with Steinway concert grand piano, spacious control room with new Sony MXP 3036 plus MIDI studio with computer sequencing and digital sampling, extensive mic collection that includes several vintage Telefunken and Neumann. Video suite, linked to main 24-track room and Synclavier suite via audio, video and MIDI; audio-to-video sync, SMPTE-driven editing systems, multi-cam remote capabilities and 30 x 30 x 20 cyclorama with two editing suites. Our production team is experienced in all phases of production management. Staff specialist can assist in album production (musicians on staff), pressing and duplication, music video production, film scoring, post scoring and mixing. Staff script and songwriters. Jingle division's clients include: Coca-Cola Inc., AMC, Nationwide Insurance, Chevron, Valvoline, GE, Exxon, McDonald's, Wendy's, Kentucky Fried Chicken. Located on a private estate, offers a warm, creative atmosphere.



ALPHA AUDIO MUSIC AND RECORDING SERVICES  
Richmond, VA

[24+] **ALPHA AUDIO MUSIC AND RECORDING SERVICES, also REMOTE RECORDING**; 2049 W. Broad St., Richmond, VA 23220; (804) 358-3852; FAX: (804) 358-9496. Owner: Alpha Recording Corporation. Manager: Gay Chafin. Engineers: Joe Sheets, Joe Horner, Bevin Armistead, Paul Bruski, Wayne Pooley, David Brooks. Dimensions: Room 1: studio 65 x 35 x 20, control room 12 x 14 x 8. Room 2: studio 8 x 12 x 8, control room 12 x 9 x 9. Room 3: control room 8 x 12 x 8. Room 4: studio 18 x 20 x 9, control room 12 x 14 x 8. Mixing Consoles: DDA DCM 232 56 x 32 w/automation, Sphere 32 x 24 w/automation, Quad 8 12 x 8. Audio Recorders: (3) NED Direct-to-Disk 8-track, (2) Alpha Automation DR2 2-track digital, Otari MTR-90 24-track, Studer A800 24-track, various Otari and Ampex 1/4-format, Technics R-DAT. Noise Reduction Equipment: Dolby available on 24-tracks and 2-tracks. Synchronization Systems: (2) Boss editing system w/Adams-Smith, Otari, TimeLine Lynx Echo, Reverb & Delay Systems: (2) EMT 140 plate, Yamaha REV-1 (8) Yamaha REV7, Yamaha REV5, AKG BX-20. Other Outboard Equipment: Compressors: UREI, dbx, Orban, Valley People, equalizers: Pultec, Lang, Sphere, Orban, UREI, compact disc players: Studer, Technics Carver, custom 8-channel personal headphone mix (studio 1). Microphones: Over 100 including (24) Neumann, (16) AKG, Beyler, Shure, Telefunken, RCA, Sony, Electro-Voice, Crown PZM. Monitor Speakers: UREI, Yamaha NS-10M, JBL. Musical Instruments: Yamaha C7 concert grand piano, Hammond B-3 organ w/Leslie, drums and percussion gear, Musicman and Fender vintage amps, New England Digital Synclavier, Kurzweil 250 synthesizer. Other MIDI Equipment: Various Roland, Yamaha, Sequential Circuits, Korg, Macintosh computer w/software (Performer, Opcode libraries). Video Equipment: Ampex 1" VPR 80 for layback, Sony 3/4", JVC 3/4", Hitachi 1/2" VHS dubbing. Rates: Rate card available upon request, project pricing available. Specialization & Credits: We offer the film, video and radio production community cutting-edge, creative music composition, state-of-the-art audio production facilities and new inventions to im-

prove audio post-production capabilities and practices. We feature a staff of award-winning writers and arrangers as well as free-lance support to cover a wide range of requests for talent from our various clients. This year we have produced the music for USAir's merger for television and radio, Wrangler Jeans, Welch's Fruit Bars, Wendy's, USA Today, Jefferson Pilot Financial and others. We wrote and produced the theme song for a 20th Century Fox film, *Gleaming the Cube*, starring Christian Slater and Steven Bower and scored the PBS special *Antarctica & Mars* with guest star Carl Sagan. We are also the inventors of The Boss™ automated audio editor and DR2 digital disk-based recorder. Our automation division has installed The Boss in over 50 facilities worldwide, including Lorimar, Teleproductions, Walt Disney studios and Lucasfilm

[24+] **ARCADIA, also REMOTE RECORDING**; 425 Windsor Pkwy., Atlanta, GA 30342; (404) 255-3284. Owner: Sammy Knox. Manager: Sammy Knox



ARDENT RECORDINGS, INC.  
Memphis, TN

[24+] **ARDENT RECORDINGS, INC.**; 2000 Madison Ave.; Memphis, TN 38104; (901) 725-0855. Owner: John Fry. Manager: Luther Bailey. Engineers: Joe Hardy, John Hampton, Tom Laune, Paul Ebersold. Dimensions: Room 1: studio 25 x 40, control room 16 x 25. Room 2: studio 24 x 17, control room 25 x 20. Room 3: studio 25 x 35, control room 18 x 25. Mixing Consoles: Solid State Logic 6000E 40 x 32, Neve V Series 140 x 48 w/Neumann automation, Mitsubishi Westar 44 x 24. Audio Recorders: Mitsubishi X-850 32-track digital, (2) Mitsubishi X-800 32-track digital, Otari MTR-90 24-track, (2) MCI JH 24 24-track, Mitsubishi X-86 2-track digital, (3) Mitsubishi X-80 2-track digital, (2) MCI JH-110 2-track analog, Panasonic SV-3500 DAT, (2) Sharp SX-D100 DAT. Cassette Recorders/Duplicators: (6) Tascam 122B, Yamaha C300. Noise Reduction Equipment: Dolby Type A 2-track and 24-track. Synchronization Systems: Adams-Smith Zeta-3 Echo, Reverb & Delay Systems: AMS RMX 16, Lexicon 224XL, Quantec Room Simulator, Yamaha SPX1000, (6) Yamaha REV5. Publison IM90 21.5-second version, Marshall Time Modulator, (3) EMT plate, live chamber, (2) Eventide H949. Other Outboard Equipment: Fairchild 670 stereo tube limiter, (2) Fairchild 660 mono tube limiter, Pultec EQP-1A tube equalizer, (2) UA 1176B tube limiter, 1176LN limiter, (4) dbx 160 compressor, (5) dbx 165 compressor, (2) Valley A440 intelligent compressor. Microphones: (3) Neumann M249, Neumann U67, (4) Neumann U87, (2) Neumann U64, (2) Neumann M86, (4) Neumann KM84, AKG C-422 stereo, (5) AKG C-414, (8) AKG C-451, (2) AKG D-112, (13) Sennheiser MD-421, Sennheiser MD-441, Electro-Voice DL20, (3) Electro-Voice RE20, (3) Beyler M201, (2) Shure SM53, (6) Shure SM57, Shure SM56, (6) Crown PZM. Monitor Amplifiers: (3) Crown, (6) BGW. Monitor Speakers: (4) Audicon enclosures w/BL-ported, (2) JBL 4350, (2) KEF, (10) Yamaha NS-10M. Musical Instruments: Fairlight Series III, Hammond M-110 Organ, Mellotron, (2) Gratsch drum kit, (2) Roland Super Jupiter, Yamaha DX7, (2) grand piano, Minimoog w/MIDI interface. Video Equipment: Complete D-2 digital 1" and Beta SP editing suite. Other: Studer Dyaxis Macintosh-based hard disk editing system. Rates: Available on request. Specialization & Credits: Some recent clients include R.E.M., The Fatback Band, Steve Earle, John Kitzler, Mavis Staples, Alex Chilton, The Georgia Satellites, The Angles, Weddings, Parties, Anything, Johnny Diesel and the Injectors, Tori Tova, Kevin Paige, Ten Years After, The Gunbunnies, ZZ Top, Cock-tail soundtrack, Mylon LeFevre, Jimi Jamison, Scruffy the Cat, The Radiators, Degarmo & Key, Mojo Nixon, Eurythmics, Toots Hibbert, Colin James, Little Caesar, George Thorogood

[24+] **ASSOCIATED SOUND PRODUCTS, INC.**; 3900 Tarheel Dr., Ste. 103, Raleigh, NC 27609; (919) 878-0044. Owner: David Emory. Steve Foley, Manager. Robert Clarke

[24+] **AUDIO, INCORPORATED**; 1917 Cleveland Ave., Charlotte, NC 28203; (704) 376-3818. Owner: Frank and Sandi Rogers. Manager: Sandi Rogers

# 24+ TRACK STUDIOS

[24+] **BATES BROTHERS RECORDING**; also *REMOTE RECORDING*; 25 Joy Ave. #101; Birmingham, AL 35023; (205) 491-4066. Owner: Eugene Bates, Eric Bates. Manager: Eugene Bates. Engineers: Eric Bates, Eugene Bates, George Vinson. Dimensions: Room 1. studio 30 x 18, control room 22 x 18. Room 2. studio 14 x 8. Room 3. studio 10 x 9. Room 4. control room 14 x 12. Mixing Consoles: Aremk/TAC Scorpion II 36 x 12 x 24, Ramsa WR-8210, Akai MG1212. Audio Recorders: MCI JH-24 24-track w/autolocator III, Akai MG14D 12-track, Akai MG1212 12-track, (2) Technics RS-1500 2-track, Panasonic SV-3500 DAT Cassette Recorders/Duplicators: (3) Sharp Noise Reduction Equipment: (2) dbx 150 Type I Echo, Reverb & Delay Systems: Yamaha REV7 digital reverb, Yamaha SPX900 multieffects processor, Ibanez SDR-1000 digital reverb, Alessis QuadraVerb, Ibanez DM-2000 digital delay, Yamaha E1010 analog delay. Other Outboard Equipment: GateX 4-ch noise gate/expander/KepeX, Rane DC-24 dual-ch limiter/comp, Ashly Audio SC-50 limiter/comp, (2) Yamaha GC2020 dual-ch. limiter/comp, BBE 802 stereo exciter, Aphex Aural Exciter Type C 2-ch., (3) dbx 263X de-esser, Rockman Sustainer module, Rockman stereo chous/delay module. Microphones: AKG C-61 tube, AKG C-414BULS, E-V RE20, (2) AKG C-460EB, (2) Shure SM81, (2) Sennheiser 421, (3) Shure SM57, (2) A.T. Unipoints, many more. Monitor Amplifiers: Yamaha P2200, Crown D-60, Yamaha CA-610II. Monitor Speakers: (2) JBL 4430 biradial, (2) Yamaha NS-10M Studio, (2) Auratone Cube, (1) 2) AKG K240M and Sennheiser headphones. Musical Instruments: Yamaha G3 6' grand piano, Yamaha DX7II FD, Yamaha TX7, Korg M1R, Ensoniq VFX, Ensoniq EPS, Ensoniq ESQ-1, Roland D-110, Korg EX-8000, Ensoniq Mirage multisampler, Yamaha RX12L percussion machine, Korg DDD-1 drum machine, Roland Octapad, Tama 5-piece drum set w/Sabian and Zildjian cymbals, Aria Pro 2 electric guitar w/pickups, Yamaha acoustic guitar, Yamaha BB5000 bass guitar, Ibanez Musician bass guitar, (3) Yamaha and Fender guitar and bass amp, assorted Latin percussion, Roland PD-31 drum pad. Other MIDI Equipment: Roland MC-500 digital sequencer w/turbo software, Roland SBX-80 SMPTE-to-MIDI converter, Yamaha MJC-8 MIDI patcher, Yamaha YME-8 MIDI expander. Other: Sony CD player, Technics turntable

## THE BENNETT HOUSE 134 4th AVENUE NORTH FRANKLIN, TENNESSEE 37064 (615) 790-8696



THE BENNETT HOUSE STUDIOS, INC.  
Franklin, TN

[24+] **THE BENNETT HOUSE STUDIOS, INC.**, 134 4th Ave. N.; Franklin, TN 37064; (615) 790-8696. Owner: Bob Montgomery. Manager: Gene Eichelberger, Susan Garrett. Engineers: Gene Eichelberger, Shawn McLean, Roy Gamble. Dimensions: Room 1. studio 44 x 18, control room 20 x 26. Room 2. studio 9 x 12, control room 20 x 26. Mixing Consoles: Trident A Range 28 x 24, Trident 80B w/Bud Wyatt modifications. Audio Recorders: MCI 24-track transformerless, (2) Studer A800 24-track, (2) Studer B67 2-track, Sony APR-5003 2-track w/center-track time code, Ampex ATR-100 2-track 1/2", Sony PCM-F1 2-track digital. Cassette Recorders/Duplicators: Sony, (3) Sharp, Studer Synchronization Systems: (3) TimeLine Lynx SMPTE time code module Echo, Reverb & Delay Systems: EMT 250, (2) Lawson plate, Lexicon 200, Yamaha REV7, Eventide 949, Lexicon 224X w/LARC. Other Outboard Equipment: Various gates, EQs, delays, CD players. Microphones: Neumann M249 tube, Neumann 87, Neumann 414, Neumann 421, Neumann 224, AKG Tube, Sanken. Monitor Amplifiers: Yamaha. Monitor Speakers: JBL 4411, Meyer Sound Labs studio, Yamaha NS-10M, Electro-Voice Sentry 100, Braun 3-way, Auratone. Musical Instruments: Baldwin 7' grand piano, Eddy Reynolds Fender Rhodes electric piano. Video Equipment: Sony 5850 3/4" VTR,

cameras, monitors. Rates: Please call for rates. Specialization & Credits: The Bennett House Studios offers a unique recording experience designed for creature comfort. Our facility offers SMPTE stereo 2-track with center-track time code and Lynx module lockup to 3/4" video at no additional charge, making it ideal for jingle production. Adjacent to the two top-quality studios, both with 48-track capabilities, there is the historic two-story home, fully furnished with three bedrooms available to our clients for lodging during master projects. Our beautiful home provides a spacious, creative atmosphere with its high ceiling, plaster walls and many large rooms. The location is most desirable since we are away from the hustle and bustle of Nashville, yet conveniently located in the heart of historic Franklin. During master sessions, we also provide a hot, home-cooked meal daily (except weekends) for four people (or more at your request for a slight charge). Many artists and producers have found the ambience of the house to be especially suited for recording live drums and vocals as well as other instruments. Our staff will see that your stay is a memorable one.

[24+] **BIAS RECORDING COMPANY, INC.**; also *REMOTE RECORDING*; 5400 Carolina Pl.; Springfield, VA 22151; (703) 941-3333. Owner: William O. McElroy, Robert Dawson. Manager: Mary Beth Aungier, Gloria Dawson. Engineers: Robert R. Dawson, William O. McElroy, James T. Robeson, Andrew Berner, Frederick Martin. Dimensions: Room 1. studio 16 x 20, control room 16 x 16. Room 2. studio 16 x 20, control room 16 x 16. Room 3. studio 16 x 20. Mixing Consoles: API 4032 48-input w/Audio Kinetics MasterMix automation, API 2488 24-input modified w/Allison Fades automation. Audio Recorders: (2) Ampex MM-1200 24-track, (7) Studer B-67 2-track, (2) Studer A-67 2-track, Ampex 440-B 4-track. Cassette Recorders/Duplicators: (4) Nakamichi MR-1. Noise Reduction Equipment: (2) Dolby A M-24 Echo, Reverb & Delay Systems: Lexicon 224, (2) Lexicon 200, Lexicon PCM70, Lexicon PCM60, Lexicon Prime Time, Eventide Harmonizer, Yamaha SPX90, (2) EMT 162, AKG BX20E. Other Outboard Equipment: UREI 1176LN, UREI LA-4, UREI 964 digital metronome, dbx 160, Teletronix LA-2A, KepeX Dyna-Mite, MXR phaser/llanger. Microphones: Neumann U87, U47, KM86, U48, U67, Sony, AKG C-451, C-452, C-414, C-460, Shure SM57. Sennheiser 421-D. Monitor Amplifiers: Bryston, Crown. Monitor Speakers: Sierra/Hidley, Auratone, Yamaha NS-10. Musical Instruments: Yamaha C5 grand piano, Yamaha C3 grand piano, Hammond C-3 w/Leslie, Fender Rhodes, Hohner clavnet, Slingerland drums, Fibes drums, Fender Precision bass, Fender Twin Reverb, Fender Pro blond, (2) Fender Deluxe tweed, Fender Vibrolux tweed, Oberheim DX drum machine, Yamaha DX7. Other: Sony F1 digital recording system, Nakamichi F-1 digital recording system. Rates: Studio A: \$100/hr.; Studio B: \$75/hr.; bulk rate available.

[24+] **BOUTWELL RECORDING STUDIOS, INC.**; also *REMOTE RECORDING*; 720 S. 23rd St.; Birmingham, AL 35233; (205) 251-8889. Owner: Corporation. Manager: Nancy Boutwell Cotton

[24+] **BRONESE RECORDING STUDIO**; South Reward #3; St. Maarten, Netherlands Antilles (Caribbean); (011) (5995) 23039; (011) (5995) 25533; FAX: (011) (5995) 25900. Owner: Alfonso and Margaret Brooks. Manager: Alfonso Brooks. Engineers: Denise McGrath, Conrad Malcolm. Dimensions: Studio 39 x 22, control room 18 x 15, iso booth 13 x 13. Mixing Consoles: Sony MXP-3036 36-channel automated, Audio Recorders: Sony PCM-3324 24-track digital, Sony APR-24 24-track analog, Sony PCM-3202 2-track digital, Otari MTR-101C 2-track analog. Cassette Recorders/Duplicators: Sony PCM-2500 DAT, Nakamichi MR-1, Sony CCP-13B high-speed Noise Reduction Equipment: (2) Dolby 361SR, (24) dbx 911M Echo, Reverb & Delay Systems: Lexicon 224X digital reverb, Yamaha SPX90II, Publison Pub 90 Internal, Lexicon PCM70, Lexicon PCM60, Yamaha REV5, DiGiTech DSP-128 multieffects, Roland DEP-3 digital proc., Lexicon Super Prime Time digital delay, Lexicon PCM41, Roland SDE-



BRONESE RECORDING STUDIO  
St. Maarten, Netherlands Antilles

1000, (2) Tubetech LYD PE-1A equalizer, Klark-Teknik DN 360 graphic equalizer, Ashly Audio SC-66A stereo parametric EQ, (6) Valley 810V KepeX II, (2) Valley 811V Gain Brain II, (2) Ashly Audio SG-33 dual-channel noise gate, Ashly Audio SC-33 stereo noise gate, (2) Aphex Compellor, (2) dbx 160X compressor/limiter, (2) dbx 163 compressor/limiter, Publison 2-channel de-esser, Urna Major MSP-126 multitrack stereo proc, (2) Valley Dyna-Mite 2-channel comp/limiter, Eventide H949 Harmonizer. Microphones: Neumann U89, Neumann TLM170, (2) Neumann U84, (2) Beyer MCT740N(C), E-V RE20, Beyer M130N(C), Beyer M160N(C), Beyer M380N(C), Beyer M201N(C), (2) Sennheiser MD-421-U5, (2) AKG C-460/CK-61, (2) AKG C-414B/ULS, AKG D-12E, Sennheiser MD-421U, Sennheiser MD-441U, (2) Shure SM57-LC, Shure SM94. Monitor Amplifiers: Haller P-225A assembler, UREI 6500 275W, QSC 1400, QSC 5.1 Monitor Speakers: (2) UREI 813C, (2) UREI 811B, (2) Yamaha NS-10M studio, (2) Auratone 5C-VB. Musical Instruments: Hammond C-3 organ, Kawai KG1D baby grand piano, E-mu Emulator II+ w/full library, Yamaha DX7IID, Simmons SDS-7 digital/analog drums, Yamaha PTX8 percussion machine, Yamaha RX5 digital rhythm machine, Yamaha RX11 drum machine, Yamaha RX21L percussion machine, Yamaha QX7 digital sequencer. Specialization & Credits: State-of-the-art digital/analog recording facility with fully equipped, on-site live practice hall and quality living accommodations attracts clientele such as Lesten Paul, Bankie Banx, The Imaginations, The Mussingtons, Seventeen Plus, King Beau Beau, Phoenix Force, Ze Menies, Mystic Roots, Rolling Tones, Mighty Kat, Mighty Dow and Juice Productions, to name a few. In-house engineers experienced in pop, rock, jazz, reggae, calypso, soca, etc. Breathing Caribbean beaches, balmy breezes and gourmet cuisine ensure deep relaxation after work. Endless casinos for high rollers. Watersports enthusiasts can enjoy sailing trips to neighboring islands, deep sea fishing, water skiing. Coral reefs offer excellent snorkeling. Make your next recording session into a memorable working vacation at Bronese.

[24+] **THE CASTLE RECORDING STUDIO**; 1393 Old Hillsboro Rd.; Franklin, TN 37064; (615) 791-0810. Owner: Jozef Nuyens. Manager: Jozef Nuyens.

[24+] **CATSPAW PRODUCTIONS, INC.**; also *REMOTE RECORDING*; 560 Dutch Valley Rd.; Atlanta, GA 30324; (404) 876-CATS. Owner: The Catspaw Group. Manager: Brad Jones

[24+] **CENTURY INTERNATIONAL STUDIO, INC.**; 4730 E. 10th Ln.; Hialeah, FL 33031; (305) 685-8409. Owner: The Century Group, Ltd. Manager: Hernan Polo. Specialization & Credits: Sound production; foreign language dubbing, music and effects production; audio sweetening (24-track), commercial music production; film transfer, dialog replacement, voice-over, Foley effects, original music production, video field production, talent casting, videotape editing; audio tape/videotape duplication.

[24+] **CHANDLER AUDIO INC.**; also *REMOTE RECORDING*; 3026 Piedmont Rd.; Huntington, WV 25704; (304) 429-MIXX. Owner: Chandler Audio Inc. Manager: Denny Chandler. Engineers: Denny Chandler. Dimensions: Room 1. studio 38 x 36, control room 30 x 25. Room 2. studio 6 x 10, control room 10 x 14. Mixing Consoles: Harrison 3624, Trident 16. Audio Recorders: Studer A80 24-track, Tascam 16-track, Ampex ATR-800 2-track, Ampex ATR-102 2-track. Cassette Recorders/Duplicators: (2) Nakamichi BX-300. Synchronization Systems: (2) TimeLine Lynx Echo, Reverb & Delay Systems: Klark-Teknik DN-780, (2) Yamaha REV5, Ibanez SDR-1000A, Lexicon PCM60, (2) Lexicon Prime Time, Yamaha SPX90II, Korg SDD-3000, Urna Major Space Station, Roland chorus/echo, Roland Dimension D, TC Electronic 2290, TC Electronic 1210 stereo chorus. Other Outboard Equipment: (2) Valley People Dyna-Mite, (2) UREI 1176, (4) Ashly Audio comp/limiter, (3) dbx 160X, Aphex Compellor, Orban de-esser, Barcus-Berry BBE, (2) White Instruments EQ, GateX noise gate. Microphones: AKG The Tube, (2) AKG 414, (5) Neumann U87, (2) Neumann KM84, (6) AKG 451, (6) Sennheiser 421, (2) Sennheiser 441, Shure SM7, (12) Shure SM54, (4) Shure SM81, (2) E-V RE20, (4) E-V 408, (2) Crown PZM. Monitor Amplifiers: (5) Crown. Monitor Speakers: UREI 813, JBL 4311, Yamaha NS-10, (2) Auratone, E-V 100. Musical Instruments: Yamaha C5 grand piano, Yamaha DX7, Oberheim OB-8, Oberheim DPX-1, Roland D-50, Roland MKS-70, (2) Linn 9000 w/Forat modifications, Ensoniq ESQ-M, Akai S612, Rogers drum kit, Musicman bass, Ludwig timpani, Musser vibes and orchestra bells. Other MIDI Equipment: (2) Digital Creations patch bay, IBM PC, Atari ST, Roland SBX-80. Video Equipment: JVC 6250 3/4" U-matic. Rates: \$90 per hour. Call about block-time rates.

[24+] **CHESHIRE SOUND STUDIOS**; 2093 Faulkner Rd. NE; Atlanta, GA 30324; (404) 633-6626. Owner: Tom Wright. Manager: Wynette Smith.

[24+] **CLIFTY STUDIOS**; PO Box 15; Paris, TN 38242; (901) 644-7111. Owner: Keith Lancaster. Manager: Todd Austin. Engineers: John Laws, Gary Miller, Steve Rowhuff, Gary Miner, Jeff Johnson. Mixing Consoles: AHB CMC 32, (8) Yamaha DMP7 automated digital mixing processor. Audio Recorders: Studer A80 24-track, Akai A-DAM 24-track digital multitrack, Otari MX-5050 2-track. Cassette Recorders/Duplicators: Tascam 122. Noise Reduction Equipment: Dolby SR 2 tracks.

Echo, Reverb & Delay Systems: Lexicon PCM70 digital reverb, ART DRI digital effects Microphones: AKG Tube. (2) Neumann U87, (2) AKG 414 Monitor Amplifiers: SCS Model 2600A Monitor Speakers: JBL Model 4435 studio JBL Model 4311B studio Musical Instruments: (2) MPC60 MIDI production center and drum machine, Kurzweil K251 sampling keyboard, Kurzweil K250 RMX rack-mount, Kurzweil K1000SE keyboard. (2) Akai S-1060 stereo sampler, Akai S900 sampler Other MIDI Equipment: Akai PC-1100 programmable digital patch bay Other: Barcus-Berry Sonic Enhancer Macintosh SE computer Rates: Digital (24 tracks) \$100/hr Analog (24 tracks) \$60/hr Analog (16 tracks) \$35/hr. Package plans available



COMMERCIAL MUSIC RECORDING COMPLEX  
Memphis, TN

[24+] **COMMERCIAL MUSIC RECORDING COMPLEX**, CFA-232 Memphis State University, Memphis, TN 38152; (901) 678-2559 (office); (901) 678-2015 (studio). Owner: Memphis State University. Manager: Larry Lipman. Engineers: Larry Lipman advanced students in audio degree program. Dimensions: Studio A 60 x 60 x 20, Studio B 23 x 16 x 20, control room 20 x 16 x 2, electronic music lab 16 x 10 x 12, Synclavier suite 11 x 11 x 10 Mixing Consoles: MCI JH-646 36 x 24 Audio Recorders: Otari MTR-9011 24-track, Otari MTR-12 CT 1/2-track 1/2", (2) Panasonic SV350C DAT, Otari 5050 MkIII-8 8-track 1", MCI JH 110B 1/2-track 1/4", Studer PR99 1/2-track 1/4" Noise Reduction Equipment: dbx 248 24 channels Echo Reverb & Delay Systems: Lexicon 224XL, Lexicon M37 Super Prime Time, (2) Yamaha SPX901 Other Outboard Equipment: Aphex Type B Aural Exciter, Eventide H949 Harmonizer, (2) dbx 160X, (2) Valley People Dyna-Mile, Scamp, (2) Yamaha SPX901 Microphones: (2) Neumann U87, Neumann J47, Neumann KM84, (2) AKG C-414EB/P48, (2) AKG C-452/C4-1S, (5) Sennheiser MD-421U, (2) Shure SM81, Shure SM57, Electro-Voice RE1H, Electro-Voice RE20, Electro-Voice 654A, (2) Crown P2M 30GP Monitor Amplifiers: (2) BCW, (5) AB Systems, Monitor Speakers: (2) UREI 813A, (2) UREI 811A, (2) Tannoy GLM, (2) Tannoy PBM 6.5, (2) Yamaha NS-1C (2) JBL 4404, (2) JBL 442, (2) Auratone Musica Instruments: Steinway 7 grand, Baldwin 9 concert grand, Yamaha DX7, Roland JX-1J, Roland MC-500, Roland MPU-101, Roland Pac-8 Octapad, Roland TR-707, Roland TR-727, Roland MT-3C, Akai S900, Akai ME 30P, Moog 3C, full complement of studio orchestral and percussion instruments available Other MIDI Equipment: Macintosh Plus Video Equipment: Complete Betacam and Super VHS video production/CMX post-production services available, funding has been requested to enable video production suite to be interfaced with recording studio. Other: Synclavier 3210 w/16 voices and 16MB waveform RAM, 2GB optical disk drive loaded w/NED Timbra Library, 80MB and 160MB Winchester drives, 20MB Kennedy cartridge drive, 1.2MB disk drive, Macintosh II graphics workstation, extensive sample library, Yamaha turntable, Adcon preamp, (2) Countyman Type 85 direct box (12) Active cue system Rates: The CMUS Complex is operated primarily as an instructional facility. Although normally unavailable for commercial use, studio rental is authorized under special circumstances. Availability and rates upon request. Specialization & Credits Memphis State offers the bachelor of music degree in Commercial Music with concentrations in Recording Technology, Music Business, Studio/Live Performance—Jazz, and Composition/Arranging—Jazz. A thorough understanding of fundamental concepts and technologies are stressed within each concentration. Equal emphasis is placed upon developing the student's ability to adapt quickly to new practices, technologies and creative directions. Our students work with instructor, who possess a broad knowledge of music industry practices and who are actively involved in today's commercial music industry. The Memphis arts community offers a dynamic, growing environment, providing students with diverse cultural opportunities and a rich assortment of internship possibilities. Scholarship funds are available for exceptional students and many states offer our students financial assistance through the Academic Common Market program. A commitment to personal attention and quality instruction requires that enrollment be limited and based on selective procedures.

[24+] **COOK SOUND STUDIOS**, 1419 Scenic Rd., Fort Payne, AL 35967; (205) 845-2286. Owner: Jeff Cook. Manager: John Estes. Engineers: John Estes. Dimensions: Studio 36 x 27, control room 22 x 18. Mixing Consoles: Neve 8058 Audio Recorders: Studer A80 24-track, Studer A80 2-track 1/2", Studer A80 2-track 1/4" Cassette Recorders/Duplicators: Studer A710 Echo, Reverb & Delay Systems: EMT 250 digital reverb, Lexicon 224XL digital reverb, Lexicon Super Prime Time digital reverb Other Outboard Equipment: (4) Drawmer gate Microphones: Neumann M49, (2) Neumann U48, (4) Neumann U87, (4) AKG 414, (4) AKG 452, (10) Sennheiser 421, (2) Neumann U47 Monitor Amplifiers: (2) Halber P-500, (6) Yamaha 2200 Monitor Speakers: (2) Tannoy FSM, (2) Yamaha NS-10M, (2) Tannoy LGM-12. Rates: \$75/hr

[24+] **CPN-TV**, 14375 Myerlake Cir., Clearwater, FL 34620; (813) 530-5000. Owner: Stuart Arnold. Manager: Bill Cavanaugh, Glenn Wescott. Engineers: Bill Cavanaugh, Phil Eson (chief), Jim Seals, Tom Fuiks (senior editor), Bob Diestchle. Dimensions: Room 1 studio 16 x 16, control room 29 x 18 Room 2 studio 88 x 60 Room 3: studio 50 x 40 Mixing Consoles: Neve VR Series 48-position w/Recall and Flying Faders, (2) Harrison Pro 790 production console Audio Recorders: Otari MTR-10 II 4/2-track 1/2", (3) Sony 5003V 2-track, New England Digital Post-Pro 16-track Direct-to-Disk, Sony TCD-D10 Pro DAT, Sony PCM-2500 R-DAT Cassette Recorders/Duplicators: Nakamichi MR-1 Noise Reduction Equipment: Dolby 363 SR, dbx Type I, Symetrix 511A Synchronization Systems: Adams-Smith 2600 w/compact controller Echo, Reverb & Delay Systems: Lexicon 480L digital effects, Lexicon PCM70 digital effects, TC Electronic TC 1210 spatial expander, TC Electronic 2290 FX, DigiTech DSP-256 multi FX proc, Eventide H3000SE Ultra-Harmonizer, (2) Yamaha SPX900 digital FX, Aphex Aural Exciter Type III Model 250 Other Outboard Equipment: Aphex Compellor Model 300, Aphex Studio Dominator Model 700, Symetrix 501 peak-RMS limiter, Valley International DSP Model 415, Drawmer DS201 dual expander/gate, Drawmer DS201 dual gate, UREI 1176LN peak limiter, Orban 642B parametric EQ/filter Microphones: Neumann U87A, Neumann U89, Neumann TLM170, AKG C-414B/JULS (2) Shure SM81, Shure SM57 Monitor Amplifiers: (2) OSC 1700, (6) OSC 1200, OSC 1100 Monitor Speakers: (2) Meyer Sound Labs 833/834, (2) Westlake BBSM-6, (4) Yamaha NS-10M Musical Instruments: New England Digital Synclavier 9600 w/48 voices 48MB RAM, Roland D-550 LA, Roland D-110 LA, Oberheim Matrix-1000, Korg M3R AI, Yamaha TX802 FM, E-mu Proteus 1 Video Equipment: Sony DVR-10D-2 recorder, Mitsubishi CS3505R 35" monitor, Sony PVM-2030 20" monitor, Sony PVM-1341 13" monitor, JVC 20" monitor, Grass Valley sync generator, (2) Grass Valley Model 200 switcher (2) Abekas A53D w/Warp, Ampex ADO-1000, (2) Grass Valley 151 editor, (4) Sony DVR-10 D-2, (3) Sony BVH-3100, (4) Sony BWV-75, DFX 200 Other: Gelen M&E organizer system, Hybrid III phone patch, (18) Grass Valley video DA, (18) Grass Valley audio DA, (8) tie-lines to (2) video suites, Scientific Atlanta 8015 10-meter C-band earth-station

[24+] **CRAWFORD POST PRODUCTION**, 535 Plasamour Dr., Atlanta, GA 30324; (404) 876-7149. Owner: Jesse Crawford. Manager: Steve Davis. Engineers: Carl Maduri, Tom Race, Greg Crawford, Reid Hall, Dave Wilson, Jim Wile, Bryan Stone. Dimensions: Studio A 50 x 35, control room 27 x 34 Studio B 8 x 8, control room 15 x 12 Studio C 10 x 8, control room 20 x 16 Mixing Consoles: Neve 8128 40 x 32 w/Necam 96 automation, MCI JH-636 36 x 24 w/DiskMix moving faders, Trident Series 70 24 x 16 Audio Recorders: (2) Studer A80 MkIV 24-track, (2) Otari MTR-90 II 24-track, Otari DTR-900 32-track digital, (4) Otari MTR-12 1/4" SMPTE center track, (2) Sony APR-5003 1/4" SMPTE center track, (3) Ampex ATR-102 2-track 1/4", (3) Ampex ATR-101 full-track 1/4", Ampex ATR-104 4-track 1/2", Sony TCD-D10 Pro R-DAT, Nagra T 1/4" audio synchronizer/recorder, Nagra G 2 1/4" Pilotone recorder (mono), Nagra IV-S 1/4" Pilotone recorder (stereo) Noise Reduction Equipment: (4) dbx Type I 24 channels Synchronization Systems: (3) Alpha Audio Boss/2 serial audio editor, (15) Adams-Smith 2600 Echo, Reverb & Delay Systems: (2) Lexicon 224XL digital reverb, (2) Lexicon PCM70 digital reverb, (2) Lexicon PCM60 digital reverb, (2) Lexicon 200 digital reverb, AMS RMX 16 digital reverb, Eventide Ultra-Harmonizer Other Outboard Equipment: (2) Drawmer 1960 stereo tube compressor Microphones: Neumann U87, Neumann U89, Neumann U47, Milab AKG, Sennheiser, Beyer, Shure, Electro-Voice Monitor Amplifiers: Crown, Crest, BGW, Halber Monitor Speakers: Acoustical Physics Laboratories custom Musical Instruments: NED Synclavier w/36MB RAM, 240MB Winchester, 32 sampling voices, 8 FM voices optical disk, Yamaha C7 acoustic grand, (2) Marshall amp Video Equipment: (4) Sony BVU-800 VCR, (7) Sony DVR-10 D-2 digital VCR, (16) Ampex VPR-3 1" VTR

[24+] **CREATIVE SOUND CONCEPTS**; also **REMOTE RECORDING**; 495 Armour Cir. NE, Atlanta, GA 30324; (404) 873-6628. Owner: Dennis Baxter, Spencer Herzog. Manager: Linda Morrison

[24+] **CRITERIA RECORDING STUDIOS, INC.**; 1755 NE 149th St., Miami, FL 33181; (305) 947-5611. Owner: Criteria Recording Studio, Inc. Manager: Margie Curry. Engineers: Independents. Dimensions: Room 1 studio 46 x 67, control room 25 x 27 Room 2 studio 25 x 32, control room 15 x 16

—CONTINUED ON NEXT PAGE

Ask for our

## FREE CATALOG

OF PROFESSIONAL  
*Sound* RECORDING  
& DUPLICATING SUPPLIES



**Blank-Loaded  
AUDIO CASSETTES**



**CASSETTE BOXES  
LABELS • ALBUMS**

**ACCESSORIES**  
from  
**3M • EDITALL**



now from  
**STOCK**  
in  
**CHICAGO**  
and  
**L.A.**


**AGFA AMPEX**  
**3M Scotch**  
**TDK MAXELL**  
**TAPE**



**Polyline™ Empty  
REELS & BOXES**

**Polyline Corp.**  
1233 Rand Rd. • Des Plaines, IL 60016  
**(312) 298-5300**

Circle #002 on Reader Service Card



## ACE MUSIC CENTER

THE PRO'S CHOICE  
FOR PROFESSIONAL  
EQUIPMENT FOR  
OVER 30 YEARS.

