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# MIX

THE RECORDING INDUSTRY MAGAZINE

The Rockin' Return  
of Little Feat

What's New in  
Studio Monitors?

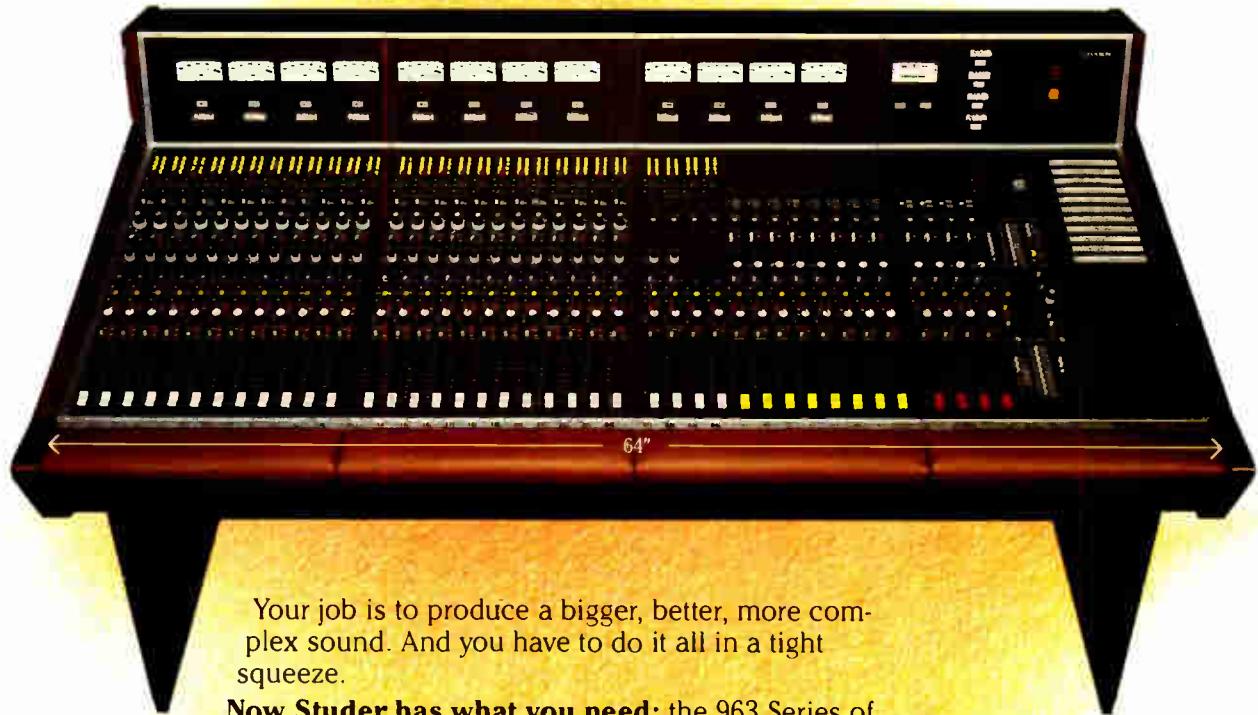
Directory: Southeast  
Recording Studios

Special  
Supplement:  
Recording & Music  
in NASHVILLE



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# MIX

MARCH 1988

THE RECORDING INDUSTRY MAGAZINE

VOL. 12, NO. 3



PATTI PAGE



PAGE 46



STUDIO MONITORING



BRANFORD MARSALIS

PAGE 148

## FEATURES

- 30 STUDIO MONITORING SYSTEMS**  
by Linda Jacobson

- 65 NASHVILLE RECORDING:  
A Special Supplement**  
(see separate contents page)

- **The History of Nashville Recording**  
by Robyn Flans
- **Audio Engineering:  
Getting Started in Nashville**  
by Greg Armbruster
- **The Class of '88**  
by Robert K. Oermann
- **Producer's Desk: Harold Shedd**  
by Robyn Flans

- 92 JIM STEWART & THE  
SAGA OF STAX RECORDS**  
by Rose McAfee Clayton

- 96 CUE SYSTEMS FOR MUSICIANS**  
by Paul Potyen

- 105 YAMAHA: R&D IN NY**  
by Dan Daley

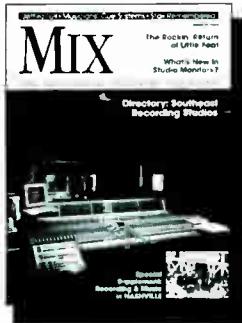
- 26 THE FAST LANE: Openers**  
by Stephen St. Croix
- 40 LUNCHING WITH BONZAI: Bill Payne**  
by Mr. Bonzai
- 46 THE HAL BLAINE STORY: Patti Page**  
by Hal Blaine with David Goggin
- 52 ARTIST'S STUDIO: David Holman**  
by Stephen Padgett and Paul Klingberg
- 61 FIELD TEST: Rane SP-15**  
by Andrew Scheps
- 101 INTERACTIVITY: The First CD-I Disc**  
by Lou CasaBianca
- 112 SOUND ON STAGE: Sound Reinforcement  
News & Tour Update** by Mark Herman
- 120 SOUND ON STAGE: On Tour with  
Jimmy Buffett** by Greg McVeigh
- 126 MI UPDATE: Got Live If You Want It**  
by Craig Anderton
- 132 MUSIC NOTES: Jethro Tull, Chicago House  
Music, Cypress Records, Producers  
Bunetta & Chudacoff**
- 148 PLAYBACK: Branford Marsalis**  
by Robin Tolleson
- 157 AFTER-MIX: GRP Takes DAT Plunge**  
by Philip De Lanie
- 165 POST-SCRIPT: Breaking into Audio-for-  
Video Sweetening & Post-Production**  
by Miles Christensen

## COLUMNS

- 14 INSIDER AUDIO: Optical Storage Methods**  
by Ken Pohlmann

- 24 JUXTAPOSITIONS: Monitoring Opinion**  
by Mel Lambert

# FROM THE EDITOR



**Cover:** Owned by Larry Butler, Eleven Eleven Sound (the name derives from the studio's Nashville street address) is equipped with the new Neve V Series III 48 x 48 console. GML Moving Fader Automation, Mitsubishi 850 32 track and X 80A 2 track digital recorders, Studer 24 track and 2 track analog recorders, assorted outboard gear and Sierra Audio monitors with oak dispersion horns.

**Photo:** Don Putnam

Insert photo courtesy of Nashville Chamber of Commerce

## DEPARTMENTS

- 6 CURRENT**
- 8 INDUSTRY NOTES**
- 10 SESSIONS/STUDIO NEWS**
- 56 PREVIEW**
- 205 MIXWORDS**
- 206 CLASSIFIEDS**
- 210 AD INDEX**

## DIRECTORY

### SOUTHEAST RECORDING STUDIOS

- 171 LOCATION INDEX**
- 174 24+ TRACK**
- 189 12 & 16 TRACK**
- 196 4 & 8 TRACK**



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The first week of March poses conflicts for those who like to get their industry updates firsthand. The international meeting of the Audio Engineering Society runs headlong into the annual homecoming for advanced applications of the compact disc, Microsoft's CD-ROM Conference, in Seattle.

The latter, while only in its third year, has become a bombshell testing sight for concepts such as CD-I (1986), DV-I (1987) and has certainly been *the* networking party for CD-ROM types. And while CD-ROM has caused more of a stir in the computer world than in audio to date, its impact on recording and catalog material will be substantial. Baby businesses are being formed over cocktails and power lunches at this trendy be-in, and the new partners are jumping from film and video, software design, publishing and record making into the uncharted CDs.

Microsoft's conference is still relatively small by today's industry convention standards, and the price tag is steep: \$950 for the three-day event. But if CD-ROM hits its stride, as many feel is inevitable over the next couple of years, this show may very well become the cornerstone of an exciting new industry.

Both International AES and Microsoft CD-ROM are valuable contact zones, and their futures indicate an increasingly important place in the development of technology and understanding. It would be nice if they didn't occur at the same time next year.

• • •

Another new column joins us this month: "The Fast Lane," by Stephen St. Croix. Considered by some the Tom Swift of the recording industry, Stephen has built a remarkable career by developing high technology products, leaving his creative mark on many popular records, and getting to places very quickly. As owner of Marshall Electronics he created the Marshall Time Modulator and the Tape Eliminator, and invented the computer process known as Revectoring, which removes noise and distortion from old audio recordings. An active recordist on both sides of the glass, Stephen is a fan of high speed sports and spends his "leisure time" racing cars and motorcycles. "The Fast Lane" is where he will share his views of where things are going in this industry and how quickly we can get there.

Keep Reading,

David Schwartz  
Editor/Publisher

# CURRENT

## Mix Publications Moves

Mix Publications, Inc., has moved to new corporate headquarters in Emeryville (6400 Hollis Street #12, Emeryville, CA 94608, 415-653-3307), doubling the space previously occupied and consolidating 55 employees and all operations—*Mix* magazine, Mix Bookshelf and *Electronic Musician*—under one roof.

Located in Jelly Bean Square (former Goelitz Jelly Bean Co. warehouse), *Mix* occupies a custom-designed, 11,000-square-foot site with room for expansion. Co-founder David Schwartz envisions another corporate division within the year, an arm of the company dealing with information services.

"Our growth is determined by the explosion in music and media technologies and things are really popping," says Schwartz. "There is a new generation of instruments, an incredible growth in home recording studios, and astonishing advances in high-end technology for the professional audio and video producers. Mix Publications is devoted to providing information on those technological advances."

## ATSC Approves HDTV Standard

In early January the full committee of the United States Advanced Television Systems Committee (ATSC) announced the approval of the 1125/60 high definition production standard for the electronic production of HDTV programs.

The Society of Motion Picture and Television Engineers (SMPTE) documented the 1125/60 standard at the request of the ATSC and others. After SMPTE's approval, the ATSC Technology Group on High Definition Television gave it the go-ahead last September.

In 1985 and again in '87, the ATSC

recommended to the U.S. Department of State, that the U.S., in meetings of the Consultative Committee on International Radio (CCIR), support the 1125/60 standard as a single worldwide standard for HDTV.

## Video Expo

More than 10,000 prospective buyers will be combing the aisles during the Video Expo, May 11-13 at the

Los Angeles Convention Center.

Co-sponsored by *Mix* magazine, Video Expo offers audio equipment displays along with seminars, including "Advanced Audio Techniques," "Audio-for-Video Post-Production" and "Audio: The Basics." Booth space is still available. For more information contact Barbara Stockwell at (800) 248-5474 outside New York, or (914) 328-9157.

## Bob Liftin In Memoriam

Audio pioneer Bob Liftin passed away on January 8, after a long and distinguished career in professional audio. Suffering from cancer, he continued working until the end, engineering for the CBS New Year's show broadcast from New York's Waldorf Astoria.

Liftin began his career as a teenager with CBS, engineering audio for radio soap operas and then made the transition to audio for live television. He launched Regent Sound Studios in the late '50s, was a founding member of SPARS, and served as president and chairman of the board.

"Bob was always five years ahead of the industry," recalled Sandi Morrof, general manager of Regent and A2 (TV audio assistant) for the past seven years. "He was instrumental in developing SMPTE lock-up and synchronization of audio and video and also paved the way for much of the computerized, digital storage that is used today. He was a tremendous human being—the man was a champ."

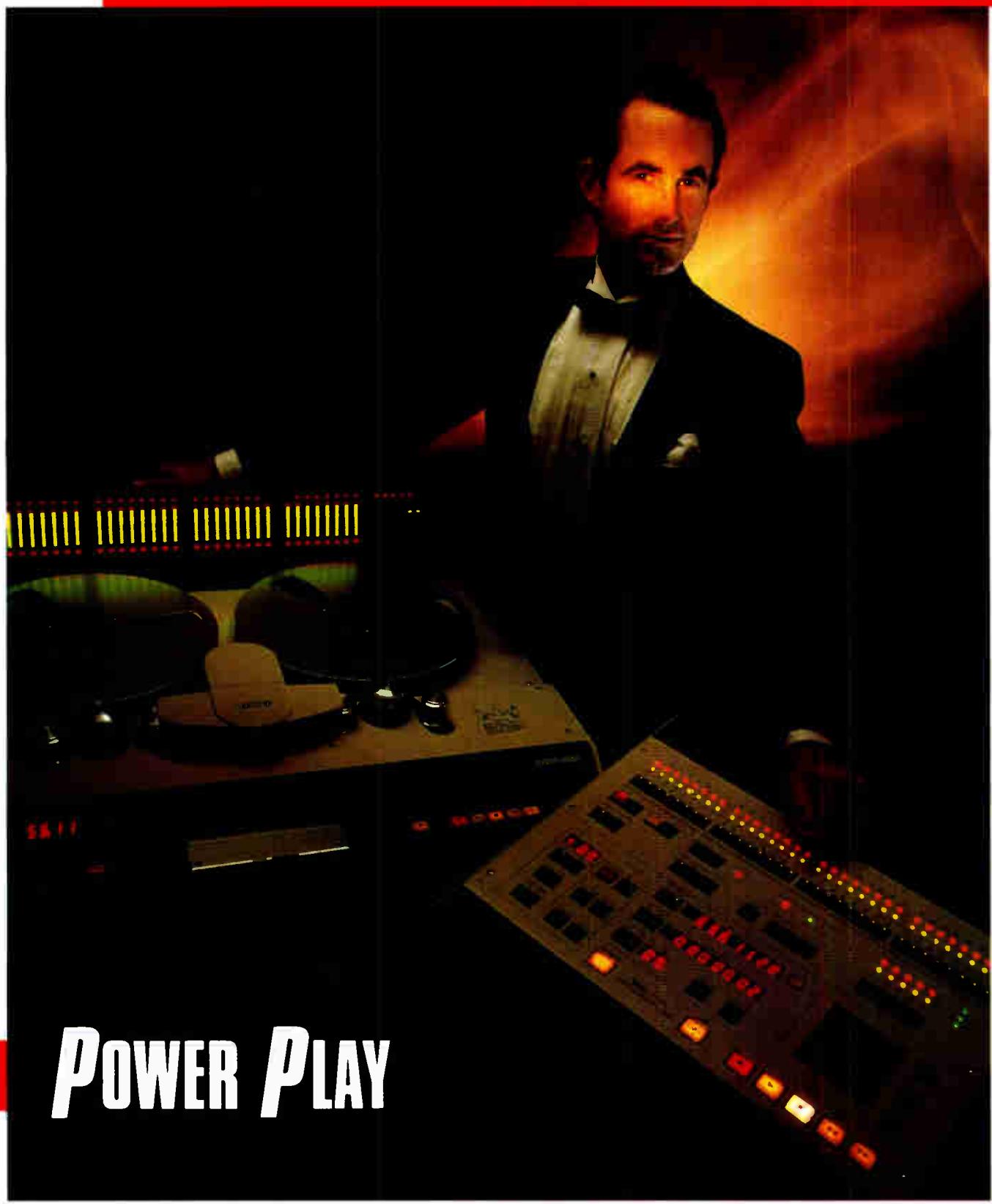
As an audio consultant and engineer, Liftin was associated with some of the most prestigious broadcast events: the 1986 Liberty Weekend, the Tony Awards, Radio City Music Hall live broadcasts, *Live Aid*

from Philadelphia, *The Jerry Lewis Telethon*, and he served as audio consultant for *Saturday Night Live* since its inception.

"He was in love with audio," said Dave Teig, studio manager at Servisound, NE Coordinator of SPARS, and longtime friend. "He was an innovator and tireless in his pursuits."

"Bob believed in people," said Sandi Morrof. "If he saw potential, he gave people the chance to succeed in this industry—and they came through for him. A lot of us owe our position to his faith, guidance and understanding."





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# INDUSTRY NOTES

**E-mu Systems** has formed a subsidiary company, **E-mu Systems Ltd.**, to serve as a sales and distribution hub for its European and international sales. The company, located in East Lothian, Scotland, will be headed by **Roy Goudie**, formerly E-mu's European sales manager... **Oberheim** has moved to a new 35,000-square-foot facility at 2015 Davie Ave., City of Commerce, CA 90040, (213) 725-7870. In addition, **Mike Papa** has been named Oberheim's vice president of sales... **Creative Audio Recording Services**, a NYC digital direct-to-disc facility, is offering seminars on tapeless audio post-production/recording. Hosted by studio owner **Shelton Leigh Palmer**, the seminars can be booked by calling (212) 714-0976. Palmer also named **Carl Rosenberg** executive producer of special projects... **Synoptics**, the special visual and graphics effects division of Editel/LA, has purchased an Intelligent Light 3-D computer graphics animation system. It will be operated by **Debbie Krikun**, who joined Synoptics as designer of animation projects. In other Editel/LA news, **Larry Bracco** was promoted to director of commercial sales... **Chris Albano** has joined *Electronic Musician* magazine as advertising manager for the Eastern sales region... A competition for a new work for live performance on a digital performance instrument is being sponsored by **Dartmouth College**'s department of music and **New England Digital Corporation**, with a \$5,000 first prize lure. Interested parties can receive entry regulations by writing: Competition, The Bregman Electronic Music Studio, Hopkins Center, Dartmouth College, Hanover, New Hampshire 03755... **Electro-Voice, Inc.** (E-V) has made the following appointments: **Terri South** as creative director, **Tammie Blackman** as public relations director, **Ivan Schwartz** as broadcast/production marketing specialist, **Doug MacCallum** as general manager of E-V Canada and **Garry Templin** as national sales manager of E-V Canada... **Amek Systems and**

**Controls, Ltd.**, is expanding operations and has a new address: New Islington Mill, Regent Trading Estate, Oldfield Rd., Salford M5 4SK, England. The company has also appointed **Ray Dilfield** technical support engineer for the U.S. operation... **Drew Topel** has joined **American Interactive Media, Inc.** as software engineer... SF's **Pacific Video Resources** has hired **Charlene Jones** to its front office staff... **D & R** has appointed **Paul Westbrook** national sales director for their U.S. offices in Arlington, Texas... **Synergetic Audio Concepts** (Sync-Aud-Con) will hold a loudspeaker designers workshop in Atlanta March 17 to 19. For more information, call (812) 275-3853... Total Tape Co. Limited, of Ft. Lauderdale, FL, has changed its name to **Fort Digital Recording Studios**... **Toa Electronics, Inc.** has appointed the following representative firms for their professional music & entertainment division product line: **ASR Enterprises** (MD, VA, eastern PA, DE and NJ), **Bencsik Associates** (FL and PR), **Kodo Associates** (MN, ND, SD and northwest WI) and **Piper Associates** (MA, ME, NH, VT, CT and RI)... The **Academy of Recording Sciences**, a new 12-week training program for working in professional recording studios, has opened in Phoenix, Arizona. Interested students can get more information by calling (602) 493-9898... **Mary Gruszka**, formerly senior project engineer with CBS, has formed **MCG Audio Consulting**, specializing in TEF® audio and acoustical measurements of control rooms, audio, video and communications systems designs, location sound recording and technical writing. The company's address is: 88 Myrtle Ave., Edgewater, NJ 07020, (201) 224-4937... **Applied Research and Technology** appointed **Jim Bonis** marketing manager... **Denon America**, a New Jersey manufacturer of consumer and professional audio components, has appointed **Laura Tyson** as product manager for its professional broadcast line...

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# SESSIONS AND STUDIO NEWS

## SOUTHEAST

**Music Works** in Hollywood, FL utilized its new Emax sampler to work on a corporate video for **General Electric**... At **International Sound** in North Miami Beach, **Clarence Clemons** was in mixing tunes for a forthcoming solo album with **Eric Schilling** at the board, assisted by **Mike Strick**... **Fetchin' Bones** finished their second Capitol LP, *Galaxy 500*, at **Reflection Sound Studios** in Charlotte, NC. **Don Dixon** produced, **Steve Haigler** engineered... At **Low Overhead World Headquarters** in Jacksonville Beach, FL, Atlantic artist **John Philip** was in doing demos for an upcoming LP, and **Mike Angelo and the Idols** cut tracks for their second album... **Mavis Staples** (of the Staple Singers) was in at **Ardent Recording** in Memphis cutting tracks for a solo album coming out on Prince's Paisley Park/Warner Bros. label. **Al Bell** produced and **William Brown** engineered... The Atlanta-based rock group **Native** recently invaded that city's **Master Sound Studios** to complete four tracks for their upcoming debut on Arista. The LP was produced and engineered by **Bill Drescher**, assisted by **Jeff Tomei**... **Tennie Hedges** was among the artists working on demos recently at **Cotton Row** in Memphis. **Roland Robinson** produced, **Eric Patrick** engineered... Guitarist **Terry Mitchell** has been recording original instrumentals for a future album at **Memphis Sound**. The project is being engineered by **John Fleskes** and **Dan Pfeifer**... **Jimmy Buffet** was in at Miami's **Criteria Studios** doing overdubs for his latest. Producing was **Ralph McDonald**, with engineer **Jay Rifkin** behind the board... At **Soundshop Recording** in Nashville **The O'Kanes** mixed their new album for CBS. The LP was produced by group leaders **Jamie O'Hara** and **Kieran Kane**, and engineered by **Pat McMakin**... At **Musiplex** in Atlanta, **Dan**

**Baird** of the Georgia Satellites worked on the **Nasty Bucks'** reunion recording. **George Pappas** engineered... At **Cheshire Sound Studios** in Atlanta, **The Consolers** completed tracks for a new album with **Tom Wright** producing and **George Pappas** engineering...

## NORTHEAST

**John Cafferty & the Beaver Brown Band** were in **Normandy Sound** in Warwick, RI, mixing material for their new Scotti Brothers/CBS album. **Tom Soares** and **Karl Rasmussen** were at the SSL, with **Mike Skeffington** assisting... **Doug E. Fresh** was in NYC's **Planet Audio/Video** working on tracks with engineer **Ollie Cotten** for an upcoming release on Reality Records... Japanese free jazz artist **Akira Sakata** was in Manhattan's **Quad Recording** with producer **Bill Laswell** and mixer **Bob Musso**... Folk musician **Doug Ecker** completed recording and mixing his third album at **Ear-Relevant Sounds** in Westford, MA. **Bob Wey** engineered... In at **Tiki Recording** in Glen Cove, NY, was Arista artist **Taylor Dayne** working on her LP with producer **Ric Wake** and engineer **Bob Cadway**... Producer/artist **Michael Goldfinger** has been in NYC's **D&D Recording** working on several tracks for an upcoming LP with engineers **John Leposa**, **Mark Plati** and **Dennis Thompson**... Rap king **Kurtis Blow** worked on his latest at **Quantum Sound** in Jersey City, NJ. Producing were **Jack Walker**, **The Jaz** and **James Batton**. Engineering was handled by **Greg Mann**, assisted by **Noah Baron**... **Meatloaf** was in at NYC's **Platinum Island** mixing his *Meatloaf Live* LP for Arista. **Tom Edmonds** produced and engineered, assisted by **Oz Fritz**... **Sountec Studios** in Norwalk, CT, recorded a soundtrack for a big orientation show by **Hitachi America**. **Jerry Liotta**

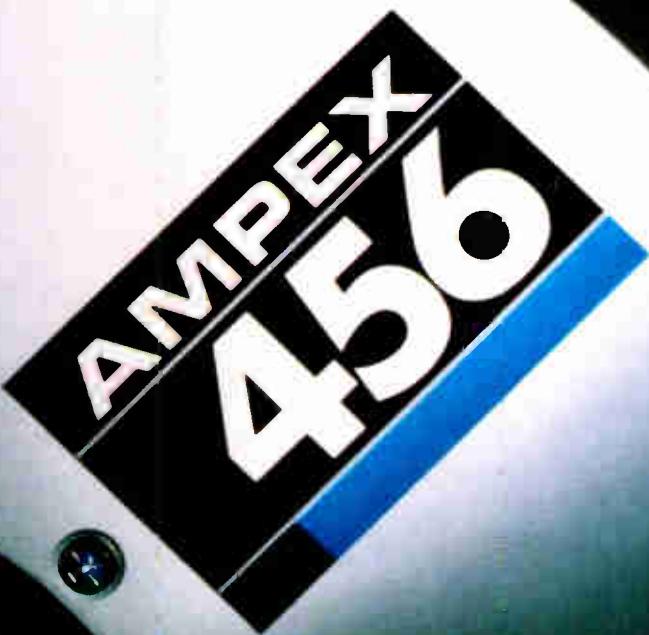
produced and **Myles Davis** engineered... At **Newbury Sound** in Boston, **Delfeayo Marsalis** was in producing a new jazz release by **David Greenway**. **David Van Slyke** engineered... **Run DMC** have been cutting their new album at NYC's **Chung King House of Metal**. **Steve Ett** is engineering that one. Def Jam artist **MC Breeze** has also been in Chung King recently, working with the **L.A. Posse** producing and **Greg Gordon** engineering... RCA artist **Vicki Sue Robinson** was in at **Audio West Recording** in West Haven, CT, working with producer **Brian Keane** and engineers **Joe Mendyk** and **Bill Burke**...

## NORTH CENTRAL

At **Paragon Recording** in Chicago, **Marty Feldman** produced an album by ex-Kenny Rogers pianist **David Cole**. **John Peiluso** engineered, assisted by **Scott Barnes**. That LP is due in the spring... **Candy J.** came into Chicago's **Seagrape Recording** with her producer **Kenny Jamin Johnson** to record vocal tracks for an upcoming Epic Records release. **Mike Konopka** engineered... At **Studio A** in Dearborn Heights, MI, singer-songwriter **Michael Bradford** worked on an album project with production assistance from **Earl Klugh**. **Eric Mergeson** was at the console, assisted by **Randy Poole**... At **Independent Recording** in Kokomo, IN, gospel artist **Rockland Lay** finished tracks for his first album with **David Bentzler** engineering...

## NORTHWEST

The **Ohio Players** were in Seattle's **London Bridge Studios** finishing an LP with engineer **Rob Brown**, assisted by **Rick Parashar** and **Peter Barnes**... At **Iron-**



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More top performers have signed with Ampex tape than any other tape in the world. While opinion may vary on what it takes to make a hit, there's no argument on what it takes to master one.

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Orban's new 642B Parametric Equalizer/Notch Filter offers unmatched versatility, superb specs, and highly musical equalization in a new generation of our famous and widely-used 622 series. The 642B represents Orban's continuing dedication to the art of creating the "most musical" parametric equalizers through the use of carefully designed, series-connected "constant Q" sections which minimize ringing and stridency.

The 642B's superiority over conventional parametric equalizers is particularly apparent at the extremes of its boost/cut parameter and at narrower bandwidths on difficult program material. In situations like these, the 642B's performance provides consistently satisfying results without complications or unpleasant surprises.

	Band 1	Band 2	Band 3	Band 4
<b>Model 642B</b> (Same in both channels.)	25-500Hz	80-1.6kHz	315-6.3kHz	1-20kHz

### Special Application Versions

**Model 642B/SP**      80-1.6kHz      80-1.6kHz      315-6.3kHz      315-6.3kHz

(Same in both channels. Limited frequency range for speech processing, forensic work, notch filtering/feedback suppression, and similar applications.)

**Model 642B/SPX**   Frequency ranges of 642B in channel A; 642B/SP in channel B (For combined full-frequency range broadband shaping and restricted-range narrowband notching.)

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- Dual 4-band or mono 8-band configuration selectable by the front-panel Cascade switch
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### Orban Associates Inc.

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World Radio History



wood Studio in Seattle, engineers **Paul Scoles** and **Jay Folette** worked on remastering some **Ernest Tubb** tapes recorded by producer **Jan Kurtis** back in 1965 and set for re-release as a TV package . . . **Club Nouveau** was in at Richmond, CA's **Starlight Sound** with producer **Jay King** and engineer **Steve Counter** doing a mix session. **Split Image** also finished an album session there with Counter . . . Country artist **Eddie Preston** was in at **Triad Studios** in Redmond, WA, working on final mixes for his debut album with **Norman Ratner** producing and **Tom Hall** and **Lary Nefzger** engineering. Hall also co-produced and engineered a project for **Bourbon Street** at Triad . . . Recent clientele at **The Phoenix** in Vancouver, BC, were **Bryan Adams**, **Long John Baldry** and **Mark Hasselbach** . . . SF Bay Area rockers **A Private View** finished a five-song demo for CBS at **The Source** in Oakland, with **Robert Farrell** engineering and co-producing with the band . . .

## SOUTHWEST

**Sounds of Joy** have been recording their fourth album at **Rivendell Recorders** in Houston with producer **Donny Monk** and engineers **Paul Mills** and **Steve Dady** . . . At **Lone Star** in Austin, the band **Peace Corps** recorded a ten-song demo with engineer **Michael Fogle**, and **Bronx Irish Catholics** did some editing on songs for their latest album . . . Chuy's Nightclub in Tempe, AZ, has been the site of extensive live-to-digital-2-track recording by **Tempest Recording**. Among the groups captured by Tempest were L.A.'s **Bonedaddys** and Arizona favorites **Major Lingo**. **Clarke Rigsby** produced and engineered . . . Island Records artist **Buckwheat Zydeco** recorded several tracks at **Goodnight Dallas** for the upcoming film *My New Car*. **Ruben Ayala** engineered and **Ted Fox** produced . . .

## SOUTHERN CAL

**Michael Wagener** mixed the debut MCA release by metal superstars **Krokus** at **The Enterprise** in Burbank, CA. The album was produced by **Chris Von Rohr** and **Fernando Von Arb**. **Juerg Naegli** engineered . . . Engineer **Erik Zobler** was at the controls at **Mama Jo's Recording** in North Hollywood mixing the upcoming release for producer/artist **George Duke** . . . Reggae artists **Stranger Cole & Rejoice** recorded and mixed a "safe-sex"



Tim Collins of Kentucky's new Revelation Production Group

anthem called "The Protection" at **Picki Music Productions** in Tustin. It was engineered by **Pete Carr** . . . **Larry Robinson** was in at **Westlake Studios** in L.A. producing a track for **Vanessa Williams**' upcoming Wing/PolyGram album. **Gerry Brown** engineered, while **Rob Van Arx** assisted . . . **White Field Studios** in Santa Ana handled the recording of some Budweiser commercials in both English and Spanish, the latter featuring **Jose Feliciano** . . . **Jeff Lorber** and **Rick Waritz** joined forces to produce the new **Nu Shooz** album at **Larrabee Sound** in L.A. Engineer **Taavi Mote** was behind the board . . . At **Mad Dog Studio** in Venice RCA artists **Boy Meets Girl** have been tracking and overdubbing for their new album. **George Merrill** is producing, **Joey Wolpert** engineering, assisted by **Don Tittle** . . .

## STUDIO NEWS

The Christian music scene in the Southeast got a big boost with the opening of the **Revelation Production Group**'s new 24-track studio in Corbin, Kentucky (two miles from I-75). The studio is equipped with a Sony 24-track, Sound Workshop console, all the latest outboard gear, a Yamaha 6-foot Pro Grand piano, an iso drum room and much more. **Tim Collins** is president of the new operation, which also incorporates a publishing division . . . In Nashville, **Treasure Isle Recording**'s president **Fred Vail** has been renewed for his fourth season as host of **Starmaker's Showcase** on WSVT radio. The show presents tapes by undiscovered bands . . . **Key Recording** in Jacksonville, FL, has expanded its keyboard and outboard gear collection with a Yamaha DX7, two RX5s, two SPX-90s, two Korg DW-8000s and more . . . **Sun-**

**set Productions** is a new 24/32-track studio in midtown Manhattan catering to music, television, film and advertising clients. It features Studer and Telefunken tape machines, a Harrison 4832 automated console, all the latest outboard gear, MIDI equipment and audio/video scoring facilities. For more info call (212) 832-8020 . . . **The Burbank Studios** (Burbank, CA) purchased six Otari MTR-90s and six EC101 internal synchronizers for their scoring and dubbing facilities . . . **Flyte Tyme Productions**, headed by producers Jimmy Jam and Terry Lewis, have purchased a Harrison Series Ten and a second Harrison MR-4 consoles to accommodate their new expansion. Flyte Tyme's studios are located in Minneapolis . . . After 18 years in one location, **Tiki Recording** of San Jose, CA, has moved into a new building at 195 26th St., San Jose, with two fully-equipped 24-track studios, a MIDI keyboard room, and in-house production capability with three producers and engineers . . . **52nd Street Audio** in Los Angeles has opened a new facility, designed and built by chief engineer Kris Solem, to house some new audio and post services the company is offering, as well as the corporate, marketing and administrative offices. The new offices are at 1741 N. Ivar, Suite 204, Hollywood, CA 90028 . . . **Modern Audio Productions** in Philadelphia has added an Adams-Smith synchronizer system and a Sony PCM 1630 digital audio recorder with a DMR-4000 recorder . . . **Dolby Labs**' new Screening Room Complex in San Francisco has been fitted with a Harrison MR-4 console . . . **The Music Deli** in Manhattan has purchased a Soundtracs CP6800 console . . . **Sound Impressions** in Milwaukie, OR, has taken delivery of an Otari MX-80 32-track, as well as the 24-track head stack to be compatible with standard format . . .

by Ken Pohlmann

# OPTICAL STORAGE METHODS

**U**nquestionably, the future of audio storage lies in the digital domain—the technology's high fidelity, large capacity, robustness, decreasing cost, and inherent flexibility in production applications all assure its continued growth and eventual dominance in the professional audio recording industry. Estimates at how long complete conversion to digital recording will take are really beside the point; the trend is unmistakable and rapid.

However, the question of specifics of that storage is another question altogether. There are many ways to record digital audio data, both in terms of signal encoding and physical storage. For now, it appears that PCM is firmly in control, and that at most, derivatives of that method such as ADPCM will compete. Sideline encoding methods such as delta modulation remain unfulfilled in the audio industry. The other question is much more difficult to assess; it is entirely

unclear what kinds of physical storage media will be employed. For now, most professional digital recording is probably modulated to stationary head multi-track and 2-track machines, with rotary head 2-track machines running a close second. The latter will be boosted by the introduction of the rotary head specialty recorder, the R-DAT. Certainly its low cost will help it win acceptance in the pro and semi-pro markets.

But any tape medium, whether stationary or rotary head, is inherently limited in that, among other things, data is stored sequentially. It is impossible, or at least frustrating, to quickly recover data from selected locations on the tape. As a result, perhaps the best way to edit tape is with razor blade splicing. While workable, this is certainly a throwback to analog olden days. Contemporary production methods call for much more sophisticated editing techniques. However

**Whatever the format, optical storage promises to surpass the performance levels of both analog and digital magnetic tape, or disk.**

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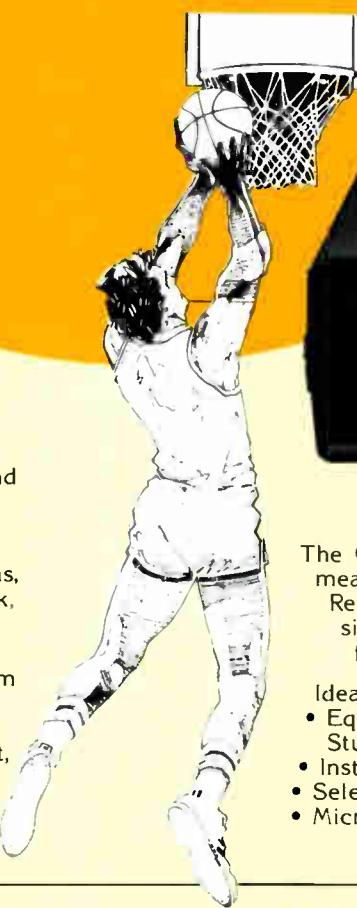
**AVAILABLE ACCESSORIES:** Carry case & remote instrument microphone with phantom power source.

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**FILTERS:** 30 bands on ISO centers to ANSI Class II double tuned specifications.

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## GL60 - REVERBERATION TIME METER

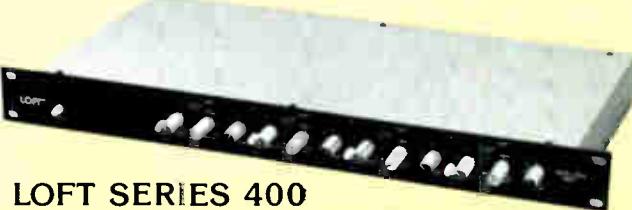
The GL60 is a professional instrument to measure the reverberation time of a room. Readings indicating the time it takes for a signal to decay by 60dB are displayed from .1 to 10 seconds.

Ideal for:

- Equalizing Reverb Times in Recording Studios
- Installing Sound Systems
- Selecting Speaker Locations
- Microphone placement

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## GREAT SOUNDING CROSSES / LIMITERS

**Featuring:** • state-variable LINKWITZ-RILEY filters to disperse sound better • calibrated level controls for precision settings • electronically balanced ins and outs • DC control on all pots • subsonic filters • extra gain (without the extra noise) • LED headroom indicators • high slew rate circuitry for digital sources • transient muting to suppress on and off spikes.

If your application requires limiting, LOFT offers single rack space models with soft-knee limiters.

Listen to a LOFT crossover. You'll hear how LOFT's advanced technology assures superb, uncompromising sound. Discover how LOFT's affordable price is just as impressive as its performance.

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## LOFT SERIES 400 PROBLEM SOLVING QUAD GATES

Whether your problems are leakage, ambient noise or rumble, amp pickup hum, or background noise, LOFT gates provide the solutions. They are perfect for gating drums, reducing multi-mike crosstalk, PA feedback and shutting off unused outputs.

The LOFT 400A offers comprehensive control with a choice of attack settings, and extra wide -80 to -8dBv threshold range, full 5 sec release, plus variable range (attenuation) to soften the gating effect.

The model 400B has 4 built-in limiters for those applications and special effects where limiting is helpful.

Both the 400A and 400B are complete with 4 key inputs. LOFT's affordable price is another problem solver.

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Model 400B \$599.95**

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even with electronic editing, any tape format presents severe problems, particularly with a large number of edits. In professional applications, tape recorders will surely go the way of analog tape. There is only the question: How much longer?

The answer to the problem of tape

storage has been the development of magnetic hard disk storage systems. These offer both efficient storage in themselves, as well as the all-important feature of random access. Using a large buffer memory, data may be located from any number of hard disks and assembled into the final form. The success of the technique has created a major move in the manufacturer

sector to develop hard disk-based recorders. By nature, these recorders are in reality much more than a traditional recorder; thus it makes perfect sense to bestow them with a new name: workstations.

Hard disk-based workstations offer an excellent consolidation of storage, editing, production, and interfacing features. A single workstation can take the place of several pieces of traditional studio hardware, offering cost savings. More importantly, using random access, and user friendliness, production time is decreased, while creative possibilities are enhanced. If there were no other technologies on the horizon, one could safely guess that the future belonged to the magnetic hard disk, embodied in a digital audio workstation. Its large capacity recordability, and random access make it a near ideal storage and production tool.

The shadow on the horizon is optical storage. This technology threatens magnetic hard disk storage precisely because it promises to improve on what hard disk can do. In short, optical storage can offer increased capacity, lower cost per bit, as well as the considerable advantages of a non-wearing medium which does not require backup, and is removable. Whereas other technology currently available may be only transitional, optical storage may complete the evolution from analog magnetic tape to digital optical disk.

However, optical storage is still an emerging technology. Its greater promise is counterbalanced by greater sophistication, and hence greater obstacles to its commercialization. Whereas any magnetic medium may be recorded, read and erased with relative ease, optical media accomplishing the same tasks are a good deal more complex. Thus it is advantageous to design optical storage with its application in mind. Specifically, three separate systems, read-only, write-once, and erasable media have been developed for separate applications. A mass-produced consumer-oriented system may best be read-only, whereas any professional application will certainly require recordability, and perhaps erasability. All of these systems are under various stages of development.