CALL **ACE**  
AND FIND OUT WHY

# 1-800 446-4ACE

13630 WEST DIXIE HWY.  
N. MIAMI, FLA. 33161

Circle #003 on Reader Service Card

—CONTINUED FROM PREVIOUS PAGE

Room 3 studio 14 x 18, control room 26 x 23. Room 4: studio 50 x 50, control room 26 x 23. Editing/MIDI room: studio 14 x 17, control room 17 x 19. Mixing Consoles: (2) Solid State Logic 6000E 48 x 32, MCI 532B 32 x 32, MCI 532C 32 x 32, MCI 556D 8 x 32. Audio Recorders: Mitsubishi X800 32-track digital, Mitsubishi 850 digital w/Apogee filter, (2) Studer A820 24-track, (2) Otari MTR-90 24-track, MCI JH-24 24-track, (2) Mitsubishi X80 2-track digital, (2) MCI JH-110B 4-track, (3) MCI JH-110D 2-track. Cassette Recorders/Duplicators: (5) Yamaha K1020, (10) Yamaha K1200. Noise Reduction Equipment: (5) Dolby A multitrack 24 tracks, (26) dbx K-9-22, (12) Dolby 361 system. Synchronization Systems: Audio Kinetics Q Lock 3 10, Adams-Smith Zela-3. Echo, Reverb & Delay Systems: (3) Live stereo echo chamber, (4) Ecoplate, EMT 140 plate, EMT 251 digital, Lexicon 224XL, (2) Lexicon 480L, AMS RMX, AMS DMX 15-80S, (2) Yamaha REV7, (6) Lexicon PCM41, (6) Lexicon PCM42, (3) Lexicon PCM70, (3) Yamaha SPX90, Eventide 2016, (2) Eventide H3000 Harmonizer, (3) Eventide 949 Harmonizer. Other Outboard Equipment: (2) Focusrite EQ module, (2) Focusrite dynamic module, (4) Drawmer gate, (4) Kepex gate, (8) Pultec tube EQ, (2) UREI LA-2A tube limiter, (2) dbx 160, (2) dbx 165. Microphones: Calrec sound field, AKG C-24 tube stereo, AKG 422 stereo, (2) Schoeps CMT-501 stereo, (12) Schoeps Collette Series various capsules, (6) AKG 414, (4) Neumann U47 tube, Neumann U47 FET, (10) Neumann U87, (6) AKG 452EB, (5) Beyer 260, (4) Sennheiser MD-421, (8) Shure SM57, (2) Shure SM7. Monitor Amplifiers: (7) McIntosh, (2) UREI 6500, (2) APT-1, (2) Acoustar, Crest Monitor Speakers: (6) Criteria custom Time Align by Ed Long, (2) Criteria custom tri-amped system, (4) Yamaha NS-10, (2) SPICA, (2) Genelec S30, (2) Tannoy PBM-8, (6) Auratone



**CUE RECORDING, LTD.**  
Falls Church, VA

[24+] **CUE RECORDING, LTD.**, 109 Park Ave., Ste. E; Falls Church, VA 22046; (703) 532-9033. Owner: Willard R Jeffrey III. Manager: Willard R Jeffrey III. Engineers: Jim Ebert, Willard Jeffrey, Joe Gelchion, Scott Causey, Ken Schubert, Tony Bonta. Dimensions: Room 1: studio 32 x 25, control room 25 x 21. Room 2: studio 15 x 11, control room 14 x 13. Room 3: studio 8 x 5, control room 9 x 8. Mixing Consoles: Trident TSM 40 x 32 automated, MCI JH-628 28 x 24 automated, Allen and Heath CMC 32 x 24. Audio Recorders: Studer A800 MkIII 24-track, MCI JH-16 24-track, Studer A810 2-track, Otari MTR-10 2-track, (2) Otari 5050B 2-track, Sony PCM-2500 DAT, Sony DTC-1000ES DAT. Cassette Recorders/Duplicators: (12) Tascam 122B, Nakamichi MR-1. Noise Reduction Equipment: dbx Type 180 2-channel, Echo, Reverb & Delay Systems: (2) Lexicon PCM70 digital reverb, (2) Yamaha REV7 digital reverb, (3) Yamaha SPX90 digital reverb, EMT 140S tube plate reverb, Lexicon 200 digital reverb, Lexicon PCM41 digital delay, (4) DeltaLab Effectron 1024 digital delay, Korg SDA-2000 sampling digital delay, Alexis XT digital reverb, MXR flanger doubler, Roland stereo chorus, Systech stereo phase shifter. Other Outboard Equipment: UREI 1176 compressor/limiter, (2) UREI LA-4 compressor/limiter, (2) dbx 160X compressor/limiter, Ashly Audio compressor/limiter, (2) dbx 166 compressor/limiter, Eventide H3000 Ultra-Harmonizer, (16) Kepex noise gate/expander, (4) Aphex Type C Aural Exciter, (6) BBE Sonic Maximizer, (2) UREI 1/8-octave equalizer, Rocktron Hush noise eliminator. Microphones: (2) Neumann U87, Neumann U67 tube, (2) Neumann KM86, (2) AKG 414, (2) AKG 451, (2) AKG D-12, (4) Sennheiser MD-421, Sennheiser MD-409, Sennheiser MD-441, (4) E-V RE20, E-V 636, Beyer M88, (2) Crown PZM, (6) Shure SM57, (2) Altec ribbon,

Sony ECM-33F. Monitor Amplifiers: Bryston 4B, Bryston 3B, Crown PSA-2, Crown D-150, UREI/JBL 6200. Monitor Speakers: (2) State-of-the-Art Elektronik CFM-750, (2) UREI 813A, (2) Westlake BBSM-6, (2) Yamaha NS-10M, (2) Tannoy NFM-8, (2) JBL 4413. Musical Instruments: Roland S-550 sampler, Roland D-550, Linn 9000 digital drum machine w/32-track sequencer, Sojin 6' grand piano, Ludwig 6-pc. drum kit, various guitar amplifiers. Rates: Available upon request. Specialization & Credits: Cue Recording, Ltd., is a three-studio facility located five minutes from the nation's capitol. From our computerized MIDI room to automated mixing in Studios A and B, we provide top-notch audio recordings at sensible rates. Advanced control-room monitoring has been achieved using the R.F.Z. Reflection Free Zone architecture and RPG diffusers in control room A. Neil Muncy Associates, Ltd., in Toronto designed the room producing excellent results accurate imaging with a remarkably flat frequency response, free from the need of room equalizers. The room is a pleasure to mix in from all-cone monitoring by State-of-the-Art Elektronik, to the security of knowing what you're hearing now is what everyone else will be hearing later. Recent clients include Larry Fast of Peter Gabriel, Annie Haslam, Buddy Miles, Michael Fath, H.R., Wrathchild, The Newkeys with Nils Lofgren, and Harry Dally of Jimmy Buffet

[24+] **JIM DEVITO'S RECORDING STUDIO**; also *REMOTE RECORDING*; PO Box 1281; St. Augustine, FL 32085; (904) 471-0506. Owner: Jim DeVito. Manager: Nancy DeVito.

DIGITAL MIXING  
DIGITAL REMOTES  
DIGITAL EDITING  
DIGITAL RENTALS  
DIGITAL ARCHIVING  
DIGITAL TRANSFERS  
DIGITAL SEQUENCING  
DIGITAL TIME COMPRESSION  
DIGITAL FORMAT CONVERSIONS  
DIGITAL DYAXIS WORKSTATION  
**Digital Associates**

(615) 297-3900  
NASHVILLE

DIGITAL ASSOCIATES  
Nashville, TN

[24+] **DIGITAL ASSOCIATES**; also *REMOTE RECORDING*; 2407 12th Ave. South; Nashville, TN 37204; (615) 297-3900. Owner: Rick Horton. Manager: Rick Horton. Engineers: Rick Horton, Kelly Key, Todd Kidd. Dimensions: Control room 1: 16 x 20. Control room 2: 14 x 14. Mixing Consoles: Anek TAC Matchless 36 x 32. Audio Recorders: Mitsubishi X-880 32-track digital, Mitsubishi X-800 32-track digital, Mitsubishi X-86 2-track digital, (2) Mitsubishi X-80 2-track digital, Studer Editech Dyaxis Digital Audio Production System 1.6GB, Sony PCM-2500 Pro DAT, Sony PCM-501ES digital audio processor, Studer A80 24-track analog, Studer B67 2-track analog, Otari MTR-12 2-track 1/4" and 1/2" analog. Cassette Recorders/Duplicators: Nakamichi MR-1, Infonics 12-station mid-speed duplication system. Noise Reduction Equipment: Dolby A 2 channels, Dolby SR 2 channels, Dolby C 2 channels. Echo, Reverb & Delay Systems: Eventide H3000 Ultra-Harmonizer, (4) Aphex 612 expander/gate, Lexicon PCM70 processor, (2) Yamaha REV7 processor, UREI 1178 dual peak limiter. Microphones: AKG The Tube, Neumann U87, Neumann U47 tube, (2) Neumann M269 tube, (2) Neumann M256 tube, (2) Neumann KM54 tube, (2) Neumann M49 tube, (2) Schoeps M221-b tube. Monitor Amplifiers: Hafler P500. Monitor Speakers: (4) Auratone T6. Other: Goldline 30 digital real-time analyzer, Macintosh II, (3) XT compatible computer.

[24+] **DIGITAL MULTI-MEDIA**; 502 N. Hudson St.; Orlando, FL 32811; (407) 293-3390. Owner: Robert Storen. Manager: Chris Coan. Engineers: Chris Coan. Dimensions: Room 1: studio 55 x 29, control room 12 x 17. Room 2: studio 12 x 12. Mixing Consoles: Neotek Elite 358. Audio Recorders: NED 16-track Direct-to-Disk, Synclavier 9600 w/200 tracks, 80 voices, 48MB RAM. Cassette Recorders/Duplicators: Tascam 122. Noise Reduction Equipment: (2) dbx 160X, (2) dbx 150, (2) dbx 120. Dolby Surround Sound, Ultra Stereo. Synchronization Systems: NED Synclavier 9600 w/SMPTTE and VITC, TimeLine Lynx film module, TimeLine Lynx time code module, Fast Forward Video F21 SMPTTE generator, E-V Bloc VITC reader/translator Echo, Reverb & Delay Systems: Klark-Teknik DN-780, Dynacord DRP-20, Lexicon PCM41, Digi-Tech RD5900, Yamaha SPX90. Other Outboard Equipment: (2) Klark-Teknik DN360 graphic EQ, (2) BSS FDS-310 crossover, (6) Drawmer DS201 dual gate, Rockmount, NED CIM-1, Magnavox CDV-485, BAE. Microphones: (4) Neumann U89, (4) Neumann U87, assorted Beyer, E-V, Sennheiser, Shure, Milab. Monitor Amplifiers: Ashly Audio FET 500, (2) Ashly Audio FET 2000, Ashly Audio FET 200, (4) Soundcraftsmen

450X2M, Soundcraftsmen 900X2, Crown Macro-Tech 1200, Crown D-75. Monitor Speakers: (2) Yamaha NS-10M, (2) Tannoy LGM, (3) Fostex LS3B, Interscans TPL-3 Servo subwoofer, (6) JBL L100, (2) JBL 4406. Musical Instruments: NED Synclavier 9600 w/Direct-to-Disk 16-track system, optical disk and Kennedy tape drive, Kurzweil 150, Korg DSS-1, Korg 6000, E-mu Emulator. Video Equipment: Numerous JVC and Sony 1/2" and 3/4" w/SMPTTE, JVC Super VHS 1/2", Macintosh II w/Video Works, Macro Mind direction and interactive. Avid-1 Media Composer—RAM disk-based editor. Other: Fostex DN-20 digital master recorder w/SMPTTE, Century Interlock projectors 35/70mm, 35mm 6/3-track recorders/reproducers, (3) 35mm film edit suite computer, location screening room for interlocking 35mm, 35mm optical printing and rotoscope/tilting stands, Magna-Tech electronic projector 16/35mm for looping ADR. Rates: Multiple—call for "such a deal!" Specialization & Credits: Digital Multi-Media specializes in film post-production with Synclavier SMPTTE synchronization to projected film picture on a 12 x 24 screen in 16mm, 35mm and 70mm formats. We also feature digital mixing to our 16-track Direct-to-Disk. Post services include original music for jingles, film scoring, ADR, Foley, sound effects and sound design.

Atlanta's Heavyweight.

**DOPPLER**

DOPPLER STUDIOS, INC.  
Atlanta, GA

[24+] **DOPPLER STUDIOS, INC.**; also *REMOTE RECORDING*; 1922 Piedmont Cir., Atlanta, GA 30324; (404) 873-6941. Engineers: Joe Neil, Curt Bush, Granger Beem, Mitch Eaton, Steve Schwartzberg, Tommy Smeltzer, Kent Pendleton, Fred Foonman. Dimensions: Room 1: studio 35 x 50, control room 26 x 28. Room 2: studio 35 x 50, control room 26 x 28. Room 3: studio 25 x 35, control room 15 x 17. Room 4: studio 15 x 20, control room 15 x 17. Room 5: studio 11 x 13, control room 13 x 15. Mixing Consoles: SSL 4000E 40 x 32, SSL 4000G 32 x 32, Sphere A 28 x 24, Ramsa WR 8428 28 x 4, Audiotronics 110-A 20 x 4. Audio Recorders: (3) Otari MTR-90II 24-track, Otari MTR-90 24-track, Otari MTR-10 4-track, (10) Otari MTR-10 2-track, (2) Ampex ATR-102 2-track, Panasonic SV-250 DAT recorder, MTM 16/35mm Mag machine, Tascam ATR-60/8 8-track. Cassette Recorders/Duplicators: Nakamichi MR-1, (13) Nakamichi R-2 Noise Reduction Equipment: dbx Synchronization Systems: (2) Cipher Digital Softouch system Echo, Reverb & Delay Systems: (2) Lexicon 224XL reverb, Lexicon PCM70, (2) EMT 140 stereo plate, TC Electronic TC 2290, Eventide H3000B, Eventide 969 Harmonizer, (6) Yamaha SPX90II. Other Outboard Equipment: (7) dbx 165A limiter/compressor, Aphex Compellor, ADR Vocal Stresser, (4) dbx 160 compressor, (4) dbx 163 compressor, (2) Drawmer DS-201, (2) Allison Research Keplex II, (2) Allison Research Gain Brain II, Orban 622B parametric EQ, (4) UREI 1176LN compressor. Microphones: (8) Neumann U87, (2) Neumann U67, Neumann U89, (2) Neumann KM84, (2) Neumann KM85, Neumann U64, (2) Studer SKM5, (2) AKG 414ULS, (4) AKG 414EB, AKG C-452, (2) Shure SM57, Electro-Voice RE20, (3) Sennheiser 421. Monitor Amplifiers: (2) UREI 6500, (8) Hafler P500, (12) Yamaha P2100. Monitor Speakers: (6) UREI 813B, (10) EAW MS-30, (2) Yamaha NS-10, (12) Auratone 5C. Musical Instruments: Steinway B grand piano, Baldwin baby grand piano, Ludwig drums, Hammond B-3 organ, Roland MS-30. Video Equipment: Sony BVH-1000A 1" Type C, (3) Sony VO-5850 3/4", Sony VO-5800 3/4". Other: (2) Plycard Active cue system. Rates: Please call for rates

[24+] **EBS, INC.**; 1125 Moore Duncan Hwy., PO Box 66; Moore, SC 29369; (803) 574-6104. Owner: Duane Evans, Joseph Evans. Manager: Lyndon Vestal

[24+] **ELEVEN-ELEVEN SOUND**; 1111 17th Ave. South; Nashville, TN 37212; (615) 329-1111. Owner: DiLéo Music Group. Manager: John Abbott. Engineers: John Abbott, Rodney Good, independents. Dimensions: Studio 34 x 36, control room 13 x 15. Mixing Consoles: Neve V Series III 48 x 48. Audio Recorders: Mitsubishi X-850 32-track digital, Otari MTR-90II 24-track analog, Mitsubishi X-80A 2-track digital, Studer A80 2-track analog, Studer B67 2-track analog, Studer A67 2-track analog. Cassette Recorders/Duplicators: Revox



B710. Synchronization Systems: Adams-Smith Zeta-3. Echo, Reverb & Delay Systems: Lexicon 224XL w/LARC, Lexicon 224 w/LARC, Lexicon PCM70, Yamaha REV5, Yamaha REV7, Yamaha SPX90II, TC Electronic 2290, Lexicon Prime Time, EMT 162. Other Outboard Equipment: GML Moving Fader automation, Valley People 440 limiter/compressor, Trident stereo limiter/compressor, Eventide Harmonizer, Eventide Instant Phaser, Yamaha graphic equalizer. Microphones: (2) Neumann M249 tube, (2) Neumann U87, Neumann 47 FET, Neumann KM84, Sanken CU41, (4) AKG C-414, (2) AKG 460B, (5) Sennheiser 421, Sennheiser MKH-40, (2) Studer SKM5U, Beyer M101, (2) Sony ECM-50P, (5) Sony ECM-33P, (5) Sony ECM-22P, (2) E-V RE20, (4) Shure SM57, various others. Monitor Amplifiers: McIntosh 2500, BGW 600, (2) BGW 250D, Hafler 500, Crown D-150, Crown 60, Crest P-3501, BGW 75. Monitor Speakers: Sierra Audio w/oak dispersion horns, Yamaha NS-10M. Musical Instruments: Steinway 7.5" grand piano w/Forte Music MIDI, Yamaha DX7, Fender Rhodes piano, Wurflitzer piano, Hammond B-3 organ, harpsichord, vibes, clavinet, (2) congas. Rates: Available upon request.

[24+] **BERT ELLIOTT SOUND INC.**; also *REMOTE RECORDING*; 2080 Peachtree Ind. Ct. #115; Atlanta, GA 30341; (404) 452-1140. Owner: Bert Elliott. Manager: Margie Gorney.

[24+] **FANTA MOBILE PROFESSIONAL SERVICES**; also *REMOTE RECORDING*; 1213 16th Ave. South; Nashville, TN 37212; (615) 327-1731. Owner: Johnny Rosen. Manager: Robin Victor.

[24+] **FLOOD ZONE STUDIOS**; also *REMOTE RECORDING*; PO Box 7105; Richmond, VA 23221; (804) 644-0935. Owner: Steve Payne, Bruce Olsen, Mason Wyatt. Manager: Steve Payne.

[24+] **FLORIDA SOUND RECORDING STUDIOS**; 3350 Ulmerton Rd.; Clearwater, FL 34622; (813) 573-1007. Owner: Jeff Arthur. Manager: Vince Wheeler.

[24+] **FRONT ROW PRODUCTIONS, INC.**; also *REMOTE RECORDING*; #4 S. 55th Pl.; Birmingham, AL 35212; (205) 592-2222. Owner: Scott McDavid, Betsy Simmons, Ross Roberts. Manager: R. Roberts. Engineers: Ross Roberts, Scott McDavid. Dimensions: Room 1: studio 32 x 25, control room 18 x 25. Room 2: control room 16 x 20. Room 3: control room 16 x 20. Mixing Consoles: MCI JH-636 auto/mix, Ramsa WR-T 820. Audio Recorders: Otari MX-80 24-track, Otari MTR-12C 2-track, Otari Mark III-8 8-track w/dbx NR, (2) Otari Mark III 2-track. Cassette Recorders/Duplicators: (2) Akai GX-912 Echo, Reverb & Delay Systems: (2) Lexicon PCM70, (2) Yamaha SPX90II, Yamaha REV7, Yamaha D1500, Yamaha R1000, (2) Lexicon PCM41, Korg DRV3000, (2) Yamaha 0203, (2) dbx 166, Universal Audio 1176LN. Microphones: Sony, Sennheiser, AKG, Beyer, Shure. Monitor Amplifiers: SCS, Yamaha, Crown. Monitor Speakers: Tannoy FSM, JBL 4311. Yamaha NS-10M, Auratone. Musical Instruments: Ludwig drums—wide assortment of cym. and perc., an assortment of guitars and amps available. Other MIDI Equipment: Macintosh Plus sys. w/Performer 3.3 and other software, Passport MIDI transport computer interface and SMPTE sync, Yamaha KX88, Yamaha DX7IIFD w/over 8,000 sound files, Yamaha TX802, Yamaha TX816, Yamaha RX5, Yamaha MJC8, Ensoniq EPS sampler w/large library, (2) Roland JX-10, Roland MKS-20, Roland RD-200, Korg EX-8000, Roland guitar synth, Yamaha RX11, Yamaha DX7. Other: Production music library, sound FX library, staff writers/arangers. Rates: 24-track studio \$85/hr. 8-track production suite \$55/hr. MIDI suite \$50/hr. Block rates are available.

[24+] **GERMANTOWN RECORDING STUDIO**, 1209 4th Ave. N.; Nashville, TN 37208; (615) 244-8019. Owner: Michael Bridges. Manager: Michael Bridges.

[24+] **GETTINGS PRODUCTIONS/STARKE LAKE STUDIOS**; also *REMOTE RECORDING*; 275 N. Lakeshore Dr.; Occoee, FL 34761; (407) 656-8989. Owner: Glen Gettings. Manager: Paul Miner.

[24+] **GREAT CIRCLE SOUND**; 365 Great Circle Rd.; Nashville, TN 37228; (615) 742-6800. Owner: The Benson Co. Manager: David Murphy.

[24+] **GROUNDSTAR LABORATORY**; 12 Music Circle South; Nashville, TN 37203; (615) 256-7575. Owner: Ronnie Milsap. Manager: Keith Odle.

[24+] **HIX STUDIOS**; 2901 Hwy. 70 West; Hickory, NC 28602; (704) 328-2487. Owner: Charles and Virginia Hicks. Manager: Marcus Kearns.

[24+] **HOLBROOK MEDIA PRODUCTIONS**; also *REMOTE RECORDING*; Lafayette, LA; (318) 276-6267; (318) 232-7351. Owner: Bob and Kim Holbrook. Manager: Bob Holbrook.

[24+] **JAVELINA**; 808 19th Ave. South; Nashville, TN 37203; (615) 320-5985. Owner: Warren Peterson, Vicki Hicks Peterson. Manager: Warren Peterson, Vicki Hicks Peterson.

[24+] **JOHN KEANE STUDIOS**; also *REMOTE RECORDING*; 165 Hillcrest Ave.; Athens, GA 30606; (404) 548-4137. Owner: John Keane. Manager: John Keane.



**KIVA RECORDING STUDIO**  
Memphis, TN

[24+] **KIVA RECORDING STUDIO**; 904 Rayner St.; Memphis, TN 38114; (901) 278-1888. Owner: Gary Belz. Manager: Harriett Spratt. Engineers: Greg Archilla—chief eng., Doug Nightwine, William Brown. Dimensions: Room 1: studio 30 x 45, control room 27 x 19. Room 2: studio 11 x 18, control room 18 x 22. MIDI room 23 x 24. Mixing Consoles: SSL 4056G 48 x 32 w/Total Recall, automation and G Series computer, Westar 52 x 24 w/CompuMix automation, API 16 x 4 discrete. Audio Recorders: (2) Mitsubishi X-800 32-track digital, Mitsubishi X-86 2-track digital, Studer A80 Mk 24-track analog, Studer A80 2-track analog, Panasonic SAT 3500 DAT Cassette Recorders/Duplicators: (2) Yamaha C300, (2) Nakamichi BX-300. Noise Reduction Equipment: Dolby Type A 24 channels. Synchronization Systems: Adams-Smith Zeta-3. Echo, Reverb & Delay Systems: Lexicon 480L w/LARC, Lexicon 224 w/LARC, Lexicon PCM70 w/ver. 3, AMS RMX 16, AMS DMX 15-80S, (3) Yamaha REV5, (3) EMT 162 plate. Other Outboard Equipment: (2) Drawer DS-201 gate, (2) Teletronix LA-2A, (2) dbx 160, (2) dbx 165A, Lang PEQ2 tube EQ, (2) Yamaha SPX90, Eventide H949 Harmonizer, Fairchild Model 670 stereo, (4) Pultec EQP-1A, (2) Neve 1078 module, GML parametric EQ, Massenburg 4-channel mic preamp. Microphones: (6) AKG 414, (2) AKG D-112, (4) AKG 460, AKG D-224E, Beyer 101, E-V 658-L, (2) E-V RE20, (3) Neumann U48 tube, Neumann U49 tube, Schoeps MK26 tube, (6) Neumann U87, (5) Neumann KM84, (2) Neumann TLM170, RCA 77-DX ribbon, RCA 44 ribbon, (7) Sennheiser 421, Sennheiser MD-211, Shure SM81, Shure 565-SD, Sony ECM-33. Monitor Amplifiers: (8) Yamaha P2250, (6) Yamaha PD2500, (2) FM Acoustic FM1000. Monitor Speakers: (2) JBL 4435, (8) Yamaha NS-10M, (2) Tannoy SGM-10B, (2) Hidley-designed Kinoshita 24Hz system. Musical Instruments: Baldwin 7" grand piano, Hammond B-3 organ w/Leslie, Yamaha DX7IIFD, Roland D-550, Roland D-50, Roland S-50, PPG w/Wave Term, Roland Super JX-10, Akai S900. Other MIDI Equipment: Roland MC-800 sequencer. Other: Studer Revox A725 CD Player. Rates: Available upon request. Specialization & Credits: Studio "A," a Tom Hidley-designed and constructed control room featuring a Kinoshita 24Hz monitoring system, is the only true mixing environment in the Memphis area. The console, an SSL 4056 G Series with Total Recall and automation, is complemented by an API 16 x 4 submixer with 550 A-EQ. Common ownership with the Peabody Hotel and the Holiday Inn Overton Square allows us to offer economical packages for studio time and luxury housing and accommodation. KIVA's list of clients include: Joe Walsh, Carl Perkins, Jimi Jamison, Albert King, Mark Lindsay, Bar Kays, Stevie Ray Vaughan, John Prine, Jerry Lee Lewis, Dennis Quaid, DeGarmo & Key, Ronnie McDowell and The BoDeans; and producers such as Norbert Putnam, Mark Wright, T. Bone Burnett and Barry Mann. We have worked with labels including Geffen, CBS Records, Scotti Brothers, Epic, Chrysalis, Motown, PolyGram, Arista, RCA, MegaJam and Warner Bros. with the soundtrack *National Lampoon's Christmas Vacation*.

[24+] **L.A. SOUNDS**; 135 Long Circular Rd.; Port-of-Spain, Trinidad W.I.; (809) 622-0572; FAX: (809) 675-1295. Owner: Robert Amar. Manager: Lindsay S. Young. Dimensions: Room 1: studio 60 x 50, control room 40 x 30. Room 2: studio 30 x 40, control room 30 x 22. Mixing Consoles: SSL 4064 G Series, Neve V Series 48-channel w/flying faders. Audio Recorders: Mitsubishi X880 32-track w/Apogee filters, (2) Otari MTR-90 24-track, Otari MTR-12 1/2" mastering, Otari MTR-12 4-track, (2) Nakamichi DAT 1000, (2) Foster DAT. Cassette Recorders/Duplicators: Otari DP-80, (2) Nakamichi MR-18 Echo, Reverb & Delay Systems: (2) Lexicon 480L, AMS RMS 16, AMS DMS 16, assorted signal processing: Yamaha, Roland, Orban, Yamaha REV1. Microphones: (30) assorted B&K, AKG, Beyer, Shure, etc. Monitor Amplifiers: (6) Bryston, Haller. Monitor Speakers: (4) Westlake BBSM8, (2) JBL/UREI 813C, (2) Westlake TM-3. Musical Instruments: (10) assorted keyboard and drum machines, Bosendorfer imperial grand piano. Other MIDI Equipment: (2) Macintosh w/MIDI sequencing. Other: Neumann mastering lathe.



We have been #1 for 30 years. We have built 5 major studios in Atlanta. Our newest facility is 5 years old. It is the premier studio in the Southeast. Designed by George Augsberger, America's premier studio specialist.



We invite you to look to this facility if you are planning to record in the Southeast.

**3051 Clairmont Road, N.E.**  
**Atlanta, Georgia 30329**  
**(404) 328-0147**

Circle #008 on Reader Service Card

When You Need It  
We've Got It

**Switchcraft®**

A Raytheon Company



Adapters  
Connectors  
Jack Panels  
Multi-Switch®  
Switches



Call (800) 225-7924

**PRO SOUND**

a division of Cal Switch  
13717 S. Normandie Avenue  
Gardena, California 90249

Circle #009 on Reader Service Card

# S O U T H E A S T 24+ TRACK STUDIOS

[24+] **LAMON SOUND STUDIOS; also REMOTE RECORDING; 6870-A Newell Hickory Grove Rd.; Charlotte, NC 28215; (704) 535-7263.** Owner: Moody Music Group, Inc. BMM Enterprises Manager: Trent Moody. Engineers: Bill Connor, David Moody, Trent Moody, John Ledford, Greg Auch, Carlton Moody. Dimensions: Room 1 studio 20 x 30, control room 20 x 20. Room 2 studio 15 x 20, control room 15 x 25. Mixing Consoles: Soundcraft TS 12 28 x 24, MCI JH-24 24 x 24 w/light meters. Audio Recorders: Sony/MCI JH-24 24-track w/Autolocator III, MCI JH-16 16-track w/Autolocator II, (2) Sony PCM-501 2-track digital F.1, Ampex 440 2-track. **Cassette Recorders/Duplicators:** (10) Nakamichi MR-2 real-time duplicator, Wollensak 2770 high-speed duplicator. Synchronization Systems: Synhance MTS ONE, SMPTE time code. Echo, Reverb & Delay Systems: Lexicon 200 digital reverb, Lexicon PCM60 digital reverb, Lexicon Prime Time II digital delay, Yamaha REV5 digital reverb/effects, Yamaha SPX90 digital reverb/effects, Eventide H910 Harmonizer w/keyboard, AKG BX-10 spring stereo reverb. **Other Outboard Equipment:** dbx 900 rack system w/902, 903, 904 gates, comp/limiter, de-esser, Aphex Type C Aural Exciter, (3) UREI 1176 compressor/limiter, Orban 622B parametric EQ, Symetrix 525 gate/comp/limiter, AlesisXT digital reverb, Biamp 270A graphic EQ, Korg SDD-3000 digital delay, Rockman distortion generator and stereo chorus, Technics SL-1200 turntable. **Microphones:** Neumann U89i, (2) AKG 414, (2) AKG 451, (3) Electro-Voice RE20, (4) Electro-Voice RE15, (2) Shure SM81, (9) Shure SM57, (2) Beyer M60, Beyer M260, (2) Audio-Technica AT-11, AKG D-112. **Monitor Amplifiers:** Yamaha 2001, QSC 1400, (2) Symetrix HA-10. **Monitor Speakers:** (2) Electro-Voice Sentry Five, JBL 4425, (2) JBL 4401, Yamaha NS-10M, Auratone 5C. **Musical Instruments:** Yamaha 6' conservative grand piano, E-mu Emulator III, (2) Wendel jr. drum replacement system, (2) Akai S900 digital sampler, Korg SG 1D sample grand, (2) Yamaha DX7, Roland D-50, Yamaha RX11 drum machine, Oberheim DXM drum machine, Slingerland drums and percussion, Martin D-35 acoustic guitar, Fender Precision bass, Gibson Les Paul electric guitar. **Other MIDI Equipment:** KMT 60 thru-box, Atari 1040ST, Steinberg Pro-24 software. **Rates:** Block specials available. Please call for information.