Moreover, optical storage is a multi-faceted technology not only with many formats, but many technologies

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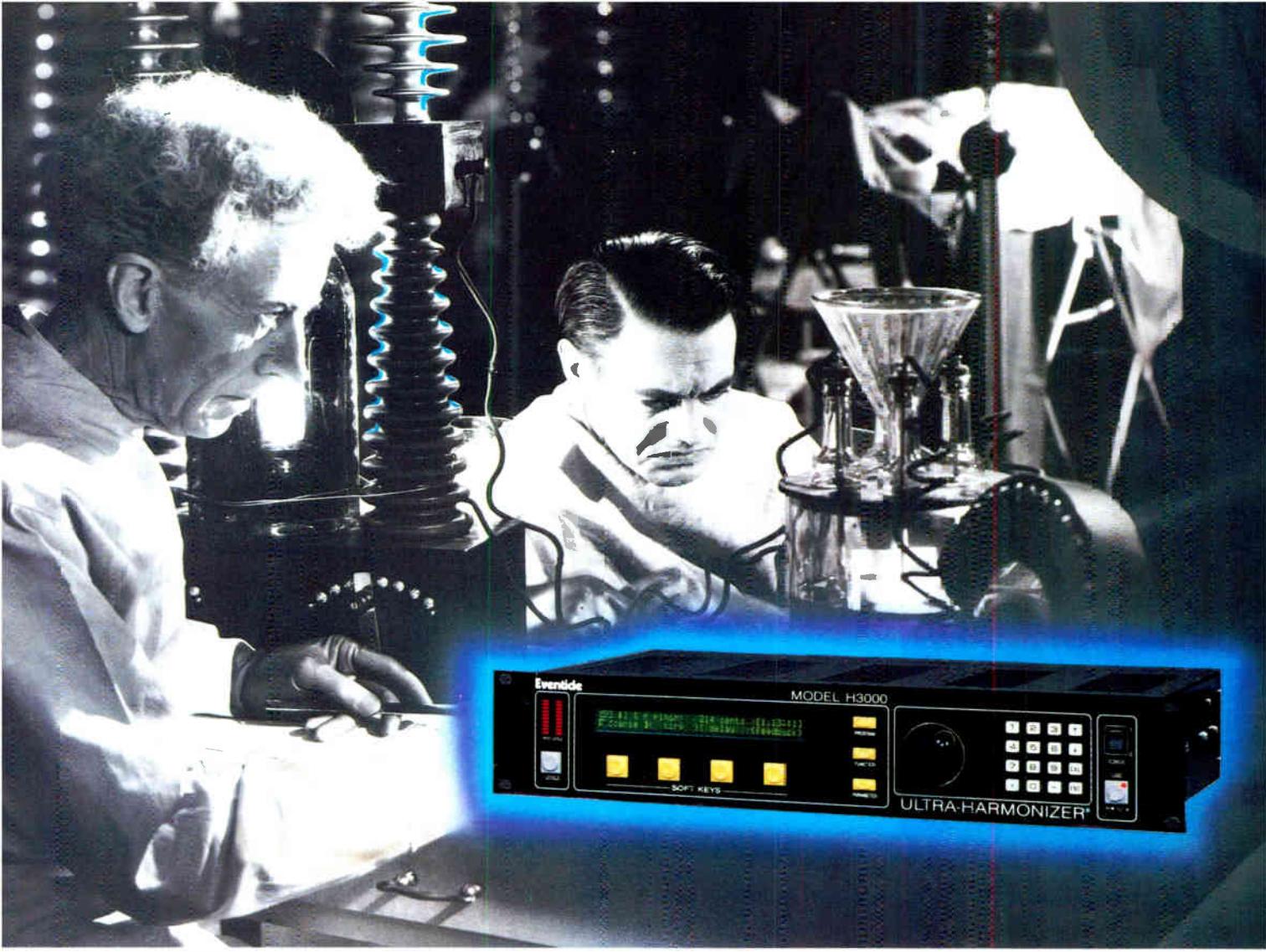
Each volume displays the instrument's complete musical depth, with several hundred sound variations per disc. All Prosonus CDs are first generation digital and are performed by the highest caliber professional musicians and recorded by seasoned studio engineers.

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S O U N D   L I B R A R Y

Circle #097 on Reader Service Card



# Eventide Re-Invents The Harmonizer®

 It all started on a dark and stormy night. We locked our engineering staff into the lab and told 'em they wouldn't get out until they created a monster—the ultimate Eventide Harmonizer.

Well, they're out now, and so is the fruit of their labors—the H3000 Ultra-Harmonizer. There's never been anything like it. If you're using an Eventide Harmonizer now, you're in for a shock. And (perish the thought) if you've never used one before, you're in for a thrill.

To begin with, the H3000 is the first STEREO Harmonizer. Not just two independent pitch shifters, but fully deglitched, in-sync suitable-for-broadcast, stereo pitch change. Plus, the H3000 gives you the world's best pitch change quality.

And the H3000's incredible Diatonic Pitch Change program does what no other pitch changer ever could—it generates musically correct harmony lines at any interval. You specify the key; the H3000 takes your single input and turns it into the correct triad chord. Neat, huh?

But now, listen to this: The H3000 Ultra-Harmonizer packs so much on-board processing power, those not-so-mad scientists at Eventide also gave it the capabilities of a high-end reverb and effects processor. You get dozens of superb quality factory programs, including a wide variety of Reverb, Multitap, Digiplex® and Chorus programs, and the potent Death Flange.

The H3000 is fully MIDI programmable, of course. Not just MIDI program change, but complete performance MIDI control of all parameters. And you can use most any MIDI-controlling sequencer.

We all know that most multi-effect boxes sacrifice audio quality for versatility. But not the H3000. It doesn't give up one iota of performance. We're talking typical 5Hz-20kHz ± .5dB frequency response, >92dB A-weighted signal-to-noise, full 16 bit resolution at 44.1 kHz sampling rate, and the most advanced effects algorithms in the business. Now you can see why we call it the ULTRA-Harmonizer.

OK, how much? That's the really uncanny part. The H3000 is almost HALF the price of our previous top-of-the-line mono Harmonizer! Hmm, maybe we should lock up our engineers more often. And definitely, you should see your Eventide dealer, pronto.

Circle #011 on Reader Service Card

# Eventide

the next step

One Alsan Way Little Ferry, N.J. 07643 (201) 641-1200

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## COMPUMIX IV

The Fourth Generation Console Automation System is here. Compumix IV advances dynamic automation technology far beyond the capabilities of other systems, to a level of sophistication and accuracy demanded by tomorrow's digital recording techniques.

The FORTH realtime software running in a 32-bit 68000 computer provides 4 simultaneous mixes on-line as well as write command recall accuracy of 1/10 frame. SMPTE time code driven, Compumix IV stores every frame (not only changes) making it possible to perform editing functions on-line. This requires an 80 Mbyte hard disk storage system designed for fast access in both read and write modes.

Compumix IV is designed to control up to 256 IDF fader functions in realtime through easy to operate touch-sensitive plasma control panels. An optional Graphics Display System is available.

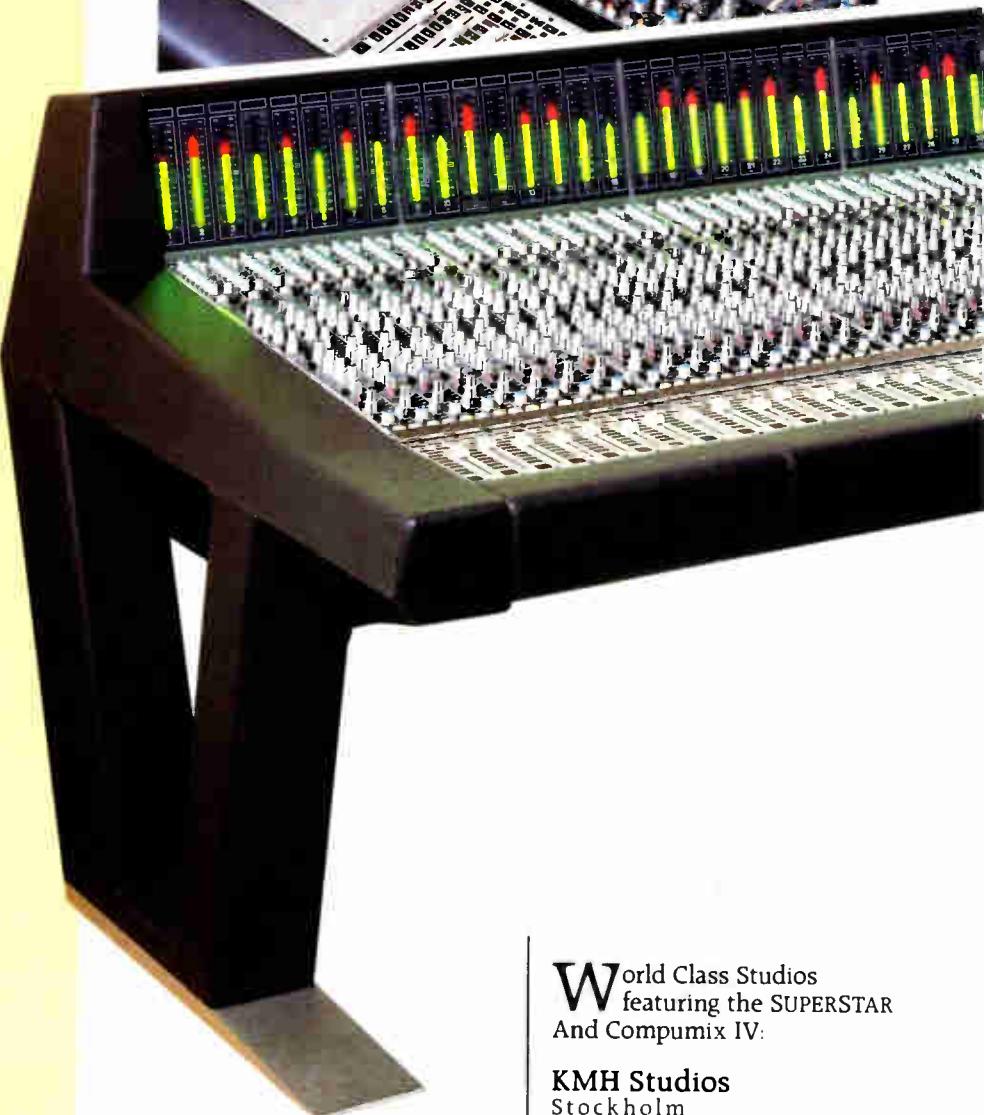
### INTELLIGENT DIGITAL FADER

The IDF is a microprocessor-based module that utilizes the most advanced technology available. The super smooth fader is a 10-bit digital encoder that supplies 0.25 dB resolution and 119 dB of dynamic range. The grouping functions are the most extensive ever supplied in a music recording console. 16 groups are assignable with 4 levels of operation: slave, group master, submaster, and grand master.

Up to 256 IDFs run independently through a revolutionary "back door control bus" without the need for external computer automation. Realtime display of dB level, groupings, status, fader position and mutes are available at all times. 9 membrane switches allow for selection of up to 160 software defined functions.

### CENTRAL ASSIGNMENT

This electronic output assignment cross-point switching system assures fast and reliable connections from the console to your tape machines with full routing or mixing capability. 64 output busses are assigned from each input module by a central touch control plasma display panel controlling up to a 96 by 64 electronic switching matrix. Completely software driven, the panel allows instant selection and display of the bus assignment with 10 presets in local memory. Optional unlimited storage to disk is provided. Easy to use, the system prompts for bus assignments and provides help through informative menu displays.



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# SUPERSTAR

Advanced technology and unparalleled flexibility come together in the SUPERSTAR music recording console. Development of this console centered around the requirement for high definition sound, improving that most important quality as necessary for digital recording.

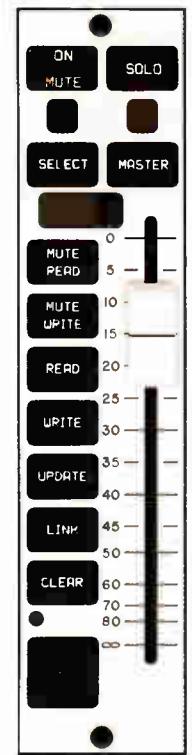
No other single console offers the combination of desirable sound, size, and flexibility with an

affordable price. Field expandable, the SUPERSTAR provides ergonomical positioning of the console modules, allowing you to satisfy your own configuration needs. High resolution meters, central bus assignment, Intelligent Digital Faders, and the most comprehensive automation system all add up to SUPERSTAR—your next console.

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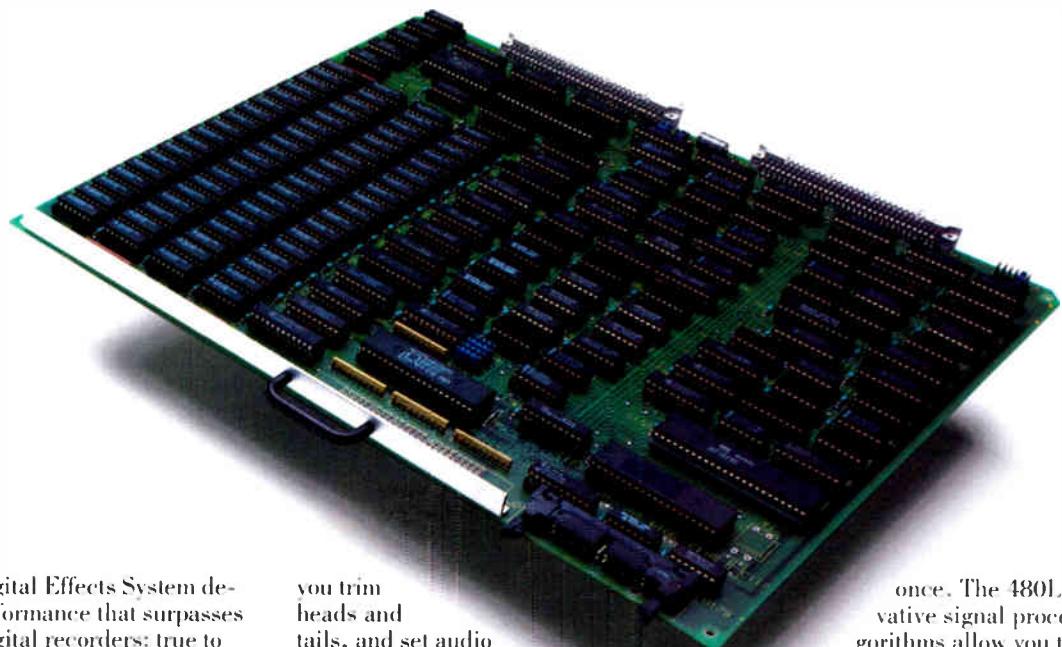
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# EXPANDING THE SYSTEM

*The 480L Sampling Memory Expander. Accurate sampling in phase-locked stereo: a Lexicon applications brief.*



The 480L Digital Effects System delivers audio performance that surpasses conventional digital recorders; true to life sampling is a prime example of its advanced engineering. With the optional Sampling Memory Expander, the 480L becomes an astonishingly practical way to copy or move several seconds of audio from point A to points B and C.

Until now, "flying in" or "slipping" vocal and instrumental overdubs meant tradeoffs. Two-track tape is clumsy and degrades the signal; DDLs with long memories are better, but not by much. Now, with the 480L's optional Sampling Memory Expander, you can digitally record 10 seconds of true phase-locked stereo or 20 seconds of mono at a 48 kHz sampling rate. 18 bit equivalent A/D conversion produces a typical dynamic range of 98 dB, with a bandwidth of 20 - 20,000 Hz; output doesn't get any closer to input.

If you're using a digital recorder that's Sony 1610 compatible, the Sampling Memory Expander and the 480L's digital I/O interface can reproduce the original performance at any location on tape without leaving the digital domain. Slip syncing, copying and time shifting of audio segments is faster and cleaner than ever before.

You control sample recording, editing, processing and triggering from your work position using the 480L LARC. Varying up to six parameters at once,

you trim heads and tails, and set audio trigger levels. Audio trigger response time, incidentally, is under 300 microseconds — virtually instantaneous. Sampling Memory Expander enhancements include Record Trigger to trigger sampling automatically from audio input, Time Variant Record, and sound on sound digital recording in sync with the original sample. Lexicon Dynamic MIDI® lets you assign MIDI controllers to sampling parameters, for new dimensions of real-time or sequenced control.

Sometimes even the most accurate replica isn't exactly what you're looking for; if so, the 480L will take you beyond imitation into creative sampling. Play samples faster or slower (without changing the sampling rate), backwards or forwards, even both at

once. The 480L's innovative signal processing algorithms allow you to enhance sounds with advanced reverbs and effects without leaving the digital domain. Add signal processing as you sample, or process a "dry" sample on playback with digital wet-dry mixing.

The 480L digitally integrates sampling and signal processing because it's designed as a comprehensive audio production tool: a system. And sampling is only the first of many directions in which this Digital Effects System can grow. We're continually examining the possibilities, and as your needs develop we'll implement new tools to meet them. Now is the time to call your Lexicon Advanced Products dealer for a demo of the new production techniques the Sampling Memory Expander makes possible.



**lexicon**

Lexicon Inc., 100 Beaver Street, Waltham, MA 02154 (617) 891-6790

within formats. Any optical system essentially operates with a mechanism in which a laser shines on the medium, and the reflected light is detected by a sensor and decoded to recover the carried data. To accomplish this, the medium itself must present two states so the change between them may vary the reflected light, and thus the data may be recognized. For example, a reflective disk may have holes burned in its surface to offer a nonreflective change from the reflective disk surface. However the specifics to implement the system vary considerably.

Many methods have been explored, and given competing systems, standardization is scarce and compatibility is unusual. Still, optical storage will outgrow such initial obstacles, common to any new technology, and will certainly offer an alternative to professional audio recordists, and may in fact become the dominant medium of the industry in a relatively short time. Let's consider several types of optical storage systems, and the technologies used to implement them.

The compact disc is a well known optical disk standard. A plastic disc is impressed with a spiral track of pits cut to a depth calculated to cancel and disperse the laser light of the reading pickup. To provide reflectivity, the data surface undergoes a metalization process. The reflective surface of the disc and the data pits are embedded between the transparent plastic substrate and a thin protective layer. The effect of scratches and dust particles on the reading surface are minimized since they are separated from the data surface and thus made out of focus with respect to the laser beam focused on the inner reflective data surface.

This type of medium is attractive because it can be economically mass produced (cost per disc of approximately 60 cents). Furthermore, a disc can store over 700 megabytes of formatted data on its 120-millimeter diameter. However this is strictly a read-only medium, and could never be directly adapted to recording or erasing. The medium is, however, open-ended with respect to the type of data to be encoded. The CD-DA standard has already been joined by CD-ROM, CD-V, CD-I, as well as alter-

native formats such as DVI. The success of the CD may portend the success of optical storage, and has certainly lowered cost of optical components and stimulated development in the field.

Recordability is essential for most professional applications; the simplest recordable optical systems are write-once. The user may record data only once, permanently, until the disk capacity is filled. (Alternatively, written data could be destroyed, but not recorded over.) While perhaps at first uncomfortable to magnetically inclined minds, a write-once system is very workable for many applications; for example, in some applications, a permanent data trail is precisely what is called for.

In the audio industry, a write-once concept is already widely employed.

## **Optical storage may become the dominant medium of the recording industry in a relatively short time.**

Surely most magnetic 2-track tape is recorded on only once; it would be a highly suspect practice to re-use any master tape. The confidence provided by a non-erasable format may prove to be an asset in itself. In short, a write-once optical disk does not necessarily present fatal drawbacks. Erasability is not always important; indeed, other non-erasable formats have met with success before—for example, photography is write-once.

A write-once optical disk may be implemented in a variety of ways. In some systems, a mechanism called ablation uses a laser writer to burn holes in the thin film. Other mechanisms include lasers which cause bubbles or blisters to form in the medium. Tellurium and tellurium alloys have been chosen by many manufacturers for the thin film because of their low melting points and high sensitivity.

In other systems, an irreversible phase change is used to provide a change in the index of reflectivity of

the medium at the point where the laser strikes. In this way, the reading laser may differentiate between data. Some systems use a thin metallic recording layer which changes its physical property from amorphous to crystalline when it is thermally heated (to approximately 170 degrees centigrade) by the writing laser. The phase transition triples the reflectivity of the recording layer at written spots, thus allowing laser reading of the data. In some prototypes, a layer of antimony-selenium has been employed, evaporated onto a hard plastic disk substrate.

An alternative to metal film is the use of polymer dye binder bi-layer media. Colored dyes in a plastic medium over a reflective material are written with infrared light and read with red light. Unlike metal film disks, polymer dye technology can use a flexible substrate.

Write-once media are in relatively wide use outside the audio industry. Computer applications have been successful, leading to dramatic cost reductions. The recent joint announcement by Philips and Sony that a write-once optical disc format, based on the compact disc format, has been established, will certainly speed acceptance of write-once media in the audio industry. Sony and Studer (through its agreement with Philips) will soon unveil the first dedicated audio recording optical disc system with write-once technology.

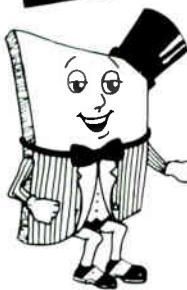
Of course, for some applications, the advantages of write-once permanence are negated by the need to erase and re-record. For example, any multi-track optical disk recorder would require full erasability. Again, several technologies present alternatives. Perhaps the most intriguing is magneto-optical recording (for political reasons sometimes called "optically assisted magnetic recording"). Magneto-optical recording combines the erasability of magnetic medium with the non-wearing, high-density advantages of optical recording.

A magnetic field is used to record data magnetically, but it is much weaker than conventional recording fields. By itself, it is too weak to reorient the magnetic particles. However a unique property of magnetic materials is utilized: as they are heated, their coercivity—the field strength required to bring a saturated tape to erasure—suddenly decreases. Specifically, at

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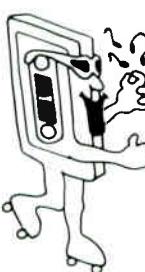


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their curie temperature (about 200 degrees centigrade), magnetic particles are easily oriented by a weak field.

A laser beam is used to heat a minute spot of magnetic material to its curie point. Only those few particles heated by the finely focused laser beam are affected by the magnetic field from the recording coil, and a very high density recording results. After the laser pulse, the temperature decreases, and the data is stored in the magnetic layer.

Data read-out utilizes the Kerr (sometimes called the Faraday) effect which describes the rotation of the plane of polarized light as it passes through a magnetized material. Using the effect, the reverse-oriented particles will reflect laser light differently than the unreversed regions. To read the disk, a laser is focused on the disk and the angle of rotation of its reflection is monitored. An analyzer distinguishes between rotated and unrotated light, and converts that information into a beam of varying light intensity. Data is then recovered from that modulated signal. The intensity of the reading laser is much lower than the recording laser so the recorded magnetic information is not affected.

To erase data, and rerecord, a reversed magnetic field (in the same direction as the original recording) is applied to the disk along with the laser heating spot, and new data is written. Both operations can be accomplished in one pass, as with conventional magnetic media. A magneto-optical recorder could be made to play back conventional CDs as well.

Other erasable optical disk systems have been developed. Some systems use phase change technology similar to that used in write-once systems; materials which exhibit reversible crystalline to amorphous phase change when recorded at one temperature and erased at another are used. Typically, a high reflectivity (crystalline) to low reflectivity (amorphous) phase change is used to record data, and the reverse to erase. A tellurium suboxide recording layer, alloyed with germanium, indium and lead, have been developed. Tests indicate that over one million erase-rewrite cycles may be obtained. By simply increasing laser power, permanent recording

may be accomplished.

Other types of erasable optical storage technologies include copper sulfate on glass, organic dye techniques, cryogenic frequency domain storage, surface texturing techniques, and spectral-hole burning in crystals.

Other optical systems offer alternatives to a disk format. For example, card systems using an optical card the size of a credit card have been developed. A laser beam is used to retrieve information, but there is no need for a mechanical pickup or disk transport. The beam simply shines on the card face, electrically deflected from one location to another. In short, it is a storage system with no moving parts. For greater storage density, it may be possible to encode information on various layers of the card; the laser is simply focused to different data depths to retrieve the appropriate information. With such a storage system, the reduction in size, weight, current draw and cost would be tremendous.

Digital optical tape is also being developed. Although lacking random access, it yields very fast retrieval time, and may be useful for archival storage of extremely large amounts of data.

Whatever the format, optical storage promises to surpass the performance levels of both analog and digital magnetic tape, or disk. Optical disk technology provides data reliability and longevity, large storage capacity, low cost per bit, removability, no back-up needed, recordability, no medium wear, and ability to mix digital audio data with video, control and time code. Certainly optical storage is an excellent complement to workstation technology, offering all the capacity and speed those systems require, particularly for large capacity multi-track recording. In comparison, magnetic recording is an old technology, showing its age. Optical recording is a new technology ready to compete. Over the coming decade, any and all users of magnetic media will have to evaluate their recording technology in light of optical recording. ■

*Ken Pohlmann is an associate professor of music and heads the music engineering program at the University of Miami in Coral Gables. He is author of Principles of Digital Audio and The Compact Disc Handbook, and a consultant to the digital audio industry.*

# THE ADVANTAGES OF A STUDIO CONDENSER WITHOUT A SOUND OF ITS OWN



For all of its virtues, the typical studio condenser imparts a definite character to any recording. These impositions are often considered inevitable technical imperfections: accepted, ignored or tolerated by audio engineers.

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by Mel Lambert

# MONITORING OPINION

**I**t's surprising how our ideas about control room monitoring have undergone some drastic revisions during the past decade or so. Not all that long ago, recording and production engineers would have been satisfied with soffit-mounted enclosures which, more often than not, were supplied as part of the studio designer's acoustics package.

And, if we were concerned with checking how the same stereo or mono mix would replay over an "average" consumer's stereo system, we'd crank up the sound cubes mounted on the console.

All pretty familiar stuff, I would suggest, to those of us who have been around studios for more than a couple of years.

Earlier this decade, however, things began to change—possibly in reaction to improvements being made in the quality of domestic systems, not to mention the advent of the "Walkman" generation (members of which, if nothing else, were capable of hearing our mixes with a fidelity that often surpassed that of systems costing a great deal more than \$29.95 portable cassette decks and in-ear headphone systems).

At the heart of this change in "monitoring consciousness," I would hazard, was a fundamental reappraisal of the loudspeaker/control room interface. Or, to put it more prosaically, how the presence and location of these large cabinets was affecting the way we could critically analyze the material on our multi-track and stereo masters.

Also, as music tastes changed, and the multi-tracking process began to

offer additional creative possibilities (particularly following the introduction of later-generation digital transports), we needed to run at higher SPLs in the control room. The increasing popularity of synthesizers and electronic percussion—and their high-intensity, transient-laden waveforms—only added to the demands being placed upon the monitor loudspeakers and their companion amplifier racks.

The first attempts at enhancing the horsepower of monitoring systems involved splitting the program material into more frequency bands via a complex active crossover, and then optimizing the reassembly of the original signal being presented to the engineer and producer at the console from several discrete transducers.

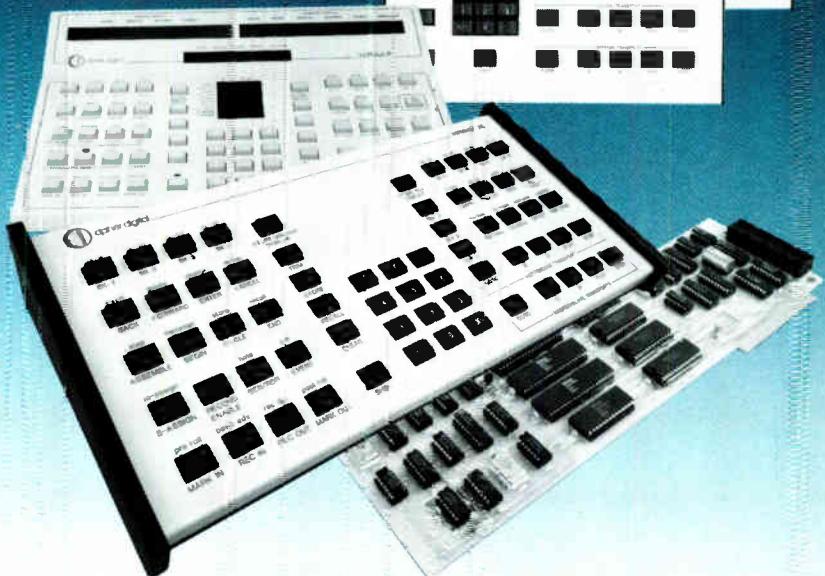
The main problem with this approach, however, was that few system or loudspeaker designers knew enough about crossover technology, or the physics of multiway cabinetry. As a result, many of us began to wonder if this "big is beautiful" approach was the best approach.

I, for one, disliked intensely the harshness that these multiway systems produced, not to mention the mental gymnastics I had to go through to reassemble a reasonable stereo image from the time- and geometry-smeared waveforms emanating from these wall-mounted thunderboxes. Add to that the fact that a growing number of engineers and producers began to wonder about the shrillness of horn-loaded systems—particularly for the mid-range frequencies where, for ancient psychoacoustical reasons, our hearing is the most acute. It was time for a change.



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Concomitant with the development of time-delay spectrometry and related techniques to measure the temporal as well as frequency-domain response of control rooms and studios (which led to the subsequent development of innovative LEDE® environments), we began to see two additional themes emerge.

First, alternatives to horn-loaded systems were developed which made use of cone and/or dome mid- and high-frequency drivers. Not only were such drivers capable of delivering a sweeter and less strident sound, they were more efficient at handling a wider range of frequencies. Consequently, we began to see the introduction of highly efficient two- and three-way systems for the control room which, in turn, simplified the task of the crossover designer.

Around the same time these changes in design approach were percolating their way through the loudspeaker manufacturers' R&D labs, a few of us more adventurous types began to experiment with mounting high-quality, bookshelf-size speakers on the console meter bridge to see what we could achieve with near-field monitoring. Because though sense might be seen to prevail in the design of monitors, acousticians still considered the correct and appropriate place to locate them was either side of the control-room glass, aiming down like cannons at the center of the console. Not only is such an orientation unnatural—for my ears at least—it can easily result in multiple sound reflection paths into the monitoring position, to say nothing of non-linear buildup of frequencies (particularly the bass) as the room tries to sort out the excessive amounts of energy that have to be pumped into the room to achieve the desired sound-pressure levels.

And here we begin to see the Catch-22 of using multiway, soffit-mounted cabinetry. Because of the limited amount of real estate we have available for today's cost-effective production facilities, control room dimensions tend to be on the compact side. (There are obviously notable exceptions—

*—CONTINUED ON PAGE 111*

by Stephen St. Croix

# OPENERS

I have just returned from my traditional three-month pre winter vacation (those of you who have been reading my ramblings for the last couple of years elsewhere may have noticed that I do not always return to the same magazine from which I depart). I make this move to *Mix* in search of a home with a bit higher gravitational reaction factor. I hope that my old readers will find me here, and that new readers will, well, find me.

Since this is my first column in this magazine, I will do something that I have not done in over 20 years (and that was in front of my school principal). I am about to voluntarily explain myself.

I am not really a writer. I am only a guy who writes, and I am the guy who writes this column. I try to write about the truth. This may be the truth as I see it, or as I think it will be. In this column, I talk occasionally about the past, sometimes about the present, but usually about the future.

My functions as consultant and manufacturer in this industry give me the unique opportunity to play with new toys even before they are new toys, or to try out the newest high-speed computers, or recording hardware and software. I get to find out what other companies are researching and planning way before you hear about it. I like this a lot.

Much of this information is very sensitive, so I can't talk about it, but the

rest of it may be hidden in some cryptic form or another in this column.

As a session player and engineer, I find myself exposed to some of the very top talent in the form of artists, producers and engineers. This is very important to me, as I am a firm believer in the concept that the only useful way to go through life is to spend as much time as possible with people who are better than you. How else can you learn why you mixed a single that hit Number Four in Europe for two weeks, while some other guy mixed a single that hit Number One on earth for six weeks?

In addition, these people are usually found in the top studios, so I have a chance to learn what trends are developing in music and actual studio techniques.

Sort of last but not least, I have a studio at Marshall that forces me into the perfect position to integrate all the stuff that I learn from the activities. I must actually run the place (or see to it that the people who do run it do so the way I think makes sense), and more than half of the yearly product that I produce comes from there.

We do everything from rock to movie scores and special effects, so we have essentially every computer and synthesizer there is, and all the processing and recording equipment that we want. This means I have to face all the same end-user problems that you do, but it also means I have the added

**In this column, I talk occasionally about the past, sometimes about the present, but usually about the future.**

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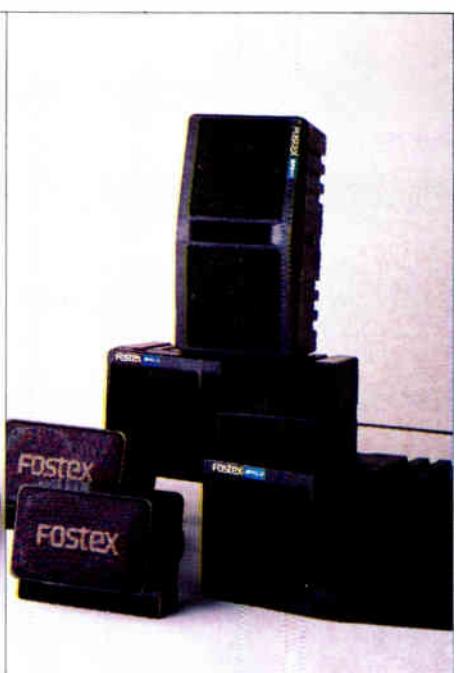
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## THE FAST LANE

opportunity to experiment with alternatives, and to talk about the results in my column.

If I see a problem that needs to be solved, I will talk about it. If I see an interesting trend or situation (good or bad) I will talk about that. If I see a new Harley that I like, I will tell you about that too.

From time to time it becomes clear to me that something interesting is going to happen. Perhaps this is a trend in hardware, a new recording format, or whatever. If it is significant, I will tell you about it.

One of the intriguing things about predicting the future, and what we will be playing with if we actually make it to that future, is that eventually the future shows up and everybody gets to see if I was right. Not that I am ever actually wrong; it's just that sometimes it is a little difficult to reach me on the phone. Any correlation between those particular months that it is difficult to reach me and the months

1) There is to me one real underlying Truth that pertains to the advancement of technology: advances in the state of Power and Performance (these can manifest themselves as added product features, size decrease, better displays, increased speed and so forth) double every year, and the price for any given state of technology halves each year.

2) There is yet another Truth that applies to the advancement of technology as we see it in any piece of gear with a computer inside (keep in mind this definition could include a cigarette lighter—really). Power is speed, speed is power. They are interchangeable commodities in a computer.

I will use a MIDI recorder as an example. Let's say that there is a real cool auto-correction function on your new MIDI recorder/editor that makes anyone who plays into it sound exactly like Stevie Wonder. You have just recorded a tune and requested the system to perform this auto-correct function. Now the computer has to totally restructure the song and display the

## Today's digital technology is about the pursuit of Power and Speed and The American Way.

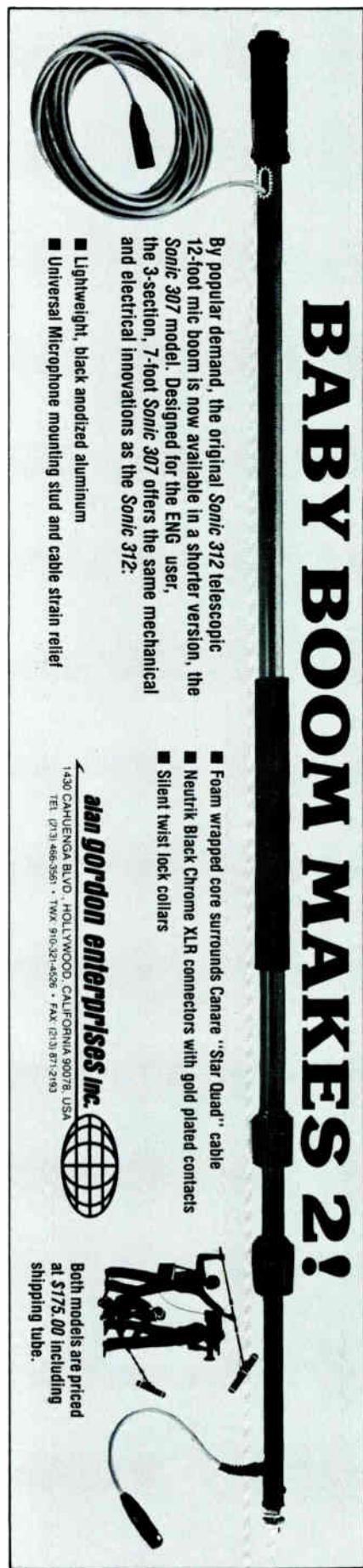
that I missed on the predictions is purely coincidental.

This is further aggravated by the fact that I have to write it months before you read it. So it is that the stuff that was coming then is here now. Not a very startling concept, but still, this is the system. My then is your now. What you are reading now, I wrote two months ago. It is not unlike my living two light months away from you.

I do not like explaining myself, and I have just done so much of it that I trust you have had enough too, so it is over.

### So what about this month?

This month I will just hit you with a few general observations about technology as it applies to earth. Over the years I have developed two beliefs that I hold as truths, and I see them reconfirmed almost daily.



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# WHO'S LISTENING TO WHAT: MONITORING ENVIRONMENTS IN THE SOUTHEAST

by Linda Jacobson

**T**ruth in monitoring is every studio's goal. A flat room sound without coloration is the golden ring on every recording carousel, and the basic strategy for grabbing it changes little from studio to studio. Almost everyone mounts their main monitors on each side of the control room window, above it, tipped down towards the listening position. Almost everyone sets a couple pair of small reference monitors on the console meter bridge. Despite these similarities (and the fact that physics laws don't change), there are as many "monitoring environments" as there are pairs of ears. Room size and personal preferences vary. Some studio operators track and mix entirely on the mains. Others mix with reference monitors only, turned down low and set close by. Some don't bother to run the mains at all, or if they do, it's just to hype the client.

## Nashville

Nashville's Eleven-Eleven Sound uses a two-way Sierra system with Gauss

woofers and TAD drivers in their control room (a 48-input Neve V room with 32-track digital recording). John Abbott, studio manager, says, "We went in with a TEF analyzer to find weaknesses and reflections and as a result we acoustically treated the ceilings and walls. At the listening area, you don't have reflected sound, just the sound from the cabinets. The cabinets are flush-mounted; we used 3/4-inch hard rubber insulation surrounding the entire cavity, to isolate from the wall. It's a very true system." Evidently the labels agree. Eleven-Eleven has been recording R&B, rap and country records (George Jones, Barbara Mandrell, Lee Greenwood) for the majors.

The Sierras, Abbott continues, are "amplified with a MacIntosh 2500, and BGW 250 on the high end. We also added the time-delay Rane crossover. It really sounds smooth. We still have White EQs on them, but we don't have to EQ that much—it's mostly a cut situation.

"For reference we have the Yamaha NS10s and we'll also put up Tannoys, whatever clients want. The Neve has

three speaker selects, so you can set up two extra sets of monitors." People do bring in their preferred speaker—Abbott sees Tannoys, Fostex, B&Ws, and occasionally the larger Auratones. "But the Sierra has a very flat response, it's not a hyped sound. Basically what you hear in the room, you can take out with you."

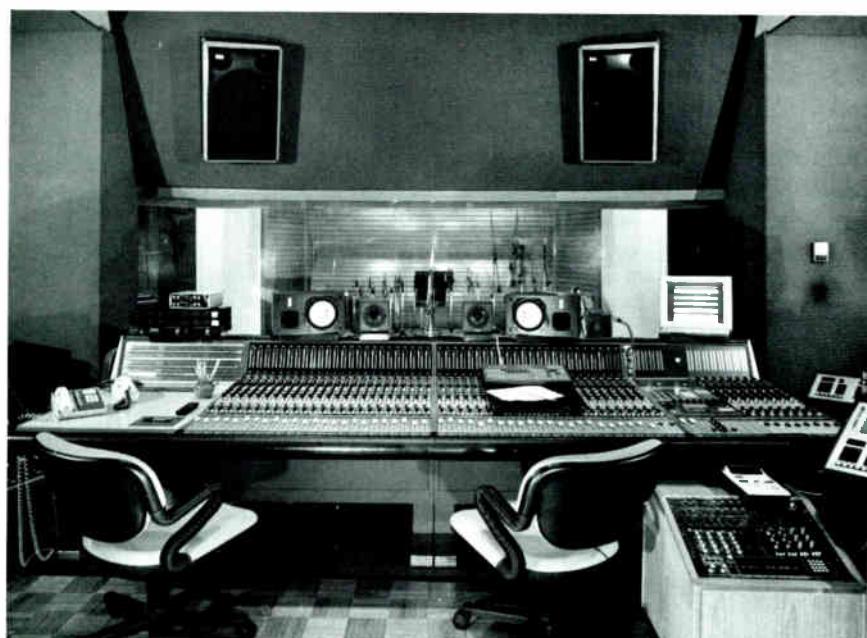
The year-old 16th Avenue Sound offers an SSL main room with 32-track digital recording—and a monitoring environment in transition. Studio manager Barry Sanders explains, "The control room is large and we've had trouble getting an SPL level to make most engineers happy. We've had B&W 808 speakers which are good, but we've had problems with their application in the room. They're not mounted in the wall; they're suspended and can move, and that's a problem. We have a large glass area that clients love, but which makes it hard to pedestal-mount the speakers—that's why they were designed to fly. So the cavity below the speakers causes phase problems on the bottom end.

"These monitors sound good in other applications, but they're not getting a good rap on the street just because they're hanging there. So I've listened to many different monitors in there. I want to make some changes. That's where the Tannoys come in," says Sanders. "We're going to mount Tannoy FSM-U in soffits. I'm hooking up with a designer for the soffit design and room changes."

For reference, Sanders says 16th Avenue Sound uses "the old stand-by NS10s, B&W DM100s, and Tannoy SRM 12Bs. The NS10s stay in the A room and no matter what room people use, they always check things on the NS10s."

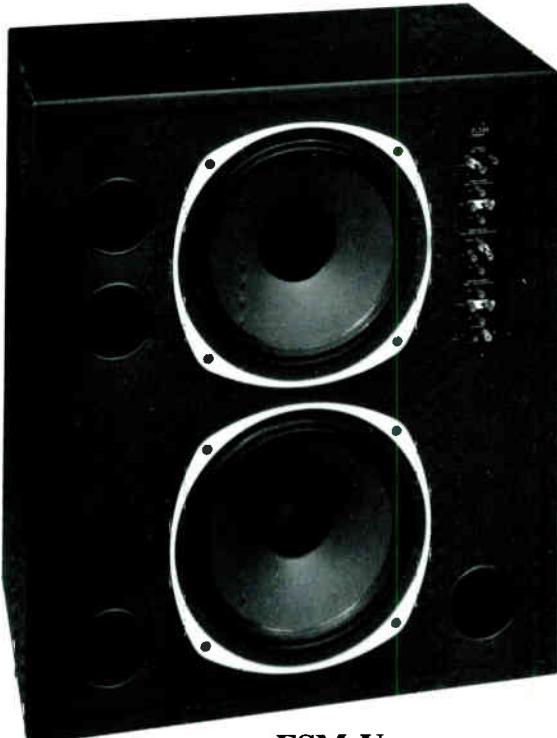
Despite monitoring hassles, 16th Avenue Sound has had no trouble attracting name clients. This past year they cut tracks for Crystal Gayle, Reba MacIntyre, Hank Williams Jr. and Emmylou Harris. Sanders also notes they've done jingles for out-of-town clients and will do more.

Also in Nashville is the world's first 20-cycle mix room, at Masterfonics, offering "the big vertical Kinoshita monitors, which you can only get if you have a Tom Hidley room," according to chief engineer Milan Bog-



The control room at New River (Ft. Lauderdale) is equipped with Meyer 833s, Yamaha NS10s and Auratones.

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80% of the time, and NS10s when they want a smaller speaker. But people don't do that very much," Williams notes. "Normally the NS10s are not on the console bridge, because they throw a reflection in the monitoring field from the mains. They sit on top of our outboard equipment rack and people turn 90 degrees to their left to listen."

The monitoring goal over at Westpark Sound, says studio manager Tom Reeves, "was to duplicate the mastering lab as close as possible. My pet peeve is when studio monitors literally lie to me. We use three sets of smaller monitors set up for A/B/C listening: NS10s, which most Nashville engineers use, Auratones, and the monitors our engineers use the most, Fostex RM865s. The monitors sit on isolation pegs so the low end doesn't rumble through the console. We have EAW and Klipsch speakers too, but they haven't been up for a while.

"We've had the Fostex about six months and have had *very* good luck," Reeves adds. "We can go right to mastering. They are amplified with Yamaha and Crown amps, and Audioarts 4200As for EQ. The sound is real tight. A lot of studios in Nashville have the big UREIs and you can hit the 'hype' button at the end of the mix, but we do a lot of jingle and post work—most of those clients don't want to be hyped at all. They want it as flat as it can be so they leave with an accurate representation."

### **Memphis**

One of the six prototype pairs of Westlake TM1 monitors, handbuilt in the mid-'70s by Tom Hidley, resides at Crosstown Recorders in Memphis. Crosstown is the first Neve room in town, and has a newly rebuilt control room. Owners James Craft and Greg Morrow enjoy finding and developing artists ("We like to help let the Memphis in them come out") and one discovery, Fire Choir, recently showcased for Atlantic and Elektra.

Craft details the life of the TM1s: "My father Howard Craft was a disc mastering engineer for Mastercraft, a subsidiary of Auditronics which in '74 was a Westlake dealer. Hidley was building rooms then and trying to get JBL to build a dual-15 monitor. JBL

dan. "We have Kinoshitas in both disc mastering rooms and in our main mix room, which has an SSL. The first album we mixed in there, *Hank Junior Live*, just went gold."

The mix room, explains Bogdan, holds 20-cycle monitors, and both cutter rooms have 28-cycle monitors. "They're all powered by FM Acoustics mono amps. There's no EQ in any of the rooms—it's a mechanical high-level crossover that takes about 3,000 watts per crossover. The soffits are fiberglass-reinforced concrete, and the speakers are flush-mounted in concrete with a hard-wood finish. We don't have a window, but the speakers are mounted where it would be. They're about 14½ feet from the listening position. It's quite a large stereo spread because our control room is humongous. It has to be, to develop a full 20-cycle wave in there."

"Tom Hidley rebuilt the control rooms at Sound Stage and Emerald with the same Kinoshita monitors. Everyone's got used to those. It's the first time in Nashville in many years that we've used the main monitors for mixing. Some people still bring their NS10s and by the end of the first day, they're always on the big monitors. Several engineers have been bringing in Tannoy BSB 10s. They start projects where the monitors aren't accurate and use BSB 10s, then bring them here to have a reference point. So we're also installing them."

The Kinoshitas can be listened to, says Bogdan, "at unbelievable levels. The main comment we get is that

your ears aren't ringing after working 12, 14 hours. Another comment we get is that no matter where they take the mixes, they sound like they did in that control room. We get mixes into cutting rooms where the EQ done is a half at 16, or even no EQ, done right to disc. The combination of that monitor, the power amp and the room is very transparent and accurate."

The remix room at Master Mix was designed by Neil Muncy, who selected Claude Fortier State of the Art monitors. The all-digital room holds the only Calrec UA800 console in the country, according to studio manager Hank Williams. Regular clients are the Atlantic/America and MTM labels, Billy Joe Royal, Earl Thomas Conley and Holly Dunn. "Muncy doesn't like horns—this is an all-cone system," says Williams. "He built the room around the monitors, so there is no EQ on them."

"When we began construction," details Williams, "a hook was located at the listening position and a plumb line hung there during the entire construction. The monitors were located at exact positions off that plumb line. We built isolated concrete pillars through the floor, and the monitors are on them inside the wall, flush-mounted. Amplification is from six Hafler DH500s that Muncy modified when he did the final room tweaks. You can enjoy your music at a low level just as well as you can knocking yourself in the dirt. It doesn't feel like work."

"Our clients use the main monitors



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# TASCAM

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said there was no market for it—everybody was using a single 15 and a high-dispersion horn. So Hidley built his own three-way system. Auditronics decided to buy one of his first sets for Mastercraft. The speaker has two JBL 15-inch 215Bs, a walnut Smith horn, and a JBL 2440 driver on the midrange. No horn on the high-end driver, just a short throat. They were passed on to me, and I recently had them brought back up to snuff—reconed the bass drivers and added new diaphragms to the high-end drivers."

Tannoy FSM-US were installed last spring at Cotton Row Recording, who hired Nashville designer Stephen Durr to handle the job. He added insulation inside the cabinets to tighten the bass, and took an unorthodox mounting approach. Engineer Eric Patrick explains, "We drilled holes in the cabinets and secured aircraft cable to them. Then we went up into the rafters and hung the speakers with three cable strands. They float, but are fixed in place, pulled back against the corners of the front wall. Then the room was tuned with a computer, so the response is flat out to 8k, with a slight roll-off at the high end, using a pair of White EQs. And for amps we use Yamaha 2201."

Patrick adds, "We use the Tannoys

for mixing now—they're like a giant pair of NS10s without the emphasis on the high end. You can cut for six hours, then mix for three without a break. Al Green did vocal overdubs with them, and thought they were great."

Memphis' newest studio is Kiva Recording, whose first session—for Carl Perkins—ran in October. Focusing on music recording (now working with Joe Walsh and Albert King), Kiva has installed JBL 4435s in their SSL and Harrison MR3 rooms, with JBL EQs in the former and White EQs in the latter. A machine room lets digital or analog tape and outboard gear be patched to either room. Studio manager/engineer Keith Seppanen likes their soffit-mounted JBLs, "but for mixing, I use the reference monitors almost exclusively," says Seppanen.

"There are NS10M monitors on the meter bridges in both rooms," he adds. "We try to keep the monitoring similar in both rooms, so you don't have to readjust your ears. Another reason is that if you have one spare, you have spares for both rooms. Anyway, I only use the big monitors to worry about bottom end, and to blow people out when they want to hear something. Many people have a hard time relating to things when they're

played soft, even though that's the way it's done in the real world."

### New Orleans

New Orleans' mobile 24-track Pace Recording naturally handles much broadcast work, tending towards close-field monitoring on the road. "That type of monitor is what everybody seems to be mixing on these days," says owner/engineer Glen Himmaugh. "So we use JBL 4311s as the main monitors. Those are real realistic, but also close to what somebody has in their house nowadays. The mains are directly above the console, a modified 26-input NEOTEK.

"The truck was formerly an insulated, refrigerated seafood truck with two inches of foam all around it," Himmaugh explains. "We built a wall halfway down the truck, separate from the floor. So we have a center rack of equipment directly above the console, and the monitors are to each side of the rack, cocked in at a 30-degree angle, directly at ear level. The ear level splits between the midrange and the low end. You sit about four feet from them. They're near-field, but we also have Auratones and Radio Shack Minimus 11s, a small bass-enhanced speaker, sitting on the console. We do

## The new master recording process



the Neville Brothers and they're into heavy bass drums so we do a lot of comparison using the JBIs and the Auratones. Also, if it's going out on the air, you want to switch back and forth to make sure you're not being deceived.

"We did NPR's New Year's Eve broadcast with the Dirty Dozen Brass Band and Rockin' Doopsie & The Cajun Twisters," says Hinmaugh. "The NPR guys brought in their own monitors. Since they're a network of independent stations, they exchange tapes, so they use one kind of reference monitor to standardize themselves. Between Washington, New York, Los Angeles and New Orleans, they all listen to the same small MDMs. We just put them on top of the Auratones, and used them instead of the JBIs. Also, the NPR job went out radio-only on satellite. We listened to it on a car radio, at the satellite truck, and at the remote truck, going back and forth to make sure it was OK. I was impressed by how finicky NPR was."

#### Atlanta

A year-old, "massively" amplified system designed by acoustician Bill Morrison works at the main Neve/Studer

room of Crawford Post-Production in Atlanta. Senior audio engineer Steve Davis tells us, however, "We built a shelf adjacent to the meter bridge to hold a pair of MDM 4s, which are used more frequently than the large monitors. From producer to producer, they're more of a known commodity. People don't worry about room acoustics interacting as much. And it lets the engineers monitor at a lower level and save their ears."

Each of the main speakers is comprised of JBL components—two 15-inch woofers, an 8-inch midrange cone, and a 2-inch dome tweeter, in rigidly mounted plywood cabinets with soundboard liner. Two Crown Delta Omega amps drive each woofer, one Crest 5000 drives each tweeter, and an SAE 2500 drives each midrange. "The total is about 6,000 watts. We have Rane EQs but we're using them switched out," notes Davis.

Crawford audio mixer Tom Race adds, "I tend to use the near-fields more than the mains, for fatigue reasons. But the big speakers are cool. They're like big cheerleaders. They have a lot of punch and definition, and the response is real reasonable. But we do a lot of work to picture and the monitors aren't very close to the

picture. The MDMs are adjacent to a TV monitor. We do use the big monitors when we use our Synclavier in tracking. But for mixing, I think most of us still rely on near-fields."

Mic and studio designer Tom Wright built his own facility, Cheshire Sound, a digital 32-track/analog 24-track complex in Atlanta frequented by Journey, Robert Plant, Sheila E, Georgia Satellites and REM. Its three rooms each hold a modified console: SSL 6000, automated MCI 428 and MCI 636C. All monitors there were designed by Wright (except the references—a set of NS10s in every room).

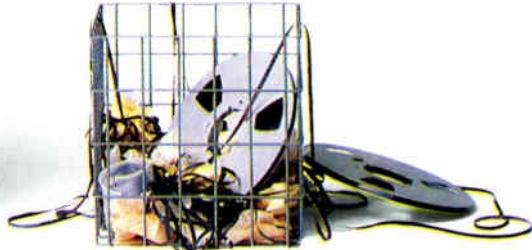
"The mains are cone monitor systems, no horns. I suspect they were the first large-cone monitors used in the country when we built them eight or nine years ago," Wright says. "We used JBL woofers, a JBL 10-inch midrange, a Philips 5-inch upper midrange, and a Yamaha tweeter. They're in ported cabinets made of plywood and particle board, about two inches thick." Flush-mounted in four inches of foam rubber, each speaker is driven by four amps, "those big new Yamaha 2002 amps. There's no equalization in any room. It's all in the crossovers, four-way systems I also designed.

"The monitors are very three-di-

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**CONSEQUENCES:** Bad mixes. Re-mixes. Having to "trash" an entire session. Or worst of all, no mixes because clients simply don't come back.

**TRUTH:** JBL eliminates these consequences by achieving a new "truth" in sound: JBL's remarkable new 4400 Series. The design, size, and materials have been specifically tailored to each monitor's function. For example, the 2-way 4406 6" Monitor is ideally designed for console or close-in listening. While the 2-way 8" 4408 is ideal for broadcast applications. The 3-way 10" 4410 Monitor captures maximum spatial detail at greater listening distances. And the 3-way 12" 4412 Monitor is mounted with a tight-cluster arrangement for close-in monitoring.

**CONSEQUENCES:** "Universal" monitors, those not specifically designed for a precise application or environment, invariably compromise technology, with inferior sound the result.

**TRUTH:** JBL's 4400 Series Studio Monitors achieve a new "truth" in sound with

an extended high frequency response that remains effortlessly smooth through the critical 3,000 to 20,000 Hz range. And even extends beyond audibility to 27 kHz, reducing phase shift within the audible band for a more open and natural sound. The 4400 Series' incomparable high end clarity is the result of JBL's use of pure titanium for its unique ribbed-dome tweeter and diamond surround, capable of withstanding forces surpassing a phenomenal 1000 G's.

**CONSEQUENCES:** When pushed hard, most tweeters simply fail. Transient detail blurs, and the material itself deforms and breaks down. Other materials can't take the stress, and crack under pressure.

**TRUTH:** The Frequency Dividing Network in each 4400 Series monitor allows optimum transitions between drivers in both amplitude and phase. The precisely calibrated reference controls let you adjust for personal preferences, room variations, and specific equalization.

**CONSEQUENCES:** When the interaction between drivers is not carefully orchestrated, the results can be edgy, indistinctive, or simply "false" sound.

**TRUTH:** All 4400 Studio Monitors feature JBL's exclusive Symmetrical Field Geometry magnetic structure, which dramatically reduces second harmonic

distortion, and is key in producing the 4400's deep, powerful, clean bass.

**CONSEQUENCES:** Conventional magnetic structures utilize non-symmetrical magnetic fields, which add significantly to distortion due to a nonlinear pull on the voice coil.

**TRUTH:** 4400 Series monitors also feature special low diffraction grill frame designs, which reduce time delay distortion. Extra-large voice coils and ultra-rigid cast frames result in both mechanical and thermal stability under heavy professional use.

**CONSEQUENCES:** For reasons of economics, monitors will often use stamped rather than cast frames, resulting in both mechanical distortion and power compression.

**TRUTH:** The JBL 4400 Studio Monitor Series captures the full dynamic range, extended high frequency, and precise character of your sound as no other monitors in the business. Experience the 4400 Series Studio Monitors at your JBL dealer's today.

**CONSEQUENCES:** You'll never know the "truth" until you do.



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mensional," adds Wright. "They not only have an excellent left/right, but a depth I've never heard in any other set of monitors. There's a front-to-back sound that you don't get in others."

### Florida

The 24-track Morrisound in Tampa offers two identical LEDE® control rooms, both containing soffit-mounted, UREI 813 Time-Aligned monitors. They're used for independent-label heavy metal music, audio post for video and industrial film soundtracks. Co-owner Jim Morris says, "Our rooms are large, and designed so we didn't need to EQ the monitors. I do roll down the top a bit on the speakers' high-frequency trim control. They're powered by Hafler amps strapped in mono, one per speaker. The speakers are shock-absorbed in the wall to even out the low end response. Also, it cuts the amount of transmission through the wall. The speaker's surrounded by foam and sitting in its own airtight cavity, on a spring-loaded cantilevered stand that sticks it out through a hole in the wall, which is a frame wall. We did a room analysis with RTA, and made sure we rolled it down above 8 kHz, about 3 dB per octave, so it's like 3 dB down at 16 k."

"We also have Yamaha NS10Ms with the tissue paper modification," adds Morris, "and Auratones. We can haul out E-V Sentry 100s, EAW MS-50s, or JBL 4311s. For the most part we use the Yamahas, but if I've been doing a mix with them for a few days, I'll switch out references. I put up Sentries. We also have two MIDI studios, one with a Synclavier and UREI 809 monitors and one Macintosh-based room with Sentry monitors. I go in there to listen to cassettes, too."

New River of Fort Lauderdale handles mostly music recording (Jimmy Buffett, regional artists), as well as post-production for commercials and movies. Chief engineer Dale Peterson says their engineer clients chose the mains, going for Meyer Sound 833s. "Meyer is known for live sound stuff, but we tried these speakers and our engineers were really happy with them." The Meyers, with the help of advice from John Meyer, were installed in a 48-track Studer/Neve room (New River is now adding a small MIDI room).

"We do run a bit of EQ on the Meyers, roll off the high frequencies," says Peterson. "We find them to be a bit

too bright for our room. There's a little bass EQ too, because of room problems, not because of the speaker —minor stuff, 1 and 2 dB. We use White passive EQs, cut only, but not much. The monitors are mounted away from the wall, out about half their width. Meyer Sound recommended we not flush-mount them, because the bass couples and gets colored too much. We also have another set of mains, but no one's requested them in three years, since we got the Meyers.

"For reference we use NS10s and Auratones like everyone else, and switch between them. We drive the NS10s with a stereo Acoustat TNT-200, about 200 watts into each speaker—but we don't turn them up *that* loud. The mains amplification is a bit different," notes Peterson. "All our amps are Acoustats. John Meyer recommends you use a large amp on these speakers. Our Acoustat TNT200s were rewired for mono by the designer, Jim Strictland, so they put out about 700 watts each into each speaker."

"We found the Meyers to be fairly accurate for mixing," Peterson adds. "If anything, you would describe the

speakers as bright in the room. That's why we EQ them, to take out some brightness so people don't complain or make dull records."

Miami's Criteria Recording Studios has five studios—one of their monitoring goals, says chief engineer Andy Pechenik, "is for our two SSL rooms to sound the same, kind of an audiophile sound." This past year Criteria worked on music and video projects ranging from Barry Manilow to Judas Priest, and handled *Miami Vice* and *21 Jump Street* voice-overs. The studio also served as a set for a *Miami Vice* episode starring Sheena Easton.

Pechenik reports that both SSL rooms and one MCI room use Time-Aligned mains—speakers, crossovers and cabinets custom-designed by Ed Long. "It's a three-way system with a passive crossover in the top end, and TAD and custom midrange components. John Storyk designed the rooms with soffits mounted in cement, back against the wall, in an enclosed cavity. We have UREI 6500 amps on the bottom end, and APT-1s bridged in mono on the top end. We don't use

—CONTINUED ON PAGE 204

## What's New in Studio Monitors

The art of studio monitor design and manufacture is a continually evolving science, combining the latest in transducer technology with recent advancements in acoustics, filter and even amplifier designs. With a large number of new monitoring products being unveiled in the past few months, it is obvious that interest in this area remains at a very high level, from both users and manufacturers. We decided to take a closer look at a few recent product introductions and found a vari-

ety of different approaches to the subject of studio monitor design.

One trend which has emerged is the need for compact, accurate speakers for post-production and remote recording applications, and JBL's new Control 5 models seem well suited to the task. The Control 5 is a 2-way system containing a 6.5-inch woofer and the same one-inch HF driver used in many of JBL's larger studio systems. The speakers are magnetically shielded for use in close proximity to video monitors without causing picture interference and have a rated power handling capacity of 175 watts.

—CONTINUED ON PAGE 58

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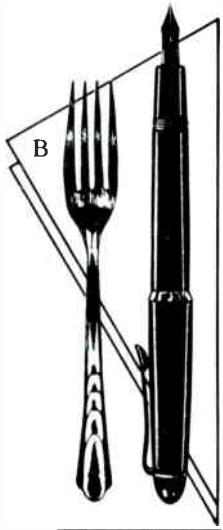
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by Mr. Bonzai

# BILL PAYNE

## LITTLE FEAT ON THE ROAD AGAIN



Although Bill Payne grew up in California, he was born in Texas. He could pass for a Southern gentleman, with a white suit, a loose black bow tie, Panama hat and a skinny cheroot. His words come out like a thin stream of smoky consciousness, with a steady shuffling beat.

Like the music of Little Feat, he has an easy-going confidence and encyclopedic taste.

Good news—we're about to hear the pitter-patter of Little Feat around the house again. The band that kicked ass so well, that plundered the treasure troves of musical booty, the group that stoked the furnace of American music, is on the road again.

Bill Payne hasn't been sitting on his hands since the band broke up long ago. On the road, and in the studio, he's lent his keyboard touch and writer/producer skills to the likes of James Taylor, Linda Ronstadt, Bob Seger, the Doobie Brothers...but read all about it.

We met at George Massenburg's

studio, The Complex, and found an empty overdub room for our chat. I don't know what the hourly rate is, but it was a true luxury finding a quiet spot in the life of Gentleman Bill Payne.

**Bonzai:** So Little Feat is having a reincarnation—what's the story?

**Payne:** Well, first of all, it shouldn't come as a big surprise—it's an honest move. We've been getting together from time to time, just to jam. We tried it about four years ago but there were too many people on the set and it didn't quite mesh out. It was a little confused. I thought at that time, when and if we ever do it again, let's just do it with the five of us.

**Bonzai:** You actually split from the group before Lowell George died.

**Payne:** Yes, I think my disillusionment with the group was the same as with any member of a band. There are times when you want to leave, when you want to work on your own. But the hold that a band has on you, psycho-



PHOTO MR BONZAI

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logically and in other ways, makes it tough to make the break. I found peace within myself to say, "I've taken this about as far as I can and I want to do something else." I had no intention of reforming the band ever. We're not the Buffalo Springfield. We're not reforming this band without any thought of the weight that reforming carries with it. In other words, Lowell is quite a hurdle to overcome—let's face it. I thought long and hard about it.

If I can backtrack for a second, we got together a few years ago to jam and it didn't work out. Then we tried it a few years later with just the five of us and something happened. In recent years I've worked with some talented people—Bob Seger, Linda Ronstadt, Jackson Browne, James Taylor, Stevie Nicks—but when I sat down to play with the guys from Little Feat, I realized how much I could stretch out, and how good these guys are. Also, everyone has cleaned up their act, which is a good thing in this day and age.

**Bonzai:** Was the band still active after Lowell died, or did it suddenly stop?

**Payne:** As I said earlier, my involvement with the group was coming to an end. I felt an obligation to Little Feat and to Warner Bros. to participate in one more album. That record was *Down on the Farm*. We were about midway through the project when Lowell went out to promote his solo album, *Thanks, I'll Eat it Here*, when he died following a performance in Little Feat's stronghold, Washington, DC.

Little Feat was faced with whether or not to finish an album that had been chaotic and filled with frustration from the word go. We made the decision to continue. I felt like I might have made a mistake in letting the album out at the time. I wasn't sure it was one of the stronger albums we ever made and was forever questioning whether or not Lowell would have liked it. I really felt that *Down on the Farm* was not the type of musical statement Little Feat should end it on.

I proposed we do a parting shot with a conceptual album for our fans, complete with a booklet with photos and memorabilia. That album was *Hoy, Hoy*. I went out to Warners and told Mo Ostin I had an idea for a double record that would be part live; part bootleg (we used a track or two that

appeared on some bootlegs); some other tracks ("Rock and Roll Doctor" and "Lonesome Whistle") that had been lost for years and were found in a garage in a brown paper bag; one cut from the Lowell George tribute we did at the Forum (which had Linda Ronstadt singing "All That You Dream") and I finished by telling Mo we would like to record a couple of new tracks. Try and do that today!

That was in 1980 and I'm happy to say that we are back on Warner Bros. after all these years. Little Feat is comprised of the regulars: Richie Hayward, Paul Barrere, Kenny Gradney, Sam Clayton and myself. We've also added two new guys who aren't strangers. Craig Fuller from Pure Prairie League had toured with Eric Kaz on the same bill as Little Feat. Craig will be doing a good deal of the singing, along with Paul, and has contributed as a songwriter on almost everything we have going into the new album. He'll be playing guitar alongside another new member, who is an old friend of the group, Fred Tackett. Fred has written songs for Little Feat in the past: "Fool Yourself" on *Dixie Chicken*, and "Be One Now" on *Down on the Farm*, and is one of the finest guitar players you'll ever want to hear. Fred and I have done tours with Simon & Garfunkel and recently, Bob Seger.

**Bonzai:** How did you get started in this business?

**Payne:** I've been playing in bands since I was 15. I did my first recording session around '67—some psychedelic record. I joined Little Feat in 1969, and my first paying session was with a group called The Fraternity of Man, for their second album. From there, Lowell aided me in getting a couple of other recording gigs with groups like the GTOs (Girls Together Outrageously), which Frank Zappa produced.

It just kept blossoming. There were several other artists: Nolan Porter, Judy Mahan, and some bands that Little Feat and I were collectively involved with. I guess the first major group I recorded with was the Doobie Brothers, who were not at the time a major act. I played piano on "China Grove."

**Bonzai:** Could you name some albums that you look back on fondly?

**Payne:** The Little Feat records, the Doobie Brothers albums, and certainly Bonnie Raitt—all of her records.

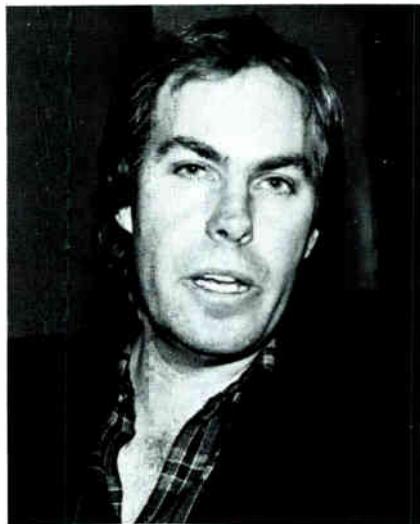


PHOTO BY MR BONZAI

There's Emmylou Harris, Nicolette Larson, Bob Seger, Jackson Browne, Linda Ronstadt. I enjoyed playing on an Art Garfunkel album called *Breakaway*, and working with Steve Cropper on *The Blues Brothers*.

**Bonzai:** Has there been anybody in your development as a musician that has affected you powerfully?

**Payne:** Certainly my first teacher, Ruth Newman, up in Ventura when I was a kid. She passed away a few months after I stopped taking lessons.

Lowell George was a second person that influenced me quite a bit. The similarity of circumstances and death bothers me a little, in that I had just left Little Feat a month or so before Lowell died. Even at the time of the split we had a good understanding, and Lowell wanted to keep the option open to have the band continue. We had several long talks before the departure. I mean, we split up so many times—it was absurd. But I knew what I wanted to do and talked it over with the band for several months. I didn't just walk out and leave everybody unprepared.

I'd say that Lowell and Ruth were the two that inspired me the most.

**Bonzai:** Little Feat has a legendary status, but you were never a commercial success.

**Payne:** Right.

**Bonzai:** What was the key to the group's hold on their audience?

**Payne:** Well, I think with any group that has enigmatic qualities within the aspects of "cult" status, there is a feeling in the audience—"Hey, I know something that the rest of the world is

not hip to." There's a pleasure in turning people onto that type of thing. The fact was, from the live standpoint, when you measured our group alongside our records, you were in for a surprise every time you saw us. On a smaller level, it's like these Grateful Dead concerts where you go, "What's the ticket with these guys? What's the pull?" For the fans, it's an event. For people who came to see Little Feat, they didn't know when we'd be back in their town. I think as we got into mid-career and we started to overtake the cult aspect a bit in sales and other areas, there was still an infrequency in our touring that kept people in a "let's wait and see what they do next" attitude.

**Bonzai:** What can we look forward to in the future?

**Payne:** We've written about 15 songs and are rehearsing them for a mid-February start of what will be our tenth album. We'll be recording at The Complex with George Massenburg. A few of the songs were more or less begun on Bob Seger's tour. I documented some grooves on a Yamaha QX1 sequencer using a DX7 synthesizer and an RX11 drum machine.

From a writing standpoint, you go off on your own, but you're conscious of who's out there—whether it's Randy Newman, Donald Fagen, Paul Simon, or in our case, the best of Little Feat. I felt in trying to put our group back together we had to measure up, in particular, to our past—more than anything. Little Feat was never a band to adhere to any rules when it came to writing. It's all just music, and our tastes are eclectic, to say the least. I think the thread through our music—or certainly one of them—is our rhythm section. There isn't another band in the world that can play like these guys.

**Bonzai:** Are you the main writer in the group?

**Payne:** I'm the main instigator. To say that I am the main writer would be a fallacy. We did an experiment. Paul Barrere, Craig Fuller, Fred Tackett and I sat down in a room and gave it a shot. We came up with a song that is autobiographical for the group, called "Hangin' on to the Good Times." I think our fans will really enjoy the tune, because there's a lot of inside information. There's a line about be-



**Little Feat, circa 1975 (top to bottom): Richie Hayward, Paul Barrere, Lowell George, Bill Payne, Kenny Gradney and Sam Clayton.**

ing "rained out of an indoor show," which actually happened in New Orleans some years ago at a place called The Warehouse. We were supposed to play, but there was about three inches of water on the floor. The promoter still wanted to hold the gig but we said, "Uh, no thank you." We had to bail out on that one.

We also make a statement about why we got back together. We couldn't get away from where we came from—not that we wanted to. Whenever I went out to play with Seger, or James, or whomever, I carried the baggage of having been with Little Feat, as did Richie Hayward with Robert Plant, Sam Clayton with Jimmy Buffett, Kenny Gradney with Mick Fleetwood's band The Zoo, and Paul Barrere with The Bluesbusters.

When we finally got together, the

spark was still there—well, we'll see what people think—but I felt like we had what was needed to say something. That's the only reason why you should do anything in this arena. I felt the platform was there and we're doing the same things we did before. We don't have any rules about what we play, or subject matter. It's all music, and that in itself is unusual. There will be a couple of familiar signatures for people that enjoyed the group before.

**Bonzai:** When do you expect to get the album out?

**Payne:** I hope for sometime this summer. Our first date is in New Orleans at the Jazz & Heritage Festival on April 30.

**Bonzai:** So it's happening quickly.

**Payne:** Yes, but it's been in the plan-

ning stages for a year and a half. I can assure you that I've thought carefully about what we're doing in terms of the legacy. There's no way I want to step on that—I want to add to it.

**Bonzai:** You just left a meeting with Peter Asher?

**Payne:** Yes, Peter Asher manages the group, and also the production partnership I have with George Massenburg, in conjunction with Russ Kunkel, called Filmrocks.

We were involved in the Mike Nichols film *Heartburn* as the production team for Carly Simon's songs, and we arranged her music to fit into the score of the movie behind the action of Jack Nicholson and Meryl Streep. We also did a film which I had a chance to score, *Smoothtalk*, with Treat Williams and Laura Dern. James Taylor, who contributed some of the songs to the film, and was originally asked to score it, convinced the director, Joyce Chopra, and the producer, Martin Rosen, to let me contribute my own music. Filmrocks' first film was *Certain Fury*. While not the best film ever made, I can tell you we treated it as if it were *Gone With the Wind*.

**Bonzai:** What type of a person is Peter to work with?

**Payne:** He's extremely intelligent, for one thing. There's an aura about him. He's a pretty shy person and keeps to himself. One of the reasons I wanted to have him work with us was from a business standpoint. And as a producer he can hear tunes and make the right suggestions.

**Bonzai:** Will he be producing?

**Payne:** Actually, he won't. I would like to have him in an executive production role. I felt it would be better if instead of being with us on a daily basis, he could pop in every now and then and give us an overall view.

In fact, his command of the overall view is another reason I wanted him. He represents George and me as a production team, which includes film work and production of different artists. We've produced Bonnie Raitt, Jane Weidlin, and just finished with Toto. I wanted someone to have an overall view of what Little Feat's schedule was, what George and I were doing. Basically, we're workaholics and love to be doing anything and everything. Peter is masterful at that over-

view, having handled artists like Linda Ronstadt and James Taylor. His catalog of artists is starting to grow, which is a good sign, because he could retire if he wanted to. He's genuinely involved with music from just about every aspect. He's the kind of person you want around you—he's vital, musically knowledgeable.

**Bonzai:** Let's talk about James Taylor. You've toured and also worked with him in the studio a lot.

**Payne:** First of all, it was a dream come true to work with James. Long, long ago, when the music business would get on my nerves, I'd take a long drive out to Arizona or Colorado and listen to James. There's pureness to his music I love, as with Steely Dan. We're all trying to entertain, but there's a realness to his music that I appreciate. James is a perfect counterpoint to what I am about to say.

There is something very bothersome about today's music/video consciousness. I hate the fact that we're up there as musicians and we're posing. It's like we're actors.

**Bonzai:** James strikes me as a quiet sort of soul, but also a playful person.

**Payne:** Oh, God yes—his live performances are certainly an indication of that. His band introductions are infamous. You know he's developed a whole new outlook on life over the past few years. Whatever he had going in the past, in terms of drugs, is totally gone. He's bounded past that. He's just a wonderful, alive human being. He's actually the first guy I ever saw that did a 180-degree turn. I've worked with guys like Lowell and John Belushi, and others—you see the patterns, but you just throw up your hands and say, "What can I do?" You can say things, but you can't save anyone.

Now there is a trend for people to change their lives around. James is the first guy I saw who did it. His inner strength is almost overwhelming. We wrote a song together for his new album. It's called "What the Heart Remembers." James is also a genuine performer and for my money, if he wanted to be the Bing Crosby of rock and roll, he could probably pull it off. There will always be an audience for him—for good music and good songwriting.

**Bonzai:** Do you enjoy touring?

**Payne:** Yes, I do. I don't need a steady diet of it. I don't need a steady diet of anything. After spending seven months in the studio with Toto, I'm ready to try something else.

**Bonzai:** Are you happy with the Toto album?

**Payne:** Yes, I expect that it's probably one of their best albums. It was hard work, especially for George Massenburg, and it was hard on them. I think my role was to keep fresh ears available.

Working with guys like Steve Lukather and David Paich and Jeff Porcaro, I came into this knowing that everyone keeps their own little checklist going. No difference from Little Feat. We were pretty much a closed society unto ourselves. I initially applauded Toto for their decision to bring in some outside ears. It was a gutsy call for them to make, 'cause bands that are capable of producing themselves loathe doing that sort of thing. They feel that if they've got an engineer, that's all they need. In certain cases, it's true. But often, a band can become a dog chasing its own tail. A band needs to be broken out of patterns, and reminded of who they are.

**Bonzai:** I'm sure a lot of people are curious about Linda Ronstadt.

**Payne:** Lowell had worked with her originally and it was because of that that she knew me. I actually started working with her in 1980. First of all, she's truly a song stylist. Her intelligence as an interpreter of songs is amazing. She's not only a brilliant singer, but also a brilliant businesswoman. As a stylist, she can sing country & western music, light opera, and now has released an album in Spanish, *Canciones de Mi Padre*.

**Bonzai:** Did you play on that?

**Payne:** No, but I played on the *Trio* record she did with Dolly Parton and Emmylou Harris. Her intelligence is in choosing a man like Nelson Riddle, in choosing the right players to do each record. There's an illusion to her—she's hard to categorize. I don't know of any other artist that is as chameleonlike.

**Bonzai:** Have you been to Japan many times?

**Payne:** I've been to Japan three times—with James Taylor and with Jackson Browne. I like working there a lot. I've

also done some recording there and worked here with the Japanese artist Akiko Yano.

Although we are linked electronically with the world, I enjoy traveling and finding out for myself the immediate cultural atmosphere. Just walking around Tokyo at night, you can go just about anywhere with a feeling of safeness. There's a cleanliness to the streets. I think it's doubtful that we will ever have that type of a life in America. The Japanese, as a group of people, have chosen to move in harmony with each other.

**Bonzai:** Any feelings about the meeting of American music and that of other countries?

**Payne:** What Little Feat is known for is an amalgamated sense of roots. For instance, we listen to jazz, which includes many styles, such as bebop. I'm not afraid to lift that type of thing and just throw it into a song, even though the rest of the tune may have nothing to do with it. It's a combination of styles.

Maybe you're playing a boogie and the next song is pure country & western—but the lyrics aren't pure country; they're something else. This is indicative of what America is. And maybe I've got some chords that are straight out of Aaron Copeland's "Billy the Kid Suite." We're taking from what we find in front of us.

The power of American music and its culture overwhelms those in other countries. I'd like to hear bands from other countries come up with material not unlike what Bartok and other people have created, drawing from their own culture and synthesizing it into their music.

**Bonzai:** Technologically, what tools are you using these days in your arsenal?

**Payne:** I have an Oberheim Xpander. I use a Yamaha DX7II and a TX816. I've been using a Roland acoustic electronic piano, the MKS-10. I use the Yamaha QX1 sequencer and an RX5 drum machine—strictly for notepad types of stuff, documenting tunes. And I use a Roland D-50 synthesizer. I've got a relatively simple setup, compared with a lot of people.

**Bonzai:** What music would you like played at your funeral?

**Payne:** "The Sounds of Silence," with

—CONTINUED ON PAGE 50

# Patti Page, The Movies AND MORE

When Tommy Sands left for Hawaii (see last issue) I wasn't sure what band I'd play with next. I jobbed around with the wonderful Vido Musso Band, backing Vido on various casuals (we referred to them as "casualties"). We worked places like the Slate Brothers in Hollywood and backed Don Rickles. (I used to laugh so hard that Don would look at me and quip, "Get a table, will ya Hal.") I also traveled with Vido to San Francisco to back Frances Faye, a very hip entertainer in those days.

Another great piece of basic training transpired with Vido and Frances at



by Hal Blaine with David Goggin

the infamous Facks Number 2 Nitery. Unbeknownst to me at the time, Frances had a way of throwing curves at drummers as part of her act. She would have the drummer set up very close to her and in the middle of whatever tempo we'd be playing she'd go off into some other tempo leaving the

drummer with egg on his face.

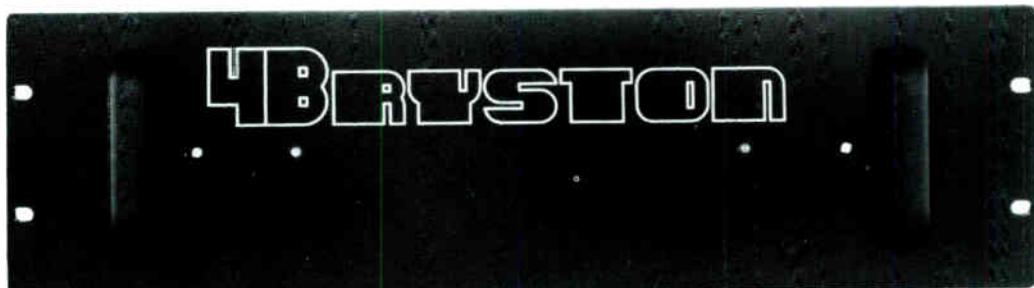
We rehearsed all sorts of tunes at her palatial mansion in the Hollywood Hills, but when it came to opening night I had to forget all of her arrangements. She immediately did her thing, going off into these other tempos. But I was on my toes and immediately noticed that every time she went into another tempo her right foot went to the sustain pedal on the piano. I was now ready for anything!

After we finished the first show, Frances called me into the dressing room. "OK pal, how do you do it? No drummer has ever done it before!" I started



Patti Page fronts her band (with Hal on drums) circa 1960.

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to laugh and asked her what she was talking about. "You know what I'm talking about!" she said, and started a rap about my ESP. She did a radio talk show the next day and talked practically the whole time about her drummer, the clairvoyant!