[24+] **LIMELITE VIDEO, INC.; also REMOTE RECORDING; 7355 NW 41st St.; Miami, FL 33166; (800) 634-5024.** Owner: Frank D. Tolin. Manager: Steve Johnston.

[24+] **LONE PINE RECORDING STUDIOS; 5024 Simmons Rd.; Orlando, FL 32812; (407) 281-6881.** Owner: Michael Hurley. Manager: Patti Pool. Engineers: Michael Hurley. Dimensions: Studio 30 x 23, control room 17 x 21. **Mixing Consoles:** Trident Series 70 24 x 16 x 24 x 2 w/Visionary Audio modified mic preamps. **Audio Recorders:** Soundcraft 762-24X 24-track, Panasonic SV-3500 DAT digital, Fostex E-2-2-track 15/30 ips, Tascam 422-2-track, Tascam 44 4-track. **Cassette Recorders/Duplicators:** (2) Pioneer Noise Reduction Equipment: LT Sound dbx compatible on 24-track, 4-track Echo, Reverb & Delay Systems: (2) Alesis Quadverb, (2) Alesis MIDVerb, Alesis Microverb II, ART 01A digital reverb, Fostex digital delay, ADC 12-band parametric EQ, Barcus-Berry BBE audio processor, (6) Alesis noise gate, Aphex Compellor, (2) Symetrix compressor/limiter w/de-esser, Symetrix T-101 phone patch. **Other Outboard Equipment:** Technics CD player. **Microphones:** Neumann U89, (6) Neumann KM84, (2) AKG 414EB, AKG C-33 stereo, Sennheiser MD-421, (2) Audio-Technica AT4051, (2) Audio-Technica AT813, Crown PZM, Shure SM58, Shure PE535. **Monitor Amplifiers:** (4) Dynaco. **Monitor Speakers:** (2) UREI 809 w/subwoofer, (2) Yamaha NS-10M Studio, (2) Auratone Sound Cube. **Musical Instruments:** Yamaha 9' concert grand piano, Yamaha drums 22" kick, 6" wood snare, 8", 10", 12", 14" toms, Fender Precision bass, Ibanez acoustic guitar, tambourine, vibraplast, triangle, (6) Manhasel music stand w/light, (6) symphony-style musician chair, Schoenhut toy piano, Korg M-1, Kurzweil PX-1000, Yamaha DX7, Alesis HR-16 drum machine, Roland R-5 drum machine, Yamaha KX88 88-key controller, 360 Systems MIDI patcher, Akai ASQ-10 Roger Linn sequencer, Seiko digital metronome, Synclavier w/programmer available on reasonable rental basis. **Rates:** 24-track and direct-to-digital, \$105/hr. substantial discount for block bookings. 2/4-track, \$70/hr. **Specialization & Credits:** We specialize in two areas: 1) Album/CD/cassette master tape production. We take an artist or group from the concept to the finished tape, including arrangements, supplying musicians, material selection, etc. Our secluded facility offers a very relaxed and conducive-to-creativity atmosphere 2) "Industrial" music production. We are one of the major suppliers of custom and original recorded music for Walt Disney World, plus many area and out-of-area advertising agencies. We compose, arrange and record A/V soundtracks, jingles, video backgrounds, TV spot scores. Since Orlando is fast becoming one of the entertainment capitals of the world, we have access to some of the world's best vocal and instrumental talent. **Credits:** "I'm Going to Disney World" national TV campaign (ongoing), Florida

Citrus Commission jingle and radio spots w/Willard Scott, Centel/Adelphia Cable jingle, Heart of Florida United Way, Sea Escape jingle, United Telephone Systems.

[24+] **MARK FIVE—SANDCASTLE; also REMOTE RECORDING; 10 Michael Dr., PO Box 7620, Greenville, SC 29610; (803) 269-1111.** Owner: Rick Sandidge, Chris Cassels. Manager: Rick Sandidge.

[24+] **MASTER SOUND RECORDING STUDIO; also REMOTE RECORDING; 5249 Challeidon Dr.; Virginia Beach, VA 23462; (804) 499-0000; (804) 496-0553.** Owner: Robert Ulsh. Manager: Robert Ulsh. Engineers: Robert Ulsh, Mike Trimble, Brent Havens. Dimensions: Room 1: studio 45 x 35, control room 22 x 20. MIDI room 18 x 12. Mixing Consoles: Amek G2520 40 x 24 x 96 w/VCA bypass and MasterMix II automation. **Audio Recorders:** Studer A827 24-track, Sony/MCI JH-24 24-track w/autolocator III, Sony 3202 1/2-track digital, Otari MTR-12H 1/2-track 1/2" 30 ips, Sony 5003V 1/2-track 30 ips, (2) Panasonic SV-3500 R-DAT. **Synchronization Systems:** (2) TimeLine Lynx time code, Sony JH-45 SMPTE time code Echo, Reverb & Delay Systems: (2) Lexicon 200 stereo digital reverb, (2) Yamaha SPX90II, (2) Alesis Quadverb, Ibanez SDR-1000, Eventide 969 Harmonizer, DigTech IPS-33, Lexicon PCM42, Lexicon PCM70, DigTech DSP-128, ART Multverb, Korg DRV-3000. **Other Outboard Equipment:** Drawmer 1960 stereo tube limiter, Drawmer 201 stereo gate, Aphex 612 stereo expander/gate, (4) Valley Gate 4-channel gate, LT Sound CLX-2 stereo compressor/limiter/expander, BBE 802 2-channel Exciter, Universal Audio 175 tube limiter, BS-402 stereo compressor/limiter, (11) Valley compressor/limiter, Panasonic SL-4300 CD player. **Microphones:** (2) Neumann U87, (2) Neumann U47, Neumann TLM170, Neumann U89, (6) AKG 414ULS, AKG TL-414, AKG The Tube, (8) AKG C-451/460B, AKG D-112, AKG D-12E, (6) Sennheiser MD-421, Sennheiser MD-441, (17) additional assorted dynamics. **Monitor Speakers:** (2) JBL/UREI 4435, (2) Tannoy SGM-15, (4) Tannoy PBM-8, (2) Tannoy PBM 6.5, (2) Yamaha NS-10, (2) Auratone, (2) Toa. **Musical Instruments:** Korg M-1, Yamaha CT 7"6" concert grand piano, E-mu Emax stereo sampling keyboard, Kawai K-5, Fender Rhodes, Yamaha DX7, Oberheim Matrix-6, Ensoniq ESQ, Yamaha FB-01, Roland Super JX-10, Roland Juno, E-mu SP-12 drum machine, Alesis HR-16B, Roland R-8 drum machine, Yamaha 9-piece custom recording series drum set. **Other MIDI Equipment:** Macintosh SE w/20MB HD, Southworth Jam Box 4+ SMPTE-to-MIDI controller, Performer, Lesworth MIDI Paint. **Video Equipment:** Sony 3 1/2" recorder, NEC 19" color monitor. **Rates:** 48-track \$145/hr., 24-track \$95/hr., 16-track \$70/hr. video sweetening \$125/hr.



MASTERFONICS  
Nashville, TN

[24+] **MASTERFONICS; 28 Music Square E.; Nashville, TN 37203; (615) 327-4533.** Owner: Milan Bogdan, Glenn Meadows. Manager: G. Meadows, M. Bogdan. Engineers: Glenn Meadows, Benny Quinn, Milan Bogdan, Jim Loyd, Randy Le Roy, Scott Gunter. Dimensions: Room 1: mix control room 26 x 20. Room 2 studio 45 x 14, control room 16 x 22. Room 3: mastering room 20 x 14. CD prep room 20 x 14. **Mixing Consoles:** SSL 4000E 64 x 32, Trident TSM 40 x 24 x 32, JVC DM-900 digital, Neumann SP75, Neumann 272. **Audio Recorders:** (2) Otari DTR-900 32-track digital, Studer A807, Ampex ATR-102, JVC 900 2-track digital, Sony 1630 2-track digital, Sony 2402 2-track digital, Mitsubishi X86C 2-track digital, Sony 2500 R-DAT, Panasonic SV3500 R-DAT, Sony 601 2-track digital, Studer A80 Cassette Recorders/Duplicators: (20) Tascam 122 MKII real-time Echo, Reverb & Delay Systems: (4) EMT plate, AMS, EMT 250, EMT 251, Sony MUR-201. **Quantec:** Lexicon 480, Lexicon 224XL. **Other Outboard Equipment:** Fairchild 670 tube, Teletronix LA-3A tube, Pultec EQP-1A3 tube EQs, Sontec EQ, TC Electronic processor, Wendel jr. AMS digital delay, API EQ, Publison 90, Eventide, Drawmer gates, Audio & Design Vocal Stresser. **Microphones:** Neumann 47 tube, M49 tube, 87s, 67 tube, Tell 251, AKG 414EB, Shure, E-V Audio-Technica, Sennheiser, Sony. **Monitor Speakers:** Genelec, Fostex 780, B&W, Hidley/Kinoshita,

TAD, NS-10. **Musical Instruments:** Kimball Video Equipment: NEC monitor, JVC 8250, JVC 600U, JVC 850U, JVC 6600U. **Other:** Sony DFX-2400 sample frequency converter, Sony DTA-2000 tape analyzer, Sony digital compression, JVC 90 digital editor, BASE, Neumann VMS-70, Yamaha PDS CD disc system, Wadia optic fiber, JVC 901 digital interface.

[24+] **MASTERLINK STUDIOS; 114 17th Ave., South; Nashville, TN 37203; (615) 244-5656.** Owner: Albert Jolson. Manager: Albert Jolson. Engineers: Glenn Rieuf, Jr. Dimensions: Studio 32 x 39, control room 15 x 17. **Mixing Consoles:** Sphere Eclipse C36 x 32. **Audio Recorders:** Ampex MM1200 24-track, Studer A80 1/4", Studer B67 2/4-track 1/4" and 1/2", Scully 3/4-track 1/2". **Cassette Recorders/Duplicators:** (86) KABA real-time duplicator, (5) Otari high-speed duplicator, (6) Denon DRM-240, Denon DRM-500. **Noise Reduction Equipment:** Dolby Type A and SR, dbx 180A Echo, Reverb & Delay Systems: Lexicon 200 reverb, (2) Lexicon PCM70, Yamaha SPX90, Roland DEP-5, AMS RMX 16 reverb, Lexicon 224 reverb, Lexicon Super Prime Time, Yamaha REV5. **Other Outboard Equipment:** Eventide 3000 Ultra-Harmonizer, Valley rack w/Kepex/Commander/DSP/Gain Brain/dbx comp/limiter, (2) Symetrix comp/limiter, (2) Gatec noise gate, (2) Teletronix leveling amp, (2) UREI leveling amp, (2) Aphex Type B Aural Exciter, Summit Audio leveling amp, API parametric EQ (discrete), Sontec parametric EQ, (2) UREI 529 room EQ (graphic), (2) UREI crossover. **Microphones:** (5) Sennheiser 421, Shure SM57, (7) Neumann U87, Neumann U67, (2) Neumann U48, (2) Neumann U47, (3) Sennheiser 415, (4) Countryman EM101, (3) Sony ECM-22H, Sony ECM-50, Sony C-48, (2) Sennheiser MKH-40/P48-101, Neumann KM84. **Monitor Amplifiers:** (2) Crown, (3) McIntosh MC-2100, McIntosh MC-250. **Monitor Speakers:** UREI, Yamaha NS-10, B&W, Electro-Voice Sentry 100A, Westlake TMI. **Musical Instruments:** Baldwin 9' concert grand, Kawai 5'10" grand w/MIDI triggers, Roland MKB-1000 MIDI controller, Linn 9000, Roland Octapad, Roland DDR-30 digital drums (rack-mount), Akai 900 sampler, Roland D-50, Roland Super Jupiter w/programmer, Hammond B-3 organ w/Leslie, 5-piece drum set, GM-70 GTR controller. **Other MIDI Equipment:** Yamaha TX816 module, Oberheim Matrix-6, E-mu Emulator II w/hard disk. **Other:** Sony 2500 R-DAT, Panasonic R-DAT, Nakamichi A/D processor.



MASTERMIX  
Nashville, TN

[24+] **MASTERMIX; 1808 Division St., Nashville, TN 37203; (615) 321-5970.** Owner: Trio Entertainment Co. Manager: Hank Williams. Engineers: Greg Parker, Jeff Giedt. Dimensions: Control room 23 x 19 x 11. **Mixing Consoles:** Calrec AMS UA-8000 64/64 x 32 automated. **Audio Recorders:** Otari DTR-900 32-track digital, Otari MTR-90 24-track, Otari MTR-10 2-track 1/2" and 1/4", Sony PCM-1630 digital, AMS Audio-File Echo, Reverb & Delay Systems: AMS RMX 16, AMS RMX 15-80, Publison Infernal 90, Lexicon 224XL, Lexicon Super Prime Time, EMT 250/251, Eventide H949, Studer DAD-16, (2) Yamaha SPX900, Yamaha REV5, Lexicon 480, (2) Roland SDE-3000, Eventide Ultra-Harmonizer. **Other Outboard Equipment:** Valley People, Trident, Sontec, ITI, dbx, Audio & Design, API, Scamp, UREI, Teletronix, Neve, Fairchild Instruments, BBE. **Microphones:** Sanken, Neumann, AKG and classic tubes. **Monitor Amplifiers:** Bryston, Lenco, Halfer, Yamaha. **Monitor Speakers:** Slate-of-the-Art Electronik CF-1000, 4-way cone system, Meyer, Fostex, Rogers, Auratone, Yamaha. **MasterMix near-fields Video Equipment:** Sony BVU-800. **Rates:** Please call for hourly and block rates. **Specialization & Credits:** Stereo disc mastering, CD prep, Sony digital editing.

[24+] **MASTERTACK AUDIO & VIDEO STUDIOS; 413 N. Parkerson Ave.; Crowley, LA 70526; (318) 783-1601; FAX: (318) 788-0776.** Owner: J.D. Miller. Manager: Bobby Terry.

[24+] **MASTERWORKS STUDIOS; 4024 Williamsburg Ct.; Fairfax, VA 22032; (703) 385-1780.** Owner: Michael Zook. Manager: Lois Fritz.



**MEDIA ASSOCIATES  
(FORMERLY NEW AGE SIGHT & SOUND)  
Atlanta, GA**

[24+] **MEDIA ASSOCIATES (FORMERLY NEW AGE SIGHT & SOUND); also REMOTE RECORDING;** 120 Interstate N. Pwy E, Ste. 164, Atlanta, GA 30339; (404) 956-7956. Owner: Media Associates, Ltd. Manager: Mitch Dorf. Engineers: William Allgood, Mitch Dorf, Jason Bennette, Joe Wasser, Earnie Earnest, Geary Yellon. Dimensions: Room 1 studio 50 x 40, control room (LEDE®) 22 x 20. Room 2: studio 20 x 12, control room 12 x 14, video edit room 18 x 14. MIDI room 20 x 12. Mixing Consoles: Neve V Series MkII 64-input w/flying faders automatic, Sound Workshop Series 34 28 x 24, Sound Workshop Logex 8 12 x 8. Audio Recorders: Mitsubishi 32-track digital, Sony PCM-3324 24-track digital, Otari MTR-90 24-track analog, Sony PCM-1610/BVU-800 DB 2-track digital, Sony PCM-2500 R-DAT, Sony DAE-1100A digital audio editor, Sony PCM-F1/SL-2000 2-track digital, Sony PCM-501 2-track digital MCI JH-110B 2-track analog, Otari MX-55 center-track time code ¼". **Cassette Recorders/Duplicators:** (10) Nakamichi BX-100. **Noise Reduction Equipment:** (2) Dolby A Synchronization Systems: Boss 2 automated audio editor, (2) TimeLine Lynx time code module. **Echo, Reverb & Delay Systems:** Lexicon 224XL, Lexicon PCM70, Lexicon PCM60, Lexicon PCM41, (2) Lexicon LXP-1 w/MRC, Lexicon Prime Time II, (2) Yamaha SPX90, Klark-Teknik DN-780. **Other Outboard Equipment:** Eventide 3100dB Harmonizer, Eventide H969 Harmonizer, (2) dbx 900 rack w/9R5 EQ/903comp/904 gate, (2) dbx 116, (2) dbx 165A. **Microphones:** (3) Neumann TLM170, Neumann SM2, (6) Neumann KM84, (3) AKG 414, (6) Sennheiser 421, (6) Shure SM57. **Monitor Amplifiers:** (2) Bryston 6B Pro, (2) Halfer P-500, (6) Halfer DH-220. **Monitor Speakers:** UREI 813B, UREI 109, Tannoy SRM-15X, Tannoy NFM-8, (2) Yamaha NS-10M, JBL 4411, (2) Auratone. **Musical Instruments:** Roland JX-8P, Oberheim Matrix-6R, Oberheim Matrix-12, Roland D-50, E-mu Emulator III, Yamaha DX7I, Casio FZ-1, Yamaha MIDI rack w/TG modules, Alesis HR-6 drum machine, Linn 9000 MIDI-controllable drum machine, Prophet-2002: amplifier, Akai S612 sampler, Steinway 9' grand piano. **Other MIDI Equipment:** (2) Macintosh Plus. **Video Equipment:** (3) Sony EVW-80½", Sony BVH-1100 1", Paitex Elite editor, Grass Valley 1600-1X switcher, Micrtime Genesis Act I FX generator, Chyron 109, Sony M-3 camera. **Other:** Symetrix telephone interface, Sound Ideas SFX library, Smau digital interface box. Rates: Call for information. Independents welcome.

[24+] **MELODY RECORDING STUDIO; also REMOTE RECORDING;** De Diego #2, San Francisco; Rio Piedras, PR 00927; (809) 763-3535. Owner: Javier D Hernandez Manager: Rei Pera. Engineers: Rei Pera, Justo Monzon, Javier Hernandez. Dimensions: Studio 25 x 40, control room 20 x 15. **Mixing Consoles:** Neotek Elite 36 x 26. **Audio Recorders:** Otari MTR-90 24-track, Otari MTR-12 2-track, Otari MX-5050B 2-track. **Cassette Recorders/Duplicators:** Nakamichi MR-1, Sony DAT. **Echo, Reverb & Delay Systems:** Lexicon M200, Lexicon PCM70, Lexicon PCM60, Lexicon PCM42, Yamaha REV7, Yamaha REV5. **Other Outboard Equipment:** UREI LA-4 compres-or, Drawmer noise gate, Aphex Aural Exciter. **Microphones:** Neumann U89, Neumann U87, Sennheiser MD-441, Sennheiser 421, Crown PZM. AKG 414, Shure SM81, Shure SM58, Shure SM57. **Monitor Amplifiers:** Bryston Monitor Speakers: JBL 4430, Yamaha NS-10, Auratone 5C. **Musical Instruments:** Steinway grand piano, Kawai EP-308M, Yamaha drum set, Simonson: SDS-8 w/pads, Latin percussion array (congas, bongos, timbale, etc.), Poly-800, Juno-106. DX7IID, SP-12, D-50, D-110, MRS-20, Fender Jazz bass, custom-made electric guitar, (2) acoustic guitars (12- and 6-string), Alesis drum machine, Emulator II+ HD. **Other MIDI Equipment:** MC-500 sec. Octapads, Simmons MT1 interface, Roland Synbar converter, Cooper PFS-1. Rates: \$60 to \$65.

[24+] **MEMPHIS SOUND PRODUCTIONS;** 315 Beale St. USA; Memphis, TN 38103-3103; (901) 525-5500. Owner: J. Flekses, T. Goodwin, J. McDowell. Manager: John Flekses. Engineers: Dan Pfefer, John L. Flekses, Jim "Jammer" Godsey, Robert "T.D." Jackson, Jack Holdner. Dimensions: Studio

50 x 40, control room 27 x 25. **Mixing Consoles:** Neve V3 48 x 48 w/Necam 96 Moving Faders and Mappers, Tascam M-501 12 x 8. **Audio Recorders:** Otari MTR-90 MkII 24-track, Otari MTR-12 half-track ½", Otari MTR-12 half-track ¼", (2) Studer Revox PR-99 half-track ¼", Studer Revox A77 quarter-track ¼", Nakamichi DMP-100 (F1) digital stereo processor. **Cassette Recorders/Duplicators:** Nakamichi CR-7A, Tascam 122. **Noise Reduction Equipment:** (24) Dolby A, (2) dbx 411. **Synchronization Systems:** Adams-Smith 2600, Opcode Studio 3 SMPTE/MIDI sync Echo, Reverb & Delay Systems: (2) Lexicon 224XL w/ 8 2 digital reverb, Lexicon 224 v. 4.1, Yamaha REV7, (2) Yamaha SPX90II, (2) Lexicon PCM60, (2) Lexicon PCM41, Eventide H949, Ursa Major 8 x 32. **Other Outboard Equipment:** Telatronix LA-2A, (2) UREI 1176LN, (4) dbx 903 comp/lim, (4) dbx 904 gate, (4) Valley People Dual Dyna-Mite, EXR Exciter, Orban 622B, Aphex B Exciter. **Microphones:** (2) Neumann U89, AKG The Tube, (2) AKG 414BULS, (2) AKG 460/ck1, AKG D-12E, (9) Shure SM57, (5) Shure SM81, Sony C-37A (1959 mint), Schoeps SM-5B, E-V RE20, (8) Sennheiser MD-421, AKG 452EB, AKG 224E. **Monitor Amplifiers:** (2) McIntosh 2300, McIntosh 2100, (5) QSC 3500 dual-mono, (2) QSC 1400, UREI 6250, BGW 250, Crest 3500s Monitor Speakers: (2) custom SDA monitor, (2) Yamaha NS-10M, (2)



**MEMPHIS SOUND PRODUCTIONS  
Memphis, TN**

JBL 4430, (2) JBL 4301, (2) E-V Sentry 500. **Musical Instruments:** Yamaha 6' baby grand piano, Yamaha P80 electric grand piano, Yamaha DX7, Yamaha TX816 (8-ch.), Hammond B-3 w/Leslies 122 and 147, Akai MPC-60 drum computer/production center, Pearl acoustic drums, Casio full kit variable trigger pads. **Other MIDI Equipment:** Macintosh SE/30 w/XP:io (loaded), Macintosh SE w/XP60 (loaded), Performer 3.21, Archie 2.0.5, Soundblat DX Pro/DMCS software. **Other:** Lots of neat instruments and amps upon request. Rates: Call for rates (studio or rehearsal rooms). **Specialization & Credits:** Recent clients include: Capitol Records, CBS Music, Arista Records, Orion Pictures, Columbia Records, Warner Bros. Records, MCA Records, MCA Music, American Airlines, Kansas City Royals. Memphis Sound is located in the center of the famous Beale Street historic district, and is walking distance from great food, river-view lodging and the legendary music Memphis is known for. The studio includes a very large 3-ber recording room with isolated 27' ceilings and various booths and chambers. The control room is large enough to comfortably accommodate lots of gear and people. There is a private lounge with wet bar, a fenced patio with a waterfall fountain, hot tub, bar-b-que grill and lots more. Our rehearsal room is also available with or without a full monitor system. Call for more information.

[24+] **MIDLAND RECORDING STUDIOS;** 4041 Laguna; Coral Gables, FL 33146; (305) 444-6222; (800) 553-5944. Owner: Andres Valdes Jr. Manager: Will Tartak. Engineers: Will Tartak, J. C. Ulloa, Jim Munn. Dimensions: Room 1: studio 21 x 29, control room 21 x 18. Room 2: studio 7 x 7, control room 18 x 11. **Mixing Consoles:** Trident Series 80B 50 x 24 w/DiskMix III automation, Trident Series 65 32 x 16. **Audio Recorders:** Otari MTR-90II, Otari MK-8024, (2) Otari MTR-12 ¼" and ½". **Cassette Recorders/Duplicators:** (2) Awa F910. **Technics 45.** **Synchronization Systems:** Adams-Smith Zeta-3 Echo, Reverb & Delay Systems: Lexicon 480L, AMS RMX 16, AMS DMX 15-80S, (3) Lexicon PCM70, (2) Lexicon PCM42, Eventide H3000, (3) Yamaha SPX90, Roland SE-3000 delay, Alesis MIDiverb II, Ibanez DM-2000 delay. **Other Outboard Equipment:** (2) LJ/LAB 660 compressor, (4) Drawmer 201 stereo gate, (2) ADX Complex stereo limiter, dbx 162 stereo compressor, dbx 165A limiter, Aphex Type B Aural Exciter, (8) Aphex CX-1 compressor/gate, (4) Aphex EQF-2 equalizer, (4) Valley People Kexpe II gate, (2) Valley People Gain Brain II compressor, Valley People DSP de-esser. **Microphones:** AKG C-24 stereo tube, (2) AKG 451, (4) AKG 414, AKG D-12, (2) Neumann U47 FET, (2) Neumann U87, Neumann KM84, Neumann KM88, (2) Schoeps CMC5, (2) Sennheiser 421, (2) Sony ECM-55, (2) Sony C-37, (6) Shure SM57, Shure SM7, (4) Beyer M88, (2) Beyer 101, (2) Fostex M88. **Monitor Amplifiers:** Meyer Sound Labs MS-1000, (3) Halfer P-505, (2) Halfer P-225, (2) UREI 6230. **Monitor Speakers:** (2) Meyer Sound Labs 833 2/834 subwoofer, (2) Westlake BB5M-

6, (2) Fourier, (6) Yamaha NS-10M, (2) JBL 4312, (4) Auratone 5C. **Musical Instruments:** Steinway D 9' grand piano, E-mu Emulator II 2.3, Yamaha DX7IID, Roland D-50, E-mu Emux HD, Roland Juno-106, Alesis HR-16 drum machine. **Other MIDI Equipment:** Roland PV3-350 vocoder, Roland A-880 8 x 8 MIDI patcher, Garfield Mini Doc. **Other:** Fostex T-20 headphones.

[24+] **MIRROR IMAGE SOUND & RECORDING; also REMOTE RECORDING;** 619 S. Main St., Gainesville, FL 32601; (904) 376-8742. Owner: Robert McPeck, Ray Valla. Manager: Buddy Ray.

[24+] **THE MONEY PIT; also REMOTE RECORDING;** 622 Hamilton Ave., Nashville, TN 37203; (615) 256-0311. Owner: Paul Worley, Ed Bayers Sr., Ed Bayers Jr. Manager: Jim Burnett. Engineers: Jim Burnett, Mike Poole, Ed Seay (as available), Clark Scheicher, Rocky Schnaars. Dimensions: Room 1: studio 30 x 13, control room 22 x 22. Room 2: iso booth 13 x 10. Room 3: iso booth 16 x 10. Room 4: studio 20 x 11. **Mixing Consoles:** Trident Series 80 40 x 24 x 28. **Audio Recorders:** 3M 32-track digital, Otari MTR-90II 24-track, Panasonic SV3500 2-track DAT, Studer B622 2-track ¼". **Cassette Recorders/Duplicators:** Sony TC-W7ES, Nikko ND350. **Echo, Reverb & Delay Systems:** EMT 250, (2) Lexicon PCM70 v.2, Lexicon 200, (2) Roland SRV-2000, Yamaha SPX90, Publison Infernal machine 90 (available), (2) Lexicon PCM42 digital delay, ART Pro-Verb, Eventide H910 Harmonizer, (7) Valley People Kexpe II gate, Valley People Gain Brain II, Valley People Commander, (2) dbx 160X compressor/limiter, (2) UREI 1178 dual peak limiter, (2) UREI 1176N limiting amp, LT Sound dual-channel parametric EQ, Klark-Teknik DN360 dual-channel graphic EQ, Pultec EQP-1 EQ, Pultec EQP-1A3 EQ. **Microphones:** (2) Neumann U87 tube conversion, Neumann U47 tube, Neumann U64 tube, AKG 414EB, AKG 414ULS, (3) AKG C-451EB, (4) Electro-Voice ND408, (5) Sennheiser 421U, (2) Sennheiser 441U, (2) Crown PZM. **Monitor Amplifiers:** UREI 6500, (3) Halfer P500, BGW 250D, Crown D-150. **Monitor Speakers:** Westlake BB5M-10, Acoustic AR18BV, Tannoy PBM8, Auratone 5C, E-V S12-2A. **Musical Instruments:** Yamaha PF80 88-key MIDI keyboard, Roland MKS-20 sampled grand piano, Roland D-550 linear synthesizer, various electric and acoustic guitars and basses available, Linn drum machine.

[24+] **MORRISOUND RECORDING;** 12111 N. 56th St.; Tampa, FL 33617; (813) 989-2108. Owner: Morrisound Recording, Inc. Manager: Tom Morris. Engineers: Jim Morris, Tom Morris, Rick Miller, Scott Burns, Judd Packer, John Cervini. Dimensions: Room 1: studio 30 x 40, control room 25 x 23. Room 2: studio 32 x 15, control room 25 x 23. **Mixing Consoles:** Sound Workshop Series 34 32 x 24 w/automation, Amek Scorpion 24 x 16. **Audio Recorders:** (2) Otari MTR-90 24-track w/autolocator, Otari MTR-12 2-track, Otari 5050MkII 8-track, (3) Otari 5050B 2-track, (2) Panasonic SV-3500 DAT. **Cassette Recorders/Duplicators:** (4) Denon DR-M33HX, (2) Denon DR-M44HX. **Noise Reduction Equipment:** (4) dbx 150. **Synchronization Systems:** BTX Shadow, Adams-Smith Zeta-3 SSI Shadow controller. **Echo, Reverb & Delay Systems:** Lexicon 224XL, (2) Lexicon PCM70, Lexicon PCM60, (2) Lexicon PCM41, (2) Lexicon PCM42, Lexicon Prime Time, Loft 450, Ecopleat, Yamaha REV7, (2) TC Electronic 2290. **Other Outboard Equipment:** Eventide H910 Harmonizer, DeltaLab DL5, Eventide H3000, (2) dbx 165, (2) UREI LA-4, (2) Valley People Dyna-Mite, (2) EXR EX-3 Exciter, Omni Craft noise gates, Audioarts stereo parametric equalizer, (2) dbx 166. **Microphones:** (3) Neumann U87, (5) AKG 414, (12) Sennheiser 421, (2) Sennheiser 441, (2) AKG 451, (3) E-V RE20, assortment of Shure, E-V and Audio-Technica. **Monitor Amplifiers:** (6) Halfer Monitor Speakers: UREI 811A, UREI 813A, JBL 4312, (3) Yamaha NS-10M, E-V Sentry 100, (2) Auratone 5C. **Musical Instruments:** Yamaha grand piano, Hammond C-3 w/Leslie, Gretsch 5-piece drum set, Yamaha 5-piece drum set, Synclavier, Emulator III, Emax, Yamaha DX7, Roland D-50, (2) Oberheim OB-8, Ensoniq Mirage, Oberheim DX drum machine, Alesis HR-16 drum machine, Roland R-8 drum machine, Roland D-110. **Video Equipment:** Sony VO-5800, audio post-production for film or video, JVC CR850U. **Other:** Macintosh Plus w/sequencing software. Rates: Please call.

[24+] **MUSCLE SHOALS SOUND STUDIOS;** 1000 Alabama Ave.; Sheffield, AL 35660; (205) 381-2060. Owner: Malaco Inc. Manager: Jimmy Johnson.

[24+] **MUSIC CITY MUSIC HALL;** 30 Music Square W.; Nashville, TN 37203; (615) 244-1060. Owner: Owen Bradley. Manager: Michael Bevington. Engineers: Bill Harris, Doug Crider, Bobby Bradley. Dimensions: Studio 50 x 80, control room 28 x 18. **Mixing Consoles:** Neve 8038 32 x 24 w/Alison Research Faded auto. **Audio Recorders:** Studer A80 24-track, Studer A80 2-track, Studer B67 2-track, Sony 501 digital, Sharp SX-D100 DAT. **Cassette Recorders/Duplicators:** (2) Studer B710, (26) Dolby Echo, Reverb & Delay Systems: Lexicon 224XL, (3) EMT plate, Gotham Audio digital delay, Eventide Harmonizer, Yamaha REV7, Yamaha SPX90. **Other Outboard Equipment:** (2) ADR Vocal Stresser, Scamp rack, Telatronix compressor, LA-2A limiter, LA-3A limiter, EXR Exciter, Eventide Phaser, Pultec Mavec mic preamp, Pultec equalizer. **Microphones:** (2) Neumann U87, (6) Neumann U67, (6) Neumann U47 FET, Neumann U48, (3) Neumann M49, (6)

—CONTINUED ON NEXT PAGE

S O U T H E A S T  
**24+ TRACK**  
STUDIOS

—CONTINUED FROM PREVIOUS PAGE

Neumann KM84, Neumann KM56, (3) E-V RE16, (4) E-V RE20, (2) Sony ECM-50, (2) Sony C-500, Sony C-55, (4) RCA 44, (4) RCA 77, (2) ELAM 251, (2) AKG 414. Monitor Amplifiers: (5) McIntosh 2100. Monitor Speakers: (2) UREI 813, (2) JBL 4313B, (2) Auratone, (2) Yamaha NS-10M. Musical Instruments: Baldwin 9' grand w/MIDI capabilities, Yamaha PF15 electronic piano, Fender Rhodes stereo, Wuritzer electronic piano, Hammond B-3 w/Leslie, Hammond D-6 clavinet, celeste, Zucker electric harpsichord, Deagan vibes, marimba Rates: Available upon request

**[24+] MUSIC MILL;** 1710 Roy Acuff Pl.; Nashville, TN 37203; (615) 254-5925. Owner: Harold Shedd, Donnie Canada. Manager: Patty Sedon, Paul Goldberg

**[24+] MUSIPLEX;** 2091 Faulkner Rd. NE; Atlanta, GA 30324; (404) 321-2701. Owner: Tom Wright. Manager: Tom Bartield

**[24+] NASHVILLE CARTAGE & SOUND;** PO Box 121742; Nashville, TN 37212; (615) 256-4201; (615) 386-9797. Owner: Jim White, Sheila P. Barnard. Manager: Jim White, Sheila P. Barnard. Specialization & Credits: Cartage/delivery service for studios, live gigs, airport, etc. Storage of band gear, sound systems, lighting units. All types of amps (new and vintage), keyboards, drums, percussion gear, bass guitars, acoustic and electric guitars, music stands, mics and mic stands, risers for rent. Classic cars to rent for videos, movies, etc. Sound systems from bars to large venues for rent. Lighting units, all sizes for rent. Rehearsal rooms (the largest in Nashville) for rent. Clients include: Steve Winwood, Dolly Parton, Ricky Van Shelton, Everly Bros., Barbara and Louise Mandrell, K.T. Oslin, Nitty Gritty Dirt Band, Allman Bros., John Hiatt, Hwy 101, Wild Rose and many more. Call for the lowest rates in town! We are "The boys that move the noise."