During the dance sets I was the singer in the band. One night a very nice gentleman and lady asked me to sit down and have a drink. I explained that I wasn't drinking because I was on medication for a sore throat. (That always works and no one is ever offended.) I ordered a tall orange juice. This guy told me how much he liked my singing. Something about his voice had a familiar ring. I introduced myself and

ble for Vegas to do a month at the Desert Inn. And how! I was to take Bobby Rosengarden's place with the Patti Page show, and I was thrilled. Bobby had gone back to New York and was making quite a name for himself in the Big Apple. Patti's manager Jack Rael was a sweetheart with a great broad smile; I think he liked my Jewish humor as well as my drumming. We became one happy family, traveling around the country for the next three years.

Patti was a little gal out of Oklahoma, one of 11 siblings. She was a real country girl, but Hollywood and her singing success forced her to grow up in a hurry. We rehearsed at her beautiful

my first wife, Lydia. Lydia was a beautiful 18-year-old blonde from New Orleans. I was now about 32 but the age difference didn't seem to mean a thing to either of us. I had been dating another blonde dancer at the Inn and she had gone to Reno with a dance troupe. During her stay at the Golden Hotel, there was a fire and she perished. I was devastated.

Lydia was a very dear friend of this dancer ice skater and we had been casually introduced in Vegas. After the dancer's death, Lydia contacted me to find out what happened and we fell in love and married soon after. We adopted two wonderful kids, purchased a Hollywood Hills home and life was sweet.

After eight years, Lydia decided that there was more to life than living with a workaholic musician and she decided on a divorce. One year later while she was living in Long Beach, California, she took her own life. I immediately picked up our children, Michelle and David, and brought them back to their home.

During the years that I worked with Patti I usually came back to Hollywood between engagements and it was during these times that I became friendly with H.B. Barnum. H.B. was an arranger-composer who always had something on the fire. If it wasn't a night club, it was a private party at a ballroom, or a gig at an air base, or maybe just a backyard barbecue. He started using me in the studios doing demos and the like, and then moved me up to full-fledged studio drummer. I got to work with Sam Cooke and various artists of the day, and he gave me great opportunities to develop my studio techniques. It was wonderful hearing myself on playbacks and trying new things on different takes. Before long I began to discover what sounded best. By trial and error I got the studio experience I needed to make it into the front ranks of session players.

I was working with the Diamonds when I first met Earl Palmer. Earl was the King of the Mountain and I learned more from him than I could have learned from a music library. Earl had been Fats Domino's drummer and he had that New Orleans style down pat. He was doing most of the major rock dates in town and after a while he started tossing my name around and recommending me for gigs that he couldn't make. Before long, I was working with the best and meeting most of

## As important as knowing the musicians was getting to know the popular contractors of the day, the guys that did all the hiring. They were the real bosses—they could make you or break you, and often did both.

he said, "This is Kathy and I'm Bing." Well the shakes took over and I was beside myself. This was my introduction to the famous Crosbys.

A few years later I recorded with Bing, doing his only rock record, The Beatles' "Hey Jude," with a great Jimmie Haskell arrangement. Bing even saw to it that we went overtime, a trick he used to do all the time. He would finish a take that would be great, look at the clock and see that there were only a couple of minutes left on the session. Then he'd rap a minute to the producer and say, "Let's do one more just in case it might be better." We'd start the take and that would run the clock a few minutes into overtime. Then Bing would stop and say, "Well let's forget it, I think the last one was the one." We all applauded.

When I finished the San Francisco gig and came back to L.A., I got a call from the great composer-arranger, Jack Elliot. I had never met the man but evidently he had heard of me or seen me, and he asked if I was avail-

Canon Drive home in Beverly Hills for a few days and this was my introduction to some of the nicest people in the business. Patti and her husband at the time, Charles O'Curran, were completely down-to-earth people; no Hollywood bullshit. Charlie was a choreographer at Paramount for years, and had the respect of the entire industry. He also had a great sense of humor.

His sense of staging was impeccable. Charlie hid an autoharp inside the piano so that at one point in the show the lights came down dramatically and Patti walked to the open piano and ran her fingers over the concealed autoharp as if she were strumming the regular piano strings as she sang "Danny Boy." Of course, the chords were all perfect coming from the autoharp, but the audience thought that she was doing it with the piano strings. You could almost see the teardrops falling as everyone imagined they were hearing an angel. What a show stopper!

During that Desert Inn job in Vegas I met the woman who I consider to be

the famous musicians in LA. It was on Earl's recommendation that I started with the Tijuana Brass. That led to my first Record of the Year, "A Taste of Honey." As important as knowing the musicians was getting to know the popular contractors of the day, the guys that did all of the hiring. They were the *real* bosses—they could make you or break you, and often did both.

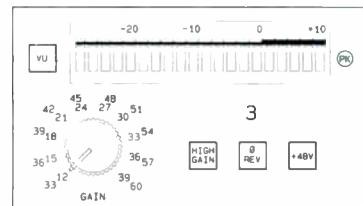
I had now begun to learn many of the lessons that relate to success in the music business. And I saw it many times—there are no losers in any business, just winners that give up too soon. This business is like any other. You must know your trade. You must study all aspects and be ready when your time comes. One of the worst things that can happen to people in any business is taking a major job when you're not ready for it, especially in the record business where time is money. Anyone can make a mistake, but when you make the same mistake repeatedly the contractors remember your name and there go your calls. Learn your instrument, study your reading and listen to everything you can. Learn every conceivable style of music because you never know what they're going to throw at you. And then make up some of your own—the stuff you really *feel*.

It was during one of my layoffs with Patti that Charles O'Curran called me and asked me to come to a meeting at Paramount. I entered the music stage and was ushered into a small room off the main studio. Sitting in the room were several Paramount executives. The only faces I recognized were Charles and Phil Kahgan, the musical contractor at Paramount Pictures for 50 years. He was the giant of giants among contractors.

A few years before on Tommy Sands' *Love in a Goldfish Bowl* film it had taken a lot of begging by Jimmie Haskell to convince Kahgan that I was in fact a drummer, as opposed to being an actor. After Jimmie convinced Kahgan, he reluctantly hired me and then, fortunately, continued to hire me for my entire career.

Charlie waved to me and pointed to a seat. I sat down and the speech began. "We're going to be doing a new film with Hal Wallis directing [pointing to Mr. Wallis seated front and center] and I want the best of the best on this picture. It's a very important picture and it might mean a lot of extra hours and a lot of extra work on your parts, but we want this picture to be

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the best in the old tradition of Paramount. It's a young people's musical set in Hawaii and I want you to meet the star." And with that the star entered. It was Elvis Presley in the flesh.

Working on an Elvis movie like *Blue Hawaii* was a great learning experience for many of us in Hollywood. Rock and roll had been infiltrating the movie scene slowly, but surely. Producers started using small rock segments as source music in order to keep their films up to date. After all, rock and roll was already a dominant part of the American radio scene.

When I arrived at the Music Stage at 20th Century Fox, my drums were set up near the back with one large microphone in front of the bass drum. Obviously these recording engineers hadn't been keeping up with the multi-microphone techniques becoming popular in the rock-oriented Hollywood recording studios. While this barn-like studio had hosted countless sessions with the masters of music, things were changing quickly in recording, and the film studios were not keeping up.

We started playing the chart and before long the producer of the film came out, complaining to the arranger that the music didn't sound like what he had been hearing on the radio. My drums sounded like they were a mile away. The producer then asked me why they sounded so distant and I

explained what we had been doing in Hollywood with multi-miking and baffling off the drums for isolation, and so on. He called a break and asked the engineers to come down from the third floor sound booth and to do what I thought was best.

Well, I told them how in Hollywood we put a mic in front of the bass drum, and one on the snare, one on the high hat, and one or two overhead. The engineers threw up their hands in disgust and told me I was nuts. "I'm only telling you what's going on at the rock studios in Hollywood," I said as the contractor gave me a dirty look. I was starting to think that I would probably never get another call from 20th. All of the band was sitting around watching me dig my own grave. I was the new kid on the block, and here I was telling the biggies what I thought they should do. The engineers screamed that they didn't have enough lines or inputs to mike a set of drums that way. Drums were always in the background, back in these days of 4-track and less.

Nonetheless, before long some electrical people were called in, a few jury-rigged connections were made, and some baffles were put in place. We cut the tracks again and everyone agreed they were perfect. After all was said and done, I became something of a hero there and got called back for many soundtracks. ■

### LUNCHING WITH BONZAI

—FROM PAGE 45, BONZAI

a KABC radiotalkshow in the background.

**Bonzai:** What was your most exciting musical experience?

**Payne:** Performing in Amsterdam in 1974. The Rolling Stones, for the first time in a long time, came to see a group play. I couldn't believe that those guys would do that for us and that I was in the middle of it.

**Bonzai:** Did it boost your performance level?

**Payne:** Yeah, it did. There was a feeling of having arrived. Hopefully there will be a few more similar experiences in the coming years.

**Bonzai:** What's the biggest mistake of your life?

**Payne:** I've made so many of them, it's hard to single out one that would have made any difference. There are a

lot of major mistakes, but I believe that they're supposed to happen. You grow from mistakes.

**Bonzai:** Any advice for those aspiring to a career in music?

**Payne:** Judging from MTV, I would definitely suggest an acting course immediately. Forget the music—that's secondary. Deal strictly with perception—how you are perceived. If you're perceived as a musician, then indeed you are. That may not hold true for the '90s, so as a hedge you might take a few music lessons.

**Bonzai:** What would you do if you lost your hands?

**Payne:** Use my feet. ■

*Mr. Bonzai, a 15-year veteran of the music industry, is former manager of a major Southern Cal recording studio, and author of Studio Life: The Other Side of the Tracks (Mix Publications).*

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by Stephen Padgett and  
Paul Klingberg

# DAVID HOLMAN

## L.A. PRODUCER BUILDS HIS DREAM STUDIO

**D**avid J. Holman started his career as an audio engineer. Through the mid-'70s and early '80s he recorded a consistent string of hits for Olivia Newton-John, including her platinum albums *Physical* and *Totally Hot*, and the platinum soundtracks to *Xanadu* and *Grease*.

Like other successful engineers before him, Holman gradually made the transition from engineer to producer/engineer. His credits as producer include albums with King Bees, Real Life, John Farnham, Bourgois Tagg and Gregg Rolie. On the schedule are records for the Nelson Brothers (Ricky's sons), Real Life and a winter 1988 release for songwriters Beckett & Kipner.

Holman lives in a secluded hideaway in the legendary Laurel Canyon area in Los Angeles. In 1986, he moved his converted-garage studio from another Hollywood hills location to this spot. His studio now occupies its own freestanding building away from the house, tucked snugly against the hillside. Pity the poor guitarist who can't afford cartage—it is one precipitous climb to Holman's as-yet-unnamed studio.

The studio was built utilizing the extra-deep foundation. The ten-inch concrete floor supports ten-inch concrete walls, all reinforced with steel rods. The ceiling is made of 14-inch thick lumber, sloped and double joisted, packed with fiberglass and topped with another thick layer of concrete to provide a high-mass, low-frequency absorber.

There are no parallel walls, though from the outside the building looks

like a white cube, 33 feet along its longest side. The landscaping is stylish Southwestern/Santa Fe, replete with cacti and a barren, Zen garden feel.

It was during the hectic days recording Olivia Newton-John that Holman concluded he had to have his own recording facility. "I was running around like a lunatic to every studio in town. I was so busy and so tired," he says.

But even more importantly, maintenance at these studios was, according to Holman, "very sloppy." At the time, there were only a handful of studios

**David Holman**



PHOTO: BOSCO

in the front rank and competition was not so great. "Now," says Holman, "things have changed. The competition is such that if something goes wrong and somebody loses half a day, you're history. Now there are plenty of options in this town."

Another strong motivating factor in building his own place was his continuing drift away from strictly engineering and toward producing. "As a producer, having a facility became a real advantage. When I need a harmonizer, I've got four here. If I need any old outboard gear, I've got it all here. It's a great production tool."

Holman used the revenue from his work on *Grease* and *Totally Hot* to finance his first studio. He went on to record all of Olivia Newton-John's other big sellers like *Heart Attack* and *Physical* in his converted-garage studio.

He is a level-headed mix of audio fanatic and practical businessman. Holman has been an avid collector of vintage gear since 1968, and his new dream studio is a cross between a mu-

seum and a high-tech arcade. Beyond the convenience and consistency that having his own room provides, Holman has been able to sculpt a signature soundscape based on his growing intimacy with the room and the equipment.

"If you've got an idea in this room, you can just do it," he marvels. "There are seven chamber effects. There are sampling systems all over the place. Digital, analog, you name it. As a producer, the time you spend from the moment you get an idea to the time when you accomplish it, is sometimes very important."

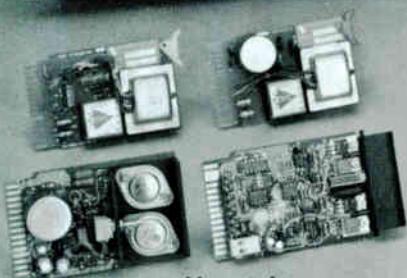
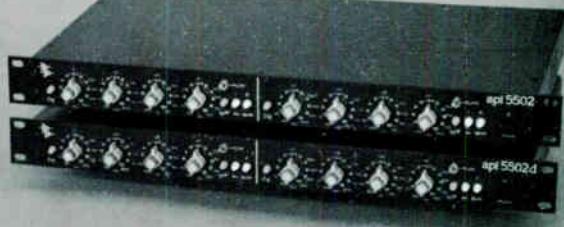
"Most studios today put their money into their walls and their console and their tape recorders. They really don't have the budget to outfit incredibly well. In actual fact, that's not probably a real wise thing for them to do, because everybody wants something else. This week, the Publison Infernal Machine is in, next week it could be the ADAP computer for digital recording. Next week somebody will use a Synclavier. It just changes and changes."

"For the studio owner, it's very difficult the way the competition is. The rates that could be charged ten years ago just can't be charged today," says Holman. After spending over \$400,000 for a good console, up to \$90,000 for an analog tape recorder (\$180,000 to go digital), Holman says a studio owner is hard-pressed to meet the bottom line. "And then people want your studio for 50 bucks an hour. That's really astounding."

Holman has equipped his studio with almost entirely customized gear. "I still use Stephens analog machines," he says, although he'll bring in a Mitsubishi digital "once in awhile." The electronics of both his Stephens 24-track and 4-track have been rebuilt.

"The console," says Holman, "has been custom-rebuilt. It goes through modifications on a yearly, even monthly, basis. Amplifiers in this board are eight months old. It's designed by Dave Bascombe and Harvey Rubens. Dean Jensen was involved with this console, as was George Massenburg. It's always being looked at and up-

## HEARD ANY GOOD ONES LATELY?



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## ARTIST'S STUDIO

dated." The desk is ready for grouping automation, which Holman will be installing shortly, as soon as he finishes the interface. He decided, based on his needs, to eschew fader automation.

"This board was designed to be as quiet and as fluid as possible and as non-coloring as possible while still remaining flexible. It's a 64 input console. It's got 18 sends per module. It is never at a loss for group muting. Almost everything that I produce, I mix here," says Holman.

Besides an occasional friend who Holman will let use the studio, the entire facility is reserved for his private production use. "The nice thing is, when I'm working for record companies, I can give them a budget and stick to it. But you've got to be careful about that: if you've got a budget of \$150,000 and you spend three years doing it, you're dead," he says.

Holman has an obvious fondness for valve-operated equipment. We asked him what a few of his favorite pieces were. "It varies from month to month," he says. "I'm kind of getting



Holman's KRK 4-way monitoring system, custom built by Keith Klawitter.

back into the Teletronics LA-2As right now. It goes around. I get into something, then I forget about it. I'm getting back into the Delta Labs Harmonic Computer now; things I haven't played with for awhile."

The control room is extremely open. The spacious design accommodates Holman's emphasis on the console end of things. With the exception of one small isolation booth for vocal and miscellaneous overdubs,

there is no "live" recording room.

Drums are recorded live elsewhere or sampled. If the samples already on hand are not enough, one of Holman's favorite studios around town will be employed to get the sounds. "I like the old big rooms," he says. "Although, I've gotten some really sensational sounds out of squashed little rooms, *a la* Westlake. My first inclination, though, is toward the big, big halls because most of the work that I've done has been done in rooms like the old RCA rooms or CTS in London. But sometimes with a small room, with the early reflections, you get a really great sound. You can hear the bounce."

He adds, "I like real hard floors. I'd rather have it all bouncing all over the place and baffle it and work with it, than to have a dead room that I'm trying to liven up." Right now, Holman's favorite haunts in L.A. for drum sounds include Power Tracks, David Kershenbaum's place, which used to be the old Wally Heider Studio D. He also likes Ocean Way.

The monitors in his home studio are KRKs, custom built by Keith Klawitter. It's a four-way system, needing 1,000 watts per side just for the woofers. The speakers are set beneath a pair of wooden arches filled with sand. Each arch weighs about one and a half tons. Each assembly is coupled to the floor and acts as a "wave guide."

Klawitter speaker designs are now fitted into Sound Castle, and three other systems are about to be installed elsewhere, according to Holman. "He [Klawitter] uses European speakers, pretty much," says Holman. "These are French woofers. They're pretty amazing. They deliver about 15,000

## New! Inexpensive Center Track Time-Code for Non-TC Audio Machines.



**N**ow you can make your 2-track machines synchronizer-ready for a fraction of the cost of a new machine. Otari's new TC-50 Time Code/FM Processor is primarily designed for the Otari BII or Mark III-2, but it is also adaptable to most 4-head-position 1/4" tape recorders.

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**OTARI**

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Gauss to the coil, which gives the option of using a very thin, light coil. So they have the speed and the accuracy of a 12-inch, but they have the air-push of a 15-inch," says Holman.

In addition, Holman uses a Klawitter-designed speaker that functions like the popular Yamaha NS10s. "The NS10 is a pretty good little speaker, but after working on it for a long time it tends to burn your top end off."

We asked him what he uses the big speakers for. "They're very accurate. They're wonderful to listen to. They have an incredible amount of bottom end, so we use them basically to hear what's going on with the bottom. And I do mix on them; they are clear enough to do that."

To power Holman's speakers, he employs Audire Amplifiers. He uses the Oetz model for the bottom end. They are a locally-made amp that Holman claims have "tremendous amounts of power." Elsewhere, he's got Hafler and McIntosh pre-amps and Citation, Crown, McIntosh, Mitsubishi, Technics and Theta amplifiers which are basically used experimentally with different speaker set-ups.

As you might expect, to go along with Holman's collection of vintage electronic gear, he's got a fully loaded arsenal of classic microphones: "A beautiful set of C12s, a beautiful matched set of 251s. They're all mint—66s, 67s and 47s, church microphones, a whole line of C28s, C12As. I must have \$60,000 to \$70,000 worth of vintage mics.

"Anybody who's really getting serious about recording," counsels Holman, "gets into the concepts of their pre-amplifiers and their microphones. They're the most important things you can have. I've had pre-amplifiers made for me for years. And it's always shown, because the recordings are always clean.

"Somebody asked me what I'm doing to get ready for digital recording and I said, 'I haven't done a thing.' Because every time I've ever made a record I try to make it as clean as possible. All the tracks are as clean and clear and quiet as you can get them."

Speaking of digital, we wondered if Holman had any plans for music by numbers. "Probably. But right now we're doing a lot with drum machines." He plays us a track he's working on and says, "What you're hearing right now is coming directly out of

the PPG. That's all digital basically.

"But," he says, "if I were to buy a machine right now, I'd probably go with the Mitsubishi." Holman cautions that the formats just haven't been standardized yet and the investment would be too heavy for something that may become obsolete rather soon. "I think everything is going toward hard disk systems," he says. "I think for me to get involved with an intermediate system that costs that much money is just too much."

Plus, he adds, "the records that I hear made on analog machines still hold up to the test. And, as a matter of

fact, digital is not quite there yet—it's not perfect audio."

Your first chance to hear the results of David Holman's new facility will be on the upcoming Real Life album due from Capitol Records. He produced and engineered it. ■

*Stephen Padgett, formerly managing editor of Cash Box magazine, is a freelance writer who has contributed articles to Playboy, Billboard, Pulse!, Hits, Music & Sound Output and others. Paul Klingberg is head engineer at Ignited Productions Studios in Los Angeles.*

## Found, The Missing Link. Gauss Coaxial Monitors

It's a well known fact that loudspeakers are the missing link in studio, post production and broadcast facilities' audio chain. The accepted criteria for ideal speakers are: balanced, phase-coherent or time aligned, and with as little color as possible.

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# NEW PRODUCTS



## Otari MX-55 Recorders

Otari Corp., of Belmont, CA, has introduced the MX-55, a new series of compact, cost-effective quarter-inch analog tape recorders. Designed especially for broadcast, post-production and studio applications, the new series is available in full-track mono, 2-track NAB or DIN stereo, and 2-track with center track time-code versions. The latter two styles are also available in a desk top overbridge cabinet. Standard features include user-selectable 3.75/7.5 or 7.5/15 ips operation, seven-digit LED counter with four memory location points, ±20% varispeed,

sync overdubbing mode, and internal monitor speaker. Options include editing scissors, fader start, two autolocators and a transport remote, and a unique voice editing module for dialog work at double speed without pitch error.

The standard 2-track model is available now and retails at \$3,695; the other models are planned for late spring release.

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## Brüel & Kjaer 4011 Cardioid Mic

After ten years of development, Brüel & Kjaer, of Marlboro, MA, have unveiled their Type 4011, a high-performance prepo-

larized cardioid condenser microphone. The 4011's mic capsule and 48-volt transformerless preamplifier combine to yield a frequency response stated as 40 to 20 kHz (+1, -2 dB), while the maximum SPL is rated at 158 dB before clipping. Each mic includes a detailed calibration chart, wooden case, cable, windscreens and an ultra-secure stand mount which encircles the mic and locks firmly to avoid slippage.

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module, which plugs into the 7300's rear panel octal sockets and provides a 24 dB/octave Linkwitz-Riley filter with 24 selectable frequencies on third-octave ISO centers.

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## JBL 2450J Compression Driver

Said to be smaller and lighter than any comparable compression driver on the market, the 2450J from JBL Professional features new neodymium magnet technology and a newly designed Coherent Wave™

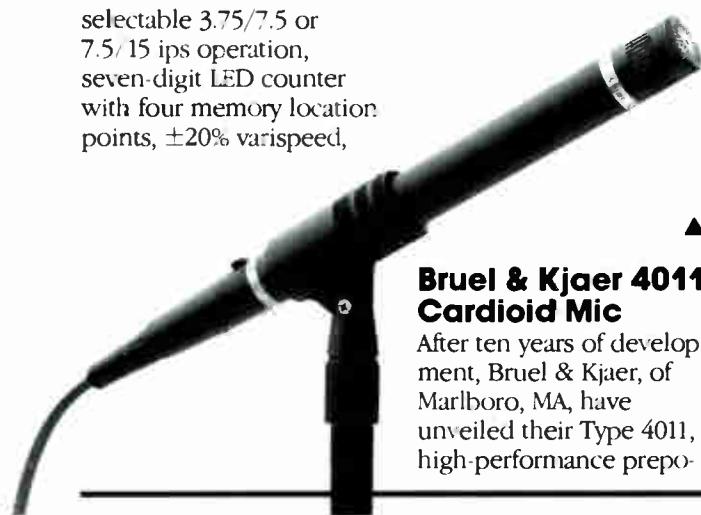


## E-V Model 7300 Power Amp

The new Model 7300 stereo power amplifier from Electro-Voice, Buchanan, MI, delivers 300 watts into 4 ohms, 200 watts into 8 ohms, and 600 watts in the (rear panel switchable) mono bridged mode. The 7300 offers a heavy-duty steel chassis, recessed dual attenuation controls, front panel protect/clip/AC power LED indicators, binding post outputs, and both XLR and quarter-inch balanced inputs—all at a \$758 price. A \$104 option is the APX crossover

phasing plug. Besides offering the advantages of a more compact design (allowing for tighter spacing of horn arc arrays) and reduced weight (always a factor in touring systems and flying rigs), the 2450J is 1 dB more efficient than the popular JBL 2445J, which uses a high-energy ferrite magnet structure. The "J" suffix of the 2450J indicates its 16-ohm impedance, and initial deliveries are slated for spring of this year.

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## Master Blaster P.A. Speakers

Developed in the Netherlands and now available through M.B. America of Rochester, NY, the Master Blaster system is a new approach to P.A. rigs. The system incorporates two self-powered modular units: the Supercompact, an MF/HF box with two 10-inch transducers and a one-inch compression driver, each coupled to a constant-directivity horn; and the Impact I port-

loaded bass box with a single 18-inch woofer. In spite of the built-in power amps (which are said to deliver in excess of 1,000 watts), each cabinet weighs approximately 100 pounds and comes with flying hardware, recessed handles and a one-year warranty. Maximum sound pressure level for a single Supercompact box and three Impact I cabinets is given as 140 dB (peak SPL, on-axis half-space).

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## Crown Macro-Tech Amps

The line of Macro-Tech amplifiers from Crown International (Elkhart, IN) are designed for high-end professional sound applications where the amplifiers must be custom configured for a specific requirement. Optional plug-in rear panel accessories tailor the amps to user needs by adding functions in series with the input. Available modules include: an error-driven compressor, an electronic crossover, balanced transformer isolation and a "daisy chaining" module. All models in the line—except the single channel Macro-Tech 10,000—can

operate in either stereo or bridged mono, and the MA-2400 model is said to produce a peak power of 10,000 watts in this mode. Among the line's other features are Crown's patented IOC (Input-Output Comparitor) and ODEP (Output Device Emulator Protection) circuitry, as well as a three-year, transferable warranty.

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## Stewart Mic Preamp

Sacramento, California-based Stewart Electronics has unveiled their MP-2, a single channel mic preamp featuring: low impedance XLR-type connectors, -20 dB input pad, phase invert, active 3-band EQ with sweepable midrange, and switchable 48 VDC phantom power. The MP-2 is priced at \$399 including external 24 VAC supply; single- and dual-unit rack-mount adapters are optional.

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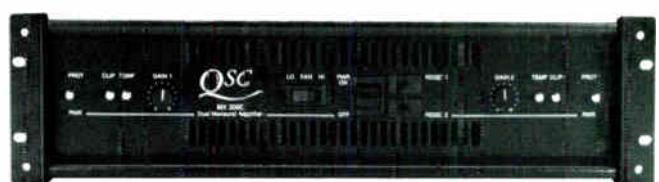


## Digitech DSP 64

New from Digitech of Salt Lake City comes the DSP 64, offering two 16-bit digital effects/reverb processors in a single rack-mountable chassis. Each processor features stereo inputs/outputs and an effect defeat, so the DSP 64 can be operated as two independent units or as a single stereo unit with the ability to run different pro-

grams for the left and right channels. Thirty reverb programs are available, including large and small rooms, as well as gated and reverse reverb effects. Other features include input, output and wet/dry mix controls, and a rear panel jack is provided for effect defeat switching. The DSP 64 has a list price of \$499.95.

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## QSC MX-2000 Amp

Expanding their MX Series of stereo power amplifiers, QSC of Costa Mesa, CA, has unveiled the MX-2000, a three rack-space unit delivering 625 watts per channel into a 4-ohm load. The MX-2000 uses a dual-monoaural design, allowing each channel to operate as an independent amplifier, sharing only the AC cord and power switch. Features

include a front panel switch for selecting high/low speed forced-air cooling, electronically balanced quarter-inch RTS and barrier strip inputs, five-way binding post output terminals, front panel LED operating status indicators, and dual input gain controls that go all the way up to "12." Deliveries begin this spring.

Circle #142 on Reader Service Card

The Control 5 speakers are designed for either vertical or horizontal placement, and can also be rack-mounted.

Designed and manufactured in Iisalmi, Finland, the entire Genelec line of monitors are now available in the U.S. from Nashville-based Redwood Marketing. All of the six Genelec models—from the 1019A biamped mini monitors to the substantial (340-pound) 1025A quad-amped 4-way system—are self-powered units, each containing internal crossovers and amplifiers optimized for that particular combination of driver and cabinet. The Genelec S30, a triamped, 3-way speaker, is the newest entry in the Genelec line, and is available in both standard and a special version optimized for near-field operation. Some recent S30 purchasers include Minnesota Public Radio, MCA Records (Nashville), New York's Sterling Sound and Flyte Tyme Productions, the home base of superproducers Jimmy Jam and Terry Lewis.

Developed as a cooperative venture between Klark Teknik's Acoustic division and Munro Associates, the Jade One MkII is a compact, 2-way bass reflex system which also incorporates internal amplification and crossover networks. The Jade One MkII utilizes an 8-inch neoflex cone woofer crossing over at 2,500 Hz via a 24 dB/octave Butterworth filter to a 1.25-inch soft-dome tweeter. An XLR-type input (electronically balanced) drives a 100-watt MOS-FET power amp for peaks of up to 113 dB at one meter. LF, HF and input level controls are provided and available options include input transformer balancing, a control panel security cover and speaker stands and wall mounting brackets.

The name "Tannoy" has long been associated with the loudspeaker business—in fact this British manufacturer nearly lost their trademarked name some years ago, as its almost universal acceptance and use in the UK as a synonym for the word "loudspeaker" required the firm to take legal action to protect it. Fortunately, Tannoy prevailed (as did Xerox, Kleenex and Q-Tips, in similar cases in the U.S.) and has been quite successful over the years, especially with their point-source



Tannoy PBM-6.5

co-axial speaker systems. The PBM-6.5 (Play Back Monitor), Tannoy's newest product, is a compact unit that uses a more conventional (non co-axial) 2-way design with a 6.5-inch woofer and  $\frac{3}{4}$ -inch dome tweeter, yet capable of handling 100 watts. The PBM-6.5's small size, grey cabinet and 57 to 20k Hz ( $\pm 3$  dB) frequency response make it suited for either near-field studio or sound contractor/installer applications, especially at a weight of only 12 pounds each. The list price is \$298/pair.

Ottawa, Canada-based State of The Art Electronik, Inc., has unveiled their first medium sized monitor, the CF-750 by master designer Claude Fortier. The 750 is a 3-way hybrid system, 2-way active and 2-way passive, with five drivers: two 12-inch woofers are contained in separate, ported side enclosures, while an isolated central enclosure has dual 6.5-inch MF units and a 1.2-inch tweeter. The CF-750 uses the newly developed AAX-2 Acoustic Align Crossover System, which employs patented equal phase filters. System frequency response is

stated at 50 to 21k Hz ( $\pm 1.5$  dB) and pricing is \$1,495 for the CF-750 and \$1,195 for the AAX-2.

From KRK Monitoring Systems of sunny Huntington Beach in Southern California comes a new line of near-field speakers. Owner/designer Keith Klawitter had previously specialized in producing high-end, all cone/dome mains systems for a number of top studios, such as Cannon Films, Baby-O Recorders, and David Holman, whose personal facility is featured in this month's "Artist Studio" column. While the KRK mains systems are priced from \$5,445 to \$7,648 (including electronic crossovers), the near-field offerings—such as the 2-way 7-inch woofer model 702—begin at a more affordable \$546/pair. The KRK 1203, the 3-way (12-inch woofer, 7-inch cone mid and inverted dome tweeter) top of the line near-field is priced at \$1,695/pair, and puts 250 watts of power handling capacity into a compact 16.5 x 20 x 17-inch enclosure.

There is no question that the Yamaha NS-10M has been one of the most common speakers used for monitoring in recording studios around the world for the past half-decade. Last year, Yamaha made some much-needed changes (especially in the HF driver) that considerably improved the NS-10's performance, and dubbed the new version the NS-10M Studio. More recently, Yamaha has shown their newest NS series monitor, the NS-40M Studio, which is a 3-way, acoustic suspension system featuring dual white-cone 7-inch woofers in each cabinet for extended bass response and greater power handling capacity. The NS-40M Studio monitors are priced at \$445 each.

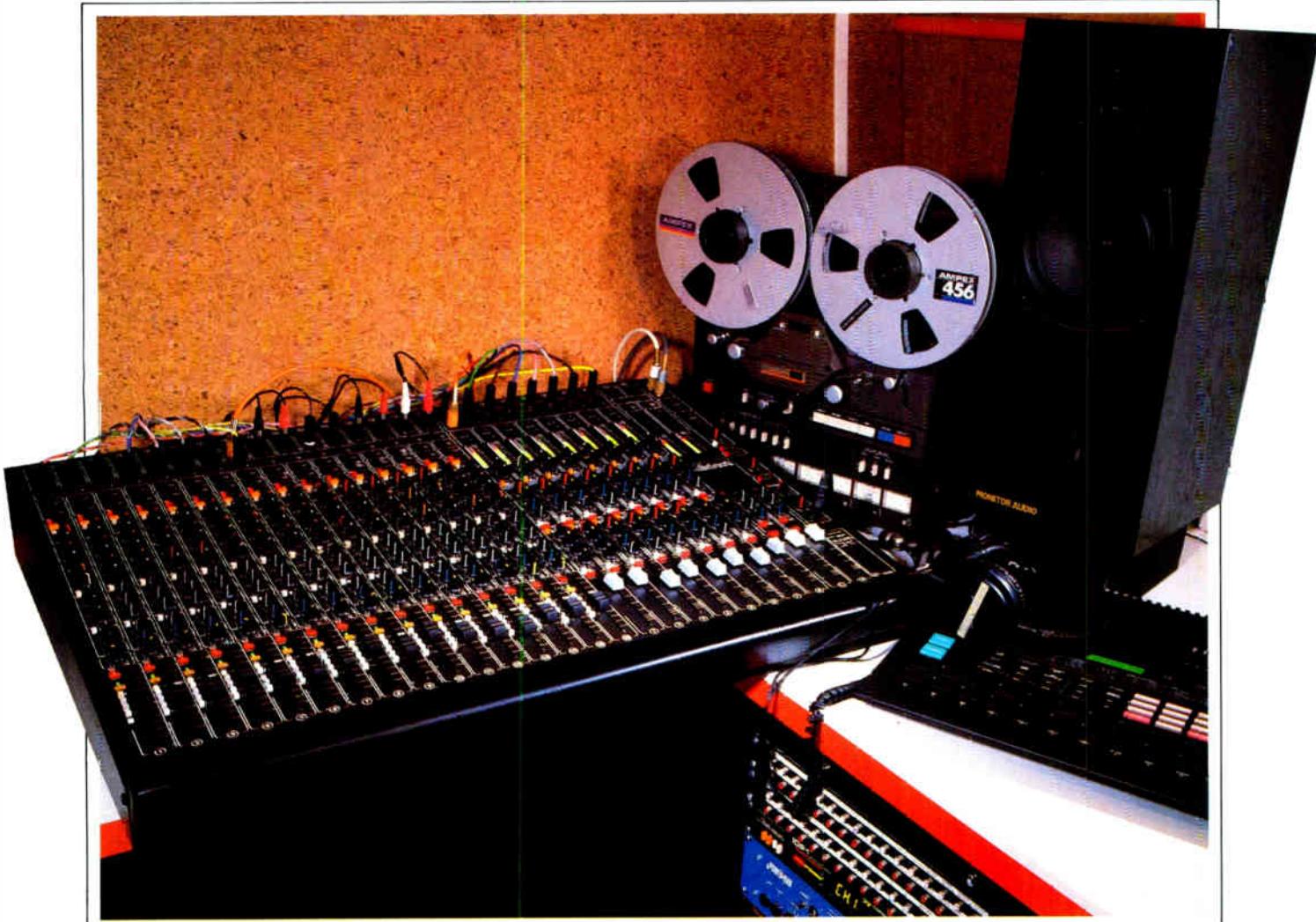
—George Petersen

The Yamaha NS-40M studio monitor is rated at 100 watts rms.



# MIXDOWN

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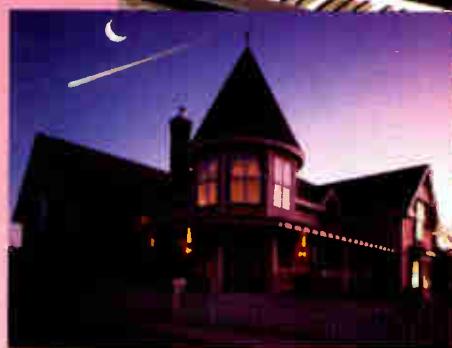
16.8.16.2 - 16 electronically balanced MIC and LINE inputs, 16 unbalanced TAPE inputs, 16 TAPE MON/AUX LINE inputs (8 with EQ). 16.4.8.2 - 16 electronically balanced MIC inputs, 8 unbalanced LINE inputs, 8 unbalanced TAPE inputs, 8 TAPE MON/AUX LINE inputs (4 with EQ), insert points on inputs and L/R outputs, DIRECT OUT on all inputs, 48V phantom power, 3-band sweepable EQ, 6 aux sends (4 post-fade, 1 pre-EQ, 1 pre-fade), 3 auxs on tape monitors/AUX LINE inputs, Fader Reverse to AUX LINE inputs, stereo aux return, talkback to aux 6, 100mm faders, expandable inputs.

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by Andrew Scheps

# RANE SP15 PARAMETRIC EQUALIZER

**T**he SP15 is another in a long line of quality equalization products from Rane Corp. This five-band parametric/shelving equalizer/notch filter set is incredibly versatile.

The unit is logically laid out, making it easy to learn and use effectively. The front panel is set up with the five bands arranged horizontally. Each band includes a control for bandwidth, level, and frequency, a bypass switch, and for the lowest and highest bands there is a switch for shelving. This ability to switch between shelving and peaking equalization is useful for applications where both rolloff and peak equalization is required (e.g. for feedback control in a P.A. system).

The unit's four frequency bands are: 20Hz-300Hz; 60Hz-1kHz; 150Hz-2.5kHz; 450Hz-8kHz; 1kHz-20kHz; all approximately four octaves. This extreme overlapping of the bands is especially useful when the high and low bands are in shelving mode and further peak equalization is still needed in those frequency ranges.

The bandwidth of each section is continuously variable from 1/30 octave to 1.5 octaves. This range certainly allows for handling almost any equali-

zation problem or effect. The bypass switch included in each band (as well as the overall bypass) is a tremendous help during equalization. It is very easy to lose sight (or sound) of what you are trying to do with an equalizer and these switches make quick A/B comparisons possible. The level control allows for a boost of up to +12 dB and a cut of up to 15 dB through the unit; once again, enough for most applications. There is also an input level control which ranges from full attenuation to an overall boost of 12 dB.

The rear panel offers a variety of connection possibilities. For input there is a quarter-inch RTS (Ring-Tip-Sleeve) and a female XLR-type connector, both wired in parallel to allow daisy-chaining the SP15 input to another piece of gear. Both are actively balanced through a differential input stage. For output there is also a quarter-inch RTS jack and a male XLR connector. When the latter is used by itself, it is a differentially balanced line. If the two outputs are used at the same time, both will be floating lines. The RTS output is always a floated line.

The only other jack on the rear panel is a telephone-type jack for an optional

I was instantly impressed  
with the unit's ease of operation  
and amazing sonic quality.



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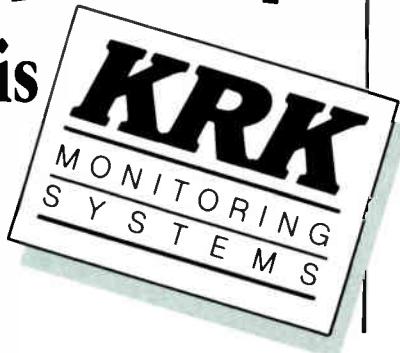


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24 VDC supply, such as the Rane RS10. The notion of providing external DC powering for outboard gear has been kicked around by various manufacturers for some time now, although Rane has taken a major step forward by proposing the Telco 6-pin modular jack as an industry standard. Rane's RS10 was slated for delivery early this year, and should be available now. Eventually, these types of power supplies would eradicate the need for the bulky and expensive transformer power supply

**The unit I tested met or exceeded spec in all cases. In performance it did just as well. I used it in several different applications.**

that is included in almost every piece of equipment you buy. One power supply could run a whole rack of outboard gear.

From the specifications the SP15 would appear to be a pretty beefy unit. The unit I tested met or exceeded spec in all cases. In performance it did just as well. After picking up the unit from the *Mix* office, I raced to a session at The Music Annex, a major San Francisco Bay Area recording studio where the unit was tested. The client had a home recording that needed help: a piano piece was floating in a sea of noise that threatened to drown it out. I double-parked the Rabbit, ran inside just ahead of the client and proceeded to the control room still carrying the SP15. The client entered with his tape, and asked what could be done. "Aha," I thought, "a chance to try out the Rane." So without a glance at the manual, I took it out of the box, hooked it

## RANE SP15 PARAMETRIC EQUALIZER SPECIFICATIONS

Frequency Response:	20Hz-20kHz ±0.25dB	Maximum Input Level:	+23dBm
THD:	<.006% (20-20kHz, +4dBm output)	Input Impedance:	2,000 ohms
S/N Ratio:	(Unweighted, 20kHz Bandwidth)	Maximum Output Level:	+28dBm into 600 ohms
Boosts/Cuts Centered, Unity Gain	118 dB below +20dBm	Output Impedance:	100 ohms
Boosts/Cuts Centered, Max Gain	102dB below +4 dBm	Subsonic Filter:	Fixed at 15 Hz, -18dB/octave
Boosts/Cuts Max, Max Gain	118dB below +20 dBm	Ultrasonic Filter:	Fixed at 70kHz, -12dB/octave
Gain:	98 dB below +20dBm	Dimensions:	1.75" H x 19" W x 5.25" D
	-infinity to +12dB	Weight:	5 pounds

up and turned it on. This is a situation where the ergonomics and logic design of a product are really put to the test. Not once did I have to even stop and ponder the operation of the unit. All controls responded just as I had assumed and hoped. The piano recording was easily and quickly pulled out of the noise and set afloat with a dark yet pleasing piano sound perfectly suited for Satie which, fortunately, was what had been recorded.

I was instantly impressed with the unit's ease of operation and amazing sonic quality. This tape had required some pretty drastic boosting and cutting, which can be a problem to set up on some parametrics, due to the interrelationship between the boost/cut and the bandwidth control. The Rane's constant-Q design keeps these two controls completely independent of one another. What you set on the front panel is exactly what the filters are doing; no compensation is needed on your part, since large boosts or cuts do not affect the bandwidth or vice versa.

I also used the SP15 on several other applications, including drums, voiceovers, and overall program equalization. In all cases the SP15 did exactly what I had wanted and expected. This unit is great for both production applications as outboard gear and system applications (e.g., pre-crossover P.A. equalization). It is versatile, easy to use, and very well designed. There are graphs in the operation manual describing the equalization characteristics and performance of the SP15 that are very impressive and as far as I was able to test them, accurate. If you're in the market for a parametric/shelving EQ, whatever your application, at \$599 the Rane SP15 should definitely be a consideration. ■

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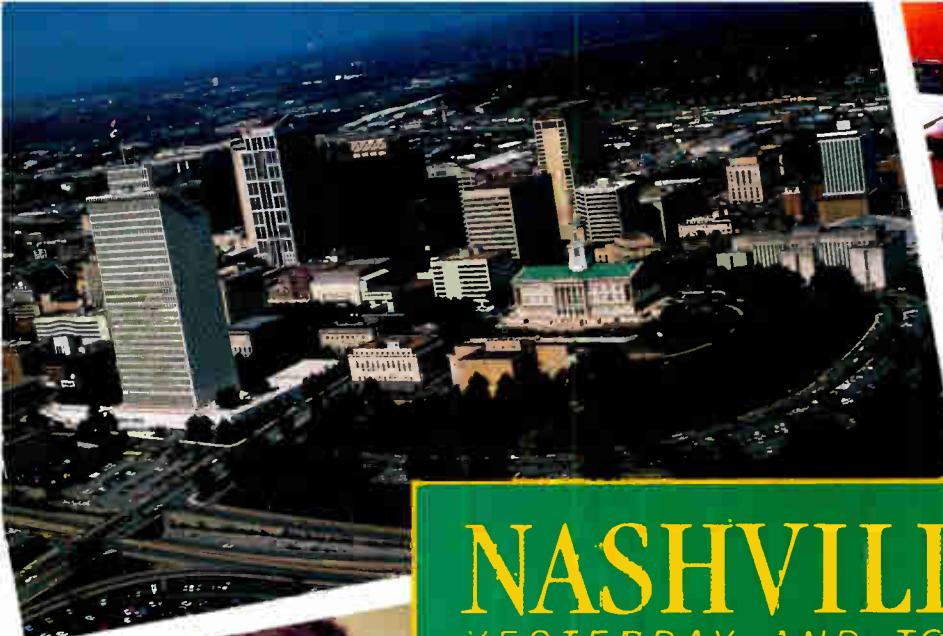
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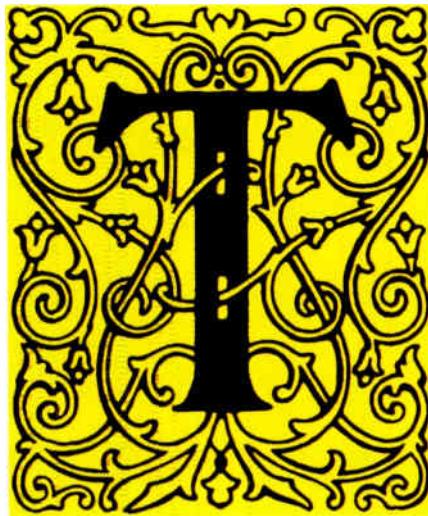
# NASHVILLE

YESTERDAY AND TODAY

- 66 THE HISTORY OF NASHVILLE RECORDING  
*by Robyn Flans*
- 70 THE SOUND EMPORIUM:  
Changing with the Times  
*by Karen Margriff Dunn*
- 74 CASTLE GOES FULL CIRCLE  
*by Karen Margriff Dunn*
- 78 AUDIO ENGINEERING:  
Getting Started in Nashville  
*by Greg Ambruster*
- 80 MAKING IT IN MASTERING  
*by Linda Jacobson*
- 85 NASHVILLE: The Class of '88  
*by Robert K. Oermann*
- 86 EMERALD SOUND REACHES FOR THE STARS
- 87 PRODUCER'S DESK: Harold Shedd  
at the Top of the Charts  
*by Robyn Flans*

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Studios pictured above: (L) The Reflections, (R) Ronnie Mims' Studio Laboratory



# THE HISTORY OF

by Robyn Flans

**Harold Bradley (L) and Glenn Snoddy pose in front of the first stereo console constructed in Nashville (1961), and used at the basement studio owned by Harold and Owen Bradley on 16th Avenue.**

The year is 1952. The scene is the Tulane Hotel on Church Street between 7th and 8th Avenue North, the resting place of Castle Recording Laboratories. The room is a relatively small dining room/ballroom, divided by large columns. One section functions as Castle. That half, in turn, is divided into two parts with fiberglass, one part functioning as the control room where publisher/producer Fred Rose is watching Aaron Shelton, one of Castle's three founders (along with George Reynolds and Carl Jenkins), mix the session, with Carl Jenkins running the tape machine and Scully lathe. On the other

side of the glass, MGM artist Hank Williams stands amidst studio musicians and his band members. His steel player Don Helms is providing his signature sound along with the fiddle player Williams nicknamed Jughead. Hank stands at one microphone, perhaps with the Gibson J-35 1930s guitar that is in the Hall of Fame Museum today. They're recording "Your Cheatin' Heart," not realizing these will be his last sessions before his untimely death New Year's Day, 1953.

They are cutting direct to the Scully disc recorder. The room has the 31st and 32nd tape recorders made by Ampex as a backup for the disc, and both the disc and tape will later be sent to the record company.

Four takes and they're done. Fred Rose rehearsed them well yesterday and the only criterion is that it feel good. They're mixing right to the lathe and thinking how glad they are to have eight whole channels.

"It was, of course, a tube mixing room and it had some standard components in it of that day and time," says Glenn Snoddy, who began working with Castle primarily as a second engineer in the early '50s. "I recall it did not have any equalizers on it. It had one outboard cinema equalizer that was really built for film. They could patch it in and use it if they wanted to, but there was very little EQ used. What you did was pick the microphone that sounded best, which isn't a bad way to record, really. I'm not sure who built the old radio console. Eddy Arnold did some live radio shows out of Nashville in those days and that equipment became available, so Castle purchased it and installed it in the Tulane. There was room on that console for eight microphones and we would use pretty much seven or eight on a session. There would be the steel, the rhythm, the bass, the piano, the drums, sometimes two guitars and the vocals of course."

"They usually put the bass and drums on the same mic, one on each



PHOTO SID O'BERRY

# NASHVILLE RECORDING

side of it," recalls Buddy Harman, who, in his 18,000 sessions, played drums for just about everyone *except* Hank Williams (although after Williams' death, Harman overdubbed on some old tracks). "It was a floor stand and it was set low. I played a snare drum, only, two brushes, and maybe a hi-hat. That went on for quite a while, probably for about three or four years until about 1956. By that time, the word got out that the drums helped fill up the rhythm section."

"Castle had a fairly live room, intentionally so," says Snoddy. "They knew what they were doing, because if you listen to those records today, you'll find they are very, very good, clean records. The equipment was the best you could buy in those days, state-of-the-art. There was very little that we did in those days except run the thing down and get a balance on it because we were cutting mono records. We really didn't have tape other than a mono tape recorder, so there was not a whole lot we could do wrong. We would take four or five takes on the song and take the one we felt had the best feel. There was no such thing as overdubbing or remixing. It was just a straight shot out of the studio."

"It's fantastic to look back on it and see what we did with what we had," says 72-year-old Shelton from his Florida residence. "Most all of our stuff was done with no splicing of takes. Nowadays, I bet I could do a pretty good job with everything they have, but then, you got the best you could get out of it."

"'Your Cheatin' Heart' was a great song, but I didn't think it would turn out as well as it did at the time we made it," laughs Shelton, remembering the Hank Williams session. "But everything he did was pretty good."

"I'd say the first session of any importance was a session with Hank Williams," Shelton continues about the days when Castle was still operating from WSM. "Hank came up from Montgomery, Alabama, I believe, and he

was under the direction of Fred Rose. Fred was the A&R man on the session and we did it out of Studio D of WSM and piped it out to this recording lathe out at the WSM standby transmitter at 15th and Compton. Hank cut some stuff for Sterling Records and it was the first thing he ever did in Nashville. We all recognized a tremendous amount of talent there and tried to tout him to the Grand Ole Opry people so they'd take him on, but they couldn't see it at first and it was almost two years before he was actually brought in there. When they did, finally, he stopped the show.

"Hank was a person of intense drive, in both singing and stage actions. He had an intensity of presentation both visually and aurally that was almost hypnotic. He captured the audience almost before he started, just by his looks. He was a bone skinny guy who looked almost tubercular and consumptive. He was anything but impressive in that regard, but the moment he went into his act, he was quite impressive. He was something else."

Williams began recording at Castle

in 1947, one year after the three WSM engineers decided to offer such a technical service. The only recording previously in Nashville was a 1944 Eddy Arnold session from the WSM radio station. A 1928 Victor field session is documented, in which a Victor field rep might have set up some equipment in a warehouse to record early Opry artists. By 1946, the WSM's Grand Ole Opry had been going strong for 21 years, so between the reservoir of talent provided there and the fact that Fred Rose, disgusted with New York and Chicago publishers, opened his own publishing company in 1942 (Acuff-Rose, along with Roy Acuff), it seemed that Nashville would require just such a service.

"Toward the end of the war, everybody around the station was talking about the new recording contracts being let out for some of the new hill-

**(L-R) Assistant engineer Rick Horton, songwriter Joe Nelson, Roy Orbison and Glenn Snoddy compare notes in a 1967 session.**



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billy talent," remembers Shelton. "Jim Bulleit, who was the manager of the artist service bureau at WSM, had a grand idea that there was going to be a big demand for records at the close of the war and he wanted to get in on the ground floor. We kicked it around and three of us engineers thought maybe we should provide a technical service to the record companies.

"Victor Damon in Kansas City had a machine that would cut what we call master lathe. It would cut these big 16-inch discs on which we put the original music. That was our first machine. We had equipment set up at the WSM standby transmitter out in West Nashville. We paid WSM a nominal fee to use their facilities. We did that for about six months until we set up at the Tulane Hotel," says Shelton. They bought the Ampex 200 tape machine that ran at 30 ips, for \$2,000, they borrowed \$1,000 from Third National Bank and pooled their resources. He guesses their total outlay to have been less than \$15,000 to set up the recording facility.

"Shortly after I came to work there, the musicians had their famous strike which closed the recording business

all over the country," recalls Snoddy. "We were recording day and night at the time, trying to get the artists done before the strike. It took several of us to moonlight and keep that place running during that time. Just about all of the country artists were recording then, like Ernest Tubb, Kitty Wells, Jimmie Dickens, Hank Williams and Red Foley.

"I always enjoyed Red Foley's sessions [including 'Chatanooga Shoe Shine Boy' and 'The Peace in the Valley']. Red was a very exuberant kind of a fella. He always got excited about what he was doing and he seemed to enjoy it and it seemed to be a part of him that you didn't see normally. Ernest Tubb was a nice fella to work with. He was the same way, always very outgoing and he always knew his songs. Kitty Wells was a very, very nice lady to work with, too. I always looked forward to those sessions."

"We did some sessions from the Ryman Auditorium," Snoddy explains. "We did a big band session down there with Ray Anthony for 'The Bunny Hop.' We had a console that had eight inputs, so that big band was done with eight microphones. It was done very well,

too. That record is still around being played. Red Foley did some songs from there, too. We fed it back on telephone lines to the Castle Studio. We would order two pairs of telephone lines and we equalized those to about 10kHz and fed it back to the studio and recorded it. It wasn't unheard of; of course we did radio shows from down there all the time."

Aaron Shelton was working about 90 hours a week between his full-time job at WSM, teaching algebra part-time at Vanderbilt University and Castle projects. So when WSM came to the trio of engineers—or so the story is documented—and asked them to give up Castle since it was interfering with their full-time jobs, it was probably a relief.

"By that time, television had come in and I had been appointed chief engineer for WSM television so I had my hands full with all the problems that went with a new TV station. We missed the excitement of being connected with Castle, though, and we missed it financially," says Shelton.

Financially? Was there money in record making in those days?

Aaron Shelton laughs. "No, there

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wasn't. I often laugh and tell people I made a famous record that sold millions and millions of copies and my total take-home was \$11. It was Francis Craig's 'Near You,'" he says of Nashville's first major recorded success. That song hit Number One and stayed at the top of the pop charts for a lengthy run in 1947. "We made 'Near You' at WSM studio C and I did the mixing. Craig made almost half a million or so. But Nashville hadn't developed to the point where they could demand a lot of money for things. We were working to promote Nashville as a recording center because we thought WSM was a natural source of talent and it would be for years."

The year is 1961. The setting is the bigger upstairs room in the Quonset Hut, the studio Owen Bradley built in 1955. Patsy Cline is at the microphone, frustrated. "I'm going to do it this time," she says after the third hour of trying to sing "Crazy." She's used to cutting three, sometimes four sides in three hours, but today is her first session after a near fatal car accident and she's still hurting. It isn't easy trying to hold a note when you've just mended some broken ribs. The vocal has to be scrapped, but two weeks later she comes back and sings her part in one take onto the remaining track separate from the two full of music. Producer Owen Bradley is on

his small Hammond organ. He often likes to direct the session from behind a keyboard. Selby Coffeen, an engineer who usually worked with Patsy, is behind the three-channel console (with 12 inputs) that sits in the Hall of Fame Museum today. Patsy's husband, Charlie Dick, is present, and according to Bradley, not only did she not have trouble singing the song, her husband Charlie did not barge in and interrupt the session, as depicted in the film *Sweet Dreams*.

"We were trying to get a sound that would be acceptable to country and pop at the same time," says Owen Bradley, who produced Cline's sessions after spending his apprenticeship

## THE SOUND EMPORIUM: Changing with the Times

Nashville is no longer just the capital of country music. Studios like Roy Clark's Sound Emporium have become aware of the changing scene of Nashville artists, and have opened up their studios to encourage more than just your normal country fare.

Asked how Sound Emporium has changed to accommodate the rock and roll acts, studio manager Gary Laney says, "It's more of an attitude sort of thing than necessarily equipment. Equipment-wise we don't have anything less than the L.A. studios have; it's just a different way of looking at things.

"Nashville is probably one of the few places that's still real-instrument oriented," continues Laney. "So many people out there are going with drum machines and everything. Miking an instrument is a lost art. There are probably more people here who are into that, and more records are being cut here that aren't on synthesizer. I think when you get back to some basic rock and roll stuff, dealing with real instruments again, I think it's an attitude thing."

Sound Emporium, whose recent clients include R.E.M., Jason & The Scorchers, Chet Atkins, Sawyer Brown, Wendy Waldman, Don Williams, and The Shakers, have a Neve 8128 console in Studio A, along with an Otari MTR-92 analog recorder, Adams-Smith 2600 synchron-

nization system, Necam 96 automation and two live chambers. Studio B, which is used primarily for mastering and overdubs, houses a Harrison 3228 console and Sony MCI JH-24, among other things. They are currently looking for a new console for Studio B.

While digital recording has come along in a big way in Nashville, Laney finds that the Sound Emporium is doing a little more analog this year than a year ago when clients were requesting digital and analog about equally. (They rent digital equipment on the client's request.) "Digital is a great storage medium," he says, "but there's a certain warmth that comes with an analog recording that you just can't get with the digital."

Laney explains that the plethora of rock acts have crept up in Nashville partly as a result of the punk rock scene, which created a local rock movement, and because a lot of people with rock and roll backgrounds have moved to Nashville over the last few years. "There are a lot more younger musicians that are coming up as session players, and they all come from a background where they probably listened to rock and roll music all their lives," Laney says. "They add that touch even into the country stuff. But I don't think that Nashville is ever going to give up country by any means. That's the bread and butter."

—Karen Margroff Dunn



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ship as assistant/arranger to Decca's Paul Cohen. "We were following up 'I Fall To Pieces' and the record company felt it was a little too country, so they asked if we could make the next one a little more acceptable to cosmopolitan stations. We left off the fiddle and the steel. I think most everything you hear on it is Floyd Cramer on piano. If you listen real, real close, because I didn't let them turn me up, you can hear me. I'm just playing chords on the organ."

Just before Castle closed its doors in the mid-'50s, Bradley, wanting to keep his boss Paul Cohen happy, built a studio in an old lodge hall in South Nashville. When they raised the rent, he had set up shop in Hillsboro Village. The ceiling was too low there, so finally they moved to 16th Avenue in 1955 where he had the Quonset Hut built primarily to get into the picture business. It was then that Bradley asked Glenn Snoddy to work for him full time and the engineer left his job at WSM.

"It was an old building," Snoddy recalls. "Owen took out the floor and made a basement studio and had the ceiling be the ceiling of the second floor. He actually had a studio that went from basement level to the second story of that building, so it was something like 30x35 with a 20-foot ceiling in it. It was a fairly good room and in one corner he built a control room and my job was to build a stereo console for that room. What we did was fabricate a stereo console using some Ampex four-channel mixers and we built a stereo console with the concept that you had four channels dedicated to the left channel and four

channels to the right. We had a center split channel with four channels and some outboarded line amps and so forth. It worked fine for a number of years. He built the Quonset Hut on the back end of the studio primarily for doing films. It had a little mono control room, and he did some recruiting films and television spots there."

By the time Bradley moved from the position of Paul Cohen's assistant to the head of the Nashville division at Decca, he had phased out the film work. Soon after, Snoddy and Bradley took a trip to New York.

"We went to see a 3-track console they had installed up there. They had built two or three of those units and Owen wanted to get one of them in Nashville," says Snoddy. "On the plane coming back from New York, Owen and I drew out the control room design on a piece of paper. By the time we got back from New York, we had that pretty well fixed and started to tear into the Quonset Hut, building a place to put this console. Shortly thereafter, it was shipped down.

"Three-track changed things dramatically because now we could really do some production work in stereo, although we did not do a lot with the stereo. We were still making mono records essentially because that's what was selling. You were recording, mixing and listening to mono records because that's what radio was playing and that's what everybody depended on to get the hit. You didn't want to take the chance of missing something by monitoring the stereo version, so it was seldom we listened to the stereo version. That tape was, for the most part, just sent to New York and they

made a stereo mix up there, from whence they made the albums. But the singles were what we were interested in. That's what sold."

"I give Owen credit for a number of things," he continues. "One of them was that he was instrumental in having us isolate some of the musicians. For example, we built a little booth within the Quonset Hut which served as the rhythm booth where we put the drums and the bass. That was the beginning of isolating sections. Then we'd have a little area for the strings and we built moveable baffles where we could baffle off sections of the studio. We built some guitar platforms for amps and things. These items were in the studio and it was kind of a setup where we could pretty much leave it for the next session because most of the sessions were pretty much the same as far as some of the people and so forth."

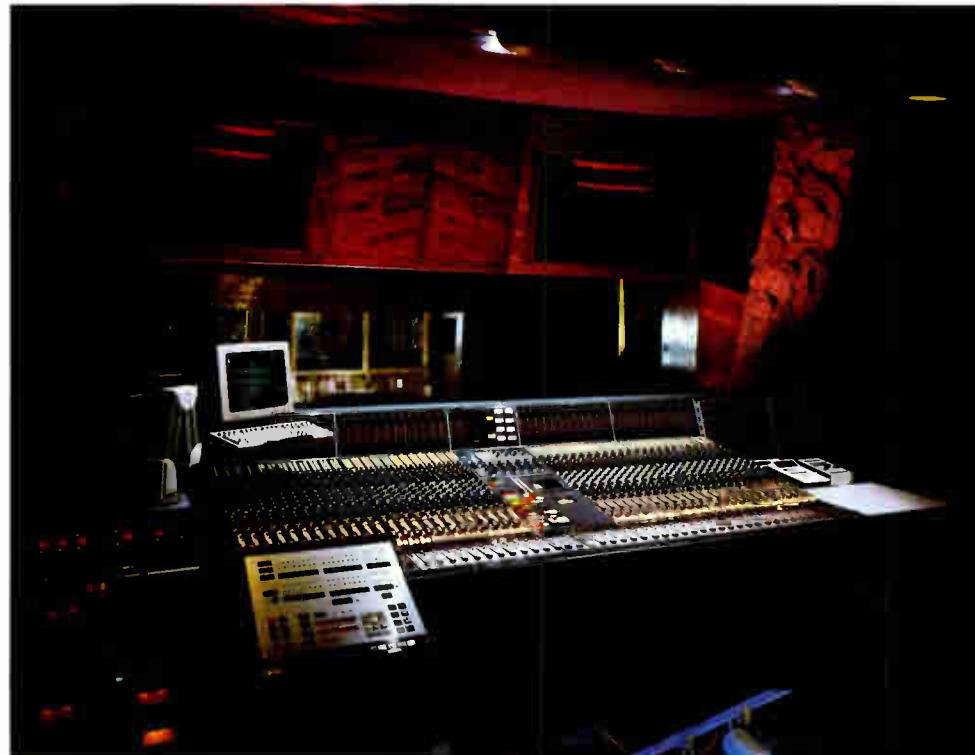
Bradley discovered isolation quite by accident during the recording of Gene Vincent's "Be Bop A Lula" in the small room of the Quonset Hut.

"It was actually one of my records," he reports. "Ken Nelson was making the record and my brother and I had been out to dinner with him. We came back and they started back up, but they were having a problem with the drums: the guy was just beating the corn out of the drums and getting into the vocal. So we were just trying to save face and keep our customer happy when we suggested, 'Why don't you put the vocal back in the little hall?' It was a pretty good sized hall between the two rooms and we kept backing him up in there until we could live with it. It worked out, so that was the beginning of isolation. I still get a big kick

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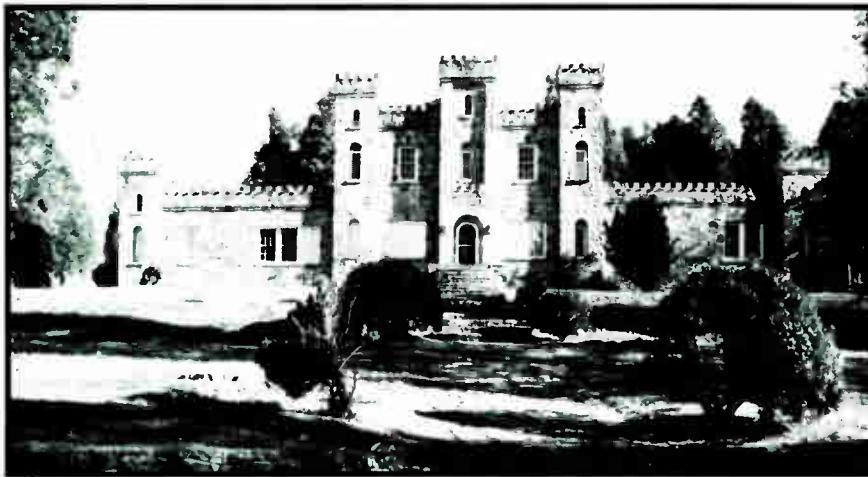
Bradley was busy recording Decca's entire roster of over 30 artists, in addition to all the other labels, except RCA, who had their own studio. In the spring of 1957, Steve Sholes, head of RCA A&R in Nashville, appointed Chet Atkins manager of operations. Atkins, in turn, convinced RCA they needed their own space, as opposed to sharing the building with the Methodist Radio & Television Foundation. By the winter, RCA had moved its headquarters on McGavock Street to their new facility on the corner of Hawkins Street and 17th

(now known as Roy Acuff and Music Square West). They were the first record company to establish permanent offices in Nashville (Capitol had come in 1950, but had closed its offices the next year.) Originally known as the RCA Victor Studio and later as "Little Victor," the studio was equipped with a mono recording system which could be altered to stereo and a Scully lathe with a feedback cutter for cutting 45 rpm reference lacquers.

With all the recording that was being done, a formula was being established, one they called "the Nashville

Sound." It utilized strings and background singers such as the Anita Kerr Singers and the Jordanaires, and employed a select group of session players on nearly everything, musicians such as Floyd Cramer (piano), Harold Bradley (electric bass and rhythm guitar), Pete Drake (pedal steel), Ray Edenton (rhythm guitar), Tommy Jackson (fiddle), Charlie McCoy (harmonica), Grady Martin (lead and rhythm guitar), Bob Moore (upright bass), Pig Robbins (piano) and Buddy Harman (drums).

In 1955, RCA Victor bought Elvis



## CASTLE GOES FULL CIRCLE

Back in 1978 when Jozef Nuyens bought the Castle—an ex-gambling house, restaurant and residence dating back to the late 1920s—it didn't cause much of a stir in Nashville. It seemed like just another recording studio opening.

But it was more than that. Nuyens had a master plan. After much research, Nuyens purchased the first digital multi-track recorder (3M) and mixdown equipment in Nashville. Castle Recording Studios also became the first facility in Nashville to build a MIDI room. After some initial skepticism, his clients have embraced digital and the success of the studio eventually led to the creation of a production company.

"A studio business is not a business to make a lot of money," he says, explaining his expansion into production. "There's overhead and the equipment changes so fast. It was all pre-planned to have a production company and a publishing company, so we could use the stu-

dio not only for outside clients, but also to use it as a tool for the production and the publishing companies."

The production company, in business for only a little over two years, has already been successful. Concentrating purely on R&B, pop and rock and roll, Castle has gotten one of its R&B acts, Walk the West, signed to Capitol Records, and a Kentucky-based pop/rock group, Stealin' Horses, is coming out in March or April on Arista Records. Nuyens expects to have two more acts signed by major labels this spring.

Why not concentrate on country in the capital of country music? "We can be another country source, but there are so many already, why do exactly the same thing?" asks Nuyens. "There was nobody doing rock and roll, pop or R&B here in this town, so we decided to do it. And we've been successful with it so far.

"We have everything available," says Nuyens, explaining the bene-

fits of an all-in-one music facility. "We can do everything in-house, so why go to extremes and spend a lot more money? And when you work in-house you have much more control over your budget than when you have to go other places. If something goes wrong here, you can always say, 'Let's forget about these costs so we can stay within the budget.'"

Nuyens, who employs only nine people, is consciously trying to keep his staff small. "My philosophy is that even when it looks like you have success, keep your overhead as tight as you can instead of over-reacting and thinking you're going to be the best company in the world, taking out loans and hiring a lot more people. You can overshoot yourself and then find out later—when something goes wrong or a mistake has been made—that you can't get out of it anymore. Then you have to file bankruptcy. I'd rather make the money first and use it for an expansion rather than take out the loans for the expansion and then find out that I can't make the money."

The next step in the master plan, according to Nuyens, is to start actively pitching the Castle publishing company. Their catalog currently boasts about 180 songs. "That way we can use some of the songs for the production, the production for the studio, and the studio for the production and the publishing. We can make it an efficient circle. At least that's how I'd like to see it. It's working now with the production and I can't see why it won't work with the publishing."

—Karen Margroff Dunn

Presley's Sun contract and in 1956 he recorded "Heartbreak Hotel" in Nashville.

"I think the biggest thrill I ever got was when I was called for my first Elvis Presley session," Harman says. "I want to be tactful about this, because he had his own drummer, but a lot of times, back in those days, people had their own musicians, yet wanted to use others also."

"Many times I left RCA, went home, got some breakfast and went on to a 10 o'clock session with no sleep, just maybe a nap during the night," Harman recalls. "Elvis would record all night and once in a while, real late, he'd get in a mood where he'd want just him and the keyboards, so I'd go catch a nap in the control room or out in the front lobby."

Since Elvis was kind of a rocker, Chet Atkins decided to be nice and use two drummers, so he called me in and both of us played all the time. Even on the movie soundtracks we did that, and sometimes they even added a third drummer when we went to Hollywood to do some of those soundtracks."

Twenty-three Presley sessions are documented at the RCA Studio B between January, 1956 and June 1971. After "Heartbreak Hotel," Presley returned to the studio to record "I Want You, I Need You, I Love You." "A Fool

Such As I" was among the four songs recorded in June, 1958. In 1960 sessions spawned "It's Now or Never" and "Are You Lonesome Tonight" among other album cuts. In October of that year, Elvis recorded 14 gospel songs, continuing to do so again in March, 1961. That year saw three more sessions, but in the following two years, he only recorded once each year in Nashville.

In January 1964, he recorded three tunes, one of which was "Memphis Tennessee," and in May, 1966 he continued his gospel recordings with 18 songs including "How Great Thou Art." The following year he returned to the studio to record three more songs and in February, 1967, he recorded eight songs including "Clambake." In September, 1967 the ten songs he recorded included "You Don't Know Me," and "You'll Never Walk Alone" and in January of the next year, he recorded "Too Much Monkey Business" and "U.S. Male." He held marathon sessions in June, 1970, working on approximately 31 new songs and in September he recorded "Whole Lotta Shakin' Going On" and "Rags to Riches." The following spring, he recorded "Amazing Grace," among others. His last sessions at RCA B in June, 1971 were comprised mainly of religious and gospel offerings as well.

The first year Presley recorded in

Nashville, Buddy Holly also visited Nashville for his first recording session for Decca.

"Mr. Cohen signed Buddy Holly before I took over the label," Bradley recalls. "In those days, he would call and say, 'I want you to do this or that,' and that was the case with Buddy Holly. This is not in any way to put the blame on someone; I would have probably done exactly what I did anyway. At the time we recorded him, we were trying to make country records with him, which was all wrong. If you saw the movie [*The Buddy Holly Story*] it would appear that we had bitter words and there was even a fist fight. I didn't see the movie, but my nephew saw it and told me about it. Buddy Holly and I were not intimate friends, but we both had the same problem. Mr. Cohen was our boss and we did what he said. If Buddy didn't like it, he could talk to Mr. Cohen and if I didn't like it, I could talk to Mr. Cohen, but there was no point in our beating up on each other, and we didn't, regardless of who says we did. I saw him with Mr. Cohen about two weeks before he was killed, and we had a very nice chat in New York City."

In 1962, Columbia bought Bradley's studio. He continued to patronize them until 1965 when Columbia started to use the studio exclusively for their artists. By that time, Bradley al-

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ready owned Bradley's Barn in Mt. Juliet, about 25 miles out of town. Started as a demo studio for his son, he commenced to fully equip it and continued to make hits.

Glenn Snoddy, who stayed with Columbia until '67 when they began to update that studio to handle multi-tracks, left to build one of the first independent studios (along with Bradley's), Woodland Studios.

"We started out with one studio in 4-track, and quickly graduated to 16 and later to 24," says Snoddy. "Now you're in a whole different ballgame of consoles and tape recorders, which is, of course, a story unto itself. Suffice it to say, you do whatever you have to do to make it work."

As studios began to crop up, the system had no choice but to change.

"That's when things started getting rough all the way around because some studios came up and the regular guys couldn't be everywhere at once," laments Harman. "So they had to start using other musicians. When there were only two studios here, it was easy. We were either at Owen's or RCA and I had a set of drums at each, and when Sam Phillips opened up a studio downtown, I put up a set there. Eventually I got tired of putting sets of drums in studios for everybody else to use. Back then there wasn't a cartage service. We weren't ready for it yet. But we started getting studios all around this county. Some days we'd have to drive to Mt. Juliet in the morning, be back out to town for a 2 o'clock and then back to Mt. Juliet for a 6 o'clock."

What the growing amount of studios and production did, however, was entice more outsiders to Music City. Ringo Starr recorded *Beaucoups of Blues* there in 1970, Paul McCartney recorded "Sally G" in 1974 and REO Speedwagon did their second album *T.W.O.* in 1972. Other pop acts who recorded there include Joan Baez, the Beau Brummels, Patti Page, Don McLean, Stray Cats, Rosemary Clooney, Dean Martin, Elvis Costello, Earl Klugh, Joe Walsh and Delbert McClinton.

Probably the biggest reason for many pop acts to come to Nashville was to follow in Bob Dylan's footsteps. He trekked to Nashville as early as 1966 to record *Blonde on Blonde*, still touted as one of the greatest albums in rock history. Producer Bob Johnston, a CBS staff producer, had already recorded Dylan's first electric album, *Highway 61 Revisited*, in New York, when

he suggested to Dylan that they record in Nashville.

"He met Charlie McCoy and he loved Charlie and loved the sounds, I guess, so he said, 'Yeah, let's go,'" recalls Bob Johnston who lived in Nashville during the years he produced *John Wesley Harding*, *Self Portrait* and *Nashville Skyline*. "He was enthralled with it because the people really cared. In L.A. and New York, the musicians play, but down here they really care; it was total openness and in the studio it was total freedom."

"He never did a song twice, I don't think," Johnston continues. "He had that inherent sense of rhythm. Nobody counted off for Dylan. He started tapping that foot and I always had all the machines rolling in the place. Dylan would pick up a guitar and start playing and I told everybody to play along and not to stop or I'd have to get somebody else. He'd pick up a guitar and play two lines, then he'd go over to the piano and then he'd get an acoustic guitar and all of a sudden, on one of those instruments, he'd break loose and go. I don't remember doing two takes on anything. He just didn't have time to wait because what he was saying and what he was putting down was really changing our society. He got it correct the first time because he had the freedom. I didn't care if he went and played the ukulele. No one told us what to do at that time; we did what we wanted to and there wasn't any record company head judging what we did. They took the records and ran with them. I remember he went out in the studio one day and he stayed for about ten hours. I had the pickers go down to the basement and to dinner so I could call them when he was ready. And when he came back, he said, 'I want to do this song,' and he started playing 'Sad-Eyed Lady of the Lowlands.' He's a bona fide genius."

"McCoy said it was the biggest thing to ever come out of Nashville and I really think Dylan is responsible for everything. I think Presley opened the body up and then Dylan opened our minds up. He changed this town, and he brought people from all over the world to work here once he made it fashionable. I give him full credit for all of that."

In the late '60s to mid-'70s, other changes took place when Owen Bradley, Chet Atkins, Don Law and Ken Nelson began to yield to a new regime of label heads. Billy Sherrill became

production head at CBS (although Bob Johnston ran the label for about a year in 1967), Bob Ferguson and Jerry Bradley headed RCA while Larry Butler oversaw the production at Capitol in 1969.

As one of the few independent producers before his label affiliation, Butler says. "There are pros and cons to everything. If you are head of a label, you have more control over the destiny of your product. If you believe in something, you can push buttons. The independents are handing over something they've given birth to and hoping the record company will take care of it."

He was using Sound Shop and Sound Emporium to cut artists such as Jean Shepherd, Ferlin Husky and Wanda Jackson, and he signed Kenny Rogers, Crystal Gayle and Dottie West before leaving the label, working for Columbia for a year before returning to the ranks of the independents. Today, Butler says he would return to a label in a second.

For the same reasons, Jim Ed Norman, executive vice president Nashville Division and vice president Warner Brothers Records, turned in his indy badge in 1983.

"I came to Nashville to work specifically for Jimmy Bowen because he was the head of Warner Brothers at the time. As an independent producer you are creatively involved in the product and then you deliver it, hat in hand, to a record company. What happens with the product and what the process is after that, you really don't know. I had gotten to a position with some of the artists I was working with where they began to ask my opinion and input over issues that I really felt unqualified to answer because I didn't have the information. I felt I had gotten to a place in my development as a producer to learn more about the business if I was going to contribute to the artists' career."

The days of production being handled by label personnel only are long gone, but the period of the independent monopolization of production during the '70s has given way to a balance of both.

"The in-house consciousness of four years ago was one of really trying to bring to bear that Nashville needed to address issues with recording and a general mentality. I think it was already there with a lot of the people who aspired to be producers, but not nec-

essarily a part of the system of recording. Now what the last four years have seen is not only an attention to this recording mentality of the best songs and the emphasis on the artist, but also the door is beginning to open to allow new young producers into the process.

"At Warner Brothers I think we've reached a happy medium. We have in-house production by virtue of the fact that I'm a producer and a part of Warner Brothers, but we also have a tremendous amount of input and support by the A&R department at this company. The hardest part of being a producer is finding the material and an A&R department that participates as heavily as this one does in finding not only artists and signing them, but finding material and coordinating this material with who the right producer is, creates for an in-house mentality that, for me, is a great partner for the independent who comes in from the outside. To me, there's a great marriage here."

Today, such label A&R heads as Norman, Jimmy Bowen (MCA), Tommy West (MTM) and Steve Buckingham (CBS) produce artists on their rosters

as well as utilize many of the independent producers such as Kyle Lehning, Brent Maher, Allen Reynolds, Harold Shedd, Paul Worley, Marshall Morgan, Josh Leo and James Stroud.

Moving from independents to labels isn't the only change that has swept through Nashville. As Glenn Snoddy said, whole books can be written on the equipment changes. Reportedly there is more digital recording going on in Nashville than anywhere else.

Among the many studios that feature digital 32-track are Audio Media, 16th Avenue, The Castle, Emerald, Eleven Eleven Sound (two machines), Digital Associates and Sound Stage (three machines).

"Philosophically, there seems to be a real interest in digital," says Jim Ed Norman. "There's also an assessment that can be made that digital technology befits country recording techniques with country music historically being centered around the singer and the song. Digital recording allows for a pristine clean sound which puts that emphasis on the singer and the song. Whether we use digital in the recording process becomes an issue of being a good steward of the artist's time,

talent and money. If you can afford digital and you feel the process will benefit the artist you're producing, you should use it. I love digital recording and would continue to use it whenever it makes sense."

"It was a lot simpler back in the earlier days, though," laughs Larry Butler, owner of Eleven Eleven Sound, which utilizes digital recording. "We were all going for a different thing back then and it was a lot more basic and not nearly as technical. When I came to town, it was 3-track. When I started producing, it was 8-track and then 16-track. When it went from 3 to 8, I said, 'I'll never use all those tracks.' Then when it went to 16, I said, 'That's the most ridiculous thing I've ever heard of. What are we going to put on those other tracks?' When it went to 24, I thought it was unheard of. Now my studio has 32 tracks and I'm still pinging." ■

*Robyn Flans is a freelance writer who contributes to Mix, Modern Drummer, Pulse, Words & Music and other publications. She's also conducted interviews for radio and TV, and has authored three rock books.*



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# AUDIO ENGINEERING

## GETTING STARTED IN NASHVILLE

by Greg Armbruster

**A**udio engineers are a special breed of musician, and it takes a special kind of person to be successful at it. Combining technological expertise and a sensitive, musical ear with an inventive, tactful personality, engineers are at the focal point of the record industry. How can you get started in this field? First, ask yourself this question: how determined am I to be an audio engineer? Second, listen to the advice of some industry pros.

"You have to be prepared to make a lot of sacrifices," says Lynn Peterzell, 32-year-old studio manager for House of David recording studio in Nashville, Tennessee. "You give up free time, nights, weekends, and maybe even a marriage, but if you really want to do it, I sincerely believe that you can do it here in Nashville. The opportunities are here, but *you* have to take the initiative."

Today, there are over 150 commercial recording studios in Nashville. Add to that the studios tucked away in publishing houses, jingle companies, advertising firms, radio and television stations, concert halls, schools, mobile recording vans, and private homes, and you can better appreciate Peterzell's observations.