**[24+] NASHVILLE TELEPRODUCTIONS/OAK VALLEY SOUND STUDIO;** also REMOTE RECORDING; 105 Oak Valley Dr.; Nashville, TN 37207; (615) 262-2600. Owner: Nashville Teleproductions, Inc. Manager: Kevin McManus.

**[24+] NEW MEMPHIS MUSIC/COTTON ROW REC.;** 1503 Madison Ave.; Memphis, TN 38104; (901) 276-8518; (901) 276-8520. Owner: Nikos Lyras, Ward Archer, Jr. Manager: Melanie Hunold



NEW RIVER STUDIOS, INC.  
Fort Lauderdale, FL

**[24+] NEW RIVER STUDIOS, INC.;** 408 S. Andrews Ave.; Fort Lauderdale, FL 33301; (305) 524-4000. Owner: New River Productions, Inc. Manager: Virginia Cayia. Engineers: Dave Barton, Larry Janus, Jim Thomas, Gary Boskin. Dimensions: Room 1 studio 36 x 35, control room 35 x 25. Room 2 studio 10 x 8, control room 15 x 12. Mixing Consoles: Studio A: Neve 8101 56 x 48 w/Necam 96 automation, Studio B: Trident Series 65 32 x 16 x 16. Audio Recorders: (2) Studer A800 24-track, (2) Studer A80VU 1/2" and 1/4", Studer A80VU 4-track 1/4" and 1/2" w/1/4" center-channel SMPTE, Sony PCM-2500 R-DAT, Sony PCM-601 digital audio interface, Studer Revox B77 1/4" Cassette Recorders/Duplicators: (2) Yamaha KX100-U Noise Reduction Equipment: Dolby SP24 rack w/Dolby A, (2) Dolby SR, (4) Dolby 361. Synchronization Systems: Studio A: Audio Kinetics QLock 310, Studio B: Adams-Smith Zeta-3. Echo, Reverb & Delay Systems: AMS RMX 16 digital reverb, Lexicon 480 digital reverb w/LARC, EMT 140S stereo tube plate, Lexicon 97 Super Prime Time, Yamaha SPX90II digital effects, Lexicon PCM42 digital delay,

(2) Eventide H949 Harmonizer, Eventide H910 Harmonizer, Neve 33609 stereo compressor/limiter, (3) dbx 165 compressor, dbx 162 compressor, Drawmer DS201 dual noise gate, (2) UREI 1176 limiter, (2) API 550 EQ, (2) API 550A EQ, USAudio GateX, Scamp rack w/comp/limiters/parametric EQ/noise filters/de-esser/gate. Microphones: Neumann M49, (2) Neumann KM84, (2) Neumann KM86, (4) Neumann U87, (2) Neumann U89, (2) Neumann U47, (4) AKG 414, (2) AKG 452, (4) Beyer M88, (2) Beyer M101, Schoeps CMTS 501 stereo, (2) Schoeps CMC5, (4) Sennheiser 421, (6) Shure SM57, (2) Shure SM81, Sony C-37P. Monitor Amplifiers: (4) Acoustat TNT 200. Monitor Speakers: (2) Tannoy SGM1000 w/Meyer 834 subwoofers, (2) Westlake BBSM6, (2) Yamaha NS-10. Musical Instruments: Yamaha KX88 keyboard controller, Roland D-50, Roland D-550, Yamaha TX802 module, Alesis HR-16 drum machine, 360 Systems Midi Bass, 360 Systems MIDI patcher. Other MIDI Equipment: Macintosh Plus computer w/60MB HD, Performer software, Opcode Studio Plus II computer MIDI interface, Akai S950 digital sampler w/16-bit upgrade. Video Equipment: Sony BVU-850SP 3/4" U-matic, Proton 25" monitor, JVC 6600 3/4" U-matic. Rates: For each studio upon request. Specialization & Credits: New River Studios has recently opened its new Studio B. This is an ideal MIDI production studio, composing studio and voice-over facility. It is equipped with a 24-track for recording. In addition, we have a new "1" layback service called Sync-Link, formed with Selkirk Communications Video Services. If you need assistance in locating housing, car rentals, etc., we can help. Our most recent credits include Jimmy Buffett, The Everly Brothers, U.S. Air Force broadcast campaign and numerous others. We have just completed seven years in operation. Thanks to all our clients for your support.

**[24+] O'CONNELL PRODUCTIONS, INC.;** also REMOTE RECORDING; 3954 Peachtree Rd.; Atlanta, GA 30319; (404) 266-0020; FAX: (404) 233-2606. Owner: Kevin O'Connell. Manager: Neal Franks

**[24+] OMNISOUND RECORDING STUDIO;** 1806 Division St.; Nashville, TN 37203; (615) 321-5526. Owner: Esprit Sound, Inc. Manager: Michael Koreiba. Engineers: Carry Summers, Steve Bishir. Dimensions: Room 1: studio 45 x 19, control room 13 x 28. Room 2: studio 10 x 11, control room 10 x 19.5. Mixing Consoles: Trident A-Range 40 x 24 x MCI 528 28 x 32 x 36. Audio Recorders: Otari MTR-90II 24-track, Studer B-67 2-track 1/4", Studer A800 24-track. Cassette Recorders/Duplicators: Technics M65 3-head, (2) JVC KD-V6 3-head. Echo, Reverb & Delay Systems: (2) Lexicon PCM70, Lexicon PCM42, Lawson Echo Plate, Roland SRV-2000, Yamaha SPX90II, Alesis MIDVerb II. Other Outboard Equipment: ADR Vocal Stresser, (3) dbx 160 limiter, dbx 161 limiter, (3) LA-2A, (2) Drawmer DS-201 gate, (4) KexpeX II gate, LT Sound stereo compressor/limiter/de-esser. Microphones: Neumann U67 tube, (2) Neumann U87, (3) Neumann KM84, Neumann U47 FET, (7) Sennheiser MD-421, (5) Shure SM57, (5) AKG 414, (2) AKG 451, (2) AKG 452, (2) AKG D-12, AKG D-112, (2) B&K 4006, (2) Electro-Voice RE20, Sony lavalier. Monitor Amplifiers: Bryston 4B, McIntosh 2100, Adcom GFA-555. Monitor Speakers: Tannoy FSM, Tannoy LGM-12". (4) Yamaha NS-10M, Auratone 5C, Tannoy PBM-8. Musical Instruments: Yamaha C7 concert grand w/MIDI. Rates: Call for rates.

**[24+] ON LINE AUDIO;** also REMOTE RECORDING; 701 E. Bay St., Ste. 436; Charleston, SC 29403; (803) 724-3506. Owner: Robert H. Graves. Manager: Greg Larkins. Engineers: Robert Graves, Brian Gilbert, Duane Gehlken. Dimensions: Room 1: studio 25 x 35, control room 17 x 21. Room 2: studio 25 x 35, control room 12 x 15. Mixing Consoles: Soundcraft TS-1224-channel in-line, Tascam M-520 20 x 8. Audio Recorders: Otari MX-80 24-track, Otari MTR-12TC 2-track 1/4" w/time code, Tascam 85-16B 16-track w/dbx NR, Tascam 48-OB 8-track 1/4", Tascam 52 2-track 1/4", Revox PR99 2-track 1/4". Cassette Recorders/Duplicators: Nakamichi MR-1, Casio R-DAT, Onkyo TA-2056, KABA real-time duplicating system. Noise Reduction Equipment: dbx Type I 16 channels, dbx Type II 8 channels. Synchronization Systems: Peavey 3-machine lockup. Echo, Reverb & Delay Systems: Lexicon PCM70, ART DRI, ART SGE multi-EFX unit, Korg SDD-2000, (2) ADM 1024, Alesis QuadraVerb. Other Outboard Equipment: (4) KexpeX gate, (2) Gain Brain, (2) Commander, parametric EQ, dynamic sibilance processor, (2) Valley People Dyna-Mite comp/limiter, dbx 166X stereo comp/limiter, (2) Rane GE-27 31-band EQ, BBE 802 Sonic Maximizer, Aphex Aural Exciter. Microphones: Neumann U87, (2) AKG 414EB, (2) AKG 451, (4) Sennheiser MD-421, (2) Neumann KM84, (2) Crown GP-30 PZM, (4) Shure SM57, (2) Shure SM58, Electro-Voice PL20. Monitor Amplifiers: Adcom GFA-550, (2) BGW 250D, (2) Adcom 535. Monitor Speakers: JBL 4411, Yamaha NS-10M studio, Yamaha NS-10M, Auratone 5C, Fried Q-10. Musical Instruments: Yamaha PF85, E-mu Emax, Roland D-550, Roland S-550, Roland Super-JX, Roland JX-8P, Yamaha DX7IIFD, Korg DW-6000, Roland R-8 Human Rhythm Composer, Roland Octapad, E-mu SP-12 sampling drum machine. Other MIDI Equipment: Macintosh II computer w/2MB RAM and 90MB HD, Master Tracks Pro 3.0 sequencer software. Video Equipment: Capability to shoot and edit w/Betacam SP or 3/4" video. Other: Drum kit, Fender Precision bass, various electric and acoustic guitars, Stewart Acision direct boxes. Rates: Block and day rates available as low as \$35/hr. Lodging at some of the East Coast's finest beach resorts available at group rates. Call Robert for details.

**[24+] JIM OWENS COMPANIES;** 815 18th Ave. South; Nashville, TN 37203; (615) 329-9500. Owner: Jim Owens. Manager: Bob Witte.

**[24+] PARALLAX RECORDING STUDIO;** also REMOTE RECORDING; 123 E. State St.; Ridgeland, MS 39157; (601) 856-2525; FAX: (601) 856-9462. Owner: Parallax Records. Manager: James Griffin.



PARC STUDIOS, INC.  
Altamonte Springs, FL

**[24+] PARC STUDIOS, INC.;** also REMOTE RECORDING; 658 Douglas Ave.; Altamonte Springs, FL 32714; (407) 894-0021. Owner: Patrick J. Armstrong. Manager: Andy de Ganahl. Engineers: Andy de Ganahl, Dara Cornock, Robert Knox, Mike Justiniane. Dimensions: Room 1: studio 30 x 40, control room 26 x 26. Room 2: studio 31 x 18, control room 25 x 18. Mixing Consoles: SSL 6056E w/40 inputs/4 stereo modules/Total Recall/bar graphs. Sound Workshop Series 34C 32 inputs/16+2 sub/automated. Audio Recorders: Studer A800 24-track, Studer A80III 24-track, (2) Studer A80 2-track (1/4" and 1/2"), Studer A80 4-track 1/2", Panasonic SV-3500 DAT, (2) Sony 601 w/Apoecore filters, Otari MX-5050 8-track 1/2", Studer A80 2-track 1/2" and 1/4", Studer A810 2-track 1/4" Cassette Recorders/Duplicators: (3) Nakamichi MR-1B. Synchronization Systems: Adams-Smith Zeta-3. Echo, Reverb & Delay Systems: Lexicon 480l reverb, (2) Lexicon 224XL reverb, (2) Lexicon 230 reverb, Roland 880 reverb, AMS RMX 16 reverb, (2) Yamaha REV5 reverb, (3) Yamaha SPX90II reverb and FX, Alesis MIDVerb II reverb and FX, MICMIX Master Room Super C reverb, (2) AMS 15-80S d'gal delay, (3) TC Electronic 2290 digital delay, (2) Lexicon PCM42 digital delay, Lexicon 93 Prime Time digital delay, Klark-Teknik DN780 reverb. Other Outboard Equipment: (2) Drawmer 201 dual gates, Aphex Aural Exciter Type B, Aphex Compellor, dbx 900 rack w/2-903/3-902/4-905/1-929 modules, (2) BBE 401 Sonic Maximizer, BBE 822 Sonic Maximizer, Rockman guitar preamp/chorus, (2) UREI LA-4 compressor, (2) Teletronix LA-2A tube compressor, Pultec EQP-1A3 tube EQ, Lang PEQ-1 tube EQ, Drawmer 1960 stereo tube compressor. Microphones: AKG C-24 stereo tube, (8) AKG 460, (4) AKG 414, (2) B&K 4006/4007, (3) Neumann U47 (2-FET 1-tube), (4) Neumann U89, (6) Neumann KM84, (7) Sennheiser 421, (5) Shure various models, (2) E-V various models, (2) RCA 77-DX, AKG C-12A tube, (2) AKG Tube. Monitor Amplifiers: (7) Hatler (4-DH-500, 3-DH-220), (3) Yamana 2050. Monitor Speakers: (2) Fostex LS-3, (2) UREI 811, (2) Meyer Sound Labs HD-1, (4) Yamaha NS-10, (2) Auratone 5C, (15) Fostex T-20 headphones, (2) JBL 4430, (2) Tannoy PBM-6.5. Musical Instruments: Roland JC-120 guitar amp, Marshall 100 guitar amp, Fender Super Champ guitar amp, \*amaha C7 conservatory grand piano. Other MIDI Equipment: (2) Atari 1040ST w/Sonus software. Video Equipment: Sony 5850 U-matic 3/4", Sony Beta Hi-fi VCR, Quasar S-VHS VCR. Specialization & Credits: Parc Studios is a full-service audio production facility suitable for album, commercial, jingle, film or demo productions. 48-track, mix-to-video, MIDI and Synclavier services are available upon request. Recent clients include: records—CBS, Capitol, RCA, Epic, Myrrh, TV and film—Walt Disney World, Sea World, The Disney Channel. Our second room provides complete music production service with an extensive MIDI system and a full complement of instruments and amplifiers. Two client lounges with a pool table and video games are provided. Located in sunny Orlando, Parc offers our clients and their guests many other amenities, including luxury hotels and over 40 restaurants with n minutes of the studios. The Disney theme parks, Sea World and Universal Studios are close by. [Even the beach is less than an hour's drive!] Real-time cassette duplication on-site. Location recording with a 48-track mobile also available. Call for rates.

**[24+] "THE PEACH" RECORDING STUDIO;** PO Box 150; Covington, GA 30209; (404) 787-1843. Owner: Kerry Lvgren.

**[24+] PLATINUM POST;** also REMOTE RECORDING; 3300 University Blvd.; Winter Park, FL 32792; (407) 671-1111. Owner: Gary Platt, VP. Manager: Isis Jones. Engineers: Gary

Platt, Keith Seppanen, Bruce Marshall, Dan Mockensturm, Steve Moller, Gene Plarczyk. Mixing Consoles: Neve VR60 Series w/Flying Faders and total recall, (2) Neotek Elan 36-input, Sony 3036 56-input w/hard disk automation, Sphere Eclipse A w/32 I/O and super graphics, Sphere 16 sidecar mixer. Yamaha DMP7 Audio Recorders: (2) Otari MTR-100 24-track, (2) Otari MX-80 24-track, Otari MTR-12 4-track, Otari MTR-12 2-track, (2) Otari MX-55 2-track w/center SMPTE, (2) NED 8-track digital Direct-to-Disk, NED Synclaver system w/32 polyphonic/32 FM voices/32MB RAM, NED Synclaver system w/32 polyphonic/16 FM voices, Otari MTR-10 2-track Cassette Recorders/Duplicators: (25) KABA real-time duplicator. Synchronization Systems: Adams-Smith Zeta system. Other Outboard Equipment: Eventide H3000B Harmonizer, Lexicon 200 reverb, (2) Roland SDE-2000 delay line, (3) Roland SDE-3000 delay line, (2) Roland SRV-2000 reverb, (2) Lexicon PCM41 delay line, ADA STD-1 stereo taped delay, (2) Aphex Aural Exciter Type B and Type C, BBE 802 Enhancer, (4) dbx 903 compressor, (3) dbx 904 gate, (4) dbx 411 noise reducer, (2) dbx 905 equalizer, (3) dbx de-esser, (8) UREI LA-4 compressor, Teletronix LA-2 compressor, (4) Aphex 612 expander/gate, (2) Aphex stereo studio Dominator, Aphex Compeller, (2) Drawmer dual gate, Roland DEP-5, TC Electronic 2290 delay, Lexicon 480L w/LARC, (2) Lexicon PCM70, (3) Lexicon LXP-1 multi-effects processor w/remote, (2) Yamaha SPX900L, BASE special expander, (9) Sphere graphic equalizer in power pack, Ecoplate III. Microphones: Wide selection including Neumann, AKG, Shure, Audio-Technica, Sennheiser. Monitor Amplifiers: Halfer. Monitor Speakers: Meyer Sound Labs complete sound system, UREI, Tannoy, Fostex. Musical Instruments: Steinway 9' grand piano. Other MIDI Equipment: Wide selection of top-of-the-line equipment. Video Equipment: CMX 330A editor, DSC Illusion, Ampex Vista switcher, Chyron RGU2, Ampex CVR75 SP Betacam, Ampex CVR507 SP CCD Betacam camera/recorder, (2) Sony CCD camera, (4) Ikegami ITC730A, (2) Sony 3/4" U-matic SP deck, 30 x 35 television studio w/light grid.

**[24+] THE POND RECORDING SERVICES; 1203 Holly Hill Dr.; Franklin, TN 37064; (615) 790-9516. Owner: Howard P. Levy.**

**[24+] PYRAMID RECORDING; 1208 Lula Lake Rd.; Chattanooga (Lookout Mtn.), TN 37350; (404) 820-2356. Owner: R.H. MacLellan. Manager: Jim Stable.**

**[24+] RECORDING ARTS; also REMOTE RECORDING; Box 121702; Nashville, TN 37212; (615) 321-5479. Owner: Carl Tatz. Manager: Carl Tatz. Engineers: Carl Tatz, Larry Lee. Dimensions: Room 1: studio 16 x 14, control room 12 x 25. Room 2: studio 14 x 13. Room 3: studio 10 x 6. Room 4: studio 15 x 20. Mixing Consoles: Focusrite ISA 1102 x 2, Soundcraft TS 12 74 x 14+. Audio Recorders: Mitsubishi X-850 w/Apogee filters available, Otari MTR-90II 24-track, Sony PCM-701ES 2-track digital/Beta 2005, Revox A-77 2-track. Cassette Recorders/Duplicators: Aiwa 990. Noise Reduction Equipment: Dolby SR and Type A available. Synchronization Systems: All types available. Echo, Reverb & Delay Systems: Lexicon PCM70, Roland SRV-2000, Roland DEP-5, Yamaha REV7, Lexicon Prime Time, Roland Dimension D, MasterRoom XL-305. Other Outboard Equipment: Teletronix LA-2A comp/limiter, UREI 1176 comp/limiter, UREI LA-4 comp/limiter, (2) UREI 545 parametric EQ, Audioarts parametric EQ, Sony CD player, B&O 8000 turntable w/MMC 1 cartridge, LofTech TS-1 RMX audio test set, (3) Valley International HH2XB bump box. Microphones: Neumann U87, (2) AKG 414, AKG 451, E-V RE20, (3) Shure SM57, (4) Sennheiser 421, (2) Sennheiser 441, (2) E-V RE15, vintage tube mics available. Monitor Amplifiers: (2) Bryston 6B, (3) Bryston 4B, Yamaha 2050 Monitor Speakers: Yamaha NS-1000, Yamaha NS-10, Fostex 780, Visonik David 9000, (2) Auratone 5C. Musical Instruments: LinnDrum w/alternate chips, Yamaha DX7, Roland MSQ-700 sequencer, Yamaha DX100, Kurzweil K-1000 available, Roland D-50 available. Other MIDI Equipment: All types available. Video Equipment: All types available. Other: Juodeons impedance matched headphone boxes, Mogami heavy 10- and 13-gauge oxygen-free copper speaker cables, control room total ASC design (tube traps). Rates: Available on request.**

**[24+] REEL TIME RECORDING; also REMOTE RECORDING; 939 Carswell Ave.; Holly Hill, FL 32017; (904) 238-7002. Owner: Mark Ignoffo. Manager: Mark Ignoffo. Engineers: Mark Ignoffo, Barry Kukes, independents welcome. Dimensions: Room 1 studio 24 x 23, control room 18 x 16. Room 2 studio 24 x 13. Isolation room: 8 x 5. Mixing Consoles: TAC Scorpion 16 x 8 x 16 x 2, Studiomaser 16 x 2. Audio Recorders: Otari MX-70 16-track, Fostex E-16 16-track, Tascam 38 8-track w/dbx, Otari MX-5050 MkIII 2-track 1/4", Sony DTC-M100 DAT. Cassette Recorders/Duplicators: Nakamichi MR-1, (2) Nakamichi MR-2, Technics RS885, Technics RST55R. Noise Reduction Equipment: (2) dbx DX40 4-channel. Synchronization Systems: Fostex 4030 w/controller, Yamaha MSS-1 SMPTE to MIDI Echo, Reverb & Delay Systems: Lexicon PCM60 reverb, Lexicon LXP-1, Lexicon LXP-5, Yamaha E1010 delay, MXR digital delay. Other Outboard Equipment: dbx 163 compressor, dbx 463 noise gate, dbx 166 compressor/gate, Yamaha SPX90, Valley People Dyna-Mite stereo limiter/gate, de-esser, BBE 822 Sonic Enhancer, Furman QN4 4-channel noise gate, Tascam PE40 4-channel parametric EQ. Microphones: Beyer M740, (4) Beyer M69, E-V RE20, (2) Shure SM81, (5) Shure SM57, (3) AKG D-12E, E-V PL91, Audio-**

Technica 2500D Monitor Amplifiers: (2) Yamaha P2201, Soundcraft LA2502, Rane HC6 headphone amp. Monitor Speakers: (2) UREI 809, (2) Tannoy PBM-8, (2) Auratone Cubes. Musical Instruments: Young Chang piano, Hammond B-3, Roland S-50 sampler w/sequencer software, Yamaha DX5, ARP Odyssey synthesizer, Roland R-8 drum machine, Roland 707 drum machine, Roland 727 percussion machine. Video Equipment: Amiga 2500 computer w/Genlock/Frame Grabber and animation features. Other: (2) Yamaha 5115 speaker enclosure, (2) Electro-Voice SH1512ER, Furman AR-117 line voltage regulator. Rates: 8-track \$125/hr. 1/2" 16-track \$18/hr. 1" 16-track \$25/hr. Synchronized 32-track \$40/hr. Video graphics quoted on a per job basis. Block discounts and packages for all track formats. Rehearsal space \$10/hr.

**[24+] REELTIME; also REMOTE RECORDING; 702 Mall Blvd.; Savannah, GA 31406; (912) 352-9057. Owner: Phil L. Hadaway III. Manager: Phil L. Hadaway III**

**[24+] REFLECTION STUDIOS; also REMOTE RECORDING; 1018 Central Ave.; Charlotte, NC 28204; (704) 377-4596. Owner: Wayne Jernigan. Manager: Kelly Jernigan. Engineers: Mark Williams, Jamie Hoover. Dimensions: Studio A 44 x 32 w/18' ceiling, control room 19 x 24. Studio B: tape duplicating. Isolation room 8 x 10. Studio C: 8 x 24 w/12' ceiling, control room 18 x 14 w/alcove for recorders. Mixing Consoles: Sony MXP-3036 36-input hard disk auto-automated, Sony MXP-3036 32-input. Audio Recorders: (3) Sony APR-5002 2-track, Sony APR-5002 2-track 1/2", Sony PCM-3202 digital (DASH format), (2) Sony/MCI JH-24 24-track, Otari 5050 1/4-track, MCI JH-C8 8-track, MCI JH-24 8-track, Sony APR-24 24-track, (2) Sony PCM-2500 Noise Reduction Equipment: Dolby M16, (2) Dolby 361. Echo, Reverb & Delay Systems: Lexicon 224XL, EMT, Lexicon PCM70, Lexicon 200, DeltaLab delays, Effectron, Super Time Line, TC sampler, dbx 162, dbx 165. Other Outboard Equipment: UREI comp. (2) dbx 900 Series w/de-esser/gate/limiter, (2) Valley People 440, Urban comp, (2) Drawmer gate. Microphones: (27) Neumann tube and solid state, (25) AKG, (10) Shure, (15) E-V, (15) Sennheiser, RCA, (10) Sony, (10) Countryman, Philips. Monitor Amplifiers: AB Systems, BGW, Halfer, White Instruments. passive EQ. Monitor Speakers: TAD custom components, double woofer system. JBL 4401, ROR Musical Instruments: Yamaha CT grand piano, Hammond B-3, Fender Rhodes stereo, Farfisa organ, Sonor Deep Shell trap set, Gon-Bops percussion, Musser vibes, Fender bass, Kawai 74" grand piano, Sonor traps, various guitars, amps and keyboards. Rates: Available upon request.**

**[24+] THE REFLECTIONS STUDIOS; 2741 Larmon Dr.; Nashville, TN 37204; (615) 269-0828. Owner: Gene Lawson. Manager: Steve Charles.**

**[24+] REVELATION PRODUCTIONS; 715 Hancock Ave.; Corbin, KY 40701; (606) 528-1111. Owner: Roger Hart, Mary Hart, J. Michael McKenney, Cheryl McKenney. Manager: J. Michael McKenney. Engineers: J. Michael McKenney, Alan Coppack, Cheryl McKenney. Dimensions: Room 1 studio 30 x 40, control room 20 x 20. Room 2: studio 20 x 20, control room 20 x 15. Room 3: studio 12 x 15. Room 4: studio 9 x 12. Mixing Consoles: D&R 8000 Series 3 48 x 8, Seck 1882 Mk2 22 x 6. Audio Recorders: Sony JH-2424 24-track w/remote, Fostex E-16 16-track w/remote, Otari MX-50 2-track, Otari MX-5050 MkIII-2 2-track, Tascam 32 2-track w/remote. Cassette Recorders/Duplicators: Aiwa AD520, Sony KX-1200U w/remote. Noise Reduction Equipment: dbx 150X Type I, Dolby C 16-track. Synchronization Systems: Fostex 4050 autolocator Echo, Reverb & Delay Systems: (2) Yamaha SPX90 digital reverb, Yamaha SPX90II digital echo, Yamaha REV5 digital reverb, Lexicon PCM60 digital reverb, Peavey ADD-Verb digital delay. Other Outboard Equipment: Aphex Aural Exciter, BBE 802, Fostex 3070 comp/lim, CDT MC-8 multicomplim, Furman QN4 noise gate, Valley GateX, (2) dbx 160x comp/lim, (2) MXR 31-band graphic EQ, (2) White Instruments 31-band graphic EQ, CDT Champ CGM-2 compressor/expander. Microphones: (5) AKG 414, (3) Sennheiser 421, (6) AKG D-12 etc., (3) Neumann 84, (12) Shure SM57 etc., (2) E-V PL20 etc., (4) Crown PZM. Monitor Amplifiers: (2) Halfer P-500, (3) Halfer P-230, Phase Linear A-30, Peavey M260. Monitor Speakers: (2) UREI 809 Type Align, (2) Toa T31-2ME, (2) Tannoy PBM 6.5 near-field, (2) E-V NS12-H. Musical Instruments: Yamaha 6' conservatory grand piano, Bush & Lane upright grand piano, Yamaha KX88 synth, Yamaha DX7 synth, Crumar Orchestrator synth, ARP Omni II synth, Korg DRM-I drum computer, Alesis HR-16 drum computer, E-mu Drumulator, Pearl 7-piece drum kit, Zildjian 8-piece cymbal kit, (3) various sizes snare drums, (2) Technics SLQ-300 turntable, LXI Series CD player, Buescher tenor sax, Conn trombone, Stradivarius violin, Kay banjo, Kay mandolin, (2) Hascal Haile flattop guitar, Yamaha classical guitar, Conn French horn, Gemeinhardt flute. Other MIDI Equipment: Yamaha TX802 sound module, Roland MKS-20 piano module. Other: (20) various percussion instruments, (2) timbales. Rates: \$75/hr. 24-track \$60/hr 16-track**

**[24+] RM AUDIO; also REMOTE RECORDING; 3586 Pierce Dr.; Atlanta, GA 30341; (404) 458-6000. Manager: John L. Tyler.**

**[24+] ROADHOUSE RECORDING; 7472 Old Hwy. 78; Olive Branch, MS 38654; (901) 365-1429. Owner: Mark Patrick. Manager: Mark Patrick.**

**[24+] ROOP AUDIO CONSULTANTS & RECORDING; also REMOTE RECORDING; Rte. 5, Box 428-A; Canton, GA 30114; (404) 479-5181. Owner: Randall Roop. Manager: Robert Sumerland**

**[24+] SATURN SOUND STUDIOS, INC.; also REMOTE RECORDING; 515 S. Olive Ave.; West Palm Beach, FL 33401; (407) 832-2148. Owner: Allen Peerson, Clinton Smith. Manager: James Crockett. Engineers: Clinton Smith, James Crockett. Dimensions: Studio 21 x 37, control room 12 x 15. Mixing Consoles: MCI JH-636. Audio Recorders: MCI JH-24 24-track w/AL III, (2) MCI JH-110B 2-track, Sony PCM-601 digital processor w/Sony HF-750 Beta. Cassette Recorders/Duplicators: (6) Tascam 122B. Synchronization Systems: Cipher Digital Soft Touch w/(2) 470 synchronizer. Echo, Reverb & Delay Systems: (2) Lexicon 200, Eventide 949 Harmonizer, Eventide 910 Harmonizer, Yamaha SPX90II, Lexicon Prime Time, Yamaha SPX1000, Yamaha SPX900. Other Outboard Equipment: (2) dbx 165 compressor, (4) Allison Research Gain Brain, (7) Allison Research Kepex. Microphones: Neumann, AKG, Sennheiser, Shure, Milab, Crown PZM. Countryman directs. Monitor Amplifiers: (2) Crown DC-300, Crown D-150, Crown D-75. Monitor Speakers: (2) JBL 4411, (2) Yamaha NS-10M, (2) Auratone 5C, (2) Bozak Monitor C. Musical Instruments: Kawai GS30 6' grand piano. Rates: Block rates available.**

**[24+] SCRUGGS SOUND STUDIO, INC.; 2828 Azalea Pl.; Nashville, TN 37204; (615) 383-7994. Owner: Randy Scruggs. Manager: Sloan Edwards. Dimensions: Studio 32 x 26, control room 21 x 20. Mixing Consoles: Neve 8232 w/Necam 96 moving fader automation. Audio Recorders: Mitsubishi X-850 32-track digital, MCI JH-24 24-track analog, MCI JH-110 2-track 1/2", MCI JH-10 2-track 1/4", Technics DAT. Cassette Recorders/Duplicators: (2) Aiwa 990. Noise Reduction Equipment: dbx 205 24-channel, Echo, Reverb & Delay Systems: EMT 250 digital reverb, AMS reverb, Lexicon 200 digital reverb, Lexicon Prime Time delay, Lexicon Super Prime Time delay, Yamaha REV7, Yamaha SPX90, TC Electronic sampler and delay unit. Other Outboard Equipment: Eventide Harmonizer, (4) dbx limiter/compressor, Vocal Stresser, UREI LA-3 limiter/compressor, (6) noise gate and other misc. gear. Microphones: Sanken, (4) Neumann U87, Neumann 249 tube, (3) AKG 414, AKG C-12, other assorted mics from AKG, Neumann, Studer, Shure, Beyer, Calrec, Sony, Sennheiser, RCA. Monitor Amplifiers: McIntosh 2300, Yamaha, B&W, Crown Monitor Speakers: 604E Big Reds, Yamaha NS-10, E-V Sentry 100, Auratone. Musical Instruments: Yamaha 7 5 acoustic piano w/Forte MIDImod, Yamaha DX7 synth, Linn 9000 drum machine/sequencer, Hammond organ, Fender, Ampeg. Poly-tone amps. Rates: Available upon request**



SIXTEENTH AVENUE SOUND  
Nashville, TN

**[24+] SIXTEENTH AVENUE SOUND; 1217 16th Ave. South; Nashville, TN 37212; (615) 327-8787. Owner: Services Mgmt, Inc. Manager: Barry Sanders. Engineers: J. David Parker, Scott Baggett, Barry Sanders, Graham Lewis, Jack Howell, Brian Hardin. Dimensions: Room 1 studio 24 x 40, control room 28 x 24. Room 2: studio 29 x 15, control room 13 x 15. Room 3: control room 16 x 13. Mixing Consoles: Solid State Logic 4056E 48 x 32 w/Total Recall (studio A), Neotek Elan 28 x 24 w/MIDI direct automation (studio B), Soundcraft 400B 20 x 16 (studio C). Audio Recorders: Mitsubishi X-850 32-track digital w/Apogee filters, Studer A820 24-track analog, Studer A820 2-track analog 1/2" or 1/4" headstock, Soundcraft 760 MkIII 24-track analog —modified electronics, Tascam 8516B 16-track analog 1" w/dbx noise reduction, Tascam 48 8-track analog 1/2" w/dbx noise reduction, (2) Panasonic SV-3500 DAT, Tascam 42 2-track analog, Nakamichi DMP-100 F1-type digital processor. Cassette Recorders/Duplicators: (3) Tascam 122, (2) Nakamichi MR-1. Synchronization Systems: Adams-Smith Zeta-3 w/cables for all popular machines. Echo, Reverb & Delay Systems: AMS RMX 16 digital reverb, AMS DMX 15 digital delay w/stereo harmonizer, Lexicon 480L digital effects processor, Lexicon 224XL digital reverb, (2)**

—CONTINUED ON NEXT PAGE

# 24+ TRACK STUDIOS

—CONTINUED FROM PREVIOUS PAGE

Lexicon PCM70 digital effects processor, (2) Lexicon PCM42 digital delay, Lexicon PCM41 digital delay, (2) Yamaha REV7 digital reverb, (2) Yamaha SPX90 digital effects processor, (2) Alesis MIDverb II, (2) Efectron 1024 digital delay. **Other Outboard Equipment:** Drawmer 1960 Tulose compressor/limiter, (2) dbx 165 Over Easy compressor, Valley People Kexpe gate 4-channel, (2) Valley People 440 dynamics processor, (4) Valley Audio Leveler, (2) dbx 160 compressor/limiter, Orban 622B parametric EQ, (2) White Instruments 440 graphic EQ, Symetrix 544 quad gate. **Monitor Amplifiers:** (3) Yamaha P2250C, Haller 550, Haller 220, (3) Perreux 5150B, Meyer Sound Labs MS1000A. **Monitor Speakers:** (2) Meyer Sound Labs 833 (1 15", 1 horn), (2) Meyer Sound Labs 834 subwoofer, (2) Meyer Sound Labs HD-1 near-field (self-powered), (6) Yamaha NS-10M near-field, (4) E-V Sentry 100, (2) Tannoy SRM-12B (dual concentric), (2) Tannoy FSM-U (2 15" dual concentric high-end), (2) B&W 808. **Video Equipment:** Hitachi VHS VCR, Zenith Beta VCR. **Specialization & Credits:** Extra-large control room with skylights. Spacious studio featuring variable acoustics. Comfortable lounge with pool/ping pong table and kitchen facilities. Full-time maintenance technician on staff. Dreamhire, a major equipment rental company, is located in our building, allowing easy access to any additional gear needed at very competitive rates. Sixteenth Avenue Sound offers the best in digital and analog recording in a relaxed environment that encourages creative expression. Our specialty is personalized attention and service. Come and enjoy the difference! Recent clients include Peter Wolf, Johnny Van Zant, Ziggy Marley, NRBQ, Foster & Lloyd, World, Paradise Lost, Kenny Rogers, Simon Townsend, Gail Davies, Beth Nielson-Chapman, Michael W. Smith, David Meece, The Dirt Band, The Imperials.

[24+] **SOUND CELL PRODUCTIONS:** 601 Meridian St.; Huntsville, AL 35801; (205) 539-1868. Owner: Doug Jansen Smith. Manager: Matt Coby.

[24+] **SOUND EMPORIUM RECORDING STUDIOS; also REMOTE RECORDING:** 3102 Belmont Blvd.; Nashville, TN 37212; (615) 383-1982. Owner: Roy Clark. Manager: Gary Laney, Susan Howell. Engineers: Gary Laney, Dave Sanko, Linell. Dimensions: Room 1: studio 60 x 40 w/20' ceilings, control room 20 x 22. Room 2: studio 20 x 23, control room 15 x 20. **Mixing Consoles:** Neve 8128, Trident 80B, Sony 2500 DAT. **Audio Recorders:** Otari MTR-90II, Sony/MCI JH-24, (2) Studer A80, (2) Studer B67. **Synchronization Systems:** Adams-Smith 2600, Echo, Reverb & Delay Systems: Quantec Room Simulator, Lexicon 224XL, (2) EMT 140 stereo plate, (2) live chamber, Prime Time, Prime Time II, AMS DMX 15-80S, 969 Harmonizer, (2) 910 Harmonizer, AMS RMX 16, (2) PCM70, (2) SPX90, Marshall Time Modulator. **Other Outboard Equipment:** Neve stereo compressor, Trident 1178, (4) dbx 165A, (4) LA-2A, (2) Pultec EQP-1A, (2) Tube-Tech PE1-B, (4) Drawmer gate, (4) Kexpe, SF-1 cyclosmic panner, (2) LA-3A, (2) Trident stereo compressor, Vocal Stresser, Audioarts 4200 parametric EQ, (4) Jensen Boulder preamp. **Microphones:** (12) U87, (4) U84, (4) U86, U67, M49, (3) RCA 77-DX, (6) Shure SM57, (8) Sennheiser 421, (6) AKG 414EBP48, (2) Sanken CU41, (4) Shure 81, Shure SM7, Sennheiser 441, Sony 37P, (4) Sony ECM-22, (3) Sony ECM-50, (4) E-V RE20, (8) Studer SKM5, (2) PZM plate, (2) AKG D-112, (2) U47. **Monitor Amplifiers:** Perreux, (2) Crown D-150, (2) Tannoy 840, Haller 500, (4) BGW 750, (4) BGW 500, (2) BGW 250. **Monitor Speakers:** Westlake BSSB-10, Westlake BSSB-5, Tannoy LGM-15, Yamaha NS-10M, BGW, Auratone.

[24+] **SOUND LAB, INC.; also REMOTE RECORDING:** 2319 Fernwood Dr.; Greensboro, NC 27408; (919) 288-0185; FAX: (919) 288-0298. Owner: Sound Lab, Inc. Manager: Mary Schenck.

[24+] **SOUND OF BIRMINGHAM; also REMOTE RECORDING:** 3625 5th Ave. South; Birmingham, AL 35222; (205) 595-8497. Owner: Don Mosley. Manager: Noah White.

[24+] **SOUND STAGE STUDIO:** 10 Music Circle South; Nashville, TN 37203; (615) 256-2676. Owner: Ron Kerr, Bob MacKenzie. Manager: Ron Treat.

[24+] **SOUND TRAX INC.; also REMOTE RECORDING:** 1626 Glenwood Ave.; Raleigh, NC 27608; (919) 832-9953. Manager: Don Stone. Engineers: Perry Cheatham, John Oerter. Dimensions: Room 1: studio 50 x 20, control room 27 x 20. Room 2: studio 18 x 12, control room 20 x 12. **Mixing Consoles:** Custom-built 36 x 20 x 24, (2) Soundcraft 200B. **Audio Recorders:** AMS AudioFile digital recorder/editor, MCI JH-24 24-track, (2) Sony/MCI JH-110 2-track. **Echo, Reverb & Delay Systems:** Lexicon 224 digital reverb, Lexicon PCM70 digital reverb, (3) Symetrix SE-400 stereo parametric EQ, Symetrix 525 dual comp/limiter, Symetrix 522 dual comp/lim/gate, (2) dbx 160 compressor, (2) Roland SRV-2000 digital

reverb, (2) Roland SDE-3000 digital delay, Eventide 929 Harmonizer. **Microphones:** (2) Sennheiser MKH-40, (2) AKG C-414, Neumann U87, (5) AKG C-412, (5) AKG C-451, (4) E-V RE20, (2) Shure SM81. **Monitor Amplifiers:** (2) JBL/UREI 6260, JBL/UREI 6215, JBL/UREI 6150. **Monitor Speakers:** (2) UREI 811, custom subwoofer, (2) JBL 4412, (2) JBL 4410. **Musical Instruments:** Steinway Model S grand, Rogers/Tama drum kit, E-mu Emulator II, Oberheim expander/synthesizer, Sequential Circuits Prophet-VS, Roland D-550, Yamaha TX7, Oberheim Matrix-6, Roland R-8 drum machine, Sequential Circuits Prophet-2000. **Other MIDI Equipment:** Roland MC-500 MkII sequencer, Roland SBX-80 sync box, Roland A-50 keyboard controller, Roland PAD-8 drum pad controller. **Video Equipment:** (2) Sony VO-5600 3/4" U-matic.

[24+] **SOUNDING BOARD; PO Box 1072; Hendersonville, TN 37077; (615) 822-7865.** Owner: Otis and Sharon Forrest. Manager: Otis Forrest.

[24+] **SOUNDS UNREEL STUDIOS; also REMOTE RECORDING:** 1902 Nelson Ave.; Memphis, TN 38114; (901) 278-8346. Owner: Jon Hornyak, Don Smith, Manager: Jon Hornyak. Engineers: Don Smith, Jack Holter, Michael Kearney, Andy Black, Billy Maharrey. Dimensions: Studio 44 x 19 x 12, control room 19 x 15 1/2 x 11 1/4. **Mixing Consoles:** Soundcraft TS 24 32 x 24. **Audio Recorders:** Otari MTR-90II 24-track, Otari MTR-10 2-track, Otari MX-5050B 2-track, DAT 122 MkII cassette deck, Panasonic SV-3500 DAT. **Other Outboard Equipment:** Lexicon 224XL, Lexicon 200, AMS RMX 16, Ursa Major 8 x 32, AMS DMX 15-80S digital delay/harmonizer, Korg programmable digital delay, Korg DRV-2000, dbx 900 mainframe w/limiter/compressor/noise gate/de-esser, Symetrix 501 limiter/compressor, LA-2A, Fairchild 670, Roland Dimension D, EXR exciter, MARC MXI and MXE, Universal Audio 1176, Barcus-Berry BBE 802. **Microphones:** AKG C-12, Tube, 414, 451, D-12E, 224, Neumann U87, KM84, Shure SM7, SM57, SM58, SM81, Sennheiser 421, E-V RE20, RE16, Crown PZM, Beyer M500. **Monitor Speakers:** Steven Durr custom (JBL, TAD), Yamaha NS-10M. **Musical Instruments:** Steinway grand piano, Hammond B-3, Yamaha DX7, CP70B, PPG 2.3 w/Waveterm, Roland JX-3P, MSQ700, Fender Rhodes, LinnDrum, Marshall amps, Carvin amp, St. Blues custom guitars, Emulator II, Strings & Things custom guitars and basses. **Other:** Available on rental basis. Mitsubishi X-800, X-80 digital recorder, Fairlight CMI, Akai 900 sampler. Rates: Upon request.



SOUNDSCAPE STUDIOS  
Atlanta, GA

[24+] **SOUNDSCAPE STUDIOS; 677 Antone St.; Atlanta, GA 30318; (404) 351-1003.** Owner: Jon Marett. Engineers: Independent. Dimensions: Room 1: studio 50 x 60, control room 28 x 29. Room 2: studio 18 x 14, control room 15 x 16. **Mixing Consoles:** SSL 4040E 4 x 32 w/G Series, Neve 8068 32 x 16 w/Necam I. **Audio Recorders:** Studer Dyxas 2-track digital, (2) Studer 820 24-track, Studer 820 1/2" w/1/4" center-track time code conv., Studer 820 2-track 1/2", Studer A80RC 2-track 1/4", Studer B67 2-track 1/4", Studer A810 2-track 1/4", Sony 2500 2-track digital DAT. **Cassette Recorders/Duplicators:** Tascam T-122, (3) Nakamichi MR-1, (10) Nakamichi MR-2. **Noise Reduction Equipment:** (2) Dolby SR 2-track, (24) Dolby A 24-track, (2) Dolby B 2-track. **Synchronization Systems:** (2) Adams-Smith Zela-3, Echo, Reverb & Delay Systems: Lexicon 224XL, AMS RMX 16, Quantec QRS, EMT 140S plate, Lexicon PCM70, Lexicon LXP-1, Lexicon LXP-5, Eventide Ultra-Harmonizer, Eventide 910 Harmonizer, Lexicon PCM42, Lexicon PCM41, Yamaha SPX90II, Yamaha REV5, Lexicon Super Prime Time, (2) Marshall Time Modulator. **Other Outboard Equipment:** BBE 202, BBE 2002, (6) Drawmer 201 dual gate, (6) Kexpe II gate, (5) UREI 1176, (2) UREI LA-4A, (8) Neve 8068 mic pre EQ, (4) Neve 8068 comp/limiter, dbx 162, Pultec EQP-10S, Sontec stereo EQ, UREI 545 EQ, (2) API 5502 EQ, (2) API 550A EQ, ADR Vocal Stresser. **Microphones:** (14) Neumann (including tube), (8) AKG (including tube), (3) Crown PZM, (2) Beyer, (6) Sennheiser, (3) Schoeps, (2) Studer, (8) Shure, RCA, (4) E-V, Sony. **Monitor Amplifiers:** (6) Genelec (6,000 watts), (2) FM Acoustic,

(3) Belles, Haller, Crest, (3) McIntosh, (2) Studer, (2) Yamaha. **Monitor Speakers:** (2) Yamaha NS-10, Tannoy 10-B, JBL, Genelec 1035A, Meyer Sound Labs. **Specialization & Credits:** Soundscape Studios gratefully acknowledges some of our past and present clientele: Rodney Mills, 38 Special, Kansas, Drivin' and Cryin', Howard Benson, Sweet F.A., LA Face, Joyce Irby, Motown Records, MCA Records, CBS Records, Island Records, Elektra, Chrystalis, Arista. Thank you to all our valued clients for your support.

[24+] **SOUNDSHINE PRODUCTIONS, INC.; also REMOTE RECORDING;** 723 W. Sunrise Blvd.; Fort Lauderdale, FL 33311; (305) 463-9882. Owner: Thomas M. Graefe. Manager: Frank Cornelius.

[24+] **SOUNDSHOP RECORDING STUDIOS; 1307 Division St.; Nashville, TN 37203; (615) 244-4149.** Owner: Wm. D. Killen. Manager: Patrick A. McFlakin.

[24+] **SOUNDTRACK, INC.; 1975 NE 149th St.; N. Miami, FL 33181; (305) 945-4449.** Owner: George Blackwell. Manager: Jenny Blackwell.

[24+] **SOUTHERN TRACKS RECORDING; 3051 Clairmont Rd., Studio Complex; Atlanta, GA 30329; (404) 329-0147.** Owner: Bill Lowery. Manager: Mike Clark. Engineers: Russ Fowler, Tag George. Dimensions: Studio 20 x 40, control room 22 x 26. Iso room 1: 15 x 18. Iso room 2: 16 x 20. Iso room 3: 8 x 10. **Dead alcove:** 12 x 12. **Mixing Consoles:** SSL 4040E 32 x 32 w/G Series EQ and Computer. **Audio Recorders:** (2) Sony JH-24, Studer A80 2-track 1/2", (2) Ampex 440 2-track 1/4", Sony 2500 R-DAT. **Cassette Recorders/Duplicators:** (2) Tascam 122. **Noise Reduction Equipment:** Dolby A 26 channels. **Synchronization Systems:** Adams-Smith Zeta-3, Echo, Reverb & Delay Systems: EMT reverb, Lexicon 224XL reverb, Lexicon 224 reverb, Lexicon LXP-1 reverb, Lexicon PCM70 reverb, AMS reverb. **Other Outboard Equipment:** Tube-Tech compressor, Summit Audio stereo tube EQ, Masenburg stereo EQ, API Lunch Box 550 4-band EQ, (2) UREI 527A graphic EQ, (2) dbx 160 compressor, dbx 165 compressor, UREI 1178 compressor, Lexicon Super Prime Time, (2) Drawmer dual gate, (4) Kexpe gate, Eventide H3000 Harmonizer, Eventide Harmonizer, TC Electronic 2/250 sampler delay, Yamaha REV5, LT Sound compressor/de-esser, Orban de-esser, MIDverb, (2) Sphere 4-band EQ, Eventide flanger. **Microphones:** AKG Tube, (3) Neumann 87, Neumann 47, (2) Neumann KM88, (2) Neumann KM84, (2) Neumann KM86, (2) AKG 452, (2) AKG 414, AKG D-12E, (2) Sennheiser 441, (5) Sennheiser 421, (3) Wright, E-V RE20, (2) Shure SM57, (4) Shure Beta 57. **Monitor Amplifiers:** (2) Crest, (2) Haller, BGW, Crown, (3) AB Systems. **Monitor Speakers:** (2) George Augspurger custom system, (4) Yamaha NS-10. **Musical Instruments:** Yamaha grand piano, Tama drums. Rates: Upon request, block rates available.

[24+] **SOUTHLAKE RECORDING STUDIO; 3229 8th St.; New Orleans, LA 70002; (504) 833-7926.** Owner: Paul Decorte. Manager: Steve Himelfarb, Loyce Decorte. Engineers: Steve Himelfarb, Mark Bingham, Jay Weigle. Dimensions: Studio 35 x 26, control room 24 x 15. **MIDI room:** 13 x 18. **Mixing Consoles:** Neve 8232, Trident Series 70. **Audio Recorders:** Studer A80 24-track, Studer A80 2-track 1/4", Sony PCM-2500 R-DAT, Tascam 3818, Technics 1520/2, Hybrid Arts ADAPIL. **Synchronization Systems:** TimeLine Lynx, Echo, Reverb & Delay Systems: Yamaha, Lexicon, Ibanez, Roland, Eventide 910, Ibanez 1000 delay, BBE, Roland 2000, Ormi Craft gate. **Other Outboard Equipment:** (2) dbx 160X, (3) Drawmer DS-201 gate, Drawmer LX20, Neve compressor, Spectra Sonics. **Microphones:** (2) Neumann U87, (2) Neumann KM84S, Neumann TLM170, (4) Shure SM57LC, (4) Sennheiser 421U, (2) AKG 414TL, (2) AKG D-112, (4) Beyer M88, Telefunken U47, RCA 44. **Monitor Amplifiers:** Crest CV-601, Crest CV-151, (2) Peavey 528. **Monitor Speakers:** Tannoy SGM-15B, Tannoy NFM-8, Yamaha NS-10M. **Musical Instruments:** Yamaha 6' baby grand. **Other MIDI equipment:** Kurzweil MIDI Board, Roland S-550 digital sampler, Oberheim Matrix-1000, Yamaha DX7, Steinberg sequencer, Atari Mega ST2.

[24+] **SOUTHWYNDE STUDIO; also REMOTE RECORDING; PO Box 4133; Wilmington, NC 28406; (919) 791-1052.** Owner: Conceptual Music Productions. Manager: Randy Drew.

[24+] **ST. JOHNS CREATIVE AUDIO SERVICES INC./27TH DIMENSION INC.; also REMOTE RECORDING; 133 Grove St.; Orlando, FL 32811; (407) 578-1211; FAX: (407) 578-1298.** Owner: John St. John. Manager: John St. John.

[24+] **STRAWBERRY SKYS RECORDING STUDIO; 1706 Platt Springs Rd.; West Columbia, SC 29169; (803) 794-9300.** Owner: Gary Bolton. Manager: Mike Smith. Engineers: Ron Hollins, Gary Bolton, Scott Frazier (in-house productions), independents. Dimensions: Studio 29 x 36 w/20 large iso rooms, control room 17 x 22 w/video and MIDI interface. Cable by Monster and Mogami. **Mixing Consoles:** MCI JH-636AF-LM 28 x 24 automated w/plasma display. **Audio Recorders:** MCI JH-24 24-track, MCI JH-110C w/1/2" 30 ips and 1/4" 7.5 ips. **Microphones:** Panasonic SV-3500 DAT, TEAC 2300 w/dbx noise reduction, Pioneer RT-707 1/4-track. **Cassette Recorders/Duplicators:** (2) Aiwa F770, Echo, Reverb & Delay Systems: Lexicon LXP-1 reverb, AKG ADR-68K w/32 seconds of



STRAWBERRY SKYS RECORDING STUDIO  
West Columbia, SC

16-bit sampling; Lexicon 224, Yamaha SFX90II, (2) DeltaLab 2048, ART DR2, MXR flanger/doubler. Other Outboard Equipment: (2) Alesis MicroGate, Alesis MicroLimiter, Barcus Berry BBE 442 Sonic Maximizer, Studio Technologies 2-channel mic preamp, Aphex Aural Exciter, GateX 4-channel gate, dbx 162 stereo limiter, (2) dbx 160X limiter/compressor, (3) UREI 1162 limiter, Magnavox CDB-650 CD player, Panasonic color video monitor. Microphones: Neumann U87, (2) Neumann U47, Neumann KM84, (2) AKG C-414, (2) AKG C-451, (2) AKG C-452, Sennheiser 441, (3) Sennheiser 421, (3) Shure SM57, Shure SM58, Shure SM7, Sony EC-9, E-V RE20 (2) Stewart ADB-1 active direct box. Monitor Amplifiers: Hafler, Crown, Phase Linear, SCS. Monitor Speakers: JBL 4435 bi-amped bi-radial, JBL 4406 near-field, Yamaha NS-10M, Auratone 5C. Musical Instruments: Roland D-50 LA synthesizer, 360 Systems professional Midi Bass, Roland R-8 drum machine, LinnDrum w/MIDI by Forat, (2) Atari 1040ST computer, Oberheim Prommer, Takamine acoustic guitar, (3) Korg M1 digital music workstation, C-Lab Notator sequencing software for Atari, Sonus SMX-2000 SMPTE reader/writer, Mesa/Boogie Quad preamp (all tube) w/all-tube amplifier and 2 x 12" cabinet, Ludwig 7-piece drum set, Yamaha 12-string acoustic guitar, Yamaha classical guitar. Other MIDI Equipment: Lexicon MRC MIDI remote, Akai ASQ10 sequencer. Rates: Call for quote, our rates are surprisingly affordable! Specialization & Credits: Strawberry Skys can rent any instrument you require for your production. Amenities: client lounge with cable television, concession vending, kitchen with microwave oven and local telephone service. Nothing will be spared in order to satisfy our clients. Strawberry Skys can assist in lodging, transportation and catering. The studio, private lounge, kitchen and entire facility are yours, and yours alone when you record at Strawberry Skys!

[24+] **STUDIO CENTER;** 14875 NE 20 Ave., N. Miami, FL 33181; (305) 944-2911. Manager: Craig Powell

[24+] **STUDIO IN THE COUNTRY;** Hwy. 436; Bogalusa, LA 70427; (504) 735-8224. Owner: Eugene Foster. Engineers: Eugene Foster, Jim Odom. Dimensions: Studio 60 x 70, control room 26 x 26. Mixing Consoles: Neve V Series 54 x 48 w/Necam 96 moving faders automation. Audio Recorders: Studer A820 24-track w/Dolby A/SR, Studer A80 24-track, (2) Studer A80 2-track, (3) Studer A721 cassette. Noise Reduction Equipment: Dolby A/SR 24-channel, Dolby A/SR 2-channel. Synchronization Systems: Adams-Smith 2600, (2) Studer TLS-4000. Echo, Reverb & Delay Systems: AMS RMX - 6 dig reverb, Lexicon 200, Lexicon PCM6C, (2) Yamaha SFX90II, EMT 140 stereo plate, live echo chamber, Lexicon 93 delay, Eventide 949 delay, Eventide 910 delay, DeltaLab CE-1700 delay. Other Outboard Equipment: (2) Teletronix LA-2A tube lim, (2) Teletronix LA-3 lim/comp, (2) URE LA-4 lim/comp, (6) UREI 1176LN lim/comp, (2) Orban 424A lim/comp, (2) Spectra Sonics 610 comp/lim, Eventide Omnigressor, (2) dbx 162 stereo lim/comp, (2) dbx 166 lim/comp, (4) Valley People Dyna-Mite, (2) Valley People 415 dynamic limiters, Pultec EQP-1A, Pultec MEQ-5, Orange County VS-2, vocal stresser, (2) Orban 672 EQ, (2) J.L. Cooper Time Cube, UREI Little Dipper, Eventide flanger. Microphones: (6) Neumann U87, (5) Neumann U47 tube, Neumann U67 tube, Neumann 49 tube, AKG C-24 stereo tube, (2) AKG C-12 tube, (5) E-V RE20, Sony C-500, (3) Sony C-38P, Neumann KM84, (3) Neumann SM69 stereo, (3) Beyer M160, (3) Beyer M88, (3) Beyer M500, (2) Studer, Sennheiser MD-409, (7) Sennheiser 441, (4) Sennheiser 421, (3) Sennheiser Profi Power, (6) AKG C-451, (2) AKG RE-15, (2) AKG RE-16, (2) Shure SM81, (2) PZM, (4) AKG 414EB, Neumann KM254, (12) Shure SM57, (10) Shure SM58. Monitor Amplifiers: (10) Crown; DC-300. Monitor Speakers: (6) Westlake TM-1, JBL 4333 mic, Yamaha NS-10

[24+] **STUDIO SOUTH RECORDING;** also REMOTE RECORDING; 2510 Peach Orchard Rd.; Augusta, GA 30906; (404) 793-7800; FAX: (404) 793-9547. Owner: Howard Lovett. Manager: Howard Lovett. Engineers: Howard Lovett, Doran Tauss, Jason Vital. Dimensions: Studio 30 x 30, control room 30 x 30. Mixing Consoles: Sony/MCI MXP-3000 w/SMPTE-

based fader automation, Studiomasr 16 x 2 remote. Audio Recorders: Studer A80 24-track, Studer A820 master, Ampex ATR-800 master, Ampex AG-440 2-track, (2) Tascam 42 (and 42B) 2-track, Panasonic SV-3500 DAT, Tascam 112 cassette, (2) Nakamichi BX-100 cassette, Telex stereo high-speed duplicator, (2) Revox 2-track. Noise Reduction Equipment: Dolby PS3 24-track SR, Dolby SR (2-track mix), Echo, Reverb & Delay Systems: Valley People GateX, Valley People Leveller, Valley People P10 w/Gain Brain/Kepek/Command/Maxi-Q, Valley People Dyna-Mite, (2) Symetrix compressor, dbx 166 compressor, (2) Omni Craft gate, (2) Yamaha SPX90, MXR 01 digital reverb, Aphex Aural Exciter, AKG 68K digital reverb and effects, DeltaLab PCM41, Eventide 949 Harmonizer. Other Outboard Equipment: (2) White Instruments Series 4000 monitor EQ. Microphones: Neumann U87, ASC studio condenser, (2) AKG C-414EB, AKG C-414, (2) Shure SM5, (2) E-V RE20, Sennheiser 421, (5) Shure SM57, Foxtex M88RP ribbon, (2) AKG 452. Monitor Amplifiers: Yamaha M4, Crown D-150, Crown Micro-Tech 600. Monitor Speakers: (2) JBL 4430, (2) Tannoy PBM-8, (2) Yamaha NS-10M. Musical Instruments: Yamaha 7' grand piano, Yamaha DX7, Roland W-30 digital sampling keyboard workstation, Korg M3R synth module, Roland D-110 synth module, Ovation acoustic guitar, Ibanez electric guitar, Kramer electric bass guitar, Ludwig 5-piece drum set, Ensoniq Mirage digital sampling keyboard/sample library, E-mu Systems SP-12 sampling percussion. Rates: \$85 per hour studio time.

[24+] **STUDIOEAST;** also REMOTE RECORDING; 5457 Monroe Rd.; Charlotte, NC 28212; (704) 536-0424. Owner: Tim Eaton. Manager: Nancy Sharp.

[24+] **SUITE 2000;** PO Box 21272; Nashville, TN 37221; (615) 646-4900. Owner: Richard Adler. Manager: Richard Adler.

[24+] **SYNCO-SOUND RECORDING;** also REMOTE RECORDING; 1030 16th Ave. South; Nashville, TN 37212; (615) 242-2455. Owner: Mike Robertson, Randy Wachler. Manager: Lisa Ramsey.

[24+] **TELSTAR;** also REMOTE RECORDING; 2074 17th St.; Sarasota, FL 33580; (813) 365-0337. Owner: Rick Moulton. Manager: Bud Snyder. Engineers: Rick Moulton, Bud Snyder, Mark Ledger, Mark Sevrens. Dimensions: Studio 25 x 30, control room 20 x 16. Mixing Consoles: Sony/MCI JH-636 30 x 24. Audio Recorders: Sony/MCI JH-24 24/16-track, Sony/MCI JH-110 2-track 1/4", Sony/MCI JH-110 2-track 1/2", Sony PCM-F1 2-track Cassette Recorders/Duplicators: Otari-Tascam real-time Echo, Reverb & Delay Systems: Lexicon 224XL, Lexicon PCM60, Lexicon PCM42, Prime Time, Eventide Harmonizer. Other Outboard Equipment: UREI 1176, LA-3, dbx 160, Allison Research Gain Brain, Kepek, Valley People Dyna-Mite, Dyna-Mic 610, Orban 516EC, Audioarts parametric, AXE direct box. Microphones: Neumann U87, AKG 414, PZM, Shure SM85, Shure SM81, Shure SM57, Shure SM56, Beyer 160, etc. Monitor Amplifiers: BGW, JBL, SAE. Yamaha Monitor Speakers: JBL 4430, Yamaha NS-10, Auratone. Musical Instruments: Kawai 6' grand piano, Hammond B-3 w/Leslie, LinnDrum computer. Rates: Upon request

[24+] **TRANSMEDIA SOUND STUDIOS;** 561-F Thornton Rd.; Lithia Springs, GA 30057; (404) 948-4813. Owner: Transmedia Productions, Inc. Manager: Hugh Herrer

[24+] **TREASURE ISLE RECORDERS;** 2808 Azalea Pl.; Nashville, TN 37204; (615) 297-0700; FAX: (615) 297-1413. Owner: Mariner Trust. Manager: Fred Vail, Dave Shipley.

[24+] **TROPICAL RECORDING STUDIO;** 4842 SW 74 Ct.; Miami, FL 33155; (305) 661-3599. Owner: Daniel Diaz, Gary Real. Manager: Rick Reed. Engineers: Rick Reed, Keith Morrison, Rick Clark. Dimensions: Room 1, studio 15 x 23, control room 19 x 22. Room 2, studio 5 x 8, control room 10 x 11. Mixing Consoles: Trident 80 Series, Trident 65. Audio Recorders: MCI JH-24 24-track, Tascam MS-16 16-track, Otari MTR-12 2-track, Otari MX-5050 2-track Cassette Recorders/Duplicators: (2) Nakamichi MR-1. Noise Reduction Equipment: Drawmer stereo gate, (3) Aphex 612 gate. Synchronization Systems: Roland SBX-80. Echo, Reverb & Delay Systems: AMS RMX 16 reverb, Yamaha REV-1 reverb, Yamaha REV7 reverb, (2) Yamaha SPX90 processor, (2) TC Electronic TC-2290 delay, TC Electronic TC-1210 stereo chorus/flanger, TC Electronic TC-1140 parametric EQ, Aphex TC Aural Exciter, UREI LA-4 compressor, (2) dbx 166X stereo compressor, PCM70 reverb, (2) PCM42 delay, Eventide H3000 processor, (4) Pultec tube equalizer. Microphones: Neumann U87, Neumann KM84, (2) AKG 461, (4) Sennheiser 421, Sennheiser 441, AKG D-12E, AKG D-112, AKG D-321, Crown GLM-200, (2) Shure SM57, Shure SM58. Monitor Amplifiers: (6) Hafler, Yamaha P2200. Monitor Speakers: Tannoy FM-10, Tannoy NFM-8, Tannoy PBM-6.5, Yamaha NS-10M, Auratone. Musical Instruments: E-mu SP-12 drum machine, Mirage sampler, Korg DW-8000, Hybrid Arts SMPTE Mate sequencer, Hybrid Arts ADAP digital sampler/editor. Other: (2) KIA XZ-100 mixing automation system, Atari 1040ST computer, Commodore 128 computer

[24+] **TURTLE POINT RECORDING;** also REMOTE RECORDING; PO Box 7472; St. Thomas, 00801 U.S. Virgin Islands; (809) 776-2104. Owner: John L. Johnston. Manager: John L. Johnston.

[24+] **TWELVE OAKS RECORDING STUDIOS;** 3830 S. Cobb Dr.; Smyrna (Atlanta), GA 30080; (404) 435-2220. Manager: Randy Bugg

[24+] **2560 RECORDING STUDIO/TWENTY-FIVE SIXTY, INC.;** also REMOTE RECORDING; 2560 Niskey Lake Rd. SW; Atlanta, GA 30331; (404) 349-7511. Owner: Ted Bland. Manager: Eddie Irons



ULTRASONIC STUDIOS  
New Orleans, LA

[24+] **ULTRASONIC STUDIOS;** also REMOTE RECORDING; 7210 Washington Ave.; New Orleans, LA 70125; (504) 486-4873. Owner: Jay Gallagher. Manager: Jerry Embree. Engineers: David Farrell, Jay Gallagher, Scott Goudsau. Dimensions: Studio 50 x 50, control room 25 x 16. MIDI suite: 12 x 15. Mixing Consoles: MCI 652 52 x 48 w/automation, Studiomasr 16 x 4 x 8. Audio Recorders: MCI JH-24 24-track, Sony DAT-1000, Digidesign Sound Tools digital disk-based recorder/editor, Sony 5003 2-track w/center time code, Akai 1214 12-track, Sony PCM-F1 2-track digital, MCI JH-110 4-track, Otari 5050 2-track. Synchronization Systems: Audio Kinetics Pacer, Yamaha MSS-1 MIDI-SMPTE. Echo, Reverb & Delay Systems: (3) Yamaha REV7, (2) Yamaha SFX90, Lexicon PCM70, Lexicon PCM41, Alesis MIDVerb II, Roland DEP-5, EXR Exciter, Gemini Easy Rider, Roland SDE-2000. Other Outboard Equipment: (4) UREI 1176LN limiter, (4) Allison Research Kepek noise gate, (4) Allison Research Gain Brain limiter, UREI 565 filter. Microphones: Neumann U87, Neumann KM84, Neumann SM69, AKG C-414EB, AKG C-451, AKG C-33, AKG D-160, AKG D-112, Shure SM57, Shure SM81, Beyer 201, Beyer 101, Sennheiser 421, Sennheiser 441. Monitor Amplifiers: BGW 250B, BGW 100. Monitor Speakers: JBL 4331A, JBL 4401, Yamaha NS-10, JBL Cabaret, Auratone, EPI 100, JBL L-100. Musical Instruments: Kawai grand, Ludwig drums w/Zildjian cymbals, Kurzwel 1000PX synthesizer, Roland D-550 synthesizer, (2) Akai S900 sampler, Korg sampling grand, Hammond B-3 w/Leslie, Roland MKS-80 synth, Roland MKS-20 synth, Yamaha TX802 synth, Korg EX-8000 synth, Moog MIDMoog, Alesis HR-16 drum machine, Octapad controller, LinnDrum, Latin percussion cango. Other MIDI Equipment: Yamaha KX88 controller, Macintosh w/Performer and Vision software, WX7 wind controller. Video Equipment: Sony 5800 3/4" U-matic. Rates: Available on request. Specialization & Credits: Ultrasonic's recently renovated recording room features a spacious new room with four separate isolation areas. Our engineering staff has five Grammy nominations as well as a Best Traditional Blues Album of the Year to their credit. We are the only studio in New Orleans to offer automated mixing and digital editing. And, of course, New Orleans offers the best food, musicians and nightlife in the world. Ultrasonic also has a complete audio/video MIDI suite and resident composer specifically for film scoring and commercial music beds. Credits: Dolly Parton's *Down in New Orleans* TV special (Emmy Award - sound mixing), Paul Shaffer, Todd Rundgren, Fats Domino, Aaron Neville, Dirty Dozen. Advertising: Miller Lite Beer, Fischer-Price Toys, Mazola, Busch Beer, Oldmooch, Barq's Root Beer. Clients: HBO/Cinemax, Epic/Sony, CBS, Elektra, ABC, Saatchi & Saatchi, DDB Needham Worldwide, Rounder, Windham Hill, Black Top, Capitol Creole and Cajun catering available

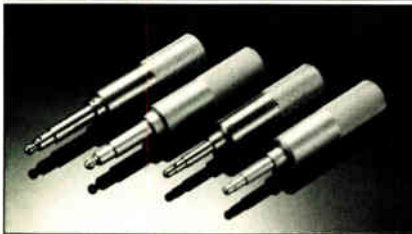
[24+] **VIRGINIA ARTS RECORDING;** also REMOTE RECORDING; 512 Stewart St.; Charlottesville, VA 22901; (804) 971-1411. Owner: R. Paul Briar. Manager: R. Paul Briar

[24+] **THE WAREHOUSE RECORDING STUDIO;** also REMOTE RECORDING; 2071 Emerson St. #20, Jacksonville, FL 32207; (904) 399-0424. Owner: Tom Markham, Skip Osmondson. Manager: Carolyn Markham

[24+] **WESTPARK SOUND;** 3212 West End Ave., Ste. 201; Nashville, TN 37203; (615) 292-5838. Owner: Dunkin Nelson. Manager: Tom Reeves, president "Westpark Creative Group" Engineers: Ted Wilson, chief engineer; Dan Rudin. Dimensions: Room 1, studio 10 x 12, control room 13 x 30, Room 2

-CONTINUED ON NEXT PAGE

# CLEAN PATCH BAYS NO DOWN TIME



## VERTIGO BURNISHERS AND INJECTORS RESTORE ORIGINAL PERFORMANCE TO YOUR PATCH BAYS

**VERTIGO 1/4" TRS AND TT BURNISHERS:**  
Each used to eliminate noise caused by contamination of main contacts in normal patching situations.