"If you really want to climb the lad-

der here, then you're going to have to start as an assistant or second engineer," Peterzell says. "Assistants generally average \$5 an hour, and you can make as much as \$10 or more if you're really good. But it takes a strong personality to be successful as an assistant; maybe more so than a first engineer."

"The second engineer should know more about what's happening in a session than the first engineer," says Gene Eichelberger, 20-year veteran engineer and currently general manager of The Bennett House in Franklin, Tennessee. "The first is supposed to be listening to the sounds. The second engineer should know what's going to happen next by paying attention to the client/producer when he's talking to the artist. The second should be paying attention to everything that's going on. But he should be seen and not heard. He shouldn't be giving opinions or advice unless he's asked. It's a very responsible job when you get down to doing it well."

What are the responsibilities of a good second? "Well, I don't care how you can mix," Eichelberger continues. "All I care about is how well and how fast you can set up a studio, how accurately you can set up a tape recorder, and how you act around the clients. Be prepared to bring coffee and clean wastepaper baskets, but if I

ever get ill, you should be able to continue the session in my place."

Glenn Rose, 25, is the assistant engineer at the House of David. His dedication and determination are evident as he sums up his role in the studio: "I do whatever needs to be done: clean up the studio, make microphone cables, do maintenance on the console, clean faders, make tape dupes, set up the tape recorders, clean the piano and make sure it gets tuned for a session, make sure the mics are placed correctly, and make sure the musicians have everything that they need, from coffee to pencils and paper."

"As an assistant, I'm not directly involved in the project. I don't say anything unless I'm directly spoken to, which is just studio etiquette. But that's the best way to see how everything works. I observe how the producer relates to the musicians, how they relate to the artists and the engineer; all of which enhances my ability to be a good engineer."

Peterzell points out, "Most engineers have a lot of responsibilities that they would like to give to their assistants. The amount of confidence I have in Glenn determines how much responsibility I give him. He's now doing overdubs for me on some projects. It's great to have somebody working for you who knows what you need before you have to ask for it, but

*"The second engineer should know more about what's happening in a session than the first engineer. The second should be paying attention to everything that's going on. But he should be seen and not heard."*

—GENE EICHELBERGER



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# MAKING IT IN MASTERING

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Kling's experience as a business owner dates back to the late '50s and early '60s in Milwaukee, where he ran his own music recording studio and also did much remote recording. His gigs ran the gamut from organ concertos and church choirs to rock, jazz and polka ensembles. Earlier, Kling had attended the Milwaukee School of Engineering and Milwaukee Institute of Technology, so he acquired "the basic dry school background. And when I was in the Army, in the missile corps, I got a background in recording and electronics," says Kling. "As a student I worked at the Milwaukee public broadcast station, directing and producing TV programs and learning about recording them." He also worked nights while at school, at CBS Broadcast-

ing, where he learned "sound in the studio, the different mics used for different programs, the live stuff."

In 1965 RCA Records of Chicago hired Kling, and although he'd had his own studio, "I started from the ground up in recording, which at that time was 3-track." In multi-track's early days, Kling says, "The more tracks we got into, the more time we spent on one song. I got to do live sessions with people like Alice Cooper, the Guess Who, The Monkees, Motown stuff, but the monotony of spending days on one song wore me out. I wanted the variety I had had recording different types of music. Mastering was a way of remixing, and doing things individually, sonically. In mastering you could work on Mozart one day, Guess Who the next day, jazz the next. I wanted to learn about all music and not get locked into one group for weeks."

Kling worked his way into the mastering lacquer channels at RCA, and cut albums for many of its labels: Chess, Checker, Motown, the Chicago Symphony. He points out that his work as a recordist, mixer and remixer, and his experiences setting up mics and doing maintenance, gave him "good tools for

mastering. Seeing what happens in the studio, knowing how singers sing, how violins sound, what halls do to the music, how electronics shape the sound, knowing how panning is done, all that let me re-create the music into a disc by manipulating the controls I did have [in the mastering process]."

When changes in RCA's structure closed the studio in Chicago (1971), Kling moved to RCA Nashville. "I had already cut several gold and platinum albums of country and gospel music because RCA's mastering facility was in Chicago. But I had a lot to learn about country music. I had some good teachers: Chet Atkins was my boss, I worked with Dolly Parton, Ernest Tubbs, and some great engineers like Jim Malloy, Tommy Strong, Elvis' people. I did studio work here first. All these engineers had been here forever and here comes this boy from Chicago. I didn't want to say, 'I'm going to show you guys how to cut records.' I said, 'Teach me what you know.' A year or two later, after I got a good basic idea of country and gospel, I locked myself into the mastering part. They had two cutting rooms, and when I came, the artists used to work with me in the cutting room, like Ronnie Milsap, Porter Waggoner, Dolly, Chet, all the heavy country people."

"Then around 1978, RCA Nashville closed," continues Kling. "And all the engineers scattered around facilities in town." Kling bought a lathe and tape machines from RCA and built a small mastering studio—Randy's Roost—in the RCA building. He had seen a need and filled it. A decade later the effort has evolved into Disc Mastering, a digital Neve/Studer mastering facility that also serves as a high-tech Tannoy showroom.

Kling's advice to those who crave the variety and challenge of a mastering career is "Go to New York and to Europe—don't get locked in with country music. A violin in Europe is a fiddle in Nashville; you can see heritage by traveling and having a relationship with other kinds of music and lyrics. Get into different cultures and be able to put that into a record. It helps for mixing and mastering everything. If you



Randy Kling, owner of Disc Mastering in Nashville.

—CONTINUED ON PAGE 204



*"I observe how the producer relates to the musicians, how they relate to the artists and the engineer."*

—GLENN ROSE

who also knows enough to lean over and say, 'This compressor is acting weird,' or 'That looks a little too hot on tape.' Things like that can help you when you're on your sixteenth hour in the studio. On the other hand, if your assistant is not hanging with you and keeping up with things, it's more of a problem than if you were there by yourself."

As any first engineer or studio manager will tell you, good assistants are rare, even with the growing number of applicants in Nashville. The need for qualified seconds is reflected in the rising number of studios here. But getting that first career opportunity requires more than just interest and determination. Where have the successful engineers come from? How did they first get started?

"I was a disc jockey for ten years before I got tired of just playing records," Eichelberger relates. "I had a first class [radio] license and had built a couple of radio stations when I got the chance to build a 4-track recording studio in Pennsylvania. We recorded a lot of Southern gospel groups, and I learned a lot from the musicians. I learned how to mix records by listening to what the musicians would say about their sound. When I arrived in Nashville in '69, it took three days going to 26 different studios to finally land a job with Wayne Moss at Cinderella Studios. Within six months, though, I met [pianist/arranger] David Briggs and [producer/bassist] Norbert Putnam, which got me involved with Quadrafonic Studios in the early '70s."

"In 1972, I left high school in my senior year to help a friend build a 24-track studio in Louisiana," Peterzell recalls. "I worked on construction for seven or eight months and then stayed on as an apprentice engineer for a year and a half. We did albums with Al

Hirt, Pete Fountain, Allen Toussaint, The Meters, Dr. John. So when I applied at Woodland Studios in Nashville in '75, I already had some experience as an assistant. Also, Woodland was going from 16 to 24 tracks at that time, so my experience at Studio in the Country [Louisiana] was particularly helpful."

"I came to town in 1985 to finish my degree in music and audio engineering from UNCA [University of North Carolina at Asheville]," Rose reveals. "I was looking for those studios that did internships. I was more confident calling studio managers knowing I had some college background, and that it was something I had to do to finish my degree. I felt that people would look at me not as a person just trying to get a job, but as somebody who was trying to get an education and eventually get a job in this industry.

"It used to be if you had a friend who worked at a studio and who could get you involved it might lead to your first job," he adds. "But today, there are so many people from engineering schools and college programs that it's almost necessary for you to go to school in order to know what's happening and get some recognition in the field. I did my internship at the Sound Shop [Nashville], and got to work on The Exiles' *'Hang onto Your Heart'* album.

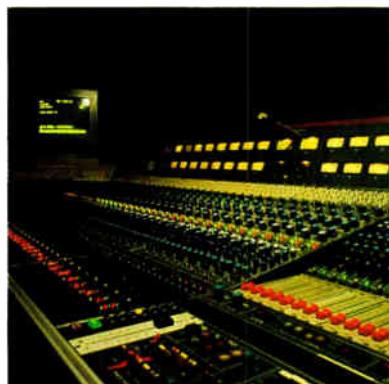
"After I finished my degree, I applied at a dozen different studios, including the House of David. Lynn tried me out for a couple of weeks without pay to see how I got along with the clients and the other people who worked there. Fortunately, I had another job delivering pizzas at the time, but everything worked out at the studio, and I started there full-time at \$5 an hour."

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Internships, or cooperative education courses, have become popular ways for aspiring engineers to start their careers. But these programs are not guaranteed tickets to employment.

"No school can give you the same kind of experience you get working on the job," cautions Geoff Hull, coordinator of the Recording Industry Management program at Middle Tennessee State University (MTSU) in Murfreesboro, Tennessee. "But a student who has come through our program has been through an intensive screening process. They have a solid amount of background information on audio technology. With that, and some determination, they're one step ahead of the person walking in straight off the street. The internship gets them the inside experience and the contacts that are essential for future employment. A good internship experience will get the student recom-

mendations from people inside the industry, like chief engineers and studio managers. It's as close as we can come from the academic side to the real working world."

Chris Haseleu, director of the Center for Recording Arts, which is aligned with the MTSU program, offers this advice: "The best lead to getting a job as an assistant engineer is to get into an educational program that offers an internship. Those without any education or experience will be competing not only with MTSU graduates, but those from Belmont College in Nashville, as well as graduates from Full Sail in Miami, Berklee School of Music [Boston], the Recording Workshop [Ohio] and others around the country. Recently in the Nashville area, we've had interns at The Castle, Goldmine Studios, Woodland Studios, MTM Records' demo studio, Sparrow Corporation demo studios, Humming-

bird Studios, Pat Patrick Productions, as well as Universal Recording in Chicago and New River Studios in Florida.

"Typically, an internship is one semester, or 15 weeks," Haseleu continues. "The intern will work two 8-hour days, 16 hours, each week. We follow up on each internship with the studio manager or head engineer, whoever is supervising the student. We seem to be doing a pretty good job of providing the students with the general technical knowledge necessary to understand what's going on. But what I think they learn the most about in the studio is how to deal with the client, how to ask intelligent questions, and how to find out something without asking in the middle of a tense studio situation."

The internship program is not without its critics, however. "A lot of clients do not want a student in the room when they're spending \$1,000 a day on the project," Eichelberger says. "Sometimes interns are a burden more than they are a help because they're trying to learn. We have people here who have been to school and have interned or worked at other studios, and then we teach them if we're going to take them on. And even then, the client may not want them around at first."

Haseleu admits that studio etiquette is difficult to teach: "It's better experienced. But we do try to make our students aware of how much money is being spent by a client in a big session, and hopefully, they have the tact to deal with that. I tell the students that a good assistant engineer is one who never has to be asked to do anything, they know everything to do. But the people going out to studios in this program are interns, not assistant engineers. They haven't finished their schooling, they aren't getting paid, and they aren't there 24 hours a day, five days a week. Many of the things interns are criticized for are the very things they are trying to learn."

"And rarely does someone get employed at the studio where they interned," Haseleu adds. "Most of the time the internship leads to a job because the supervisor at the studio can recommend him to another studio that's looking for somebody. Typically, the studios where we get the internships are the most stable and established; they're already fully staffed. And, of course, they have a

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# NASHVILLE

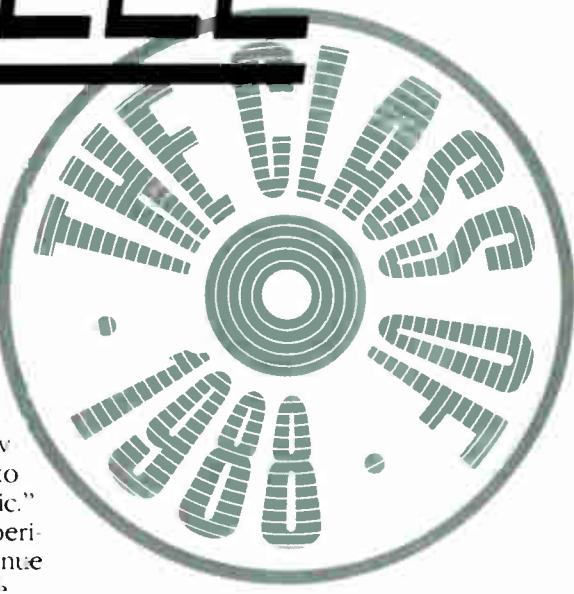
by Robert K. Oermann

**A**new wind is blowing through the streets of Nashville's famed Music Row. It's the wind of change. For years the city survived by recycling the same sounds and same stars for a musically conservative audience. That audience aged and began to lose interest after the "Urban Cowboy" popularity wave of the late '70s crested. In the backwash of that wave, country sales slumped.

By the mid-1980s, Music City resolved to reclaim its share of the American music marketplace. A raft of state-of-the-art digital studios put the town at the cutting edge of technology. A group of "new breed" producers and executives began to replace the hide-bound old guard.

Two new musical forms quietly began to take shape in the country capital. The first was a new type of gospel that became known as contemporary Christian music. It encouraged young pop-rockers. The second was a fusion style that spanned jazz, new age and ethnic sounds and came to be known as "new acoustic music." It encouraged instrumental experimentation. These new genres continue to grow and bear fruit in Nashville.

In 1986, the country community felt the new breezes blowing. During that year, more new country acts cracked the Top 20 than in any other year in country music history. Fully 23 newcomers "graduated" in the Class of '86, and 18 of them carried their success into 1987. Neo honky-tonker Randy Travis, blue-collar country-rocker Steve Earle and nouveau Bakersfield stylist Dwight Yoakam were the media sensations of 1986-87.



But the Class of '88 might be headed by their female counterparts. The biggest-selling artist to break through last year was K.T. Oslin (RCA), a 45-year-old former folkie and Broadway chorine whose earthy lyrics, cabaret sass and bluesy phrasing made her '80s *Ladies* album the fastest-selling disc RCA had all year, outpacing even pop platters by Starship and Mr. Mister, as well as the country titans Alabama.

The biggest-selling new band of the year was Highway 101 (Warner Bros.), led by singer-songwriter Paulette Carlson. Her Stevie Nicks-gone-country vocals and the band's kick-ass country-rock backing put all of Highway 101's first four singles into the country Top 10.

The Nashville industry selected Holly Dunn (MTM) as its brightest newcomer of the year at the annual Country Music Association Awards festivities. Dunn fought for and got creative control of her *Cornerstone* LP, then won listeners over to her cause with her pure heart-in-throat delivery and crisp, to-the-point tunes.

Critics have dubbed Sweethearts of the Rodeo (Columbia) "The Female Everly Brothers" for their commitment to frisky rockabilly and sibling harmony. Like the three acts above, the Sweethearts will undoubtedly gradu-



K.T. Oslin



## Highway 101

ate magna cum laude in Nashville's Class of '88.

Randy Travis and Dwight Yoakam have been touted as examples of Nashville's "new traditionalist movement." That movement has three emerging female stars now. First out in 1988 is Patty Loveless (MCA), whose new *If My Heart Had Windows* finds her wailing with open-throated intensity. California's Rosie Flores (Reprise), whose debut was released last fall, seems poised for the same enthusiastic reception as she prepares her second effort. Boston's scrappy independent, Rounder, has a star in the making in 16-year-old Alison Krauss, whose new *Too Late to Cry* is as chilling and pristine as anything Emmylou Harris has ever sung.

Harris herself has re-signed a long-term Warners contract and can be expected to set off fresh musical sparks in the wake of her million-selling *Trio* collaboration with Dolly Parton and Linda Ronstadt last year (not to mention her stunning acoustic country gospel album, *Angel Band*). Trend-setting country-pop star Rosanne Cash (Columbia), newly spare-sounding veteran Juice Newton (RCA), vocal gymnast Reba McEntire (MCA), still-torchy Tanya Tucker (Capitol) and folkie Kathy Mattea (Mercury) will likely continue their winning ways this year. All have

developed strong, loyal followings.

Nashville has been flirting with a folk-country fusion sound for the past several months. The outstanding efforts to date have come from Nanci Griffith (MCA) and Mary Chapin Carpenter (Columbia). The men who are mining this vein and striking silver sounds so far are cult favorite Townes Van Zandt (Sugar Hill), David Olney (Rounder) and Hugh Moffatt (Rounder).

Also somewhere between folk and country are the bluegrass-tinged New Grass Revival (Capitol) and the nou-



veau-bluegrass Nashville Bluegrass Band (Rounder), both of whom are highly regarded for their instrumental wizardry and electrifying singing.

Bands, in general, have become all the rage in Music City. The standout breakthroughs of 1987 were those of The Desert Rose Band (MCA/Curb) and The O'Kanes (Columbia). The former creates classic California country-rock and boasts such vintage names as Byrds and Burritos alumnus Chris Hillman and the versatile Herb Pedersen. The latter is nominally a duo consisting of Music Row songwriters Jamie O'Hara and Kieran Kane, but is actually a mesmerizing, fluid ensemble that incorporates accordion, fiddle, mandolin and percussion as well as the team's harmony singing.

Foster & Lloyd (RCA) and Baillie & The Boys (RCA) are just now beginning to emerge as two of the town's freshest music makers. Both concoct truly unique country-pop fusion sounds. Foster & Lloyd rely on airy, almost Beatles-like melodies, while Baillie & The Boys emphasize the keening, yearning lead voice of Kathie Baillie, backed by the "Greek chorus" harmony echoes of Alan LeBoeuf and Michael Bonagura. These two eponymously titled debut efforts are LPs seemingly tailor-made for CD listening.

A cluster of even newer bands is coming right behind them. In 1988, The Goldens (Columbia) will introduce their bracing country-rock rhythms and invigorating visual style. Rusty and Chris Golden have Nashville in their pedigrees: they're the songs of former Oak Ridge Boy William Lee Golden. Also at CBS are two Muscle Shoals ventures, The Shooters, who boast catchy pop-ish songs, and Shenandoah, which has a troubadour-folk quality. The McCarters (Warner Bros.) are a sister trio who sport mountain harmonies courtesy of a fetching set of twins backing a liquid lead vocal.

Expect The Judds (RCA) and Restless Heart (RCA) to continue their appeal in 1988. Both have attracted attention well beyond the country field.

If there's a newcomer whose sound has the greatest potential for crossover success it's Lyle Lovett (MCA/Curb), whose eclectic *Pontiac* is a fascinating new album. He is by turns jazzy and barroom weepy, a rowdy redneck, then a waltzing gent.

Labelmate Steve Earle (MCA) re-

### Steve Earle

mains the most important new songwriting visionary in country music, but joining him in 1988 is David Lynn Jones (Mercury), whose *Hard Times on Easy Street* has a similar rough-hewn populist quality and an equal rock kick.

Travis (Warner Bros.), Yoakam (Reprise) and movement-founder Ricky Skaggs (Epic) are still the "new traditionalist" kings. But on the horizon are bluegrass-trained Marty Stuart (Columbia), pop-star-turned-"heart"-singer Dan Seals (Capitol), silvery tenor/multi-instrumentalist Vince Gill (RCA) and robust baritone Ricky Van Shelton (Columbia), all of whom are readying new projects.

Honky-tonk stylist Dean Dillon (Capitol) is the songwriter behind most of the hits of Texas hero George Strait (MCA), and he's about to show us how the composer interprets his own material. Superstar songwriter Rodney Crowell (Columbia) is reportedly returning to his hillbilly roots after wandering in the pop-rock wilderness for several seasons.

Moving further left of center are the experiments being made by Cajun Jo-El Sonnier (RCA) and former Blasters rocker Dave Alvin (Columbia). And



Lyle Lovett

*5 to 1* by Tom Kimmel (Mercury). Joining them this year as Music City pop composer voices will be Nashville's answer to Van Morrison, Pat McLaughlin (Capitol), and evergreen pop hitmaker Paul Davis (Capitol). On the distaff side are pop-rocker Wendy Waldman (Cypress) and steamy new screamer Joanna Dean (Mercury).

Critical praise has greeted such nouveau Nashville rockers as Jason & The Scorchers (A&M), In Pursuit (MTM), The Royal Court of China (A&M), Walk the West (Capitol) and Hege V (MTM). Coming up are the hard-rocking Rock City Angels (Geffen) and Whyte Lace (CBS).

Among the warmest-received of Music City's pop talents have been such new acoustic music exponents as Jerry Douglas (MCA), Mark O'Connor (Warner Bros.), Greenidge & Utley (MCA), John Jarvis (MCA), Edgar Meyer (MCA), Russ Barenberg (Rounder), Bela Fleck (Rounder), Giles Reaves (MCA), Billy Joe Walker Jr. (MCA) and Sam Bush (Rounder). The legendary Chet Atkins (Columbia) has also moved into this atmospheric arena with recent releases.

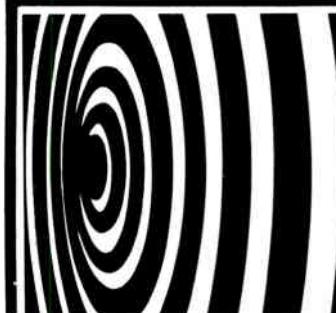
## Electronic MUSICIAN

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A Mix Publication

floating somewhere in the ozone above Nashville are East Village Appalachians The Last Roundup (Rounder), kookie Canadian diva K.D. Lang (Sire) and musical mesquite madcaps Riders In the Sky (MCA).

The core of the Nashville scene has always been the songwriting community. It, too, has shifted to the left. John Hiatt's brilliant *Bring The Family* (A&M) was the city's undisputed singer-songwriter masterpiece of 1987. Also impressive was the populist rock LP



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"When we reopened Emerald last year we made a commitment to be a leader in the burgeoning studio scene, not only in Nashville, but in the rest of the country as well," says Robert Porter, the studio's president. "Now, with the satellite dish in-

stalled, we believe that Emerald offers both radio and recording artists a unique facility. We have complete technology, an expertly trained staff, and have created a viable means of cross-country communication that can be transmitted with superb clarity and quality."

The linking of Emerald with IDB also enables Emerald to extend its recording and producing expertise to projects previously unfeasible in Nashville. The MCA Radio Network has already taken advantage of Emerald's studio broadcasting facility with its Sunday evening *Nashville Live* show, which is produced and beamed live from the studio to over 100 stations across the country. In addition, recording artists and spot producers can use the studio to instantaneously send or receive audio material in analog or digital formats to other studios or facilities that maintain a down-link capability.

— FROM PAGE 85, CLASS OF '88

The biggest pop noise to come from Nashville in the 1980s has come from a devout young woman named Amy Grant (A&M), who moved from contemporary Christian music into the pop mainstream and is now preparing her first all-out pop effort. Also distributed by A&M are her male counterparts, Russ Taff and Michael W. Smith. Taff is a tenor belter and propulsive rocker who is contemporary Christian music's biggest-selling and most award-winning male act, and his just-released *Russ Taff* finds him as close to Top 40 pop-rock as he's ever been. Smith's matinee idol looks and techno-pop production confections make him another name to watch.

Straddling the border between secular and sacred is hotshot electric gui-

tarist and singer-songwriter Dave Perkins (What). Petra (A&M) provides the best Christian arena rock and DeGarmo & Key (Benson) are the band with the catchiest tunes. Both are very well established already.

Nashville's black music scene is dominated almost completely by gospel music. Bobby Jones & New Life (Word) are still the leaders, but the Class of '88 includes gospel-to-funk graduate Bob Bailey (Airborne) and the astonishing vocal pyrotechnics of Take 6 (Reunion).

The air is rarified, indeed, in 1988 Nashville. For the city is breathing innovation and musical diversity like no other time in recent memory. ■

*Robert Oermann is a music critic for the Nashville Tennessean.*

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by Robyn Flans

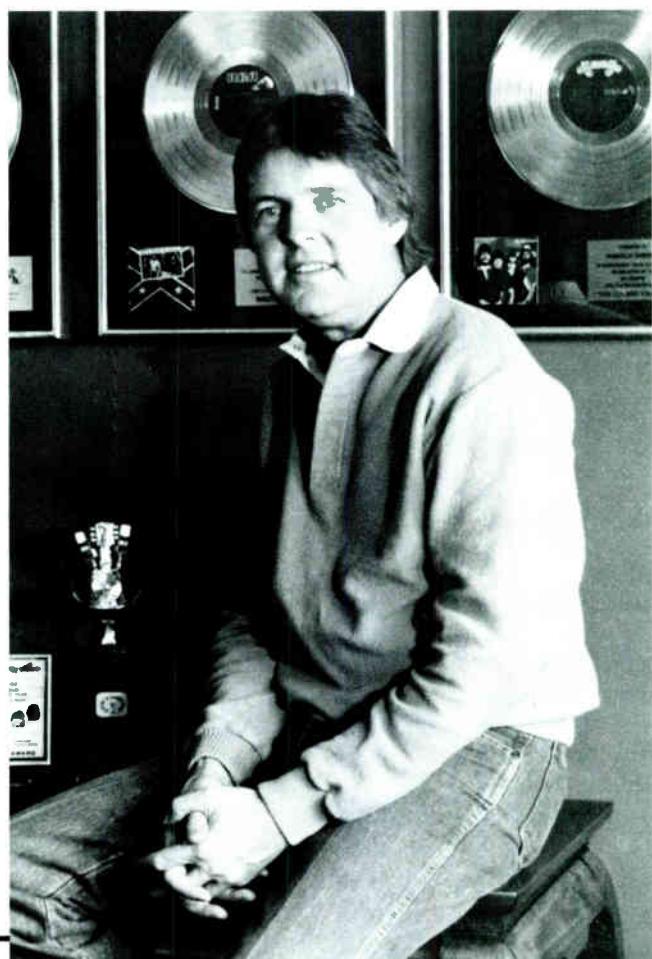
# HAROLD SHEDD AT THE TOP OF THE CHARTS

Who knew that Harold Shedd was going to break records and make history when he first got involved with Alabama in 1979? Certainly the band which had been playing for tips in Myrtle Beach, Florida had no idea that 21 consecutive number one country hits were awaiting them, along with two Grammys, five American Music Awards and practically every other possible music industry honor. Nor did Harold Shedd, the son of a preacher from Bremen, Georgia, a former disc jockey and jingle producer, have an inkling he was about to co-produce (along with Alabama) albums that would sell more than 25 million copies.

Alabama was recording on MDJ Records, an independent label out of Dallas, when Shedd was asked to complete some unfinished masters. He knew they had something special, in addition to the fact that in those days there were only two groups in country music of any magnitude—the Statler Brothers and the Oak Ridge Boys, who had gone from gospel into secular music—but neither was a self-contained unit which played its own instruments. Alabama had slugged it out as a *band* for ten years, so Shedd used them in the recording process, a Nashville rarity.

"It started out originally with two guitars, bass and drums," he recalls. "That was it. There was a guy singing and two guys doing harmony and that was pretty much the first and second albums, even though we gradually added other instruments to enhance a particular song. It's gone from that to the *Feels So Right* and *Mountain Music* albums where we got into some more original ideas. We used strings where

we felt they were needed and then we hit an era where things started to become a little more electronic. The DX7 came along and everybody started to use one. There were types of guitar sounds with younger players coming into town and all these new ideas and we started to put some of those kinds of things on *The Closer You Get* album, like the snare drum being triggered, reverse echo and things like that. A



## PRODUCERS · DESK

journalist once told me he heard that we overdubbed the snare 52 times. I told him that wasn't true, but that's when electronics started becoming more a part of it.

"Then records started to become technically better because equipment became better and then the digital thing happened, so what you hear is really what you hear. Our last two albums were totally digital and the two prior to that were analog until the final mixing stages and then they were mixed down to digital 2-track, so we started it actually four albums ago and gradually got into the all digital process."

Interestingly, though, Alabama plays less on their albums than they used to. "Recording techniques are changing," Shedd explains. "It's not that they *can't* play on their albums—they *do* play on their albums and they play on stage—but their schedule is really more hectic than it was in 1979, 1980 and 1981. They don't have as much time to come in and stay in the studio and it takes longer sometimes because when we get in with everybody there, we tend to want to experiment. What we've

been doing recently that makes a lot of difference is we take the band to [band-member] Jeff Cook's studio down in Fort Payne and do a lot of the pre-production work there. We get the arrangements worked out, so in reality, a lot of times what you're hearing is session players doing pure Alabama arrangements. We found out we can combine the great talents of some of the best players in the world right here in Nashville like Eddie Bayers, David Briggs, Larrie Londin, Brent Rowan, Steve Gibson, Mark Casstevens. If you can get these guys into what you're really doing and they can help you improve what you're doing, it really makes sense to do that.

"It's not valid to say the band isn't capable of playing on the records, but they work under different conditions every day. If they worked in the studio every day, it would be different. I've got to look at it from another point of view as a producer and that is if I take this guy who doesn't work very much in the studio and put him in with five guys who are double scale because they're so good, then what kind of pressure am I putting on this guy? Can he do his best? There are all these

different things that have to be taken into consideration. The thing in the studio is to create an atmosphere we can make records in and the easiest way to do that is to have a group of guys who are all going in this direction.

"The song and the artist dictate the kind of instrumentation, how it should sound and what it should have on it. I don't go in to try to cut a certain type of record with a formula. I just go in and try to reach that particular artist's audience—what it is demographically and musically—through songs and arrangements. If it's Reba McEntire, you're probably going to use your basic section plus a fiddle or a steel guitar maybe and mostly acoustic piano, whereas with another artist, you might take a totally different approach.

"Reba is a very pure country music singer," continues Shedd, who produced two Number Ones for Reba, "Somebody Should Leave" and "How Blue." "She's so pure. Recording Reba is a little different from recording Alabama, Mel Tillis or Glen Campbell because the main thing is to not overpower her with tracks. She doesn't need a lot of back-up voices or support. Just give her a basic rhythm track that she

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can be comfortable singing on and let her sing. She has the ability to deliver a song live as well as anyone I know."

For Alabama, 95% of Randy Owens' vocals are cut live (with an old Neumann 49 tube mic) while the harmonies are overdubbed (except for "If You Want to Play in Texas You've Got to Have a Fiddle in the Band," on which the vocals were completely recorded live.)

"Very seldom do I ever do vocal overdubs with the lead vocal," says engineer Jim Cotton. "On some of the early stuff like 'Mountain Music' and 'My Home's in Alabama' they actually did the backgrounds while they were doing the tracks and then went back and punched. That's difficult so we don't do that much anymore, but we do live leads all the time. 'She and I' was completely live."

"The Alabama sound is a certain balance between the backgrounds, the lead, the high part and the low part. It's a group sound."

The big punchy drums are part of Alabama's sound also.

"Harold likes the drums like that and so do the boys, so we try to make the drums real big, but at the same

---

**"The song and the artist dictate the kind of instrumentation, how it should sound and what it should have on it."**

---

time, make the rest of the track real warm and close," Cotton says. "I think going digital made Joe's [engineer Scaife] and my job easier to get the drum sounds and the present vocals they wanted. They wanted the drums big, but they don't want it to sound like Led Zeppelin. We put a lot of echo on those drums. It's reversed echo, inverted room echo, and we print the echoes a lot for their stuff, so that way we can come back and get the same exact echo sounds later.

"She and I" was done in three days and it was never taken down from the board. It was cut, we overdubbed, and I left the monitor mix up. The next day after we got through with all the over-

dubs, I mixed it and the same mix I used for the track date I used for the mix. It was all done right there. We ran the analog simultaneously to digital so we could have analog drums if we wanted, which is what Lionel Richie does, so we wanted to try it. He records the drums and the bottom to the analog and he records everything else on the Sony digital. He slaves off the Sony and comes back later when he mixes, and runs it together in sync. On 'She and I' I just mixed the snare and a couple of analog things in with the digital, just to give it a little extra punch, a little more pop sound."

Speaking of Lionel Richie, Cotton explains that for Richie's song with Alabama, "Deep River Woman," the tracks were cut in L.A. and brought to Nashville.

"They had a 24-track Dolby slave, which was a slave to their Sony and we just came in with Lionel and Cal [Harris], Harold, the boys and myself, and did the vocals. We spent two days on them. We spent 14 hours on the first eight a cappella lines."

It helps that Shedd owns the Music Mill (along with a coal miner in Kentucky by the name of Donny Canada)

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and he can work any hours he pleases. Originally a smaller studio in another location, the Music Mill has grown to house two rooms, a main cutting room and a mix overdub room. It contains Trident TSM automated consoles, both equipped with 32-track Mitsubishi digital machines, digital reverbs and other outboard gear.

"Being a studio owner/producer, I've been able to advance with Alabama a little more than we would have had we been renting studio time," Shedd says.

And advance with his other artists—like K.T. Oslin, who also recently made country music history at 45 years old when her initial release had the highest chart entry ever of a female's debut LP.

"What I like about working with Harold is he is a very honest, natural person," Oslin says warmly. "The Harold you see yesterday is going to be the Harold you see today and the one you will see tomorrow and in five years. He will grow and change, of course, like we all do, but he is basically what he is. As a producer, if you need to be



**Harold Shedd**

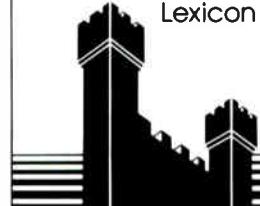
told how to sing, how to phrase or how to feel, you're in the wrong ballpark. Harold is not there to tell you that. In my case, he's not looking for songs for me because I'm the writer. But he's a song man; he recognizes songs. Harold is willing to take chan-

ces. He also has a wonderful sense of humor," Oslin laughs, gearing up for a story.

"I had done a demo tape which got me Harold. Lots of people had heard it and some people said, 'This is some of the best stuff we've heard in years. How old is she?' They all said I was too old. That really got my goat. It crushed me at first, and then I got furious. I said, 'I'll do this if I have to take a life doing it—my own!' So when we were finished doing the stuff and we had about three songs, Harold took them into Joe Galante at RCA and when he got back, I asked him, 'Harold did he ask how old I was?' He said, 'Well, yeah.' 'What did you tell him?' Harold had never asked me how old I was, but it's obvious I'm not 22. He said, 'Well, I told him you were pushing 40, but I didn't tell him from which side.' ■

*Robyn Flans is a Los Angeles-based freelance writer who contributes to Mix, Modern Drummer, Pulse, Words & Music, and other publications. She's also conducted interviews for radio and TV, and has authored three rock books.*

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# Jim Stewart & the Saga of

by Rose McAfee Clayton

From 1960 to 1975, a period marked by Southern blacks' intense struggle for civil rights, a black-oriented but fully integrated Memphis-based record company—Stax Records—gave the world some of its most enduring songs.

Stars like Otis Redding, Sam & Dave, Carla and Rufus Thomas, and Isaac Hayes were captivating entertainers who took the Memphis Sound to all parts of the world. Unforgettable records like "Gee Whiz," "Last Night," "Knock On Wood," "In The Midnight Hour," "Soul Man," "Respect," "Dock Of The Bay," and "Theme From Shaft," would live on long after the Memphis political machine had stopped the Stax tapes from turning.

Born in a garage as Satellite Records in 1957, the company grew into Stax Records when co-founders Jim Stewart and his sister Estelle Axton joined names and moved into the vacated Capitol building on East McLemore in South Memphis. The soundproofed, deadened room with its massive U-8 bass speakers that had transmitted the vibes of every conceivable emotion on the silver screen, was the ideal spot for the Stax groove. Stewart, who rarely gives interviews, says the location's major attraction was "cheap rent."

"Those were the good old days," recalls Stewart. "Greed, as far as money was concerned, was not known at Stax in the beginning. The only greed was wanting to be a part of something that was a success. We got more of a thrill out of making a record than we did going to the bank. We weren't trying to conform to any special rules because we didn't know what the rules were. If something felt good we did it."

"Just to be there and listen back to Otis' 'I've Been Loving You Too Long' right after it was cut, remembering those days when the musicians put down their instruments and walked into the control room, and the record was finished," Stewart continues. "There was no re-mixing; it was a mono machine. Once it was done without mistakes, it was ready to go."

# STAX R E C O R D S



**"We got more of a thrill out of making a record than we did going to the bank."**

**Mix:** What was the famous "Green Onions" session like?

**Stewart:** The whole thing was an accident. Billy Lee Riley wanted to put down some songs, so one Sunday afternoon I called in the rhythm section. We played two or three things and nothing was happening. We took a break, and I got to looking around for Billy Lee. He's gone. So I said, "Well, guys, the afternoon's shot to hell. Let's do something." We struck up a groove on this little blues thing we called "Behave Yourself"; Steve and Louis [Cropper and Steinberg, guitarists] had already been fooling around with doubling the guitar and the bass. We made two cuts on it and everybody said, "Man, this is a smash!" We were jumping up and down all excited.

After an hour or so of listening to the playback and everybody screaming, I said, "Now wait a minute. What

are we going to put on the other side?" Somebody had been working on a line, and he said, "Hey, we'll go out there, make two takes and call it 'Green Onions!'" We all laughed, right? After we did it, I said, "I don't believe this. This is a hit record!" About seven that night, Nick Charles, a DJ from WHBQ, dropped by, and we were still listening to the playback. He said, "I've got to play that on my show tomorrow."

So the next day I sent somebody over to Sam Phillips' to make a dub. On Monday night we had calls for the record at the record store [Stax owned next to the studio]. Dick "Cane" Cole was burning the record up on WLOK. They were playing it four or five times, one right after the other, screaming, "Smash!" God, those were the days. They would literally play a record for 15 minutes; play it the day it was cut. They couldn't wait to get a copy. Now that's when the record business was fun. You saw it happen immediately. We sent the parts down to Coldwater, Mississippi, and in 24 hours they were shoving them out. By the end of the week we had the records in the store. I'd send it to Atlantic [Stax's distributor at the time], and there was no way that they wouldn't put it out.

**Mix:** You produced Stax's early hits and everything on Otis Redding except his last song. How do you describe the Memphis sound?

**Stewart:** It's the separation. Each player was somehow maintaining his identity as he played. Even playing behind Otis, you could tell it was Steve Cropper. He wasn't trying to be a star; he wasn't trying to outshine Otis. Steve was playing what the record commanded. Even as he was doing so, you could hear him, the individual. You could feel his emotion and how he was interpreting the song.

The same way with the horns [The Mar-Keys, later called the Memphis Horns]. Prior to Stax, who ever heard of a horn section from a session getting a name or having an identity? We didn't use strings a lot. Only when Isaac came into the picture did strings become an important part. We used funky horns because horns were more compatible. Otis was really a challenge for the horn players. He'd come in with these horn lines he'd worked up in his head.

**Mix:** Some critics say that Stax died with Otis' death in '67, yet that was the

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beginning of Stax's better years in terms of financial success and national recognition.

**Stewart:** Otis was not our biggest moneymaker. We had Sam & Dave, Albert King, Eddie Floyd, William Bell; all these acts were selling records. The greatest loss was in not having Otis to inspire us. There was a certain magic about Otis, an enthusiasm. I don't think any of us ever got over Otis' death. It was a tremendous loss, not just for what he represented, but his personality—him as an individual.

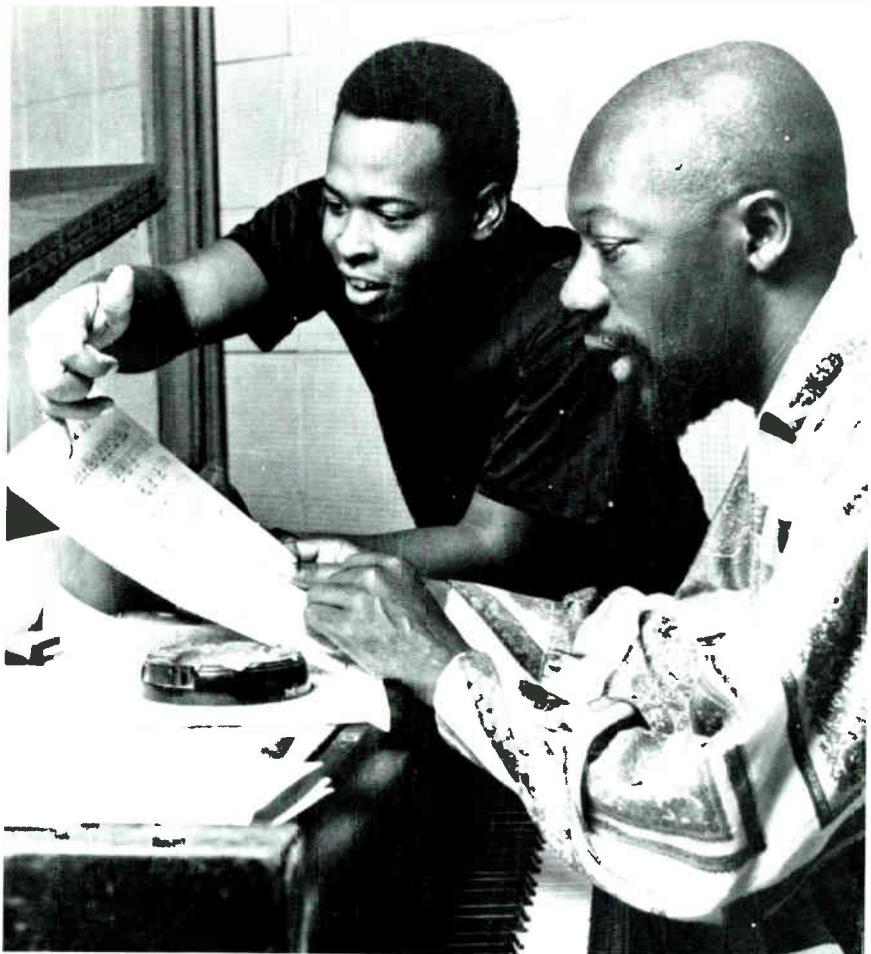
**Mix:** Just four months after Otis' devastating death, Dr. Martin Luther King was assassinated less than three miles from the studio. How did that murder affect Stax?