**VERTIGO 1/4" TRS AND TT INJECTORS:**  
Each allows injection of cleaning solvent in breaking contacts (normals), to eliminate intermittency that occurs when patch cord has been removed.

**ONLY \$34.95 Ea.** (Cont. USA) Please write for additional information and order form. Used by Professionals Worldwide. US Patent No. 4,733,678

**VERTIGO RECORDING SERVICES**  
12115 Magnolia Blvd. #116  
North Hollywood, CA 91607  
Telephone: (818) 907-5161  
Telex: 5106006748 VERTIGO RECRD

Circle #123 on Reader Service Card

# SOUND RECORDING HANDBOOK

by John Woram

This book is destined to become the audio industry's new "definitive" reference. *Sound Recording Handbook*, written by industry expert John Woram, is an in-depth treatment of everything from sound basics, microphones, and speakers, to studio recording sessions and mixing techniques. New topics such as time code, Dolby® SR, and digital audio are discussed in detail, making this 600-page reference the most up-to-date and comprehensive source available today on recording studio technology. No. 22583, \$49.95

For more information call  
**800-428-SAMS**  
In Indiana call 317-298-5566

HOWARD W. SAMS  
& COMPANY

Circle #124 on Reader Service Card

# S O U T H E A S T 24+ TRACK STUDIOS

—CONTINUED FROM PREVIOUS PAGE



WESTPARK SOUND  
Nashville, TN

studio 9 x 7 Mixing Consoles: MCI 636 28 x 24 Audio Recorders: MCI JH-24 24-track, Studer A810 2-track, Sony 2500 R-DAT, TEAC 42 2-track. Cassette Recorders/Duplicators: Nakamichi MR-1, Yamaha TC800 6L, JVC dubbing deck, Nakamichi BX125, Denon DRM10. Synchronization Systems: Roland SBX-80 Echo, Reverb & Delay Systems: Lexicon 224XL, (2) Yamaha SPX90II, Yamaha REV7, Korg DRV-1000, Ibanez SDR-1000+, Lexicon PCM42, Alesis QuadraVerb, Lawson plate, Eventide 3000 Ultra-Harmonizer Other Outboard Equipment: (2) dbx 160 compressor/limiter, (2) dbx 163, Aphex B Exciter, GateX, BBE 200-2R, (5) Kepex, Audioarts 4200A EQ 4 channels, Roland SDD-320 Dimension D, Iota Systems MIDI fader, Audioarts 4100 EQ, Mike PreEminence. Microphones: Sanken CU-41, Neumann U89, Neumann TLM170, (4) AKG 414, (5) Sennheiser 421, (3) Shure SM57, Sennheiser 441, (2) PZM, AKG D-12 Monitor Amplifiers: Yamaha P2200, Yamaha P2100, Crown D-150A, Audio Research 200 Monitor Speakers: Yamaha NS-10, Auratone, Yamaha NS-5, Tannoy PBM-6.5. Musical Instruments: Kurzweil 250 QLS V.4, Emulator II+, Yamaha DX7, Yamaha DX7IIFD, Roland Juno-106, Roland D-50, Yamaha KX88, (2) E-mu SP-12 turbo, Roland Super Jupiter w/programmer, Oberheim Xpander, Roland Octapad II, Pearl drum set w/RIMS and drum bug triggers, Yamaha TX802, Oberheim Matrix-6, Yamaha C7 grand piano w/MIDI. Other MIDI Equipment: (3) Macintosh computer, Mac Plus w/4MB internal and 80MB external (20MB dataframe), (2) Opcode Studio Plus interface, full software facilities incl. Performer/Pro Composer/Sound Designer II/Drumfile/Master Tracks Pro librarian/Opcode/Southworth/Digidesign. Video Equipment: Available upon request—monitor, 3/4" machine. Other: Casio CZ-101, 360 Systems Midi Bass, (2) Altec 436C compressor amp (tube), huge patch and sample keyboard libraries available on Macintosh. Rates: Call for rates. Specialization & Credits: At Westpark Sound, people make the difference. Stop by and experience our current technology and warm, creative atmosphere. Watch for the grand opening of our new studio complex in the spring of 1990.

[24+] WINDMARK RECORDING, INC., also REMOTE RECORDING; 4924 Shell Rd.; Virginia Beach, VA 23455; (804) 464-4924. Owner: Windmark, Inc. Manager: Michael D. Marquart. Engineers: David Runstedler. Dimensions: Room 1: studio 17 x 34, control room 23 x 26. Room 2: studio 12 x 16, control room 16 x 18. Mixing Consoles: SSL 4040E, Tascam M600, Soundcraft 200SR Audio Recorders: Studer 827, (2) Sony 2500 DAT, Sony 5002 1/4-track, Dyaxis direct-to-hard disk, Tascam ATR-60. Cassette Recorders/Duplicators: Nakamichi Dragon, Yamaha. Noise Reduction Equipment: Dolby SR Synchronization Systems: Opcode Studio Plus, Jam Box/4 Echo, Reverb & Delay Systems: Lexicon 480L, Lexicon Super Prime Time, Lexicon PCM60, Lexicon PCM70, Lexicon 200, Aphex 250III, EMT 140 plate, (2) Yamaha REV7, Drawmer noise gate, API EQ Other Outboard Equipment: Rockman rack-mount, Aphex Aural Exciter. Microphones: Numerous Neumann, Schoeps, Sennheiser, AKG, Shure, Beyer. Monitor Amplifiers: OSC Beles, Crown, Mesa/Boogie, Roland Cube, Gallien-Krueger. Monitor Speakers: Tannoy 6.5, Tannoy NF-8 TMT, Yamaha NS-10, custom-designed Musical Instruments: Gibson Hummingbird 1962, Gibson Les Paul Gold Top 1954, Gibson Les Paul Heritage 1959, Ovation 12-string, Baldwin 8' grand piano, Yamaha D50, Kurzweil K-1000, Midi Bass II, Yamaha TX81Z, Cooper Sound Chest, Dynacord P20, Dynacord Add-One w/sampling card, D-Drum, Yamaha PC1, E-mu SP-1200, E-mu SP-12. Other



WINDMARK RECORDING, INC.  
Virginia Beach, VA

MIDI Equipment: Drum Cat. Other: Macintosh IIcx, Macintosh SE/20. Rates: From \$75 per hour. Specialization & Credits: Windmark Recording, Inc. is one of the Southeast's newest and most advanced full audio production facilities. Our new dual studio facility was designed by Steven Durr and is furnished with the latest digital and analog equipment. We are also committed to providing our clients with a broad range of high-quality services. The unique and versatile features of Windmark Recording's state-of-the-art facility allow clients to express and capture the very best of their talent and creativity.

[24+] WOLF'S HEAD PRODUCTIONS; 658 Douglas Ave., Ste. 1112, Altamonte Springs, FL 32714; (407) 682-6669. Owner: Dana W. Cornock. Manager: Dana W. Cornock. Engineers: Dana W. Cornock, Andy De Ganahl, Robert Knox, Mike Justenniane. Dimensions: Room 1 studio 30 x 40, control room 26 x 26. Room 2 studio 31 x 18, control room 25 x 18. Mixing Consoles: SSL 6056E 40 inputs w/Total Recall and 4 stereo modules, Sound Workshop 34C 32 inputs 16 x 2 submixer automated. Audio Recorders: Studer A800 24-track, Studer A80 MkIII 24-track, Studer A820 2-track 1/2" and 1/4", Studer A810 2-track 1/4", (2) Studer A80 2-track 1/2" and 1/4", Studer A80 4-track 1/2", Otari MX-5050 8-track 1/2", Panasonic SV-3500 R-DAT, (2) Sony PCM-601 w/Apogee filters. Cassette Recorders/Duplicators: (3) Nakamichi Synchronization Systems: Adams-Smith Echo, Reverb & Delay Systems: Roland 880 reverb, Lexicon 480L reverb, (2) Lexicon 224XL reverb, (2) Lexicon 200 reverb, AMS RMX 16, (2) AMS DMX 15-80S delay, Yamaha REV5 reverb and FX, Yamaha REV7, (3) Yamaha SPX90II, (3) TC Electronic 2290 delay, Klark-Teknik DN780, MICMIX Master-Room spring reverb, Alesis MIDIVerb II reverb and FX, (2) Lexicon PCM42 delay, Lexicon 93 Prime Time delay. Other Outboard Equipment: (2) Teletronix LA-2A tube compressor, Pultec EQP-1A3 tube EQ, Lang PEQ-1 tube EQ, Drawmer 1960 stereo tube compressor, Klark-Teknik DN300 32-band graphic EQ, (2) Drawmer 201 dual-channel gate, (2) UREI LA-4 comp/lim, Aphex Compellor, (5) Aphex CX-1 compressor/gate, dbx 900 rack, Aphex Type B Exciter, (2) BBE 401 Sonic Maximizer, BBE 822 Sonic Maximizer, Rockman guitar preamp/chorus. Microphones: (2) B&K 4006/4007, (8) AKG 460, (4) AKG 414, AKG C-24, AKG C-12A, (2) AKG The Tube, (4) Neumann U89, (3) Neumann U47 (1 tube, 2 FET), (6) Neumann KM84, (7) Sennheiser 421 Monitor Amplifiers: (7) Halfler (4 DH-500, 3 DN-220), (3) Yamaha 2050. Monitor Speakers: Meyer Sound Labs HD-1, Fostex LS-3, JBL 4430, UREI 811, (2) Yamaha NS-10, Tannoy PBM-6.5, Auratone 5C. Musical Instruments: Yamaha C7 conservatory grand piano, Yamaha RX5 drum machine, Alesis HR-16 drum machine, LinnDrum, Roland Octapad, Yamaha DX7 synth, Ensoniq ESQ synth. Other MIDI Equipment: (2) Atari 1040ST computer. Video Equipment: Sony 3/4" U-matic recorder.

## "WHY ISN'T MY BUSINESS LISTED HERE?"

Give us a call on  
the following Toll-free  
Directories line:  
**(800) 344-LIST**



## 16 TRACK

## STUDIOS

[16] **ARTISTS' RECORDING SERVICE**; also *REMOTE RECORDING*; 980 Barrel Ave., Louisville, KY 40204; (502) 581-9294. Owner: Artists' Recording Service, Inc. Manager: Bob Hunter, Wink O'Bannon.

[16] **AURAL CANVAS**; 1407 Allen Ave.; Murfreesboro, TN 37129; (615) 890-1521. Owner: Forrest York. Manager: Forrest York.

[16] **M.A. BENINGTON CO.**; 2459 Cuchura Dr.; Birmingham, AL 35244; (205) 988-0707. Owner: Mike Benington. Manager: Mike Benington.

[16] **CHERRY GROVE STUDIO**, also *REMOTE RECORDING*; 404 7th Ave. N.; Myrtle Beach, SC 29577; (803) 626-3415. Owner: Ron Thompson. Manager: Tim Bode. Engineers: Ron Thompson, Tim Bode, Steve Senn. Dimensions: Studio 30 x 13, control room 13 x 13. Mixing Consoles: Studiomaister Series II 40 x 8 x 2 MIDI console, Roland 160 16 x 2 keyboard submixer, Fostex 2016 drum submixer, Dynamix 6-channel aux mixer. Audio Recorders: Fostex B-16D 16-track direct drive, Fostex A80 8-track, Technics 1500 2-track, Sony 501ES 2-track digital. Cassette Recorders/Duplicators: TEAC, Sony, Nikko, Sharp. Akai. Noise Reduction Equipment: Dolby SR, Rocktron Hush IICX stereo, Rocktron Hush IImono. Synchronization Systems: Fostex 4030 SMPTE, Fostex 4035, Fostex 8700 time code generator, J.L. Cooper PPS-1 sync box, J.L. Cooper MSB+8 MIDI patcher, Atari 1040 computer w/Master Tracks Pro software (Passport), Atari 520 w/Master Tracks Pro software, SX-64 computer w/Master Tracks Pro software. Echo, Reverb & Delay Systems: (3) Lexicon LXP-1, (2) Lexicon LXP-5, (2) Alesis MIDiverb II, (2) Alesis MIDiverb III, (2) Alesis QuadraVerb, (2) Alesis Microverb II, (2) ART Multiverb, ART Multiverb SGE guitar processor, ADA 2.5 digital delay, TC Electronic 2290. Other Outboard Equipment: (4) Alesis Microlimiter, (4) Alesis Microgate, (2) Alesis Microenhancer, Alesis Microcuc, (2) Alesis MicroEQ, BBE 802 enhancer, BBE 401 Sonic Maximizer, dbx 163 compressor, dbx 263 de-esser, (2) UREI LA-3 compressor/limiter, Neve compressor/limiter/EQ, Alesis MMT-8 sequencer, Lexicon MRC parametric controller. Microphones: AKG 414BULS, Electro-Voice RE20, Neumann U67, AKG 1000, Audio-Technica 31R, etc., Shure 57, etc. Monitor Amplifiers: AMP. Monitor Speakers: A-D 3-way ref. etc. Musical Instruments: Yamaha TX81Z etc., Roland S-10 etc., Kawai K5 etc., Casio CZ-1 etc., a d. 8-piece MIDI drum triggers, Alesis HR-16 etc. drum machines, Oberheim Matrix-1000 etc., Suzuki M1X MIDI guitar, Lab Series L-5 amplifier, Gibson Les Paul Standard and deluxe, Fender Strat. Yamaha SPX50D guitar processor, Rockman rack. Rates: \$20/hr MIDI studio direct-to-2-track digital (min. 2 hrs.) \$350 per day 16-track, 12 hrs maximum. \$650 per day remote recording (16-track).

[16] **WALLY CLEAVER'S RECORDING**, also *REMOTE RECORDING*; 1518 Princess Anne St., Fredericksburg, VA 22401; (703) 373-6511. Owner: Peter L. Bonta. Manager: Lorie M. Lawson. Engineers: Peter Bonta, Lin Arroyo, Pete Fields, Matt Korpi. Dimensions: Studio 20 x 22, control room 14 x 12. Mixing Consoles: Sound Workshop Series 30 22 x 16 x 2. Audio Recorders: Tascam 85-16B 16-track, Otari 5050 2-track, Scully 280B 2-track, Revox A77 2-track, Panasonic SV-3500 R-DAT. Cassette Recorders/Duplicators: (2) Tascam C-3RX. Noise Reduction Equipment: dbx 150 stereo, Tascam DX-16B 16-channel Echo, Reverb & Delay Systems: Lexicon PCM60 digital reverb, Yamaha RE7 digital reverb. (2) Alesis QuadraVerb digital reverb, Alesis MIDiverb II digital reverb, Lexicon PCM41 digital delay, DeltaLab 1024 Effectron delay, DeltaLab DL-2 delay, Master-Room stereo reverb. AKG BX-10II stereo reverb. Other Outboard Equipment: (2) UREI 1176 limiter, (2) UREI LA-4 limiter, Symetrix 522 stereo limiter/gate, Valley People Dyna-Mite stereo limiter/gate, Audio + Design Gemini stereo limiter, dbx 160 limiter, Aphex Type B Aural Exciter, DOD Electronics 15 x 2 equalizer, Audioarts stereo 4-band parametric EQ, Eventide 910 Harmonizer. Microphones: Neumann U87, Neumann U47 FET, (4) Neumann KM84, (2) AKG C-414, (4) AKG C-451EB, AKG D-12E, (2) E-V RE20, (2) Sennheiser MD-421, Sennheiser MD-421, (2) Sennheiser MD-409, RCA 44-A, RCA 77-DX, RCA BK-5B, Shure SM56, Shure SM57, Shure SM54, Goldline 4-channel active DI box, (2) Beyer custom DI Monitor Amplifiers: Crown DC-300A, Dyna ST-70. Monitor Speakers: (2) UREI 809, (2) Minimus 7. Musical Instruments: Yamaha 6' grand piano, Yamaha DX7, Ensoniq Mirage sampler, Alesis HR-16 drum computer, Korg SG-1 sampling grand (new), Vox AC-15 amp, Fender Concert amp, Fender Princeton

1965, Epphone Triumph amp, Rogers 6-pc. drum set, Fender Precision bass, Martin D-18 guitar, (3) Fender electric guitar. Other MIDI Equipment: Alesis MMT-8 sequencer, Commodore 64 computer w/Sonus 64 sequencer, 2,000+ voice DX7 library, 250+ voice Mirage sample library, Akai ME35T audio/MIDI trigger. Rates: \$38 50/hr. Call for block rates.

[16] **CRS RECORDING STUDIO**; 113 N. Chestnut St., PO Box 85; Marion, VA 24354; (703) 783-6828. Owner: James K Cornick.

[16] **DIVERSIFIED PRODUCTIONS**; 6835 Raccoon Valley Rd.; Knoxville, TN 37938; (615) 922-7442. Owner: Mike Tansey. Manager: Mike Tansey.

[16] **DOGWOOD RECORDING STUDIOS**; also *REMOTE RECORDING*; PO Box 7751; Mobile, AL 36607; (205) 476-0858. Owner: Tad Denson, Chris Springer. Manager: Chris Springer.

[16] **EARWORKS AUDIO, INC.**; also *REMOTE RECORDING*; 5245 Cleveland St., Ste. 210; Virginia Beach, VA 23462; (804) 490-9322. Owner: Robert C. Smith. Manager: Robert C. Smith. Engineers: Robert C. Smith, Grant Rutledge. Dimensions: Room 1: studio 28 x 25, control room 12 x 14. Room 2: studio 13 x 9, Room 3: studio 12 x 10. Mixing Consoles: Tascam M-16 24 x 8. Audio Recorders: Tascam MS-16 16-track w/dbx, Otari 5050BII 2-track, Fostex Model 20 2-track w/SMPTE. Cassette Recorders/Duplicators: Nakamichi CR-1A. Synchronization Systems: Macintosh Plus computer w/MIDI Paint and Performer software, Southworth Jam Box 4 w/MIDI interface. Echo, Reverb & Delay Systems: Alesis XTC digital reverb, DeltaLab Effectron II digital delay, (3) Alesis MIDiverb II digital effects processor. Other Outboard Equipment: Symetrix 525 stereo compressor/limiter, dbx 166 stereo gate/compressor/limiter, Valley Gate 4-channel noise gate, BBE 422 Sonic Maximizer. Microphones: (2) Sennheiser 421, (8) Shure SM57. (2) Electro-Voice RE20, Electro-Voice PL80 dynamic, (2) Beyer Dynamic M-69, (2) Electro-Voice BK-1 condenser, Audio-Technica ATM31R condenser, AKG 414 condenser. Monitor Amplifiers: McIntosh MA6100 Monitor Speakers; (2) JBL 4408 studio, (2) Auratone Musical Instruments: Fender Stratocaster, Fender Precision bass, (7) misc. percussion. Video Equipment: Fostex synchronizer Sony VO-5800 3/4" recorder/player. Other: Technics SLP-520 CD player, 3,000 digital sound effects library, 250-cd production music library.

[16] **FERNANDEZ CREATIVE SERVICES**; 200 Commerce, Ste. B; Jackson, MS 39201; (601) 353-0266. Owner: Sergio Fernandez. Manager: Luke Warm.

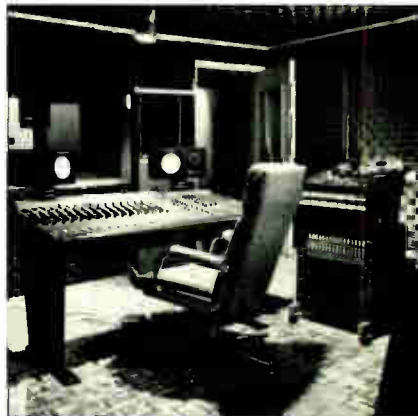
[16] **GOLDREEL STUDIOS**, also *REMOTE RECORDING*; 3611 Centreville Rd.; Chantilly, VA 22021; (703) 481-3453. Owner: Golder O'Neill. Manager: Golder O'Neill.

[16] **GRAPEVINE STUDIOS**, also *REMOTE RECORDING*; 3804 Rainbow Dr., PO Box 8324; Gadsden, AL 35902; (205) 442-3330. Owner: Cris Mahy. Manager: Karen Mahy. Engineers: Cris Mahy. Dimensions: Room 1: studio 23 x 20, control room 15 x 15. Room 2: studio 11 x 9. Mixing Consoles: D&R Series 4000 24 x 48 mixdown. Audio Recorders: Otari MX-70 16-track, Otari 5050BII 2-track w/remote, Panasonic SV-3500 DAT. Cassette Recorders/Duplicators: Nakamichi BX-300, (3) Technics RST80R x 2, Sony TCK-61. Noise Reduction Equipment: dbx 180X. Synchronization Systems: J.L. Cooper PPS-1. Echo, Reverb & Delay Systems: Yamaha RE7 reverb, Lexicon LXP-1 w/MRC remote, Korg SDD-2000 sampler/delay, (2) Yamaha SPX90 effects processor, DeltaLab ADM 1030 delay, ART DR2a reverb. Other Outboard Equipment: UREI 1176NL limiter, dbx 166 2-ch. comp/limiter, Orban 622B 2-ch. parametric EQ, Orban 245F, (2) dbx 163X limiter, Furman QN4 quad noise gate, DOD Electronics 31-band 2-ch. graphic EQ, ADC graphic EQ, (2) Stewart MP2 preamp/EQ, Aphex Type C Aural Exciter, Gain Brain limiter/comp, Sony SEH-310 graphic EQ. Microphones: AKG The Tube, (2) Neumann U87, AKG 414EB-P48 w/shock-mount and screen, AKG 460 w/ckl, Neumann KM84, (3) Sennheiser MD-421, (2) Crown SP-12 PZM, AKG D-12E, E-V RE20, (2) Shure SM57, (2) Nakamichi CM3000. Monitor Amplifiers: Crown DC-300II, Crown DC-150II, Crown D-60, Sony TAF-60 integrated. Monitor Speakers: (2) JBL 4425, (2) Yamaha NS-10M mixdown, (2) Auratone. Musical Instruments: Yamaha DX7IID synth, Korg M1 synth, Roland D-110 rack synth, Yamaha RX11 drum machine, Yamaha 6' grand piano, Pearl 8-piece drum set

w/Zildjian cymbals, Washburn acoustic guitar. Other MIDI Equipment: Korg DVP-1, Macintosh SE w/2GB HD, Opcode sequencer V. 2.6, Opcode Vision, Opcode Studio Two Plus interface.

[16] **GYPSY STUDIO**; only *REMOTE RECORDING*; Falls Church, VA 22044; (703) 241-7445. Owner: Mike Rivers. Manager: Mike Rivers.

[16] **MARK HAFFNER MUSIC, INC./AI RECORDERS**, 1701 Church St., Ste. 102; Nashville, TN 37203; (615) 327-3224. Owner: Mark Haffner. Manager: Mark Haffner.



HOLLYWOOD SYNC  
Hollywood, FL

[16] **HOLLYWOOD SYNC**, 3130 SW 19th St. #44B; Hollywood, FL 33009; (305) 962-1586. Owner: Wayne Ricker. Engineers: Wayne Ricker, Janie Swartz. Second engineers: Mike Hoffman, Debbie DeNeese. Dimensions: Room 1: studio 25 x 19, control room 15 x 17. Room 2: studio 4 x 6. Mixing Consoles: Sound Workshop Series 30 16 x 16. Audio Recorders: Sony PCM-250C DAT machine, Tascam 85-16 16-track, Ampex 2-track. Cassette Recorders/Duplicators: Nakamichi RX-202, (5) Tascam 25000, JVC KCA3 Noise Reduction Equipment: dbx 150 on 16-track. Synchronization Systems: Jmic: Box SMPTE generator, KMS 30 sync box. Echo, Reverb & Delay Systems: Yamaha RE7 digital reverb, ART O1A digital reverb, Eventide H949 Harmonizer, Lexicon Prime Time, DeltaLab DL-3 digital delay. Other Outboard Equipment: dbx 155 compressor, Valley People Dyna-Mite Aphex Aural Exciter, Moog/MPKE parametric equalizer. Microphones: Neumann U87, Neumann U47 FET, (6) Sennheiser 421, Sennheiser 441, (2) AKG 451, Shure SM81, (3) Shure SM57. Monitor Amplifiers: SAE, Carver. Monitor Speakers: JBL 4311, Yamaha NS-10. Musical Instruments: Roland Juno-1, Roland Junc-106, Roland R-8 drum machine, (1) Yamaha TX81Z, Roland U-110, Akai S1000, Roland D-50 linear synth, Yamaha DX7 E-mu SP-12, LinnDrum. Other MIDI Equipment: Atari 1040ST computer w/Notator sequencing software, dbx 166

[16] **IMPORTANT RECORDING SERVICE**, also *REMOTE RECORDING*; PO Box 352, Estero, FL 33928; (813) 947-0193. Owner: Dianker Bernert. John McLane. Manager: Dianker Bernert.

[16] **INNER EAR STUDIOS, INC.**, also *REMOTE RECORDING*; 712 S. Ivy St., Arlington, VA 22204; (703) 892-2123. Owner: Don Zien Tara. Manager: Eli Janney. Engineers: Don Zien Tara, Micah Solomon, Eli Janney, Paul Kearney, Joey Picuri, Jeff Turner. Dimensions: Room 1: studio 22 x 16, control room 11 x 16. Room 2: studio 12 x 10, control room 11 x 12. Room 3: studio 16 x 20, control room 12 x 15. Mixing Consoles: Tascam M-520, custom monitor/cue mixer, (8) J.L. Cooper MixMate automation. Audio Recorders: Fostex B-16 modified, Tascam Model 52, Tascam Model 32, Tascam Model 22. Cassette Recorders/Duplicators: Tascam 122, Akai 6X, Akai VHS digital. Noise Reduction Equipment: (16) Dolby, (4) dbx Type I. Synchronization Systems: Fostex 4050 SMPTE-to-MIDI box. Echo, Reverb & Delay Systems: (3) Korg SDD-2000 DDL, Lexicon PCM70 DSP, Lexicon PCM60 reverb, Lexicon PCM41 DDL, (2) Alesis MIDiverb II, Alesis Microverb II, (3) DSP-128 Plus, Alesis QuadraVerb DSP, Lexicon LXP 1 reverb. Other Outboard Equipment: (4) Valley People noise gate, (16) Audio Logic GT-4 noise gate, (2) optical compressor/limiter, (4) Fostex compressor, (2) Valley People Leveler, (6) Alesis Micro limiter, (2) BBE 822 optimizer, (4) BBE 402, (2) BBE 802, (8) Tascam PE-40 parametric EQ, (2) Tascam graphic EQ, MXR pitch transposer, Digitech IPS-33 harmonizer. Microphones: Neumann U87, (2) Neumann KM84, Milab VIF-50, (3) AKG C-414EB, (2) Shure SM81, Sennheiser 441, (2) Sennheiser 421, Sennheiser 409, (3) Electro-Voice N/7 757, (8) Electro-Voice N/D 408, (2) Electro-Voice N/D 308, (5) Shure SM57, (2) Yamaha 204, (2) Yamaha 205-BE, (5) Crown PZM. Monitor Amplifiers: Carver M 10 T, Yamaha 2100, (2) McIntosh MC-60 tube. Monitor Speakers: (2) JBL 44\*2, (2) Tannoy PBM-6. (2) Boston Acoustics A-60.

—CONTINUED ON NEXT PAGE

—CONTINUED FROM PREVIOUS PAGE

(2) Kloss Ensemble system Musical Instruments: E-mu Proteus, Kawai K-5, Roland D-110, Casio FZ-10, FZ-10M sampler, Korg Symphony module, Korg SG-1D full 88 keyboard, Roland JX-8P keyboard, Fender Super Champ amp (tube), Ampeg Gemini II amp (tube), Gallien-Krueger RCB-100 amp. Other MIDI Equipment: Yamaha MC5-7 control center, Lexicon MRC controller, Roland MCS-500II sequencer w/SMRC.

[16] **JY RECORDING**; PO Box 2602; West Monroe, LA 71291; (318) 325-4413. Owner: James E. Young. Manager: Paula Newcomer (Bullwhip).

[16] **L.A. EAST, INC.**; PO Box 1205; Ozark, AL 36361-1205; (205) 774-0225. Owner: Julian Brown. Manager: Julian Brown. Engineers: Jeff Satterfield. Dimensions: Studio 20 x 24, control room 21 x 24. Mixing Consoles: Neotek Elite 24 x 24. Audio Recorders: Tascam M-16 16-track. Cassette Recorders/Duplicators: Nakamichi. Noise Reduction Equipment: dbx. Synchronization Systems: Macintosh II w/Composer and Finale Echo, Reverb & Delay Systems: Lexicon, Eventide Microphones: Neumann, AKG, Sennheiser, Beyer, Milab, Bruel & Kjaer. Monitor Amplifiers: Yamaha 2200, Halfer P-230. Monitor Speakers: Toa SE-380, Tannoy 8, Yamaha NS-10M. Musical Instruments: Roland RD-1000, Korg DSS-1, Yamaha DX7, E-mu SP-12, PRS lead guitar, PRS bass guitar, Pedula bass guitar, Mesa/Boogie Series III. Rates: \$40/hr. Weekly rates available.

[16] **LOYOLA UNIVERSITY RECORDING STUDIO**; College of Music, New Orleans, LA 70118; (504) 865-2773. Owner: Loyola University. Manager: Sanford Hinderley.

1/8-octave EQs, (8) dbx 166 comp/limiter, Rane HC6 head-phone amp, Rane AC22 and AC23 crossovers, dbx DX-5 CD player. Microphones: (12) Shure SM58, (12) Shure SM57, (8) Shure PE56P, (4) Sennheiser 421, AKG 414. Monitor Amplifiers: (6) Crown DC-300A, (6) BGW 750, (6) Yamaha 2200, (4) Crown PSA-2, (4) MA-2400, (6) Crown D-75. Monitor Speakers: (2) JBL 4312, (2) UREI 809, (2) Auratone 5C. Musical Instruments: Oberheim DX drum machine, Roland 505 drum machine, Korg Poly-61M, Minimoog, Akai AX13 synth, Akai S612 sampler/disk/delay, Rickenbacker bass, (10) assorted guitars, Rockman Sustainer and Chorus, Simmons 1000. Other: (18) OAP DP-118 full-range speakers, all JBL loaded (one 18", two 12", one 24x1 on bi-radial), (16) OAP SM-115 monitor (one JBL 15", one 1" JBL 2425 in each), (8) HME/Beyer headset comm, (148) PAR 64 w/trusses and dimming, CM Loadstar 1-ton chain hoists. Rates: Call for rates.

[16] **MONTGOMERY SOUND RECORDERS**; 2038 Upper Wetumpan Rd.; Montgomery, AL 36107; (205) 263-5790. Owner: Larry Nichols, Ray Goss, Mark Marvin. Manager: Mark Marvin.

[16] **NEW HORIZON RECORDING STUDIO**; 1490 Union Cross Rd.; Kernersville, NC 27284; (919) 996-2633. Owner: Mitch Hensdale, S.H. Hensdale. Manager: Mitch Hensdale.

[16] **ORACLE RECORDING STUDIO**; also **REMOTE RECORDING**; PO Box 464188; Lawrenceville, GA 30246; (404) 921-7941. Owner: Gene Smith. Manager: Gene Smith.

[16] **OUT OF THE BLUE RECORDING STUDIOS**; also **REMOTE RECORDING**; 901 Duval St.; Key West, FL 33040; (305) 296-0954. Owner: Bill Blue. Manager: Bill Blue.

[16] **PINE GROVE STUDIO**; 10985 SW 172 Terrace; Miami, FL 33157; (305) 255-1495. Owner: Newton Simmons. Manager: Newton Simmons.

[16] **RAINBOW RIVER STUDIOS**; also **REMOTE RECORDING**; PO Box 1708; Auburn, AL 36830; (205) 821-4876. Owner: Larry Barker, Kittie Watson. Manager: Larry Barker.

[16] **RISING STAR RECORDS, INC.**; also **REMOTE RECORDING**; 1429 Wessyngton Rd. NE; Atlanta, GA 30306; (404) 872-1431. Owner: Corporation. Manager: Barbara Taylor.

[16] **RON ROSE PRODUCTIONS, INC.**; also **REMOTE RECORDING**; 3409 W. Lemon St.; Tampa, FL 33609; (813) 873-7700. Owner: Ron Rose Productions, Ltd. Manager: Mike Stram.

[16] **SOUND LOGIC STUDIO**; 1840 Wake Forrest Rd.; Raleigh, NC 27608; (919) 856-1441. Owner: Edward Keith, David Cox, George Berkley, Vincent Moss. Manager: Glenn Abbey.

[16] **SOUTHLAND AUDIO/VIDEO PRODUCTIONS**; 655 H. Presley Rd.; Charlotte, NC 28217; (704) 527-7426. Owner: Devaney Enterprises. Manager: Chuck Robbins. Engineers: Mark Dickson, Bobby Aycock. Dimensions: Room 1: studio 32 x 16, control room 16 x 16. Room 2: studio 10 x 10, control room 10 x 10. Mixing Consoles: Soundcraft 600 32 x 16, Ramsa WR-8716 16 x 4. Audio Recorders: MCI JH-16 16-track, Otari MX-5050 MkIII 8-track, Otari MX-5050 4-track, Fostex E-2 2-track, (3) Otari MX-5050 2-track. Cassette Recorders/Duplicators: (2) Akai GX-R60, TEAC 122, Onkyo TARW70. Noise Reduction Equipment: dbx 180. Synchronization Systems: Adams-Smith Zeta-3 Echo, Reverb & Delay Systems: Eventide H969, Lexicon PCM70, Roland SDE-3000, Roland SDE-1000, Yamaha SPX90II. Other Outboard Equipment: dbx 160X, dbx 166, Symetrix 528, Valley dual Leveller, Valley GateX. Microphones: Neumann KM84, (2) E-VN/D308, (2) E-VN/D408, (2) E-VN/DL20, (2) E-VN/RE20, (2) E-VN/BK-1, (8) Shure SM77. Monitor Amplifiers: Halfer P-230, Yamaha P2050, (2) BGW 85. Monitor Speakers: (2) UREI 809, (2) JBL 4313, (6) JBL 4401, (4) Auratone. Musical Instruments: Korg DSS-1, Korg M1, Roland 626, Roland 727, Roland D-110. Other MIDI Equipment: Macintosh SE, Performer. Video Equipment: (2) JVC KY-20 CCD camera, (2) S-VHS dockable recorder, (4) Ikegami 730-AP camera, Ampex 20B 1" field recorder, (2) Sony 3/4" field recorder, (2) Panasonic 3/4" field recorder, (2) Lowell Soft Lights, (2) Lowell Omni Lights, Grass Valley 200 switcher, Chyron Super Scribe, (4) Ampex VPR-80 1" tape machine, CMS 330XL computer editing system, Ampex 3-D ADO, Echobal SE16, (2) JVC CR850 editing machine, Chyron VP-2 character generator, Ampex CVR-35 Betacam SP, Ampex CVR-75 Betacam SP, Aurora 240 Paint System.

[16] **SPEC-TRAC-U-LAR**; also **REMOTE RECORDING**; 2601 Sunset Pl.; Nashville, TN 37212; (615) 297-4670. Owner: Kenny Penny. Manager: Kenny Penny. Engineers: Kenny Penny, Dave Signs. Dimensions: Studio 12 x 16, control room 12 x 8. Mixing Consoles: Ramsa WR-T820B. Audio Recorders: Tascam MSR-16 16-track w/dbx Type I, Tascam 22-2, Fostex Model 80 8-track. Cassette Recorders/Duplicators: Denon DRW-750 Echo, Reverb & Delay Systems: Yamaha REV7. Roland DEP-5. Other Outboard Equipment: (2) Boss RCL-10 compressor/limiter. Microphones: (5) E-VN/BK-1 condenser, Neumann U87, AKG 414, (2) Shure SM57. Monitor Amplifiers: Yamaha P2200. Monitor Speakers: (2) Yamaha

NS-10M. Musical Instruments: Linn 9000 sequencer/drum machine w/Forat update, Korg 707 synth, (2) Roland digital piano, Takamine acoustic guitar, (5) Fender guitar, Gibson mandolin, Steinberger bass, Steinberger fretless bass, Gibson Chet Atkins classical, Gibson ES-355TD stereo.

[16] **THE STUDIO**; also **REMOTE RECORDING**; Rte. 8, Box 484-B; Chapel Hill, NC 27514; (919) 967-8470. Owner: John Santa. Manager: Mac Monroe. Specialization & Credits: The Studio provides location sound services for film and video and specializes in sound design and scoring in our SMPTE-based facility. We are proud to have received national and regional awards recognizing our participation in Public Television and Corporation for Public Broadcasting projects. Our staff includes synthesizer/computer programmer Allen Burden, chief engineer Ray St. Clair and assistant engineer Jenny Levine, as well as Rich Robinson for (very) remote field recording (in Philadelphia please call [215] 482-4992). We also provide location scouting and can assemble crews for film and video projects for out-of-state clients wishing to shoot in beautiful North Carolina. Please call if we can assist you.

[16] **STUDIO 19**; 821 19th Ave. S.; Nashville, TN 37203; (615) 327-4927. Owner: Larry Rogers, Pat Brewer. Manager: John Kelton.

[16] **STUDIO Z**; Rte. 2, Box 2265; Maysville, GA 30558; (404) 652-2979. Owner: Lee Davis. Manager: Lee Davis.

[16] **SYNERGEN ENT.—THE GARDEN STUDIOS**; also **REMOTE RECORDING**; 800 Bowden Rd.; Chapel Hill, NC 27516; (919) 967-4300. Owner: Synergen Ent. Manager: Charles E. Jones.

[16] **TONY ASH RECORDING STUDIO (T.A.R.S.)**; also **REMOTE RECORDING**; PO Box 6104; St. Thomas, VI 00804; (809) 775-5510. Owner: Arthur S. Newton. Manager: Arthur S. Newton.

[16] **UNDERGROUND SOUND**; PO Box 6871; Athens, GA 30604; (404) 549-3117. Owner: Robbie Collins. Manager: Robbie Collins.

[16] **UNDERGROUND SOUND RECORDING STUDIO**; only **REMOTE RECORDING**; 3010 Skyland Blvd. E.; Tuscaloosa, AL 35405; (205) 556-0030. Owner: Andy Chappell. Manager: Joey Laycock.



**McTAMMANY**  
 AUDIO PRODUCTION AND DESIGN

McTAMMANY AUDIO PRODUCTION AND DESIGN  
 Orange Park, FL

[16] **McTAMMANY AUDIO PRODUCTION AND DESIGN**; also **REMOTE RECORDING**; 3043 Doctor's Lake Dr.; Orange Park, FL 32073; (904) 264-6475. Owner: Britt McTammamy. Manager: Britt McTammamy.

[16] **MIDI TWIN STUDIOS**; 4002 Ridge Rd.; Smyrna, GA 30080; (404) 434-7145. Owner: Steve and John Briglewich. Manager: Steve Briglewich.

[16] **MILEEDGE RECORDING STUDIO**; also **REMOTE RECORDING**; 5281 Lochinvar; Memphis, TN 38116; (901) 346-8818. Owner: Michael Elledge. Manager: Michael Elledge.

[16] **MR. O AUDIO**; also **REMOTE RECORDING**; 2035 S. Lumpkin Rd.; Columbus, GA 31903; (404) 687-6221. Owner: Maurice R. Owens. Manager: Maurice R. Owens. Engineers: Maurice Owens, David Norman, Mike Osborn, Keith Smith. Dimensions: Studio 30 x 50, control room 20 x 14. Mixing Consoles: Soundcraft 500 32 x 8, Whealstone 40 x 8, Studiomaster 20 x 8 monitor. Yamaha 12 x 4, Yamaha 2404, Yamaha 2408M. Audio Recorders: Tascam MS-16 16-track, Tascam 38 8-track, Tascam 234 4-track, Tascam 32B 2-track, Tascam 42 2-track. Cassette Recorders/Duplicators: (5) Nikko ND-350. Noise Reduction Equipment: (2) Tascam DX4D, dbx Type I. Echo, Reverb & Delay Systems: Lexicon Prime Time II 95, Yamaha REV7, Yamaha SPX90, Yamaha SPX90II, (2) Eventide H910 Harmonizer, Ibanez HD-1500, Effectron III. Other Outboard Equipment: (2) Valley People Dyna-Mite, (2) UREI 539 1/8-octave EQ, (8) Yamaha 2031 dual 1/8-octave EQ, (2) dbx 160 comp/limiter, (2) UREI 525 crossover, (2) Brooke-Siren FDS360, Klark-Teknik DN36 dual



**VIDEO TAPE ASSOCIATES**  
 Atlanta, GA

[16] **VIDEO TAPE ASSOCIATES**; 1575 Sheridan Rd. NE; Atlanta, GA 30324; (404) 634-6181. Owner: W.K. (Ken) Chambliss. Manager: Mike McNally. Engineers: Dave Wheeler, Leslie Lambert, Wayne Murray. Mixing Consoles: MCI JH-636 36-input automated. Audio Recorders: MCI JH-24 24-track, MCI JH-110B 4-track, Otari 1050B 2-track, Tascam 122B cassette, MCI JH-110B 2-track w/center-track time code, Nakamichi MR-1 cassette, Sony PCM-2000 R-DAT, Nagra T 2-track Noise Reduction Equipment: dbx Type I on all machines. Synchronization Systems: BTX Shadow w/BTX Soft-touch edit controller. Echo, Reverb & Delay Systems: Lexicon 224XL, Eventide H949, Orban parametric EQ, Aphex Aural Exciter, dbx gates, dbx delay line/flanger, Lexicon 480L, (2) Eventide H3000, dbx 165 limiter. Other Outboard Equipment: (2) Technics SLP-1200 CD player. Microphones: (2) Neumann U87. Monitor Amplifiers: UREI/JBL. Monitor Speakers: 3-way tri-amped custom system by Physical Acoustic Labs, Auratone. Musical Instruments: E-mu III digital sampling keyboard. Video Equipment: Ampex D-2, Sony D-2, Ampex 1", Sony 3/4" and Betacam for audio layback to video. Other: Lexicon Opus mixer/recorder/editor.

[16] **WOODHOUSE RECORDING**; 2900 Brittany Way; Chesapeake, VA 23321; (804) 483-6212. Owner: Larry K. Carr. Manager: Larry K. Carr.

## 2-8 TRACK

STUDIOS

[2] **AIRSHOW, INC.**; also REMOTE RECORDING; 7021 Woodland Dr.; Springfield, VA 22151; (703) 642-9035. Owner: David Glasser. Manager: Ann Blonston. Specialization & Credits: Specializing in location mixing, technical direction and consulting for remote recording and broadcast projects. We are pleased to announce the opening of the Airshow digital audio editing studio, featuring a hard disk-based system by Digidesign with one hour of stereo online disk storage. Digital transfer to/from F1 and R-DAT. Ideal for music and sample editing, CD and album remastering. Recent projects and clients include Grammy-nominated *Sweet Honey in the Rock Live at Carnegie Hall* (Flying Fish), *New Orleans Jazz and Heritage Festival, Tribute to Thelonious Monk* (PBS), *New Music America Festival, Festival of American Folklife*. Folkways, Rounder, Smithsonian Institution, National Public Radio. Our portable recording system includes AMS/Calrec console, Sony R-DAT, KEF/Bryston monitoring, API preamps, EQs and audio distribution, packaged for efficient on-site setup and transport. SPARS member. Please give us a call to discuss your next remote recording or broadcast project and for details on our digital editing and mastering services.

[2] **AUDIO CRAFT**; also REMOTE RECORDING; 2701 E. Sunnise Blvd. #408; Ft. Lauderdale, FL 33304; (305) 563-0553. Owner: Lonny Kelem. Manager: Lonny Kelem.

[8] **BAMA SOUND**; also REMOTE RECORDING; PO Box 2001; Decatur, AL 35602; (205) 353-4142. Owner: David Segler Sr. David Segler Jr. Manager: David Segler Sr.

[8] **GRANT BLAIR PRODUCTIONS**; also REMOTE RECORDING; 748 Woodlore Trail; Winston-Salem, NC 27103; (919) 765-5692. Owner: Grant Blair. Manager: Grant Blair. Engineers: Grant Blair. Dimensions: Free-standing vocal booth 25 x 15. Mixing Consoles: Soundcraft 600 24 x 8 w/ 8 stereo input modules. Audio Recorders: Tascam 48 8-track 1/2", Tascam 42 2-track 1/4". Cassette Recorders/Duplicators: Sony TC-W5 Noise Reduction Equipment (2) Tascam DX-4D dbx unit. Echo, Reverb & Delay Systems: Yamaha REV7 digital reverb, Yamaha SPX90 multieffects processor, Korg SDD-2000 digital delay. Aphex Aural Exciter Type C. Other Outboard Equipment: dbx model 166 compressor/limiter/ noise gate, (2) Rane GE-30 31-band EQ, Symetrix TI-101 telephone interface. Microphones: AKG C-414BULLS, AKG D-190, (6) Shure SM57. Monitor Amplifiers: Yamaha P2250 Monitor. Speakers: Electro-Voice Sentry 100A, Auratone 5C. Musical Instruments: E-mu Systems Emax HD-SE (20MB HD), Roland D-110 multibrain sound module, Korg DW-8000 synthesizer, Yamaha upright piano, Alessi HR-16 drum machine, Roland MIDI percussion/drum set, assorted guitars (electric and acoustic). Other MIDI Equipment: Macintosh SE (20MB HD), Southworth Jam Box/4+ w/ SMPTE time code, Mark of the Unicorn Performer series software, Digital Music Corp. MX-8 MIDI patch bay. Other: Mesa/Boogie Mark IIB guitar amp, Tom Scholz Rockman, Sony CD player. Rates: Call for rates.

[8] **BRANTLEY SOUND ASSOCIATES, INC.**; only REMOTE RECORDING; 204 Third Ave. S.; Nashville, TN 37201; (615) 256-6260. Owner: Lee Brantley. Manager: Bobby Brantley.

[2] **DIGITAL 1**; also REMOTE RECORDING; 658 Douglas Ave.; Altamonte Springs, FL 32714; (407) 682-7790. Owner: Inc. Manager: Batt Donovan.

[8] **FULL SKY RECORDING**; also REMOTE RECORDING; PO Box 261072; Tampa, FL 33685; (813) 886-8147. Owner: Michael Normandean. Manager: Michael Normandean.

[4] **HOST COMMUNICATIONS, INC./AVS**; also REMOTE RECORDING; 546 E. Main St.; Lexington, KY 40508; (606) 253-3230. Owner: W. James Host. Manager: Neil Kesterson.

[8] **JUST IN PRODUCTIONS/CMS**; 301 Floral Dr.; Tampa, FL 33613; (813) 962-6175. Owner: Daniel Smith.

[8] **LAIN STUDIOS M-349**; 3932 NW 24 St.; Miami, FL 33142; (305) 532-7339. Owner: Julio Neri. Manager: Richard Walderrama.

[8] **THE MIGHTY MIX**; 810 St. Michael St.; Tallahassee, FL 32301; (904) 224-6634. Owner: David Murphy. Manager: David Murphy.

[8] **MILLER RECORDING STUDIO**; also REMOTE RECORDING; 2513 S. Scales St.; Reidsville, NC 27320; (919) 349-

8911; (919) 342-1892. Owner: Robbin D. Miller. Manager: Ashley Moore.

[8] **JOSH NOLAND MUSIC STUDIO**; 760 W. Sample Rd.; Pompano Beach, FL 33064; (305) 943-9865. Owner: Josh Noland. Manager: Josh Noland.

[8] **OFFBEAT STUDIO**; also REMOTE RECORDING; 965 Old U.S. #1 South; Southern Pines, NC 28387; (919) 281-5822. Owner: Bob Hensley. Manager: Bob Hensley.

[8] **PERSUASIVE MEDIA**; also REMOTE RECORDING; 6 S. 55th Pl.; Birmingham, AL 35212; (205) 591-0804. Owner: Frank Pigott. Manager: Frank Pigott.

[8] **PROTOLOG INC.**; 8800 49th St. N, Ste. 210; Pinellas Park, FL 34666; (813) 545-0302; FAX: (813) 545-0403. Owner: Protolog Inc. Manager: Michael Petrucci.

[8] **RADIOACTIVE PRODUCTIONS RECORDING**; also REMOTE RECORDING; Bringe's Key of Sea Music; 641 U.S. 19 S.; Palm Harbor, FL 34684; (813) 787-8822. Owner: John Bartus. Manager: John Bartus. Specialization & Credits: We've moved! RadioActive Productions Recording has grown and expanded, and now we're the recording studio in one of the Tampa Bay-area's finest music stores. We still specialize in album, jingle and demo production, as well as custom music, voice-overs and sound effects for a variety of projects. Our in-house creative staff will come up with what you need at a price that's right, and we'll coordinate your entire campaign and marketing strategy if desired. And we'll continue to work with songwriters and artists to achieve top-quality demo and album productions. We have eight audio tracks, a fully synchronized MIDI production system, reasonable rates, and now location direct-to-2-track recording. We're the recording studio in the music store. Call or write for rates and details.

[4] **RIDGE RECORDING STUDIOS**; also REMOTE RECORDING; 407 South St.; Greenville, AL 36037; (205) 382-7800. Owner: Cleveland Poole. Manager: Cleveland Poole.

[8] **RUM PRODUCTIONS**; also REMOTE RECORDING; 824 Baronne St.; New Orleans, LA 70113; (504) 522-5979. Owner: Jim Rumsfeld. Manager: Jeffrey Talbot.

[8] **SHARPSOUNDS MUSIC PRODUCTIONS (FORMERLY STARSOUNDS)**; 1440 Ludlow Dr.; Virginia Beach, VA 23456; (804) 474-2492. Owner: Alan V. Sharps. Manager: Kathy Sharps.

[2] **THE SOUND CATEGORRY**; only REMOTE RECORDING; PO Box 9; Merrifield, VA 22116; (703) 280-9119. Owner: Ralph and Mary Haller. Manager: Mary A. Haller.

[8] **SOUND PLUS**; Rte. 4, Box 41; Leesburg, VA 22075; (703) 777-7176. Owner: Philip W. Goshorn. Manager: Bob Gaskill.

[8] **SOUNDS, REASONABLE!**; 10203 Bent Tree Ln.; Manassas, VA 22111; (703) 631-6376. Owner: Fred Wyal. Manager: L.E. Wyal.

[8] **TCC PRODUCTIONS**; also REMOTE RECORDING; 6331 Bahama Shores Dr. S.; St. Petersburg, FL 33705-5437; (813) 867-8546. Owner: Tech-Coh Communications Corp. Manager: Paul Hayes.

[8] **UNDERGROUND RECORDING**; 808 Houston Dr.; Seymour, TN 37865; (615) 573-5269. Owner: Matt and Shirley Lincoln. Manager: Matt Lincoln. Engineers: Matt Lincoln, Paul Swenson, Jeff Slansberry. Dimensions: Room 1 studio 12 x 14. Room 2 studio 9 x 6. Room 3 studio 5 x 4. Room 4 control room 11 x 9. Mixing Consoles: Studiomasster 16 x 8. Audio Recorders: Tascam 38 8-track, Tascam 32 2-track. Cassette Recorders/Duplicators: Nakamichi MR-1, Mitsubishi 156 Noise Reduction Equipment; (2) dbx 166, dbx 150. Symetrix 522 Echo, Reverb & Delay Systems: Yamaha REV7. DeltaLab Effectron I, Fostex 3180, Yamaha SPX90II. Other Outboard Equipment: TEAC EQA-5, Fostex T-20 headphones. Microphones: (2) Sennheiser, (8) Shure, (2) E-V, (3) AKG, (6) Audio-Technica, (2) Crown PZM. Monitor Amplifiers: Crown, Rane. Monitor Speakers: (2) JBL, (2) Auratone 6C, (2) Altec Lansing. Musical Instruments: Gulbransen baby grand, Akai AX-80, Gibson 1985 Les Paul, Fender 1971 Stratocaster, Fender 1976 jazz bass, B.C. Rich Mockingbird bass, Gibson 1968 S-G, Guild 1977 D-25M, Ludwig drums, Zildjian cymbals, assorted percussion. Other: Ampeg Fender, Traynor amps, Tom Scholz Rockman, assortment of guitar pedal effects, full bath, lounge and workout facilities. Rates: \$20/hr.

Coming in Mix:

April 1990

NAB Issue

## Video Post-Production

- **Post-Production Forum:** Digital Workstations in Post-Production
- **Audio-Follows-Video:** A Guide to the Technology
- **Studio Spotlight:** Toxld AO/Glen Glenn Studios and retiring president Buzz Knudson
- **Exclusive Interview:** Paul McCartney
- **NSCA Special:** Safe Rigging, Part 1; George Benson in Brazil; Sound Reinforcement New Products
- **Field Test:** SSL Screen Sound
- **Directories:** U.S. Video Post-Production Houses
- **MI Update:** Winter NAIM Report, by Craig Anderton

PLUS!

Norman Lear, NeXT Computers, John Cougar Mellencamp's Belmont Mall Studios, producer Ray Cymonszinski, Scream Studios and more!

## ATTENTION ADVERTISERS:

Deadline for ad placement is the seventh of the month, two months prior to publication. Call (415) 653-3307 for a 1990 *Mix* Editorial Calendar, space reservations and complete advertising information.

**MIX** THE RECORDING INDUSTRY MAGAZINE

**TAPE & DISC**

— FROM PAGE 139. *DAT VENDORS*

when the time comes we would be right there to supply the needs of high-speed DAT duplicators, whether they end up using TMD or some other system.

**Smith:** The duplicator business is one that we know through our large oxide pancake business for cassette duplication. We have talked with Otari, and also people from the Sony side. If and when the time is right, we would probably introduce that product.

**Kennedy:** If the technology is there to make a tape that meets the necessary Oersted requirements.

**Booth:** Absolutely. We have already been working on that for some time. We have a very tight relationship with the Otari people relative to that sort of technology. ■

*Philip De Lancie, a mastering engineer at Fantasy Studios in Berkeley, Calif., is our resident voice on formats, trends and technologies in the world of prerecorded music mastering and manufacturing.*

**LIVE SOUND**

— FROM PAGE 124. *SR NEWS*

nia, Ernesto Russo Appel... **Sound Image** (San Marcos, Calif.) has been actively installing QSC amplifiers in the border town of Tijuana. Model MX1500s were matched with E-V MT-4s in the busy **Iguana's** nightclub, while 3800 and 3350 amps powered ten of Sound Image's own Phase-Loc P.A. cabinets at the nightclub **Faces**.

**Bits and pieces**... Sound reinforcement company **MD Systems** moved from Wichita, Kan., to Nashville in January. Owner **John McBride** states, "I'd say 95 percent of my business was already outside of Wichita. We expect Nashville to be a location better situated for our needs." MD Systems is sporting a new 36-box custom proprietary P.A. system. Current regular clients are **Ricky Van Shelton** and **Garth Brooks**... The 1,700-seat Dollywood Celebrity Theatre in the Dollywood Theme Park (Pigeon Forge, Tenn.) now has

an E-V MT-4 sound system... Sound reinforcement company **Delicate Productions** (Camarillo, Calif.) announced the opening of a pro audio sales division. Delicate Electronics Sales, **Jeff Simpson**, formerly of nearby Audio Techniques and Stanal Sound, will manage the new division... **Sutter Audio** (Tallahassee, Fla.) reports steady work in the Southeast with various rap groups such as **M.C. Hammer** (see "On the Road"), **Kool Moe Dee** and **Heavy D & The Boyz**.

[Note: Some of the data in this column and in "On the Road" is based on information provided by the companies. Address all correspondence and photos to Mix Publications, Sound Reinforcement Editor, 6400 Hollis St., Suite 12, Emeryville, CA 94608.] ■

*Mix sound reinforcement editor Mark Herman also operates a company specializing in console rentals for live sound and touring applications.*

# DON'T MISS YOUR MIX DIRECTORY LISTING!

Mix Directories are the most authoritative guides to facilities and services for the audio and video production industries. When production professionals need equipment, studios or other services, they consult *Mix* first.

To receive a free questionnaire for your Directory listing and to get the details on placing low-cost advertising in these special issues, call us—now!

**Toll-free Mix Directories number:  
(800) 344-LIST.**

## UPCOMING ISSUES & QUESTIONNAIRE DEADLINES

### JUNE

**Remote/Location Recording;  
Sound Reinforcement  
DEADLINE: MARCH 15**

### JULY

**Recording Schools;  
Pacific Rim Facilities  
DEADLINE: APRIL 17**

### AUGUST

**Facility Designers/Suppliers  
DEADLINE: MAY 17**

# CLASSIFIEDS

## Acoustic Consulting

**Professional studio carpenter.** Specializing in fabric, soundproof doors and custom equipment racks. References include: AD Productions (on the cover of November *Mix*) and several others. For more information: Dave Mattingly, (615) 672-5075, TN.

## Business Opportunities

Newly designed, 75% complete, 24-trk-plus facility with album/film/video projects seeking partner, investors or equipment to complete. Need minimum \$200,000 or equipment. **HAVE WORK! INTERESTED?** Call (201) 393-9535.

## Employment Offered

General Manager for major music recording/production studio. Finance degree, excellent computer skills and experience in Audio/Management required. Salary commensurate with experience. Send resume along with salary history to: Aurealis Productions, Dept. M, PO Box 43041, Upper Montclair, NJ 07043.

## Equipment For Sale

ADAMS-SMITH Zeta-3, 6 months old still under warranty; \$2,300. Sony 5600 3/4" deck with rack mounts; \$1,400. CD Sound Effects Library, never used; \$900. (714) 646-1772.



**VELCRO CABLE WRAPS**

6 Sizes, 10 Colors  
Custom logo printing available

**San Tech**

(415) 861-6011  
P.O. Box 77394  
San Francisco, CA 94107

All rights reserved. Patent #4700432

### db ENGINEERING The oldest used broker in the East offers new specials!

db is your source for Klipsch, AKG, Eventide, Adams-Smith, Aphex, Neumann, Beyer, Studio-master, Sennheiser & most major brands.

db wants to sell more **TANNOY** speakers! Call for quotes. Boston, MA (617) 782-4838.



New digital workstation & recorder/editors. Serious consoles: Soundcraft 3200, DDA, Neotek. Synchronizer specialists: Lynx & Zeta. Otari: DTR900...et al. Tannoy, JBL, Dynacord, dbx, Lex, KT, Neumann, DATs...and USED stuff too.

(312) 339-8014

### AVR

106 Main St.  
Watertown, MA 02172

(617) 924-0660

**The widest selection of used gear. The best prices on new equipment.** In stock: Panasonic DATs; Sony PCM-501/601; DIC/DAT tapes; Tannoy PBM-8; Eventide H3000. Ampex ATR-102 (many available): \$5.5k to \$7.5k; Ampex AG400: call; Otari MTR-90: \$28k; dbx 900 frame: call; dbx 900 modules: call; Lang PEQ-2: \$750; Sennheiser 441: \$350; Crown PZM 31w/X18: \$200; AKG 460/CK22: \$400; Orban 672A para EQ: \$450; Orban 526: \$250; Ashly SC66A para EQ: \$400; McIntosh MC40 tube amp: call; Orban 516C de-esser: \$325; Fairlight 2Xw/MIDI, SMPTE, Voice tracker, cases: \$8k. Otari MX-70/16: \$13k; Otari MX-80 24: \$22k; Otari MX-5050 MkIII-4: \$2k; MCI JH-24: \$18k; Trident A Range 40/24/32/: call; Neotek Series I 24x8: \$9k; Harrison 3232: \$22k; Telefunken Elam 250 (matched pair): call; Neumann U67 (tube): \$2,500; Neumann U87: \$1,200; AKG C-451/C-K1: \$300; AKG C-414 BULS: \$600; Sennheiser MD-421: \$250; Lexicon Prime Time: \$325; Sound Workshop Series 30 16x16: \$6k; Beyer Dynamic M260x2: \$400; Urei 565 "Little Dipper" x2. Pultec EQP-1, EQI-5, MEQ-5, EQH-2: call.

### WE BUY AND TRADE!!!

We list your items for free. All used equip. warranted and calib. to factory spec. or your \$ back.

(617) 924-0660

AVR

### db ENGINEERING - the SSL STORE

PHONE (617) 782-4838 FAX (617) 782-4935

SSL 4064G, 2yr, mint, \$375K; 4056E/G LH patch, 4 yrs, \$205K; 6064E/G VU, \$275K; 4048E/G w/40, recall, 4 yrs, \$175K; 4040E/G, no recall, \$100K; 4000E Modules, \$3.3K. **Amek, API, Neve, Trident, call. 24+Tracks;** Studer A80 MK IV, \$30K; Mitsubishi X-850, \$90K; 3M 79, \$12K; Otari MTR-90 & MCI/Sony JH-24, several, call. Pultec Mavec, \$1.4K; Lexicon 480L demo, \$8.5K; Neumann U-67, \$2.2K; U-87s, \$1.1K; Urei LA-2A, \$1.5K; AKG 414EB, \$550.

214 Lincoln Street, Suite 103C, Boston, MA 02134

See our ad for new specials!! List your for-sale items free!!

### TIMELINE SYNCHRONIZERS

Drawmer Gates & Compressors  
Audio Kinetics Automation  
Tape Machine Rentals  
Lots of used equipment available  
Call for free list

### SG AUDIO

(312) 266-1901  
FAX (312) 266-1904

**Otari MTR-12** 1/2" 2-track, exc. condition \$8,000; B&K 1560 60 MHz Triple Trace Scope \$750; Tannoy NFM-8 spkrs \$500; Yamaha RX11 drum mach \$250; Mellotron Model M400S \$750. Call George: (916) 392-5640, Sacramento, CA.

### BUY-SELL-TRADE NEW & USED EQUIPMENT

- RECORDERS
- CONSOLES
- DIGITAL RECORDERS
- MICROPHONES
- MONITORS
- TAPE & ACCESSORIES

CALL FOR THE LATEST  
LIST & FREE  
CATALOGS.

### OPUS

Recording & Equipment Co.  
4262 Grand Ave.  
Gurnee, IL 60031  
1-(800) 522-(OPUS)-6787  
FAX: (708) 336-6895

Custom Acoustic Custom Studio  
Cases Foam Stands Furniture



Request Catalogue 800-343-1433, 516-563-0633  
Island Cases 1121-20 Lincoln Ave., Holbrook, NY 11741

### SYNCLAVIER

New velocity keyboard, giant rack system, 16-voice poly sampling, 32 stereo voice FM synthesis, 2 hard disks: 80 & 15-meg, 2 floppy: reg & high-dens. Music printer, software, sampling, 8-meg RAM, 8 MIDI outs, SMPTE, stereo outs & custom sound library. Ready for upgrade to Direct-to-Disk. Worth \$120,000. Sacrifice at \$50,000. Also, Audioarts console 8x24, \$8k. Call Howard at (212) 353-2000.

### LEASE/BUY/SELL

Great prices and great service on over 200 lines including Otari, Harrison, Soundcraft, Tascam, JBL, Lexicon, AMS, Akai, Trident, KT, dbx and all the rest for the best in new or used. **AVC SYSTEMS**, call (612) 832-3232.

### Sounds Incredible, Inc.

PO Box 796054, Dallas, TX 75379-6054. Sound & recording gear delivered to your doorstep. From cables to mics and power amps to tape decks: all major brands. Write for catalog & monthly mailer or call **(214) 612-0533**.

### MERCENARY AUDIO

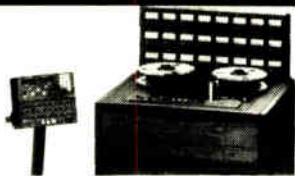
NEW SONTEC!!!  
EQs, COMPRESSORS,  
MIC-PREs  
and the usual collection of  
CONSOLES—MULTITRACKS  
OUTBOARD—REVERB—ETC  
in stock!

LA-2As  
NEVE 2254Es  
NEUMANN 47s, 67s, 87s  
AKG C-12B, C-414-EB  
SONY C-37 FET  
RCA 77-DXs

"this is not a problem"  
(617) 784-7610 TEL  
(617) 784-9244 FAX

Soundcraft 1600: 24x8x4, Pedestal, Patch bay, Original Owner, Excellent Maintenance. \$9,000k or best offer. Call Steve (804) 644-0935.

## American Pro Audio



- Sony/MCI • Trident •
- Tannoy • Eventide •
- Yamaha • Tubetech •
- Fostex • Soundtracs •
- Beyer • Roland • Akai •
- Ramsa • Panasonic •

### Mini Lease Program

New or used, trade-ins 24-60 months with buyout option \$5K-25K **no** financials required min. 2 yrs in business.

**1-800-333-2172**

## USED EQUIPMENT Bought & Sold



Summit  
Audio  
Inc.  
P O Box 1678  
Los Gatos  
CA 95031  
408.395.2448

FAX: (408) 395-1403

### STUDIOWORKS

Sony used and demo sale.  
Sony 3036 loaded 32/non-auto,  
\$57.7k. Full manufacturer  
warranty. Sony 3036 loaded  
36 w/auto, \$81k. Sony JH-24,  
well-maintained, \$25k.  
(800) 438-5921,  
(704) 375-1053.

STUDIOWORKS sells over  
70 pro lines: AKG, E-V,  
Eventide, Hafler, JBL, Lexicon,  
Neumann, Otari, Ramsa, Sony,  
UREI, Tube-Tech, Valley and  
many others.

**Factory-direct prices for 3M  
and Ampex.**

### WE EXPORT

**BUY • SELL • NEW • USED**  
Recording gear • P.A. Equipment  
Music Instruments  
MOST MAJOR LINES  
Bruce S. Yurek, Inc.  
810 NW 80 Ave., Bay #60  
Hialeah Gardens, FL 33174  
Call (305) 558-3345  
FAX (305) 558-0791  
Wanted: Pultec, Neve,  
Neumann tube equip.

CONSOLE FOR SALE. MCI JH-528: 28x28x4, Valley People pre-amps (16) & VCAs (28), JH-50 automation, plasma meters, full patch bay, excellent condition, \$18k. (313) 561-7489.