**Stewart:** Memphis was a nonconformist town in a very strict society. It's a contradiction. There was a lot of emotion in our lives in the situation we were in. We were like a little island in the middle of Memphis during that time, and we were frowned on and misunderstood by a lot of people. There we were, a totally integrated company, working in harmony—with-out sounding trite—in a period that was not the best in America's history. We had all this pressure from the outside, and we had to shut ourselves off from it to be creative and to be totally uninterfered with. Underneath it all, it was the music that held us together. I saw a whole culture that I had never been exposed to before and knew nothing about, which added to my life.

**Mix:** The Stax legacy lives. What about those days makes you happiest?

**Stewart:** That we did some things that are appreciated still musically. We can look back and say we left something that maybe changed somebody's life for the better. If there is some little kid out there who can pick up an Otis Redding record and be inspired by it, then I feel like I have contributed something.

I think we were probably frontrunners in treating artists and writers right. We came up with some things that were not being done in the industry normally as far as incentives. We probably were one of the first to pay producers and musicians percentages. We were giving them points or an override on all sales—on everything they participated on. That was the Big Six: the M.G.'s and Isaac and David [Porter, co-writers of such hits as "Soul Man"]



Stax writers David Porter (left) and Isaac Hayes

and "Hold On, I'm Coming"]. Even when the company was sold we maintained that agreement.

I learned early that publishing was very important, not only from the standpoint of money, but as a source of songs for our artists. We had the publishing, but we paid a weekly advance, and in some cases a weekly salary that was not deducted from their royalties. We were paying them to learn their craft.

Anybody who showed an interest in wanting to learn, to improve himself, we tried to give an opportunity to do so. We had a security guard who became an engineer, and a mail clerk who became a promotion man. That's why we wanted to stay an independent company. Tell me where else in the world at the time could a black studio drummer have become a millionaire, like Al Jackson did?

**Mix:** Do you feel a company like Stax Records could work today?

**Stewart:** It would be difficult. It just depends on the people. If you could find the right spirits and the right combination of energies and minds, it could be done. Not in the same way. You can't go home again, they say. But,

they also said Lee Iacocca couldn't save Chrysler, and he did. So, don't say, "Never."

In the aftermath of Martin Luther King's death in '68, the team players at Stax began to change. Booker T. and Steve Cropper both left for the West Coast. Others, including Stewart, who had sold the company to Al Bell, left amid the building of fences around the property and the hiring of armed guards. There was other general craziness that varies from version to version depending on the mood of who's telling the tale.

There were lawsuits and counter suits involving Atlantic and CBS Records (Stax's distributors), Union Planters National Bank (the major lending agency), Stax and others. There was an indictment against Bell, who had taken over as president and CEO. There were FBI investigations into charges of payola and kickbacks. There were IRS inquiries of both Stax and Stewart.

No wrongdoing was ever confirmed. In the process, however, Stax was forced into bankruptcy by three small unsecured creditors whose combined claims totaled less than \$3,000. Although Stax had signed a new agree-

ment with CBS, formed a new label and scored a hit with Shirley Brown's "Woman To Woman," Union Planters would not wait and called in its loans. Stax was closed—prevented from collecting and paying royalties. Academy Award-winning *Shaft* composer Isaac Hayes was only one of those who suffered from the incident that eventually forced him into bankruptcy.

"I thought we were going to be able to stay in business," Stewart says, reflecting over the ordeal. "The judge said, 'Let them operate,' but something happened about two weeks later. He did a turnaround for no reason at all, from allowing us to operate under Chapter 11, to closing the doors permanently."

As Stewart can best explain it: "Union Planters Bank was going bankrupt. We were just one of their problems, but they saw a way out. Joe Harwell [the UP loan officer that handled Stax's account] was obviously a felon. They convicted him. So if they could prove a conspiracy between Harwell and Bell, they could get their money back.

"They sent a hatchet man down from Atlanta," Stewart continues. "He said, 'Wait a minute, I know how we can get our money back. We can indict Mr. Bell since he and Harwell are so close. Then a bond company will pay off.' That's the real nitty-gritty. That's why they had to put us out of business. In the meantime, who knows, put a black company out of business that's making too much loud noise around the country, because if they get enough support behind them from black organizations or whatever, the bank could be in trouble trying to foreclose on us."

After that, Union Planters took the Stax publishing companies, hired some new people, tried to hire some Stax writers, and even put out a blues record in an effort to get into the record business themselves.

"I spent a year of my life being accused of everything, and they could never prove anything," Stewart concludes. "Talk about pain. All for one little black record company. It is real scary when you realize what can happen to you. If I can help people realize that, then that would probably be the best record I ever made." ■

Rose Clayton is a freelance writer in Memphis and a longtime contributor to Mix.

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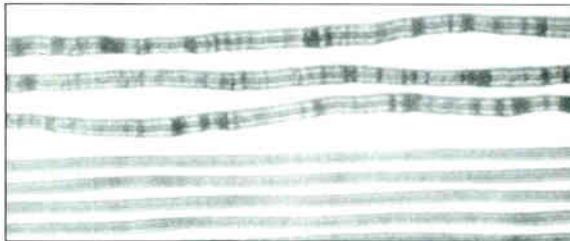
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The cue box has been such a lowly animal in the studio—it's the last thing anyone thinks about, but it's the first thing the artist complains about." This observation by George Juodenas of Hi-Tech Labs in Nashville reflects a suspicion that we at *Mix* have held about traditional thinking regarding headphone cue monitoring systems in the recording studio. It's easy to see how cue systems can take a back seat in the race to keep abreast of the latest developments in digital recording, automation and MIDI. We decided to take a closer look at the subject of musicians' cue systems, and we learned that, indeed, people are coming up with their own improvements in this area. And George Juodenas is one of those people.

Juodenas' company, Hi-Tech Labs, designs hardware and software for the recording industry as well as for other unrelated areas. He recalls, "About one-and-a-half years ago I built a studio for Warner Bros. here in Nashville. We used the standard cue boxes in that facility. At that time people were starting to use Fostex headphones because they're loud and they don't blow up. These phones require a lot more current. They're rated at something like 400 milliwatts, but I found everyone was using them at 3 watts, and this was causing some serious problems. Everyone was having to replace the pots, and sometimes the series resistors inside the cue boxes. They literally were going up in flames.

"Another drawback of the standard cue box is that different impedance headphones interact differently with impedance of the potentiometer system, so your volume curves and levels are all different. And because of the basic inefficiency of the system, the power amps were squaring out, too. So I developed a special switched resistor network which can be used with all the common headphones. Instead of a pot, we switch through the network to get several steps of volume. Because the design is so efficient, it turns out to be much louder than any other passive system, so you have much more headroom. There's a real clarity to the sound, and no matter what headphone you use it always gives you the same dB increments as you step through the volume levels. You use just one headphone set per box. I brought this prototype in to Warners, and they went nuts.

# Monitoring Systems • FOR • Musicians

Studios demonstrate a new attitude about taking their cue

by Paul Potyen

"So then I built a whole bunch of them and they went like hotcakes. Here in Nashville, Audio Media, Eleven Eleven Sound, Omnisound and Creative Workshop are some of the facilities that have them. At the first session we ever used it the drummer said, 'Turn it down, it's too loud.' That's the first time I ever heard a drummer say that."

The finished box sells for about \$200, and Juodenas says he can also sell it in kit form. He adds, "Other people who want to improve their cue system have gone to some kind of

Plycord's Active-Q headphone station



active system right away, thinking that's the only answer, but passive hasn't really been explored."

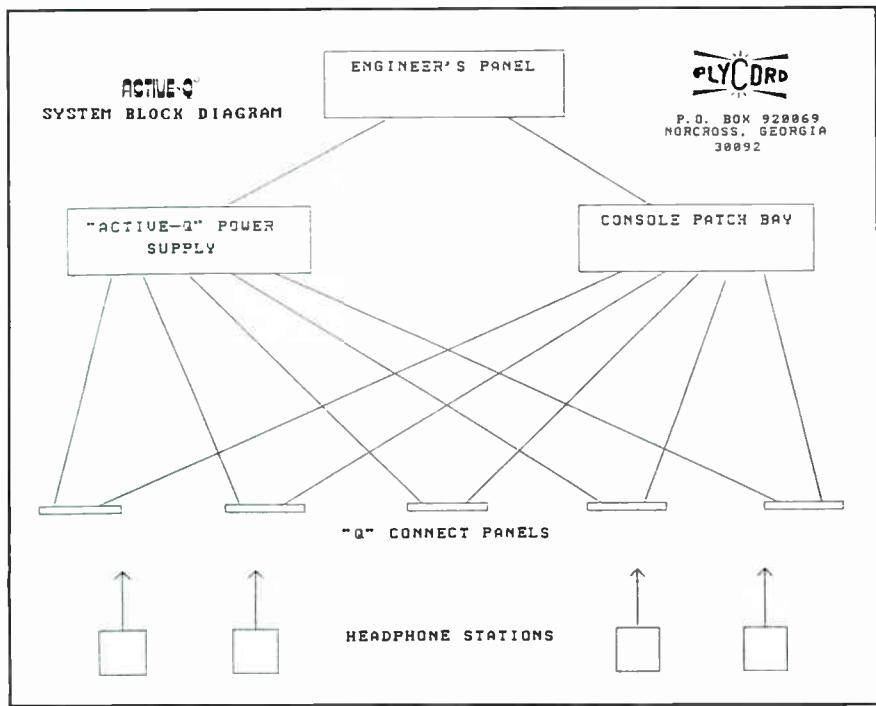
## Passive vs. Active Cue Systems

Doppler Studios in Atlanta is one facility which has explored an active cue system. Joe Neil of Doppler explains: "Our cue system is a departure from a normal system in that each cue box has a 30 watt/channel amp in it. This system allows for low-level mixing in the studio by the players. Each station consists of two main left and right inputs, and auxiliary A and B inputs. Typically we'll send the stereo cue mix into the two main inputs, and then one auxiliary might have the click, while another might have a mono drum mix if, for example, the drummer needs to hear more of himself. We sometimes call the auxiliary inputs 'more me' inputs. We've wired the studio with two identical systems, giving us the ability to have eight different sends into the room. So we might put the same stereo feed on both systems, and then we'll have four auxiliary sends depending on whether the cue box is connected to system A or B. We can also use the boxes with two split mono feeds instead of the stereo mix. It's an extremely flexible system."

"Phil Young of Plycord [an Atlanta engineering consulting firm] designed this configuration with some input from us. He actually redesigned a cue system he had built for another studio to include the additional two auxiliary inputs. In addition to 15 units in the studio, we have two rack mounted units in the control room. Each box is designed to accommodate up to four headphones. All units run off a monopolar 30 volt power supply. It's not cheap, but I haven't seen anything that comes close. We love it and our players love it."

Designer Phil Young adds, "The first system was designed [for Southern Tracks] to overcome the power limitations and the low damping factor inherent in passive cue systems. I created a second generation prototype using Doppler's suggestions. We took it into the studio and compared it to the passive system they had, and I made the sale on the spot. It has more than 20 dB of headroom, and enough power to plug in to a pair of Auratones with excellent results."

One of the players who has lauded the Plycord system is Ricky Keller. A



bass player turned synthesist and arranger, Keller works frequently at Doppler. He agrees that it sounds better than any other system he has ever used. Keller also has his own 24-track

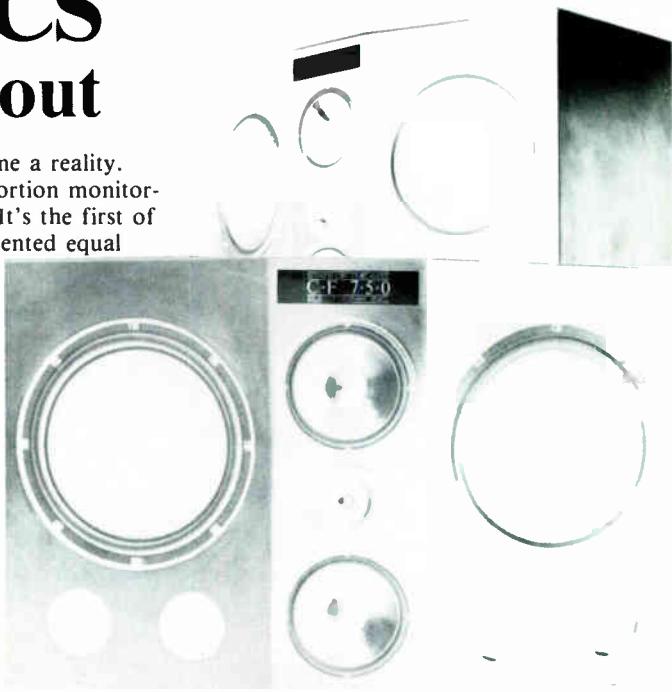
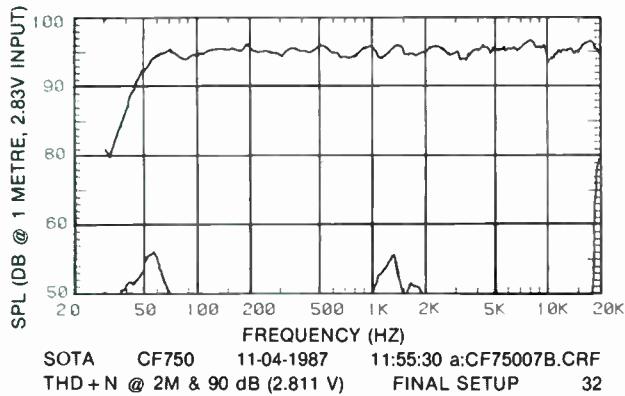
studio. "A lot of my work is with MIDI so I don't need anything as sophisticated as the Plycord system," he comments. "I have a TAC Scorpion mixing board, and I just run the stereo feed

to my cue system with a Hafler amp. I use Fostex T20 phones. They work great. Most musicians I know like them because they're so comfortable."

Emerald Sound in Nashville has also installed an active cue monitoring system. "About a year ago we got a new console and redid the control room," comments Emerald's Kerry Kopp. "At that time we rewired the studio with an 8-channel active cue system made by Formula Sound in England. We also left in the 4-channel passive system that previously existed. We rarely use that system now, except for driving loudspeakers. We have 15 units wired permanently in the wall of the studio, and we use splitter boxes if we need to have more than two headphones on a mixer. It uses four power supplies. It was a real nightmare to install an active system like this, what with multing your DC power and audio sends. It takes a lot of physical space to do that. But the results are great. Everybody has control of his own mix. These guys really like this active system. Soundstage Studios has the same thing. It was built with MCA's input.

## BASIC PHYSICS power in = power out

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"We had a standard 2-channel passive system for a long time. Then someone in town put in a 3-channel passive system where the third channel was an auxiliary mono. When you get beyond a 3-channel arrangement you start running into volume level and crosstalk problems. Nobody's been particularly thrilled with the way most passive systems sound. In fact that's the number one complaint from any veteran session player."

Several other companies besides

Formula Sound are marketing equipment to aid studio musicians in their monitoring process, among them Rane Corporation, Furman Sound and Simon Systems.

Guitarist Reggie Young has been working sessions in Nashville for 15 years with such artists as Hank Williams, Jr., Loretta Lynn and Glenn Campbell. He provides a musician's perspective on the cue systems at Emerald and Soundstage. "I run stereo direct 60 to 70% of the time, so the

cue mix is very important to me," he says. "I've worked in studios where you don't really know what you've got until you go into the control room and listen. Emerald and Soundstage are great because you can really hear everything clearly. It's important to get the adrenalin going for me to play well, and that can happen only if I can hear what's going on."

Another studio that has responded to the needs of its studio musicians is Ardent Recording of Memphis. Patt Scholes of Ardent explains that the technical staff custom-designed Ardent's headphone cue boxes with two stereo/mono toggles and volume controls to give flexibility to the musicians. He explains, "We have two stereo feeds out to the room, and we use standard power amps to send speaker level signal to the headphone boxes. So we can use one or both stereo feeds in split mono mode, giving us four separate channels. Each box is capable of driving up to four phones."

Still another approach is used by Soundscape Studios in Atlanta. "We recently made a change from a Neotek console to a Neve 8068 board," comments studio manager Jim Zumpano. "The Neve allows us to use two Studer amps for four separate cue mixes because there are that many sends on the Neve."

Jeff Carleton of House of David in Nashville spoke to us about the cue system there: "John Ryan Audio designed and built our boxes, which are configured for a 3-track system and include volume controls for each track. We usually send a stereo left and right signal, and an assignable auxiliary signal for vocal or click or whatever. We included a mono/stereo switch so we can also run it in split mono. It's powered by a Yamaha 2000 series amp. As far as headphones are concerned we use Fostex, AKGs and Sennheisers. We also have a couple of big, heavy Koss cans that the drummers seem to like a lot."

#### **Headphone Headache Remedies**

The subject of headphones in the studio proved to be an interesting one from the musicians' standpoint. Nashville keyboardist and arranger Mitch Walker has developed his own solution to the problem of bulky headphones. He tells us that he feels uncomfortable with a lot of the head-

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—CONTINUED ON PAGE 131



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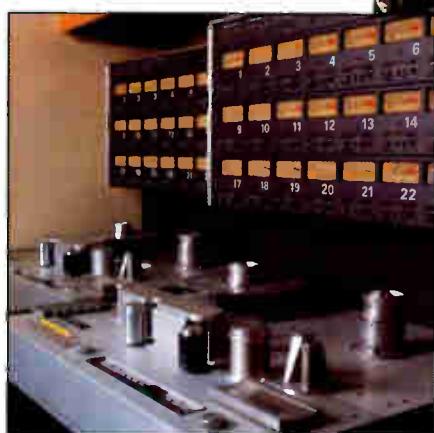
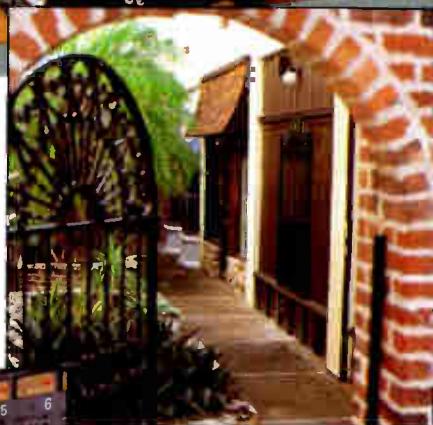
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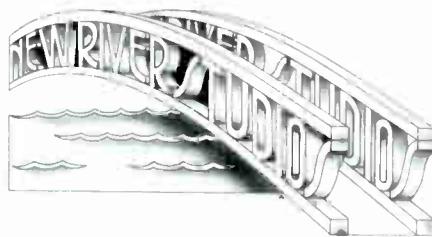
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by Lou CasaBianca

# AIM PRODUCERS GROUP **PREMIERE FIRST CD-I DISC**

In this month's "Interactivity" we'll update the latest developments in CD-I from American Interactive Media. AIM held its first national Producers Group meeting this past December at the company's new studio facility in Los Angeles. The meeting was set up to show the world's first CD-I disc, and drew about 60 attendees representing more than two dozen companies. Nineteen companies currently in co-publishing agreements with AIM covering games, entertainment, computer software and video production were represented.

The session featured the U.S. premiere of the first functioning CD-I disc, a demonstration prepared by Philips, NV and AIM's creative and technical staff. The disc demonstrated different levels of CD-I encoding processes, used for different design needs and disc memory management. The levels of CD-I audio demonstrated ranged from speech ("Level C") to PCM (CD-audio quality). The visual encoding processes shown utilized varying numbers of available colors and hence, varying detail appropriate to the encoded natural, graphic and text images. In addition, the disc showed various visual effects, such as dissolves and wipes. The disc clearly demonstrated CD-I's ability to utilize full-motion, partial-screen video.

The disc also combined audio and visuals in several sample interactive applications. These programs offered

multi-lingual narration, quick access to requested information and other features unique to CD-I. AIM co-producers were given the opportunity for a hands-on look at the demonstration.

The AIM Producers Group meeting agenda included technical updates on studio operations, production processes and coordination; information on available development sessions for process-intensive titles such as games, and media-intensive titles, such as information programs. The product development sessions indicated the enormous progress in the area of CD-I design that has been made in the past few months.

Also scheduled were demonstrations and discussions of different systems being developed for CD-I. Bob Sorenson of Microware, developers of the OS-9 operating system, gave an overview of CD-RTOS, the Real Time Operating System, and pilot system utilities. Vince Dureau of Thomson International explained the features of InVision, Thomson's authoring system, with a demonstration that illustrated the many applications of CD-I's interactivity, and its ease of operation. Steve McKay of Sun Microsystems presented an update on the Sun development program. This is the officially sanctioned authoring software and hardware system for CD-I production.

A number of AIM staff members and consultants also made presentations. Mark Dillon, vice-president of techni-

cal and creative services, and the head of AIM's studio, discussed emulation, validation and premastering; capture and encoding of images; and writing of control code. Larry Lowe, CD-I designer; Rodney Wood, digital design engineer; and Frank Huttinger, CD-I producer, described hardware and software being used to develop programs. These tools include Targa, Sun Microsystems, Macintosh, Microware,

and authoring, graphic and design tools.

Additional presentations by AIM staff and consultants covered the areas of video imaging (by Gary Thompson, a video consultant), and workstations and 3-D graphics (design consultants Lisa Bolstad and Orlando Fernandez). Peter Bloch of Interactive Production Associates, Dick Bratt of Spinnaker Software, Dave Feldman of ICOM Simulations, Richard Currier of Intelligent Image, Inc., and Jim Hoekema and Larry Lowe of AIM all discussed title-specific issues, in some cases demon-

strating iconography, screen design and other elements of CD-I titles currently in production.

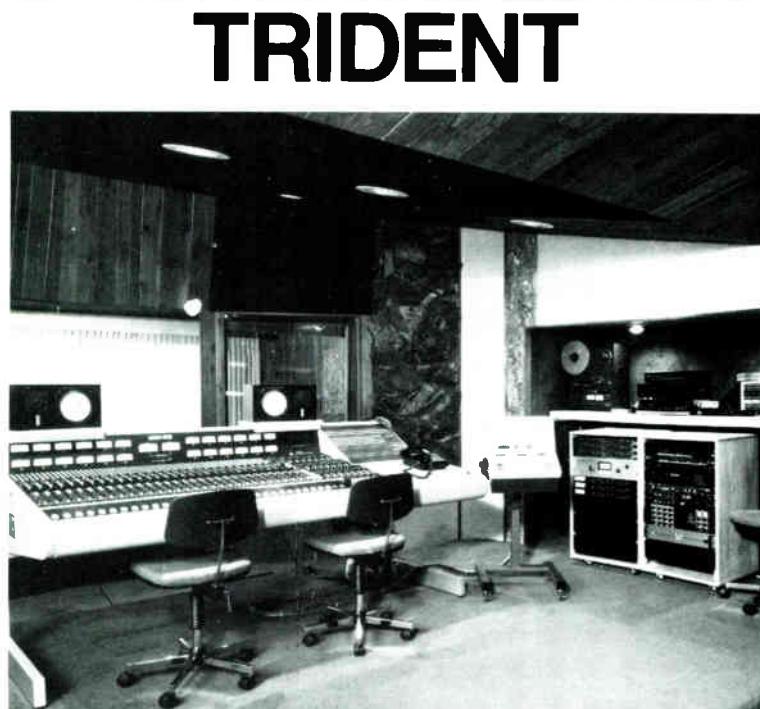
Gordon Stulberg, chairman of AIM, commented, "The CD-I reality is now here. We, along with our co-publishers, are having our dreams validated." Bernie Luskin, president of AIM, added, "The AIM Producers Group represents the heart of this new software industry and will be the pinion of its launch. This exciting demonstration is a major milestone in the birth of optical publishing, and CD-I in particular."

#### **AIM CD-I Production Studio**

American Interactive Media has also established a new state-of-the-art CD-I studio, the first of its kind, at 11050 Santa Monica Boulevard in Los Angeles. The 8,000-square-foot facility contains two of the world's first CD-I authoring stations. Headed by Mark Dillon, the new AIM studio hopes to lead the way in CD-I software development.

AIM has more than 50 CD-I titles in varying stages of development and production, in partnership with a variety of co-publishers. The titles are in the areas of games, entertainment, information, education and self-help. The new studio facility features two CD-I emulators, a Sun 2/280 workstation, two Paintbox workstations, a 3-D animation workstation and an insert stage, and is cabled with RGB, data and stereo audio.

The two CD-I emulators will encode CD-I data and act as a CD-I player for design and debugging operations. AIM is one of only two locations in North America where true CD-I emulation can take place; the other is OptiImage, a Chicago-based joint venture between Philips and R.R. Donnelly. The Paintbox workstations are for production, design and image capture, while the insert stage is used for original imaging. CD-I is currently scheduled for introduction to the consumer marketplace in 1989. More developments can be expected at this month's Microsoft CD-ROM Conference. We will keep you posted. ■



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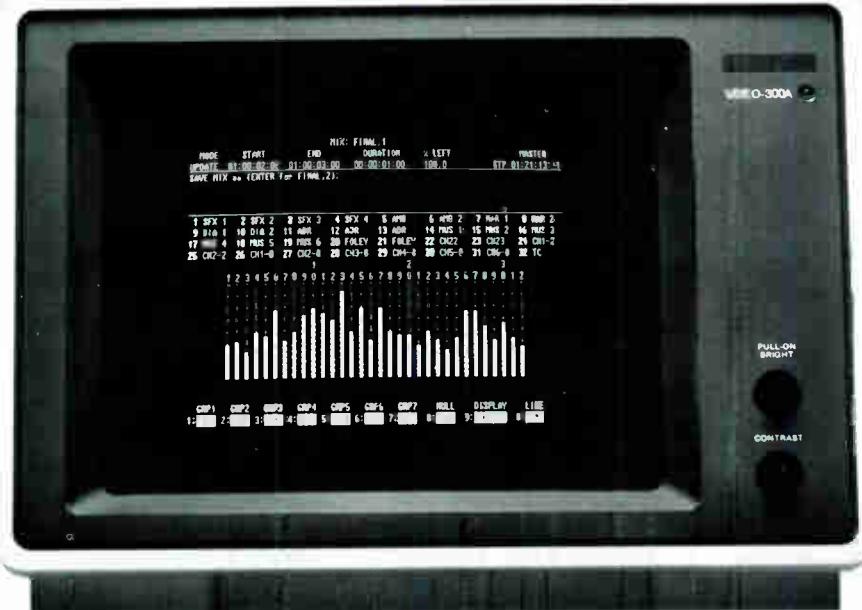
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*Lou CasaBianca is involved professionally in advanced music, film and TV production, interactive authoring and visual design, and computers in media production. He heads the New Media Learning Center in San Francisco.*

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If you're serious about becoming an engineer whose services are constantly in demand by the music industry, there's something you should know. More than ever

before, the hottest engineers will be those with the skills of both a technician *and* a musician. And now there's one place where you can develop your technical and musical awareness hand-in-hand—at the acclaimed Grove School of Music in Los Angeles.

Grove's new Recording Engineering Program is an intensive one-year course of study that gives you an exceptionally well-rounded approach to making music sound better. Grove instructors are working professionals based here in the entertainment capital of the world, where opportunities are at your doorstep in more studios and concert halls than you'll find anywhere else. Students from more than 30 countries have found the Grove School to be the most *practical* place to launch their music careers.

## 1. Meet the versatility challenge.

Every recording, mixing and sound reinforcement situation is different. That's why the Grove program gives you such a broad range of experience, getting you comfortable engineering everything from 5-piece rock bands to 18-piece big bands to 40-piece orchestras.

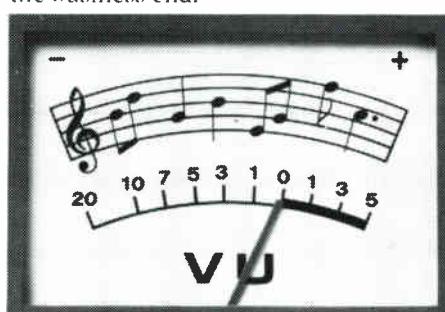
You'll work with a full spectrum of acoustic to electronic music, from Top 40 to film and television scores. And you'll learn sound reinforcement techniques for a wide variety of live music applications.



## 2. Get consistent hands-on experience.

There's no substitute for learning by doing. So you'll regularly have projects in Grove's two in-house studios, as well as taking advantage of the program's ongoing access to state-of-the-art 24-track facilities in the Los Angeles area.

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## 3. Hear music through a musician's ears.

The most talented engineers are usually musicians as well. The Grove program is designed to insure that you'll *understand the music* you're recording, and that you'll be able to *effectively communicate* with musicians on their own terms. Grove's outstanding courses in eartraining,

harmony, sightreading and rhythm section arranging will result in some great advantages for you when you're behind the board.

## 4. Prepare for related opportunities.

Successful engineers often expand their careers into related fields like record production and music video. Grove offers professional workshops in both these areas, as well as many others ranging from Songwriting to Synthesizers to Drum Machine Programming. You can build these into a customized course of study, and we'll help you tailor a complete package to fit your personal career goals.

## 5. Get a competitive edge.

The Grove Engineering Program begins each January and July. You may qualify for financial aid. And if you're concerned about getting a college degree, our accredited courses can be part of your B.A. in Commercial Music through our affiliation with Laverne University.

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# YAMAHA R&D

## ■ GOES UPTOWN AT NEW FACILITY IN NEW YORK ■

by Dan Daley

Go figure out West 57th Street. It's got record companies (Arista), recording studios (Media Sound), performance spaces (Carnegie Hall). Still, technology isn't the major motif. Not with the furriers, jewelers and boutiques that charge the annual GNP of Botswana for an earring.

It's not that everything there is nec-

essarily the best. It just seems that way. So maybe Yamaha got the best of both worlds when it decided to open its latest and most comprehensive research and development center on that *grande dame* of New York arteries. Glitz and glamor. Tradition. High rents.

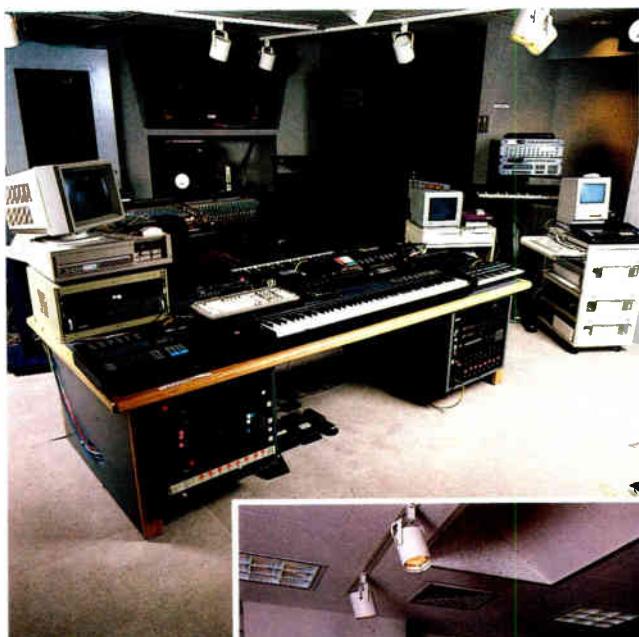
"Some of the best musicians in the world live within a few blocks of here," says the center's general manager, Tom

Sheehan. "Within four blocks are some of the best recording studios in the world. We're also nine blocks away from the retail center (at West 48 Street). The vibe is why we came here."

*Mix* got a firsthand view of the multi-million dollar, 17,000-square-foot center, designed by Yamaha itself and built by Takanaka International, before its official opening last December. In the newly opened Metropolitan Tower, Yamaha has taken over the entire second floor. Access is by either a private door discreetly camouflaged in the lobby, or by private access elevator. As with the rest of West 57th Street, exclusivity is a watchword here. Entry will be by invitation only, according to Sheehan. "Top artists and music professionals, that's our target," he says.

Yamaha has several other R&D centers scattered throughout the world; and all have specialties: London is dedicated to electronics and has a recording studio; Tokyo also has one; Paris is aimed towards acoustic pianos, as is Frankfurt; Vienna's facility is geared to woodwinds; the emplacement in Glendale, CA, is in a commercial recording studio.

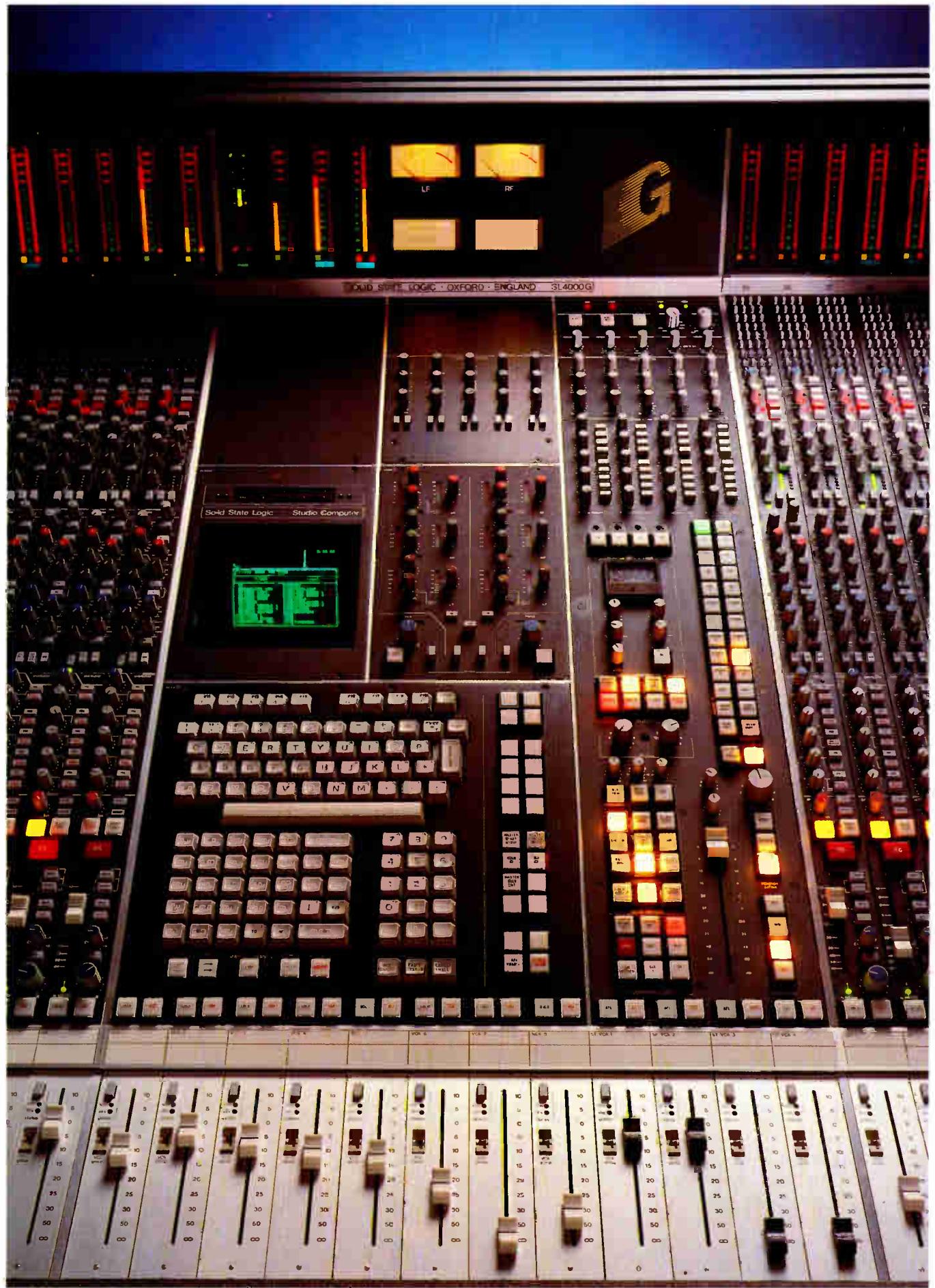
The center in New York City, however, differs from all the rest in that it has a multiple-use approach covering all the abovementioned bases. Furthermore, here Yamaha has scrupulously avoided any connection between the center and the commercial marketing subsidiaries of the parent corporation. Sheehan notes that the R&D operation is an entire subsidiary unto itself and that all contacts with other branches of Yamaha are at the senior management level, not marketing and sales. This approach grew out of an in-house study called the Century Project, designed to position Yamaha for its second hundred years of existence. On the managerial side, the company was restructured last April into four main companies: Yamaha Corp. in Japan, Ya-



**The R&D studio for the Pro Products division features a custom Yamaha RM3000 console and a multitude of keyboards.**



**At the Grand Piano R&D center are William Santaella (seated) and Ike Kolke. Note acoustical well in ceiling.**



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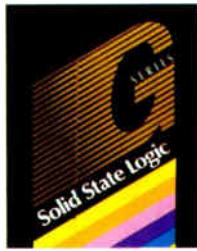


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maha Oceana for the Pacific Basin excluding Japan, Yamaha Corp. of Europe, and Yamaha Corp. of America, which covers the western hemisphere. Separate companies responsible to each main division handle all sales, marketing and development. The parent name, Nippon Gakki, is history: it's all Yamaha now. "The key is the idea of a global strategy with local applications," Sheehan says. "Through the study of the Century project, the global strategy has been formed that leads to project one company, one image throughout the world but to take into consideration the taste and market needs of each area."

The New York R&D Center is laid out in a labyrinth of rooms and suites dedicated to specific areas of the company's product lines, all centered around the lobby hub. Tech colors—mainly shades of grey—pervade the place. Tom Sheehan, who looks a bit like a younger Tip O'Neill, led the way on a tour of the facility.

The first stop was the concert grand piano area. On either side of a foyer area are a concert studio with prototype pianos housed in a climate-controlled environment with low-velocity air conditioning to minimize noise, and a production selection room for production models where players can select their pianos. The ceilings above each instrument have small naives to direct the sound back to the player. MIDI has invaded this area of music, as it has everywhere else, it seems; several pianos, like the C7E, are fitted with the digital interface and have pitch and mod wheels built into the mahogany keyboards. Off the foyer is a repair workshop.

"What we're looking for here is to redefine the world standard for Yamaha's concert grand pianos," says Sheehan. "What that involves is extensive artist evaluations. We'll invite top classical artists in to play the instruments. Then we will have an evaluation session where we will discuss the artists' experience with the piano in terms of its touch and tone so that we will be able to begin to understand the range of preference in the American market for concert grand instruments."

Isn't that marketing, in a way? Not really, responds Sheehan: "Our benefit comes from advancing the state-of-the-art in musical instruments. That's what we're doing here: opening up a dialog between Yamaha staff and top

professional users of our equipment in order to show them the directions we're heading in and to learn from them where it is they would like us to go. So we have a very good, open, clear and noncommercial interchange of information. We're not looking for backdoor endorsements or to sell studios. That's marketing's job."

The electronic keyboard (EKB) room is where another type of synthesis distinct from frequency modulation is going on: consumer grade keyboards like the HX1 Electone, originally an outgrowth of Yamaha's home organ line, are undergoing an upgrading into less domestic incarnations. "This group of instruments, particularly the

and research network worldwide by Yamaha, including other locations in Frankfurt, Vienna and Tokyo. "The purpose here is to really focus in on the needs of the classical symphony wind instrument player, someone who has concerns about very subtle phrasing and instrument capabilities," says Sheehan. Precision metal shaping and lathing equipment will be placed on the premises "to investigate the effects of subtle and dramatic design refinements in the instruments in an effort to bring the instrument forward in design." Yamaha plans to have a Japanese designer of Yamaha clarinets on call as part of the 14-person staff there.