### GREAT DEAL!

ACES 32x24 recording console and 24-track recorder; includes all wiring, cable and patch bay. One year old and in excellent condition. Complete package \$39.5k. Call Gene at (216) 845-1937.

### DAN ALEXANDER AUDIO Buys, Sells and Trades

Used professional recording equipment of all types.  
2944 San Pablo Ave.  
Berkeley, CA 94702  
Phone: (415) 644-2363  
TELEX: 650 291 8567 MCI  
FAX: (415) 644-1848

**Your studio or A/V Co. needs SynthEffexx.** This all-digital CD is packed with the hottest laser shots, explosions, bings, bongs, bleeps, beds, phone sounds & more! All indexed by track # for fast location & cueing. Impeccably clean & noise-free. Save hrs. & \$. For free demo, call (415) 686-9141.

### IF YOU'RE NOT USING IT —SELL IT!

Your national clearinghouse for used audio and video! Call for free copy of our latest listings, or to list your used gear free. The Bertech Organization. Call toll-free: (800) 992-2272. In Calif. call: (818) 909-0262. **THINK BERTECH FIRST!**

### FOR OVER 10 YEARS YOUR BEST BUY IS USED RECORDING EQUIPMENT SYE MITCHELL SOUND

22301 CASS AVE.  
WOODLAND HILLS, CA 91364  
(818) 348-4977  
FAX: (818) 704-7031

### CONSOLES FOR SALE

Sphere Eclipse 20x16 \$6,000.  
Midas PRO Custom Recording \$10,500. Hank (916) 284-6929.

### PRO CABLE PRODUCTS TECHMAT

"the missing link"  
Audio—Video—MIDI  
FACTORY DIRECT  
(special orders welcome)  
**(800) 446-3146**  
Ask for "Link."

NEVE 8014 12x4 console \$15k; TASCAM MS-16 1" 30 ips 16-track recorder w/stand \$7k; SONY BVT-800 time base corrector \$3k. MCI 500 series producer's desk \$300; ORBAN and MASTER-ROOM spring reverbs, best offer. Rolling video racks \$250 each; Video Trumpeter, patch panels, \$300 each; Runford baby legs and Runford rolling tripod \$200 each; 12" Sony component TV \$300. Six-plate Steenbeck \$5k. (1) Sony Betacam BVP -3 \$10k. Call Leon (212) 581-2305.

Demonstrator QRS room simulator available from Marshall Electronic with new warranty. (301) 484-2220.

### PCM TO DAT

Convert those old PCM tapes DIGITALLY to DAT with this exciting new product.

(513) 651-0800

ICB AUDIO  
Representing over 150  
product lines.

2036 Reading Road  
Cincinnati, OH 45202



### WE HAVE IT ALL DO YOURSELF A FAVOR

### CALL NOW

**800-477-6874**

4416 Johnston St., Bldg. #9A  
Lafayette, LA 70503

### VINTAGE MICS

C-24, C-12, U67, SM2 etc. I build new power supplies for old mics.

Call or FAX:

Bill Bradley  
(312) 751-1216  
FAX (312) 751-1217.

### PHOTON MIDI CONVERTER SYSTEMS

Guitar, bass, nylon string applications; infrared optical pickup; fast, accurate tracking; open architecture, unparallelled MIDI implementation; sequencer, arpeggiator, footcontroller. Used by top artists, for more information call 1-(800) 346-3744.

# AVR

is proud to have been  
selected as  
New England's  
full-line dealer for



Audio Video Research  
106 Main Street  
Watertown, MA 02172  
FAX (617) 924-0497

THE LAST CALL  
YOU WILL  
EVER HAVE TO  
MAKE FOR  
THE BEST  
DEAL ON  
PRO  
AUDIO  
GEAR

**215-426-6700**

TekCom carries a full line of professional sound reinforcement, recording and midi equipment by Otari, Crown, JBL, Fostex, Tascam, Kurzweil and Roland among others. Our qualified sales staff and factory trained technicians are waiting to assist you.

TekCom Corporation

1020 N. Delaware Ave. Phila., PA 19125

## SOUND POWER

Protect your sensitive equipment with power conditioners & uninterruptible power systems from Oneac, Toshiba/Houston & Clary.  
(800) 288-9807



Necam I moving fader auto system w/2nd Necam computer, 40 Necam faders, spare parts. 100 new Aphex 500A VCAs. Studer A80 1" 8-trk. 24-ch Dolby A CAT-22/24 cards in MH-16 and MH-8 racks. BTX Cypher. Studer A710 cassette machine; Prophet 600, 6-trk, Pro-1. Mac II setup. Soundcraft 400B console. Panasonic SV-3500 DAT machine. Lexicon PCM70, V.3.0 software. (212) 645-6319.

### ATTENTION!!!!!!!!!!!!!!!!!!!!

Westlake Studios are proud to offer two consoles for sale:

1) Highly modified Harrison MR-2, 56 in/48 out w/Mastemix automation. This console has been involved in many projects including ALL of Michael Jackson's "BAD" album.

2) Harrison Series Ten, 88 in/32 bus, w/4-channel cinema out. Fully automated; total recall. Please contact Ben Carr (213) 851-9800. FAX (213) 851-0182.

FOR OVER 10 YEARS  
YOUR BEST BUY IS USED  
RECORDING EQUIPMENT  
SYE MITCHELL SOUND  
22301 CASS AVE.  
WOODLAND HILLS, CA 91364  
(818) 348-4977  
FAX (818) 704-7031

KING—Fully Automatic Audio Cassette Loaders; Reconditioned. \$6,500. ACCURATE SOUND CORPORATION, Menlo Park, CA.

Tel: (415) 365-2843.

FAX: (415) 365-3057.

MCI JH-416 console exclnt shape, 24 meters, producer's desk, patch bay: \$8,500 OBO. Infonics 200

series stereo casstt dupl system w/ casstt master, 1/4" reel-reel master, (2) 4-position slave units. All papers & spare parts. System complete: \$7,500 OBO. Sony VP 1000 3/4" video player: \$300 OBO. (601) 482-8541.

### MCI CONSOLES

JH-636 36x24 w/automation, JH-630 31x24, both w/648 pt. in-board patch bays.

### STUDER A80 24-TRK.

w/remote. Call (212) 807-6151. Ask for Guy Lento, 12-9 PM/EST.

### NEW, USED, DEMO SALE RECORDERS, CONSOLES, OUTBOARD EQUIPMENT

Trident consoles, Akai A-DAM, TAC Scorpion II, Drawmer, Tascam MSR-24, Digidesign Sound Tools, Sony/Panasonic DATs, Lexicon 480L, Eventide H3000, Dyaxis 320-meg, Opcode Vision, CAD consoles, Otari MX-70, Adams-Smith Zeta-3, Roland & Akai samplers.

Equipment leasing specialists—experienced staff/unequaled service.

**E.A.R. PROFESSIONAL AUDIO**  
(602) 267-0600

### Otari MTR-90 MK Is \$19,000 to \$22,000

Otari MX-70 16-trk,  
\$14,000

Akai MXP-820, Best Offer  
Sanken CMS-2 demo \$1,500  
Sanken CU-44x demo \$2,000  
MCI JH-110BVP 1/2" 4-trk,  
\$3,500

Studio Supply Company  
Nashville, TN; (615) 391-0050

TAC Scorpion console 28/12/24/2 w/4 patch bays wired w/Mogami cable in custom desk w/12 single rack spaces equally spaced above meter bridge. Otari MX-80 and Otari MTR-10. Less than 50 hrs., Haffler P-500 power amp, FX & more. Call Bob, (805) 251-2599.

### ULTRA-HIGH-QUALITY ANALOG DIRECT-TO-STEREO MASTER RECORDING SYSTEM

Mark Levinson Recording System consisting of one pr **Bruel & Kjaer** 4133/2619 calibration std. mics, one pr. Mark Levinson ML-8 mic preamps for above, one Mark Levinson 200VDC mic pwr supply, one Mark Levinson LNP-2 Recording Version Preamp (2-ch), and one **Studer A80 RC MK-II** 1/2-inch 2-trk 30 ips Master Recorder. All items mint condition, less than 100 hours on Studer. For sale as a package only, \$28k or best offer above. Also one **Sound Technology** 1510A Tape Recorder Test System w/spectrum analyzer, MOL and flight case options, low hrs, one-owner mint cond. \$5,950. (408) 423-7179 (PST).

**STUDIO LIQUIDATION**  
All equipment for sale by executives for 16-trk studio. tape-to-disk mastering, super VHS, microphones, speakers, public address, test, etc. For information call D C Consulting, (515) 964-9034.

## Equipment Rentals

**DESIGN FX  
AUDIO**

DIGITAL AUDIO RENTALS  
Specializing in digital tape machines, reverbs and effects processors. Technical consultation included.  
**213/838-6555**  
800 441-4415  
P.O. Box 491087  
Los Angeles, CA 90049

**Rack Attack**  
∞ Audio Processing Systems ∞

Individual pieces	per day
<b>AMS DMX 1580S</b>	<b>\$ 85.00</b>
<b>AMS RMX-16</b>	<b>85.00</b>
<b>Eventide SP-2016</b>	<b>85.00</b>
<b>Eventide H-3000</b>	<b>50.00</b>
<b>Lexicon 480L</b>	<b>85.00</b>
<b>Lexicon 224XL</b>	<b>85.00</b>
<b>Lexicon PCM-70</b>	<b>40.00</b>
<b>Lexicon PCM-42</b>	<b>20.00</b>
<b>Publlison Infernal 90</b>	<b>85.00</b>
<b>Quantec QRS</b>	<b>85.00</b>
<b>Quantec XLC</b>	<b>85.00</b>
<b>Roland SDE-3000</b>	<b>25.00</b>
<b>Roland SRV-2000</b>	<b>25.00</b>
<b>T.C. 2290</b>	<b>50.00</b>
<b>Yamaha REV-1</b>	<b>85.00</b>
<b>Yamaha REV-5</b>	<b>35.00</b>
<b>Yamaha REV-7</b>	<b>35.00</b>
<b>Yamaha SPX-1000</b>	<b>40.00</b>

Lexicon 480L  
Eventide H-3000  
T.C. Electronics 2290  
Yamaha REV-5

All four devices

**\$165/day**

### Outboard Rentals (818) 998-1024

**UNDERGROUND SOUND  
PRO AUDIO RENTALS**

**MITSUBISHI X-850** (Apogee Enhanced)  
**\$500/per day \$2,000/per week**

REVERB RACK	EQ RACK
2-AMS RMX16	For-usrite 115
1-AMS DMX-15	Massenburg EQ
2-480-L Lexicon	(2) Pultec EOP-1A3
1-Lex PGM70	(2) LA-2A
1-T.C. Elec.	(4) Aphex E Q
2-Yamaha SPX-90H	(6) Aphex Comp L T. Sound

**\$225/day**

\*ALSO VINTAGE TUBE GEAR

Prices do not include sales tax or cartage. All prices subject to change.

PHONE: (615) 347-0243  
(615) 367-4726 Nashville, TN

### Pro Sound Reinforcement Mixing Console Rentals:

Gamble, Yamaha  
Soundcraft, Audioarts,  
Studiomaster,  
Ramsa, Toa.

### Hi-Tech Audio Systems Inc.

Long- and short-term rentals  
Good Rates—New Equipment  
(415) 726-2426

## Equipment Wanted

**MERCENARY AUDIO  
NEEDS YOUR  
MICROPHONES**  
NEUMANN/AKG/SCHOEPS  
**COMPRESSORS**  
NEVE/FAIRCHILD/UREI  
**EQUALIZERS**  
NEVE/ITI/API/PULTEC  
—ANYTHING—  
Of Exceptional Audio Quality  
"this is not a problem"  
(617) 784-7610 TEL  
(617) 784-9244 FAX

## Instruction

INSTITUTE OF COMMUNICATION ARTS. Commercial Music Performance, Audio Engineering/Prod., Video Prod., Sound Reinforcement, Entertainment Bus., Music Theory and Arrang. Instrument & Voc. Study, Electronic Music & MIDI One/Two Year Cert. Progs. I.C.A. is Recognized By U.S. Dept. of Ed./Eligible for Guar. Std. Loans. I.C.A. Institute, 34 West 8th Avenue, Vancouver, BC V5Y 1M7, (604) 876-0451.

The NEW 1990 Mix Bookshelf Catalog is now available! We've added over 150 new products to the world's most complete collection of books, tape courses, videos, sounds and software for audio professionals. Write or call now for your FREE copy.

### MIX BOOKSHELF

6400 HOLLIS STREET #12  
EMERYVILLE, CA 94608  
Call Toll-Free: (800) 233-9604  
or (415) 653-3307

**EDUCATIONAL VIDEOS**  
12-hour sound mixing/recording course: \$239, 2-hour course: \$39; 2-hour MIDI course: \$39, plus shipping/handling. Visa/MC/check. For brochure: RECORDING ASSOCIATES, 5821 SE POWELL, PORTLAND, OR 97206. (503) 777-4621.

**RECORDING INSTITUTE**  
School for recording engineers. L.A./Hollywood area. Program emphasizes 24-track recording and mixing and includes video. Hands-on! Free catalog. 14511 Delano St., Van Nuys, CA 91411; (818) 994-9976.

### HOME-STUDY SERIES

3 Levels of study, based on 2 College texts, back up 36 hours of cassettes providing all the procedures you need to handle sessions with confidence.

Call: **SKE Audio Publishing**  
(800) 284-1258 or  
**MDX Bookshelf** (800) 233-9604.

## Maintenance Services

RCA Microphones — Repair service on all models. Complete sound and cosmetic restoration. 35 yrs. experience with RCA. ENAK Microphone Repair, 420 Carew Avenue, Pitman, NJ 08071. (609) 589-6186.

### MAGNETIC RECORDING HEADS

—RELAP/REPLACEMENT for Audio, Video, Time Code, Duplication. 30 years of head design experience. **IEM**, 350 N. Eric Dr., Palatine, IL 60067; tel. (708) 358-4622.

### HEADS—NEW & USED

New Tascam 80-8 heads:  
\$436.15 each

Otari 1/2" 8-trk; \$509.90 each. Will rebuild your tape recorder to new or better specifications. Parts & service for 3M M79 and ATR-100. Head relapping.

Optical alignment.

**Bob Yauger: (315) 733-7237**  
FAX: (315) 733-3097.

## Music Products/Software

### IBM PC MUSIC FEATURE CARD!

Option card with 8-voice, multitimbral MIDI synthesizer on board. Includes 240 pre-programmed Yamaha sounds, 96 programmable patches and a MIDI in/out/thru interface. Use two cards to double capacities. An all-in-one MIDI studio for IBM and compatibles for only \$425. Software available for recording, arranging and educational needs. Packages recommended. Dealers, catalogers & VARs call for discount schedule. **Distributed by Mix Bookshelf**, 6400 Hollis St. #12, Emeryville, CA 94608, (415) 653-3307, (800) 233-9604.

## Recording Services

**TAPE DUPLICATION  
REAL TIME &  
HIGH SPEED  
DISTRIBUTION  
& RUSH  
SERVICE**

**1/4"**

**DUPLICATION SPECIALISTS  
(N.Y.) 516-432-7107**

DIGITAL TRANSFERS



CD MASTERING  
DIGITAL EDITING  
CD PRODUCTION

db PLUS  
DIGITAL SERVICES INC.  
BOX 694 LYNBROOK, N.Y. 11563  
(516) 872-2325

## Records, Tapes & CD Services and Supplies

Disc Mastering and Record Production. CDs, LPs, 45s.  
**CASSETTE DUPLICATION THE CUTTING EDGE**  
Box 217M  
Ferndale, NY 12734  
(914) 292-5965

TRAXX RECORDING PRODUCTS  
24 Crestway - KC  
New Fairfield, CT 06812

- Real-time dup. & full-svc. pkg.
- Custom-loaded cassettes & sup.
- High-quality, fast turnaround

For Free Catalog call:  
(203) 746-3561.

### "STATE-OF-THE-ART"

"Cassette Duplication Service"  
We offer the highest quality cassette duplication available on ferric, chrome or metal tape. Competitive prices and fast turnaround. When you're ready for the best call: (219) 936-2015 or write: Cup Of Water Productions, 13780 12th Rd., Plymouth, IN 46563.

A U D I O

## Cassettes

AS EASY AS...

- 1 REAL TIME DUPLICATION
- 2 HIGH SPEED DUPLICATION
- 3 CUSTOM BLANKS

ESP MEANS QUALITY FULL SERVICE PRINTING AND PACKAGING. FRIENDLY PROFESSIONAL SERVICE. COMPETITIVE PRICES. FAST TURN-AROUND AND HIGHEST QUALITY RAW MATERIALS.

ESP EASTERN STANDARD PRODUCTIONS, INC.  
26 Basford St. Buffalo, NY 14202  
1-716-876-1454

CALL TOLL FREE:  
1-800-527-9225

V I D E O

**TDK™ AUDIO CASSETTES**  
Custom-length cassettes for your duplication and mastering needs.  
SAX C-30 \$ .95 SAX C-45 \$1.19  
SAX C-60 \$1.44 SAX C-90 \$1.98  
Call for prices on other brands.  
We GUARANTEE our tapes!  
LUNA TAPES LTD.  
Yellow Springs, OH 45877  
(513) 767-7354

-CRYSTAL INC. Phone  
Custom Toll  
Duplicated Free:  
CASSETTES AS LOW AS  
**43¢** EACH PLUS SET UP  
• DOLBY HX PRO / ELECTRO SOUND  
• Clear Shells and Boxes  
• Premium Tape  
• Digital or Analog Master  
• Direct Cassette Imprinting, Color Inserts, Test Tapes and Pure Chrome also available

8002 Middle Valley Road Hixson, TN 37343

In Tenn: 1-615-843-0717

### REAL TIME

Best Quality Cassettes using Nakamichi decks only. Custom-loaded Agfa or BASF Chrome. Label and insert printing, shrinkwrap, blank tapes.

**SUPERB QUALITY AT LOW PRICES**  
Uni-Sette, Inc.  
1852 Fulton Ave.  
Sacramento, CA 95825  
(916) 485-9534

### PROFESSIONAL RECORDING SUPPLIES

We are a major wholesale distributor of Ampex, Agfa & 3M reel-to-reel mastering tape (1/4" to 2"). We also stock broadcast videotape, assorted reels and boxes, splicing/leader tape and pre-packaged cassettes. We load bulk cassettes in custom lengths using a variety of tape brands. Please call or write for our FREE catalog.

**Advance Recording Products**  
7190 Clairemont Mesa Blvd.  
San Diego, CA 92111  
(619) 277-2540  
Inside CA: (800) 858-1061  
Outside CA: (800) 854-1061  
Visa/MC Accepted

## AAPEX

### ULTIMATE FIDELITY

The world's largest Nakamichi real-time cassette duplication system. Full service packaging. 50 to 50,000 qty. Outside CA, call toll free (800) 323-AAPX or (415) 492-1300  
—Call AAPEX today!

**DISC MAKERS**  
**MONEY SAVING PACKAGES**  
**COMPLETE MANUFACTURING**



**CD'S LP'S CASSETTES**

PROFESSIONAL DESIGN DEPT.  
CALL FOR CATALOG  
**1-800-468-9353**

### TIRED OF PAPER LABELS ?

**INTRODUCING**  
AN AFFORDABLE  
ON-CASSETTE PRINTER  
The  
ARCOSET MINI PRINTER  
\$1800  
(Options Available)

For Sample CASSETTE & ordering Info  
CALL OR WRITE:

**THE ARCHON CORP.**  
(508) 777-8836  
43 Cherry St.  
Danvers, MA 01923

### When only the best will do!

Blanks w/on-cassette printing. Mastering-quality cassettes for real-time/recording studio use. TDK "SA" or BASF "Chrome" in Shape Mark-10 Shells (the best!).  
**AUDIO-VIDEOPHICS**  
(800) 322-2832  
FAX (816) 254-0045

### CHROME BLANK TAPES

Clear Shells	100	250	500
30 min.	.82	.77	.72
60 min.	.98	.93	.88
90 min.	\$1.18	\$1.13	\$1.08

Custom lengths available.

**BEST SERVICES UNLIMITED**  
Call for free samples. VISA/MC.  
(415) 547-5272 or (800) 627-7365.

### 3M AGFA AMPEX SONY

Audio, video & digital tapes  
Full line of accessories  
DAT recorders.  
Orders shipped within 24 hours.  
**R & M PRO AUDIO**  
1080 Pacheco, S.F., CA 94116  
(415) 665-8480



### REAL TIME DUPLICATION

Top quality cassette duplication on 56 Nakamichi decks. Custom labels, and inserts with complete packaging. Custom loading—CD premastering Digital DAT to DAT Transfers.  
call toll free 1-800-783-7372  
10650 East Bethany Drive, Suite B  
Aurora, CO 80014 303/755-9978

## Studios for Sale

**Producers—Engineers—Bands**  
Own a month or a week of World-Class Studio Time For the next 5-10 years!  
High Return on Investment  
Quality Acoustical Design  
Comfortable Mountain Setting

**Time Packages Now Available**  
(206) 793-2614

## Manhattan Studio

Best location. Two 24-track studios plus editing suite, Synclavier room, 4 offices and storage...6000 sq. ft.! Perfect for music production company, video post or jingle house. Loaded with latest equipment and features innovative studio design. Available well below cost. Creative financing possible.

Call (212) 410-7197 and leave message.

Audio/video studio on private, secure, 6+ acre country estate. 3,000+ sq. ft. studio, four-bedroom home, barn with stable and apartment. \$875,000. Newtown, CT. 1.5 hours to NYC. Owner/broker (203) 426-5385.

Country studio available in Western Conn. 1-hr. to mid-Manhtn. 3-years new. Studio includes: (2) 24-trk Studer A80s and an API console. Studio in lovely home set in lush nature setting. Call for details. (516) 821-9836.

### INVESTMENT OPPORTUNITY OF A LIFETIME

### WORLD-CLASS RECORDING STUDIO

Two-Studio Recording Complex designed by Tom Hidley. Valued over \$1,000,000. Features \$300k+ in State-of-the-Art recording equip. Studio & mixing rooms ranking among the World's largest. Three yrs. in the making. This 1-1/2 yr. old, Top-Rated complex offers Pvt. Producers, Jingle Cos. and Indep. Labels unsurpassed, perfect sound. Proprietary Concerns Necessitate Early Disposal.  
**OWNER**  
(318) 868-8873  
(318) 868-6907

## Miscellaneous



### POP FILTERS

An absolute necessity for every studio  
\$49.95 includes screen, clamp, gooseneck and shipping

Call or Write for Free Brochure  
Outside CA (800) 446-7677  
Inside CA (818) 788-3635

**POPPER STOPPERS**  
P.O. Box 6010—658, Sherman Oaks, CA 91413  
DEALER INQUIRIES WELCOME  
SATISFACTION GUARANTEED




**BRYCO PRODUCTS**  
**DATRAX**  
 Store your DAT tapes in a beautiful solid oak, wall/table mountable unit that holds up to 60 tapes.  
 FOR INFORMATION ON  
**DATRAX™ 60**  
 CALL (818) 783-9133

**Best Prices  
 Best Service  
 Best Names...**

**AMPEX AGFA  
 CANARE  
 FOSTEX MAXELL  
 NEUTRIK Switchcraft  
 LEADER 3M**

Call for our FREE Catalog filled with Professional Tape, Equipment, Accessories and Supplies.



309 Power Ave., Hudson, NY 12534  
 800-999-HAVE • 518-828-2000 (NYS)

**MASTERING**  
**REPLICATION PRINTING**  
 COMPLETE CD AND CASSETTE PRODUCTION  
**DIGITAL HOUSE**  
 FOR THOSE WHO HEAR THE DIFFERENCE  
**GRAPHIC DESIGN ART STUDIO**  
**TOTAL PACKAGING**  
**PERSONALIZED EXPERT SERVICE**  
**212-333-5950**  
 101 WEST 57th STREET, NEW YORK, N.Y. 10019



*Le Cover™*  
**CUSTOM COVERS...**  
 CALL NOW!  
 1-800-228-DUST

**MAG-TAGS**  
 MAGNETIC LABEL SYSTEM  
 192 LABELS—\$19.95  
 1 (800) 677-TAGS

MCI JH-110 1/4"-1/2-track, good condition, \$2,500 (Canadian). MCI JH-120 1/2"-2 trk, good condition, \$3,000 (Canadian). Luxman KD 117 R-DAT, \$2,000 (Canadian). (403) 424-3063, Gary. Offers accepted.

## How to Place a *Mix* Classified Ad

Please print or type in **CAPITAL LETTERS and lower case**. There are 8 lines to the inch and approximately 24 CAPITAL letters or 32 lower case letters per line. \$80 per inch—1" minimum. Additional lines \$10 per line. **BOLD TYPE** or Black Border \$10 per line. Gray screen \$15 extra. Logos or display advertising up to 4" will be charged at \$100/inch. Logos or display advertising must be camera-ready (width is 1-5/8" or 10 picas). Frequency discount rates available. Call for information. **Payment by check, money order or charge must accompany ad. DEADLINE is the 15th of the month, 6 weeks prior to publication.**

### Categories Available (check one):

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Acoustic Consulting    | <input type="checkbox"/> Equipment Rentals    | <input type="checkbox"/> Records, Tapes & CD Services & Supplies |
| <input type="checkbox"/> Business Opportunities | <input type="checkbox"/> Equipment Wanted     | <input type="checkbox"/> Recording Services                      |
| <input type="checkbox"/> Employment Offered     | <input type="checkbox"/> Instruction          | <input type="checkbox"/> Studios for Sale                        |
| <input type="checkbox"/> Employment Wanted      | <input type="checkbox"/> Maintenance Services | <input type="checkbox"/> Music Products/Software                 |
| <input type="checkbox"/> Equipment for Sale     | <input type="checkbox"/> Miscellaneous        |  |

Co. Name \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

I am paying by (check one):  VISA  MASTERCARD  AMERICAN EXPRESS

Card #: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Check or Money Order #: \_\_\_\_\_ Amount Enclosed: \$ \_\_\_\_\_

### MAIL TO:

**Mix Classifieds, Attn: Robin Boyce**, 6400 Hollis St. #12, Emeryville, CA 94608  
 Toll-Free Order Line: (800) 747-3703 (415) 653-3307 FAX: (415) 653-5142

Ad Copy: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Attention Advertisers!

Don't miss *Mix's* Northeast Recording issue—May 1990!

**Ad Closing: March 7**

Phone: Jeffrey Turner, director of advertising sales, at (415) 653-3307, or Michele Kanatous, Eastern advertising manager, at (212) 545-5166.

## ADVERTISERS INDEX

PAGE	ADVERTISER	ActionFax #	PAGE	ADVERTISER	ActionFax #	PAGE	ADVERTISER	ActionFax #
157	Ace Music Center		63	DigiTech		54	New River Studios	
48	Acoustic Systems		131, 141	Disc Makers		152	Orban.....	(415)957-1070
25	Agfa		14	Dolby Laboratories		7	Otari.....	(415)341-7200
90	Agfa Forum		59	Dreamhire		133	The PAN Network	
87	Akai/IMC		42	EAR Professional Audio/Video		115	Penn Fabrication	
23	AKG Acoustics		30	Electro Sound		67	Platinum Post	
31, 81	Alesis Studio Electronics		56	Emerald Sound Studio		157	Polyline	
95	Alfa Recordings		85	Europadisk		129	Pro Audio Asia	
IBC	Allen & Heath.....	(203) 795-6814	108	First Light Video Publishing		123	Professional Audio Services & Supply	
49	Allen-Marlin Productions		95	Focusrite Audio Engineering, Ltd.		15	Prosonus.....	(213)462-7036
8, 146	Ampex		20	Fostex		40	Rane	
109, 154	AMS Industries		127	Full Compass Systems		47	The Recording Workshop	
91	Antex Electronics		138	Fullersound		67	RhythmCity.....	(404)233-1581
73	Anvil Cases		130	Full Sail Center for the Recording Arts.....	(407) 671-1112	147	RolandCorp US	
141	Apex Machine Company.....	(305)563-2844	84	Gold Line/Loft.....	(203) 938-8740	166	Howard. W. Sams & Company	
102	Aphex Systems		35	Grove School of Music		132	Sansui/KDS Technologies	
114	API Audio Products		48	The John Hardy Company		70	Sennheiser	
66	Apogee Electronics		122	Hill Audio		136	Shape	
26	Applied Research & Technology (ART).....	(716) 436-3942	130	HRC Magnetics		38-39	Shure Brothers.....	(312)866-2279
80	The Art Institutes		94	Hybrid Arts		62	Sixteenth Ave. Sound Recording Studios	
124	Sam Ash Professional		129	Illbruck		11, 43	Solid State Logic (SSL)	
108	Audio Images.....	(415)957-1531	133	Imperial Tape		20-21, 24, 51, 93	Sony Professional Audio	
137	Audio Intervisual Design		131	Institute of Audio-Video Engineering		57	Sound Emporium	
128	Audio-Technica		124	Institute of Audio Research.....	(212) 677-6549	72	SoundScape Studios	
119	BASF		BC	JBL Professional		150	Soundtracs	
112	Bose		135	Jensen Transformers		159	Southern Tracks Recording	
62	Brainstorm Electronics.....	(213)475-7570	50	JRF Magnetic Sciences.....	(201)579-6021	4-5	Studer Revox	
80, 142	Burlington Audio/Video Tapes.....	(516)678-8959	138	KABA Research & Development		92	Studio Consultants	
42	C-T Audio		92	K-disc Mastering		34	Studiomaster.....	(714)524-5096
159	CalSwitch.....	(213)327-2741	69	Kiva		47	Summit Audio	
105	Carvin		98	Klark-Teknik Electronics.....	(516)420-1863	82	TAC/Total Audio Concepts	
68	Castle Recording Studio		17	Leonardo Software		106	TAD/Technical Audio Devices	
143	Clarity Cassette Duplication.....	(207) 873-3924	97	Lone Wolf		29	Tannoy.....	(519)745-2364
116	Community.....	(215)874-0190	84	LT Sound		76-79	TASCAM	
36	Conservatory of Recording Arts & Sciences.....	(602)277-6552	36	Markertek Video Supply.....	(914)246-1757	111	Technics	
149	J.L. Cooper Electronics.....	(213)822-2252	21	MasterMix		50	Thoroughbred Music	
46	Crawford Audio		64-65	Maxell		37	The Toy Specialists	
148	Crest Audio		104	Media Associates		58	Trident	
117	D & R USA		75	Mix Books/Hal Blaine		121	Turbosound	
139	D.A.T. — Audio Gallery.....	(213)829-0304	170	Mix Publications.....	(415)653-5142	41	University of Sound Arts	
27	The DATStore.....	(213)470-6176	143	National Sound Engineering (NSE)		86	Valley Rental	
			IFC-1	Neve		166	Vertigo Recording Studios	
			18-19	New England Digital (NED)		110	V.R.I. Scharff	
						52-53	Yamaha Professional Audio	
						144	Zoom	

**MIX** THE RECORDING INDUSTRY MAGAZINE

**ACTIONFAX**

Advertisers with Fax numbers listed above are happy to supply *Mix* readers with product information. Simply fill out this form and Fax directly. Photocopy this page if you need additional copies.

Advertiser \_\_\_\_\_ Adv. Fax # ( ) \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Tel # ( ) \_\_\_\_\_ Fax # ( ) \_\_\_\_\_

Please send additional information about \_\_\_\_\_  
as seen in the \_\_\_\_\_ issue of *Mix*.

Please send this information by:  Return Fax  Mail  Please have a salesperson contact me.

# Saber series



#### 16-track systems

24, 32 and 40-channel versions, 16-track monitoring and metering. MIDI muting as standard. 40 remix inputs with EQ and fader in a 24:16:16 console only 1.25m wide. Patchbay option.

#### 24-track systems

28 and 36-channel versions, 24-track monitoring and metering. MIDI muting as standard. 60 remix inputs with EQ and fader in a 36:16:24 console only 1.75m wide. Patchbay option.

#### PA/Theatre Systems

24, 32 and 40-channel versions. 8x8 Matrix Output system. MIDI muting as standard. Compact, low profile console, easy flightcased.

#### All Saber consoles feature :

- Modular construction
- 16 bus routing
- 6 auxiliary sends
- MIDI mute memory system
- Stereo input module option
- Excellent audio performance
- High quality appearance and finish
- High reliability and technical support

*Saber and Sigma—the multi-track consoles from...*

*...the total sound spectrum.*

**Saber Recording Version** including patchbay and Bargraph meters. 32:16:16 LBGPB.

*For In-line recording consoles we offer our Sigma series.*

**ALLEN  
&  
HEATH**

# Small Monitor. Big Difference.



In the recording business, little things can often make big differences. Studio monitors, highly sophisticated critical listening devices, are certainly no exception. Our Control Series™ compact personal monitoring systems each provide the performance characteristics demanded in today's recording environments.

Take our Control 5™ for example. You get power handling capacity of 175 watts, outstanding dynamic range, smooth frequency response and excellent clarity

and imaging. This high power, low distortion system is housed in a non-resonant polypropylene structural foam enclosure.

Today you can find Control 1's in home studios and midi workstations; Control 5's in major recording and teleproduction facilities; Control 10's in foreground and background systems, corporate boardrooms and teleconferencing facilities. And the two-way horn loaded Control 12SR, a logical extension of the technology, in sound reinforcement applications from supper



*Control Series. Compact high performance monitors designed to meet a broad range of fixed and mobile applications.*

clubs and discotheques to small tour sound systems. Control Series meets such diverse applications because they are, above all else, powerfully honest.

## **Versatility, the Other Advantage.**

Designed to accommodate a wide variety of specialized mounting brackets, Control Series monitors can go virtually anywhere. On the console, on the wall, on the ceiling, in a rack, on a tripod, keyboard or mic stand. Control 10's and 12SR's even come with a built-in handle so they travel like a seasoned professional.

Next time you're looking for a super compact high performance loudspeaker system, remember Control Series then go see your JBL dealer. Look at the specs, then listen to the big difference.



JBL Professional  
8500 Balboa Boulevard, Northridge, CA 91329 USA