There is a performance stage at the

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**T**he New York R&D Center is laid out in a labyrinth of rooms and suites dedicated to specific areas of the company's product lines, all centered around the lobby hub.

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HX1 Electone, is an instrument that's beginning to gain some recognition in some very unusual areas," Sheehan points out. "The opera *Nixon In China*, to be performed at the Brooklyn Academy of Music, has been using the HX1 Electone to augment the orchestra."

The unit uses a combination of Yamaha-pioneered FM synthesis and a sampling technology known as Advanced Wave Memory (AWM). The HX1 Electone, however, has pre-programmed sounds and is not a sampler, using EPROMs to store and change samples. "It started out as a home organ and is turning out to be a one-person symphony where a single artist can create complex orchestral arrangements," says Sheehan. The HX1 is MIDI-capable—including MIDI time code capability with the Yamaha MSS1 MIDI-to-SMPTE converter—and has an on-board sequencer. According to Jeffrey Gusman, manager of Yamaha's Professional Products division, "In-house, we're looking for new applications for existing hardware."

The Wind and Band Instrument Atelier is the newest base in a workshop

center, but artists performing there may have to compete with a new psychoacoustic system created by Yamaha called the Advanced Acoustic (AA) system. The AA system is basically a combination of amplification, signal processing and graphic equalization which controls and enhances early reflections and initial room reverberations. Its effect is to turn a room into a pair of headphones. The system has Yamaha power amps and graphic EQs, and at the heart of the system are the SPFs, Sound Field Processors. These units are encased in SPX90 housings, and use the same controls for ergonomic purposes. (How the SPFs actually work is being regarded as proprietary information by Yamaha for the time being.)

Four Schoeps microphones are hidden in ceiling soffits and the speakers are soffitted into the walls. "Psychoacoustically, the room is experienced as having much larger dimensions than it does," explains Sheehan. "The sound in the room is picked up by microphones and then processed through the system instantaneously, which builds in delay and tone shaping, and



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then is fed back into the room through speakers. In some ways, you experience it best with your eyes closed. It adds considerably to the sense of performance by musicians."

The AA system has sound reinforcement applications at least in a monitoring sense, since with microphones and speakers in the same room the volume has to be kept below feedback threshold. Sheehan views environmental enhancements like the AA system as necessary so that performance environments keep pace with instrument tech-

digital recorder. Otari MTR-12 2-track decks are installed, one with 4-track center-track time code giving the room sync-to-video capability. MIDI implementation will be handled at a custom workstation with Yamaha devices, and the room will have mainly Yamaha outboard gear.

The facility is not available for rent, says Gusman, who once worked with Atari designing game software and who also has an engineering and technical background. "We're not competing with the other professional studios in New York City. So, we expect a lot of local engineers from great studios to show up, since they don't view us as competition," he says. "We're hoping this will become [a place] where the next major breakthroughs happen. There's a lot of cross-pollination of ideas that's going to take place here from the exchange of information between the artists and the engineers."

The studio's recording room also has an AA system. Use of the system in this application allows for mixing the room to record the electronic ambience, as well as taping off it directly. "We can punch up a program that will give you a very sophisticated analysis of the Blue Note [jazz club]," says Gusman, who, like other area managers, is also his department's creative director. "As a result, here you have the ability to play in the Blue Note."

With no commercial expectations for the studio, Gusman is looking to take some chances with the place: "Hopefully we'll be able to explore the feasibility of some whacked-out recording projects; some real state-of-the-art frontier-pushing projects."

Yamaha plans further to add a street-level showroom for equipment in the near future, though Sheehan is quick to point out that its purpose will be purely for showcasing, not sales or demonstrations (though a positive potential impact on Yamaha's corporate image in New York has not been overlooked). "We see this as an opportunity to have an organized display of our products," says Sheehan. "In the retail stores we're mixed with other manufacturers, as it should be in the retail environment. Here it will be all Yamaha." ■

nology. "Instruments have to remain aligned with their environment. Otherwise they start to lose relevance," he notes.

The Professional Products Recording Studio is under the purview of the DMI (Digital Music Industries) division and the pro audio research and development company, which is managed by Jeff Gusman and assisted by Tech Kunii, a Japanese Yamaha staffer and the coordination manager of Professional Products. Michael Nicoletti is the Professional Products company's chief recording engineer for the facility.

The control room console is a customized Yamaha RM3000, a variation on the PM-3000, whose modifications were implemented by various Yamaha companies, says Gusman. The 40-input, 8-bus board has automated mix-down capability. Gusman plans to use Yamaha DMP7 automated 8x2 mixers ganged together and interfacing with some software programs they're about to release to augment the automation.

The room features totally floated floors and walls and all wiring is custom. Westlake TM-3 monitors are in place, as are the ubiquitous NS-10Ms. The multi-track is an Otari 900 32-track

*Dan Daley is a freelance writer, composer and owner of Pyramid Recording in NYC.*

—FROM PAGE 25

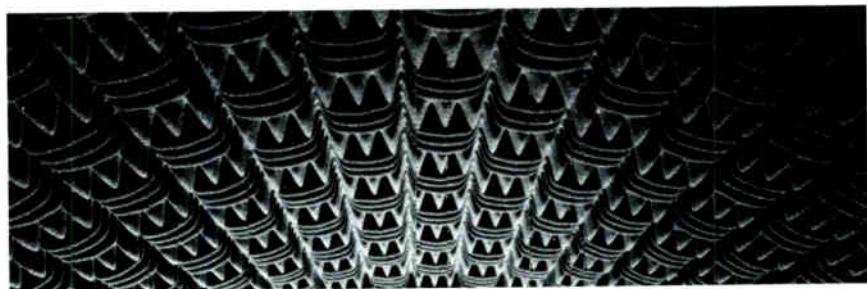
tions to this rule; studios specializing in electronic music and synthesizer productions, for example, have little need for a large tracking area, but do require sufficient space to set up large banks of synths and computer sequencers in the control room.) Trying to pump large levels of full-frequency information into a room measuring perhaps 25 by 20 by 16 feet (a room of moderate proportions, I would suggest), and hoping to achieve a semblance of coherency at the monitoring position is pushing today's loudspeaker, amplifier, crossover and acoustics technology to its limits.

Although contemporary control room designs by the more competent acousticians can be made to work, I believe that a usable combination of high SPLs, enhanced sonic accuracy and stereo imaging is difficult, if not impossible, to achieve.

A far more practical design involves the use of near-field monitoring, with medium-size cabinets selected for their linear frequency response, transient response and stereo symmetry. (Despite what the manufacturer may try to tell you, matching a pair of off-the-shelf loudspeaker cabinets for axial and bilateral symmetry has its own inherent problems, to say nothing of how the natural aging process will affect their long-term ability to present coherent audio to the engineer.)

Practically all the major makers of loudspeakers currently include a wide range of small to medium-sized units that are designed for near-field monitoring. As long as you have checked that the room is not adding any time- and frequency-dependent anomalies of its own—remember to use swept tones, pink noise and transient clicks at a wide range of SPLs—I would hazard that any of them will keep you out of trouble in the control room. ■

*Mel Lambert has been intimately involved in the pro audio industry—on both sides of the Atlantic—for the past decade. Formerly editor of Recording Engineer/Producer magazine, he currently is a partner in the Marcus Lambert PR firm, and the president of Media & Marketing, a consultancy service for the pro audio industry.*



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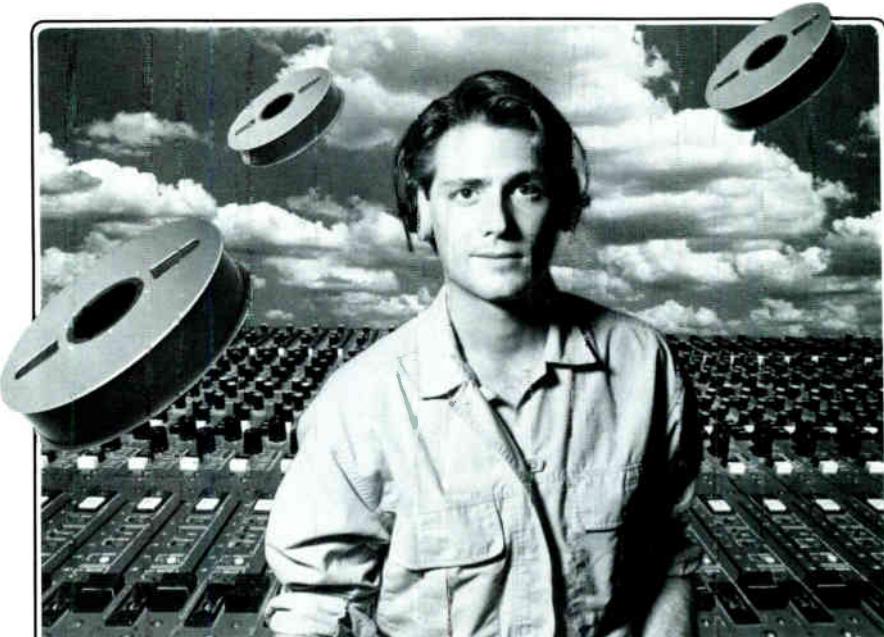
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by Mark Herman

# SOUND REINFORCEMENT NEWS

Regular readers of this column have probably noticed that I tend to include regional as well as national sound reinforcement companies in this section. There are many more good quality mid-sized audio PA hire companies than ever before. For every big national sound company, there are probably ten regional outfits capable of touring but who just don't have the connections to land big clients. If a company can ride the coattails of a rising star, the exposure and income generated is often enough to propel it into the national limelight. Those not so lucky, patiently (or impatiently) wait, gradually expanding their inventory and contacts while establishing themselves regionally. But let's not forget that it is the mid-sized sound businesses that employ the bulk of our country's sound reinforcement engineers, and purchase a large amount of the professional audio equipment sold each year.

Located near the California coast between Los Angeles and San Diego in the city of San Marcos, **Sound Image** has been providing touring systems for over 15 years. As well as being a sound reinforcement company, Sound Image designs and manufactures Phase-Loc speaker cabinets. These enclosures feature three series of designs, all with Fostex speakers, Baltic birch wood, multipin connections, removable dollies, trapezoidal design and a flexible flying hardware system. The enclosures are currently available for retail sales as well as fixed installations... Sound

Image briefs: finished cult hero **Tom Waits'** tour, which ran five weeks in the U.S. before proceeding to Europe in mid-November for three weeks. Every show was a sellout in both America and Europe. Plans are for Waits to go out again sometime later this year but nothing is firm at this point... Picked up several dates in Southern California with the sizzling **Robert Cray Band**... The latest **Jimmy Buffett** tour (see "On the Road") will use Ramsa's new WR840 house and monitor consoles. According to **Dave Shadoan** of Sound Image, "We demo'd the house board for Ramsa at the **Pacific Amphitheater** with headliners **Willie Nelson, Joni Mitchell, Robin Williams** and **Jackson Browne**. Everybody used it and it was a hit. The board sounded great. We liked it so much we plan to use both the house and monitor consoles for the upcoming Jimmy Buffett tour." The Buffett tour is using a total of 44 Phase Loc speaker cabi-

nets for the main PA... S.I. is currently doing an installation at a club in Las Vegas... Installed 12 mid-sized Series 2 cabinets (two 15-inch speakers, a 2-inch driver and two tweeters) at the **Musician's Institute of Technology** in Hollywood... Did nine days (Jan. 19-28) of **Mac Davis** at Harrah's South Lake Tahoe. The same sound system package stayed and did the following week of **John Denver** shows at Harrah's. Sound Image had previously been on John Denver's fall tour and they plan to do his upcoming tour... Provided sound reinforcement for the **Holiday Bowl** pre-game and half-time festivities at Jack Murphy Stadium in San Diego.

Located on the island of Oahu in Honolulu, Hawaii, **Baus Engineering** is one of Hawaii's leading sound companies. Owner **Randy Bauske** explained his key for success in America's island state: "We have quite a diversity of clients. This is necessary in

**A view of Def Leppard's in-the-round stage setup. It includes Electrotac Lab-Q cabinets and side fill enclosures, Intersonics' Servo Drive subwoofers, and over 500 lights. House and monitor consoles are Soundcraft Series 4.**



# WONDER

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# SOUND · ON · STAGE

order to keep our market base wide enough to survive. A varied mix of industrials, rock/pop concerts and symphonies keep us busy. For example, some of our convention clients are IBM, Unysis, Control Data, Sperry, Burroughs Computer and Mazda. Often we provide reinforcement for national acts that visit the islands; recent examples are **Stevie Wonder** and

**Tina Turner.** If a client needs special equipment for a high quality show we will make arrangements to fly in gear from outside Hawaii. We also do sound reinforcement for the Honolulu Symphony Orchestra at the 9,000-seat Waikiki Shell in Honolulu. The shell is the biggest venue on the island, outside of Aloha Stadium, and our company does the majority of the shows there." . . .

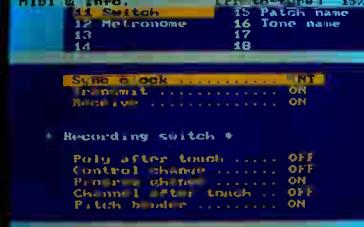
Baus Engineering's main PA and monitor system is composed of Meyer cabinets; 16 MSL3s, 16 USW1 subwoofers, and a good number of UPAs and UM1s. When I asked why he chose the USW1s instead of 650R2s Randy replied, "The Meyer USW1 sub fits the needs of our industrial clients because the sound isn't quite as heavy as the 650R2. For an industrial audio show you have to

## 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 Crossovers	Main Speakers Other Speakers Subwoofers Monitor Speakers Monitor Speakers	Main Amplifiers Other Amplifiers Sub Amplifiers Monitor Amplifiers	Engineers: (B) = band (H) = house (M) = monitor
Jimmy Buffett Sound Image Jan-Feb East Coast	Ramsa WR840 40x8x2 — Ramsa WR840 40x18 — BSS 340, TAC Modular	32 Phase-Loc Series 4 4 Phase-Loc Series 3 8 Phase-Loc Sub Sound Image 2x15	QSC 3800, 3500 QSC 3800 QSC 3800 QSC 1500, 1200	Don Jarvis (H) Ross Ritto (M) Rob Mailman
George Michael Showco Feb-Oct International	Harrison HM-5 32x16x2 w/32 ch. extender Harrison SM-5 32x16 w/16 ch. extender Showco	64 Prism™ — 16 Prism Subwoofer Showco 100, 200, 300 & 400, flying Prism SF	Crown PSA2, MT1200 — Crown MA2400 Crown MT1200	Benji LeFevre (B, H) Chris Wade Evans (B, M) Randy Hutson Leon Hopkins
Oingo Boingo Schubert Systems Group Jan-Feb U.S.	Gamble EX 56x16x2 & 16x16 matrix Gamble SC 40x16 — SSG Custom	32 SSG Steradian — 16 SSG Sub 218 SSG M112, M115	Crest 8001 — Crest 8001 Carver 1.5	Dirk Schubert (H) Alan Bonomo (M) Mike Ferrara Bob Borbonas
Linda Ronstadt Showco Feb-March U.S.	Harrison HM-5 32x16x2 — Harrison SM-5 32x16 — Showco	16 Showco FR1 — 4 Showco SS Showco 100, 200, 300, & 400	Crown PSA2, MT 1200 — Crown MA2400 Crown MA1200	Jack Maxson (H) Bernie Bernil (M) Chris Kudrna
Kenny Rogers Clair Brothers ONGOING U.S.	Clair Custom 32x12x2 — Harrison SM-5 32x16 — Clair Custom	40 Clair S-4 — Clair KR Custom	Carver 2.0 — SAE 2600	Keith Bugos (B, H) Rex Ray (M) Steve Helm Tony Rossi
Suzanne Somers Audio Techniques Jan-March U.S.	Yamaha PM3000 — (RUN OFF HOUSE) — Yamaha F1040	6 ATI Mid-High 2 ATI 2x15 10 ATI Subwoofers ATI 2121, ATI Sidefill	UREI 6300 UREI 6300 Crest 4001 ATD 712	Terry Enlow (B, H) John Drane
Sting Clair Brothers Nov-Dec S. America Dec UK Jan-March N. America	Clair Custom 32x12x2 — Harrison SM-5 32x16 — Clair Custom	56 Clair S-4 — Clair 12AM	Carver 2.0 — SAE 2600	David Kob (H) Tom Hermann (B, M) Ed Dracoules Tom Ford Tom Folehinger

# SAMPLE THE POWER OF THE ROLAND S-50

 <p><b>REC</b> 11 SAMPLING 15  <b>Sel</b> 12 U.SCOPE 16    13 17    14 18    Rim Shot READY    1 Wave Bank 1 AUTO    2 Frequency 30    3 Time 0.4    4 Orig.Key C#2    5 Threshold 20    6 Pre-trigger 10ms    Remaining Time A-0.0 B-0.0    Level = 4</p>	 <p><b>EDIT</b> 11 PATCH PRM 15 PITCH MOD  <b>ENV</b> 12 SPLIT 16 ENVELOPE  <b>CTRL</b> 13 TONE PRM 17 TONE MAP  <b>14 LOOP</b> 18    46 Syntel B-0.8 COMMAND    1 Loop Mode FWD * 114 *    2 Start 018845 L.Leng 000218    3 Loop 018263 U.Leng 024576    4 End 0 Loop Tune 0 L.Edit Point</p>	 <p><b>PLAY</b> P1 Drums/Flute P5 FLBass/SBell    P2 SBass/Kyo P6 Synth    P3 Bass P7 Synth Bell    P4 Trumpet P8 Synth Bell    Patch Mode 1    R.B. A TX-CH 1 Voice Mode 1    A-F 81 B-E 41 C-G 21 D-E 23    RX CH 3 10 4 2    Patch P3 P1 P7 P5    Level 127 127 127 127</p>
 <p><b>EDIT</b> 11 PATCH PRM 15 PITCH MOD  <b>ENV</b> 12 SPLIT 16 ENVELOPE  <b>CTRL</b> 13 TONE PRM 17 TONE MAP  <b>14 LOOP</b> 18    12 Share ** 11 ** COMMAND    1 Level Curve 2    2 Key-Rate 64    3 Vel-Rate 8    0 1 2 3 4 5    □ □ □ □ □ □</p>	 <p><b>EDIT</b> 11 PATCH PRM 15 PITCH MOD  <b>ENV</b> 12 SPLIT 16 ENVELOPE  <b>CTRL</b> 13 TONE PRM 17 TONE MAP  <b>14 LOOP</b> 18    11 Kick B-0.4 COMMAND    SUS 7 END 8    Point 1 2 3 4 5 6 7 8    Date 67 52 23 18 49 76 23 74    Level 110 34 46 38 94 34 58 9</p>	 <p><b>EDIT</b> 11 PATCH PRM 15 PITCH MOD  <b>ENV</b> 12 SPLIT 16 ENVELOPE  <b>CTRL</b> 13 TONE PRM 17 TONE MAP  <b>14 LOOP</b> 18    11 Orig.Key 2 3 4    1 D 2 D#3 F#3 G#4    2 A#4 C#2 A#3 D#4    3 C 3 GM3 AM3 D 4    4 AB2 D#2 G 4 G 4    5 GM2 C 2 FB5 D 5    6 C#3 CH3 RH6 CMS    7 C 5 E 3 G 4 F 5 D 5    8 E 3 G 4 F 5 D 5</p>
 <p><b>EDIT</b> 21 DELETE 25 COMBINE    22 TRUNCATE 26 D.FILTER    23 COPY 27 WAVE DRAW    24 MIX 28 DSP.WAVE    29 Crash A-1.2    Remaining Time A-0.0 B-0.0    Wave Bank A</p>	 <p><b>EDIT</b> 21 DELETE 25 COMBINE  <b>SEL</b> 22 TRUNCATE 26 D.FILTER    23 COPY 27 WAVE DRAW    24 MIX 28 DSP.WAVE    COMMAND    SBass-L    1 Window Adrs 000000 COPY &gt;    2 Window Adrs 000000 CLR WINDOW &gt;    3 Cursor Data 0001 CLR ALL &gt;</p>	 <p><b>EDIT</b> 24 DELETE 25 COMBINE  <b>SEL</b> 22 TRUNCATE 26 D.FILTER    23 COPY 27 WAVE DRAW    24 MIX 28 DSP.WAVE    COMMAND    -Tom-L    1 Start 000000 EXECUTE &gt;    2 End 000000    3 Shift 000000 Press ENTER</p>
 <p>Song play Proto-type 1 15%    Song...1 Name...First    Measures... 19 KB channel. 2    Octave... 12 KB octaves. 2    Pattern... 22 Next... 1 Play    CH P LVL OUT -Velocity meter    0- 3- 127 [ 81 :    1- 10- 127 [ 21 :    2- 12- 127 [ 21 :    3- 2- 127 [ 21 :    Chain play...OFF    KB display...P2 [ALL]</p>	 <p>Pattern write Proto-type 1 15%    Song...1 Pattern... 22 Gate... 1/16    Size... 16 Metronome... on KB channel. 3    KB Octave... 139 KB octave. 2    Pattern... 22 Next... 2 Play</p>	 <p>MIDI &amp; Info 15%    11 Switch 15 Patch name    12 Metronome 16 Tone name    13 17    14 18    Sys 6 Clock ... RT    Record ... ON    Record level ... ON    Recording switch ...    Poly after touch ... OFF    Control change ... OFF    Program change ... ON    Channel after touch ... OFF    Pitch bend ... ON</p>

# THE SAMPLER THAT DOES MORE TODAY



# THE SAMPLER THAT DOES MORE TOMORROW

## The Benefits of Open Architecture

There's no question, digital sampling is one of the most rapidly developing technologies in music today. So when you buy a sampler today, you don't want it to be made obsolete by some new development tomorrow. That's why there's one line of samplers that not only provides top quality today, but allows for future developments tomorrow. Naturally, they're from Roland, the company who always has one eye on the future.

Roland samplers are based around a "clean computer" design of open architecture. This means that the main performance data of Roland samplers is resident in software—software that can be updated with new features and performance just by loading a new disk. Neat trick? That's exactly what our customers think. They've already benefitted from one software update, giving their samplers loads of new features. And more updates will follow.

## Professional Performance Sampling

But before we get too far into the future, let's talk about today. The Roland S-50 Digital Sampling Keyboard and S-550 Digital Sampler Module deliver the professional-quality sound and extensive editing capabilities found only in instruments costing many times as much, all thanks to Roland's breakthroughs in proprietary VLSI Sampling technology. The S-50 offers a wave oscillator, amplifier, LFO, and an eight-stage envelope generator for each of its sixteen voices. Although the S-50's features list is far too extensive to be listed here, among its chief attributes are a 512k word of Wave Memory and 16-bit processing, sampling time up to 14.4 seconds at 30kHz, multi-timbral capabilities, and four polyphonic voice outputs.

The S-550 provides all of the S-50's performance with the addition of a 1.5M Byte memory (for up to 64 tone memories and 16 patch memory banks), and expands upon the S-50 by providing eight polyphonic voice outputs.



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But we think the best way to judge a sampler is with your ears. That's where the Roland Samplers really shine. Play any Roland Sampler and you'll hear a warm and full sound, with a better bandwidth and greater headroom that especially shows up in dynamic instrument samples. You'll experience an evenness of sound across the entire keyboard without the problems other samplers have of obvious split points. And you'll never run out of sounds, because the purchase of a Roland Sampler gives you access to the Roland Sound Bank—a continuously growing library of great sound samples. Plus, the S-50 is

already enjoying one of the fastest-growing bases of third party software support.

## Quality In Means Quality Out

When it comes to user interface, Roland Samplers are simply unrivaled. Both the S-50 and S-550 allow the connection of a video monitor to greatly facilitate sampling process and use such new features as Wave Draw. The S-550 even allows the flexibility of mouse-style input by connecting the new DT-100 Digitizing Tablet. This kind of interface makes the experience of sampling sounds as fun as it is productive.

## Today's Updates

The new 2.0 Software Update (available to all owners for a small handling charge) can now add in loads of new features—including twice as many tones, Automatic Loop Search, combined Wave Data, Polyphonic Multi-timbral performance, and much more. Not just new sounds, entirely new performance. Another new software program—the SYS-503 Director-S—can turn the S-50 or S-550 into a sixteen-channel MIDI sequencer, playing its own sounds as well as those of other MIDI instruments.

Put all this together and you can see why Roland Samplers are the choice of so many top pros. And why shouldn't they be? Because if Roland Samplers do this much today, imagine what they'll do tomorrow.

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## SOUND · ON · STAGE

do everything from podium mics to high-level sound reinforcement. The USW seems to fit the compromise best." He added, "It does a great job at concerts also." Baus Engineering has a 40-channel Yamaha PM3000 for their main house console and use Mark Levinson ML-3 amplifiers to power the Meyer PA.

More on that Stevie Wonder Honolulu date from Bauske: "That was a wild setup because we had 80 house input channels using two 40-channel PM3000s ganged together. Two different discrete monitor setups were required using a total of five different consoles; a Gamble SC 32x16 with the outputs of a Meyer ATL 32x12 summed into it to get a 64x12 mix for the conventional stage mix; and two PM2000s for Stevie's mobile radio monitors which were broadcast on the FM band. Many of the performers, Stevie included, wore Sony Walkman radio receivers with earphones. A Yamaha M1516 was also used for a drum submix. For the main PA there were 16 MSL3s and another 16 Clair S4s along with the USWs and some UPAs. The concert was done in the round with eight flying clusters, four cabinets each, ringing the stage. For monitor speakers and sidefills, we utilized eight UPAs, three UM1s, four USWs, and seven cabinets of our own design."

Asked how he handles island-to-island shipment of his equipment, especially the speakers, Bauske responded, "The Meyer UPA cabinet easily fits through the cargo doors of a Boeing 737, so it is no problem to ship via aircraft. The larger stuff requires a barge service that takes two or three days for delivery. We rent a container and fill it with gear for shipment."

**GROSS!** It's time to find out which tours grossed the most money in 1987. the envelope please. No surprise at #1: **U2** grossed \$35 million, #2: **Bon Jovi** with over \$28 million, #3: **Pink Floyd** hit the wall at \$27.5 million, #4: and \$26.5 million belonged to the greying **Grateful Dead**, #5: **David Bowie** and his glass spider drew \$22 million. The band with the highest *average* gross was Pink Floyd at just slightly over a million a show. Now you know how they can afford their elaborate staging... Ticket sales for major arena headliners was estimated to be over \$600 million for 1987, re-

flecting a 15% increase over the previous season... Leading all venues in number of top grossing shows was **Madison Square Garden** with 11 (including five by the Dead), followed by the **Meadowlands Arena** with nine.

**Audio Techniques** of Calabasas, CA, is a seven-year-old sound reinforcement company with two arena systems and three monitor systems, as well as a smaller horn-loaded PA for local LA shows. The speaker cabinets used are a 4-way proprietary design flyable two box system powered by UREI 6300 and Crest 4001 amplifiers... Owner **Bob Ludwig** told me, "We have a total of 70 house cabinets, enough for two full touring systems. The size of each system varies with client demand. Last year we went out with **Chicago** for almost a full year and they took out the majority of our speakers. The **Everly Brothers** and **Suzanne Somers** kept the rest of our stock busy with smaller systems. For consoles we have 40- and 32-channel Yamaha PM3000s and Soundcraft 500Bs for the house; a modified Yamaha PM2000 32x14 and modified Yamaha 1516s for monitors."... TV star, dancer and singer **Suzanne Somers** (see "On the Road") does a lot of casino work in Las Vegas and Atlantic City, as well as sporadic dates across the country. "She performs live more than you think," Ludwig says, "and this year her show is one of the most elaborate and biggest productions in Las Vegas. We are providing the sound for her current tour that began in January."

**PPA**, a Southern California sound reinforcement company out of Riverside, CA, recently announced several new equipment purchases. PPA president **Henry Austin** said, "With the purchase of this additional main PA system we have, as far as I know, the only major Turbosound system in Southern California. Coupled with our recent purchase of a 40x16x2 Soundcraft Series 4, and an extensive and varied monitor system, our large Turbosound PA gives us a stronger presence in the sound reinforcement marketplace."... PPA also offers Yamaha PM3000s and Soundtrac consoles, and separate Hill and Cerwin-Vega main PA systems... PPA also worked the outrageous **NAMM Jam** (Jan. 16) sponsored by **Seymour Duncan** and **Kramer**, at the **Celebrity Theater** in Anaheim, CA. PPA brought in their Hill PA, consoles and monitors to augment

the existing flying house PA system.

### Manufacturer Profile: Eastern Acoustic Works

Speaker manufacturing company is quickly becoming known for their cost-effective 4-way **KF850 Virtual Array** loudspeaker system that features the KF850 cabinet. It consists of a 15-inch bass driver in a horn enclosure, a 10-inch driver loaded in a constant coverage horn with a center displacement/phasing plug, and a 4-inch compression driver mounted on a horn located in the low frequency horn's mouth. The 3-way KF850 box is designed to operate in multiples with the SB850 subwoofer, and with the MX800 electronic crossover... **Ken Forsythe**, chief engineer and one of the principle people at EAW, states, "The thing that makes the 850 work is the careful pattern control across the band. It is very uniform above 250 cycles." When asked if the system was flyable he said, "The 850 is especially designed to be used in an array. Our versatile and safe flying rig is designed to fly 850s four deep and exceed even Germany's strict seven to one safe working margin. For example, if you want to fly a 1,000-pound cabinet you need a 7,000-pound test point. We're almost at ten to one." I inquired how they build their enclosures: "All our cabinets are made out of 100% cross-grained laminated birch plywood and are precisely manufactured in a computerized cabinet shop where all the saws and routers are computer driven. This allows us to be able to do cabinet runs when needed so that we can quickly react to customer's needs. There is no time lost in setups like before." According to Forsythe, business is booming. Several large complete KF850 systems were recently delivered to waiting sound companies in the U.S. and a couple of big systems have just been sold in Europe. On future plans for EAW, Forsythe said, "We are taking the array technology that went into the 850 and putting it into some of our new smaller cabinets." ■

*Author Mark Herman, owns Hi-Tech Audio, a sound reinforcement company specializing in console rentals.*

Got any news? Call (415) 726-2428 or send press releases, photos, etc. to: Sound Reinforcement News, Mix Publications, 6400 Hollis Street #12, Emeryville, CA 94608.

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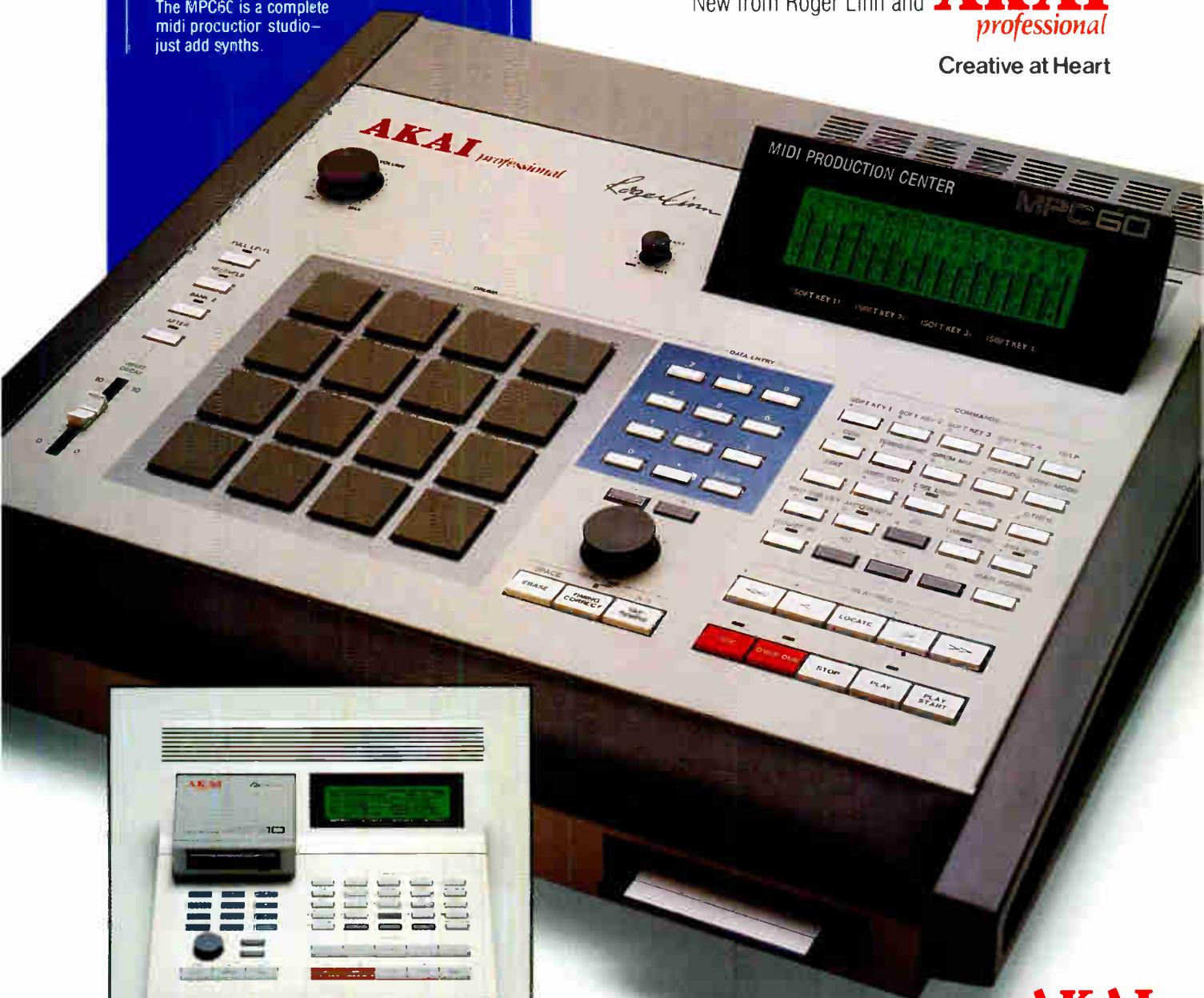
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by Greg McVeigh

# I'LL SLEEP IN SEPTEMBER

## THE TOURING LIFE IS HARDER THAN YOU THINK

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# E

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**ditor's note:** With much of the country still firmly in the grip of winter, a little blast of summer might be what is needed right about now. For the past couple of summers, Greg McVeigh, who is currently marketing director of QSC Audio Products of Costa Mesa, California, has used his vacation time to go on the road as part of the road crew for Jimmy Buffett & the Coral Reefer Band. Some vacation! What follows are Greg's "memoirs" from his maiden voyage on the road. We hope his regular job is a little easier!

**M**y first night on the bus was a nightmare: getting into a bunk bed on a moving (or stationary, for

that matter) tour bus can be tricky. My assigned bunk was a top one and I had no idea how to get into it without making a complete fool of myself and waking up everyone else. That first night I sat up all night watching as each crew member—all veterans—gracefully hopped into his bunk. Finally, when all were asleep, I gathered my courage, my shoes and my Corona beer and ventured forth to my bunk. Unfortunately, my smooth, graceful hop turned into a sick, desperate lurch as the bus made a left turn. "I'm sorry I stepped on your chin," I said to the lighting director. "It won't happen again. Yeah, I'm the guy who's the salesman."



Jimmy Buffett takes it easy while his road crew gets blisters and eats bad food.

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Image, and house engineer Don Jarvis. Every half is different so the rigging arrangements differ daily.

#### 11:30 a.m.—Unload the Second Truck

Once the lighting truss is raised to head height, the truck containing the sound system and band gear is unloaded. Local stagehands take the equipment off of the truck and are directed by Buffett crew member Johnny D. After the truck is unloaded, the local crew is divided up to work with the Buffett crew on various tasks. A blue Mylar floor is rolled out, keyboard and percussion risers are assembled, and AC distro with feeders for stage right (band) and stage left (power) are run. My part of this controlled chaos was to run the AC distro. One of the highlights of the tour for me was clearing up the mysteries of electrical power. I never knew how the heck all of that stuff was plugged into the local power! Suffice to say that it isn't done with one long orange extension cord.

The late morning and early afternoon is spent unloading and placing

**The first meal often sets the tone for the rest of the day.**

**Donuts with little rainbow sprinkles were many promoters' idea of a gourmet breakfast.**

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stage monitors (12 in all), matching microphone stands to microphone bases to microphone clips, and finally to microphones, and interfacing the on-stage monitor system.

#### 2 p.m.—Lunch

The trick here is to get to the lunchroom just before the local crew attacks

the spread! Why we have to go through this exercise, I really don't know—generally the local boys want meat and potatoes, bread and Jell-O. We tend to stick to the lighter foods i.e. tuna and salads. Lunch for us is quick; a lot of work remains.

#### 3:30 p.m.—Stacks and House

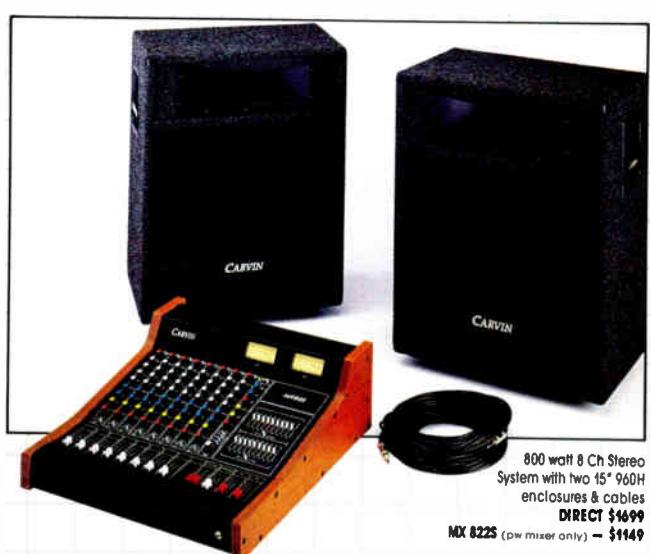
By this time the PA cabinets are being raised into the air. The house console is being hooked into the input and output snakes. The band gear is set up and by 4 p.m. a system check is conducted. A CD is played over the house system and Ross turns on and off every power amp in the entire system. Once satisfied that all is well with the amps, full range program music is played and Don EQs the house.

#### 4:30 p.m.—Line Check

This is the time of day when every input to the house console is checked. This is generally an exciting, if unfulfilled, time for me. My job is to play every instrument and speak into every microphone. As an ex-musician, the chance to play Jimmy Buffett's guitars



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## SOUND · ON · STAGE

But we're getting ahead of the story here. I survived Jimmy Buffett's "Floridays" tour. In fact, I not only survived it, I was asked back to work on his next tour, which I did. Not bad for a guy who couldn't figure out how to get into his bunk. It was the summer of 1986 that I realized I would never be able to tie a necktie properly on a daily basis. So I quit my job and threw corporate opportunity to the wind. My friend Ross Ritto at Sound Image suggested that a summer on tour working on Jimmy Buffett's sound crew might be just the thing to recharge my salesman's batteries. He was right.

### A DAY IN THE LIFE

#### 9 a.m.—A Wake-Up Call From

##### Joey

Last night we were in Denver at Red Rocks Amphitheater. After the equipment is torn down—about 2 a.m.—we drive by bus to Kansas City for the next show at Sandstone Amphitheater. The trip is a long one; some of the guys on the crew sleep on the bus all

night while others play cards in the back lounge (or so they tell me). Somewhere between 6 and 7 a.m. we check into our hotel. I fall asleep around 7 a.m. thinking, "This is the life! Great hotels, fine food, nice towels. Sleep all day. Play all night. Life doesn't get any better than this!" But then at 9 a.m. comes the call from Joey. Shit.

Joe Ciccoline is Jimmy Buffett's production manager; sort of the "keeper of the crew." "Lobby in 30 minutes," he says. So suddenly I'm back on the bus with all my friends. The bus call is for 9:30 and we're expected to be on stage by 10 setting up for that night's show. The ride to the show is usually a quiet one. In some ways it's similar to a baseball team riding to the ballpark wondering what will happen that day.

#### 9:45 a.m.—Breakfast at the Gig

At every show on the tour, the promoter provides breakfast for the crew. This food ranges in quality from superb (bacon, eggs and salsa in Denver), to rancid (bug infested cold cereal in Biloxi.) The first meal often

sets the tone for the rest of the day. Donuts with little multi-colored rainbow sprinkles were many promoters' idea of a gourmet breakfast. The lighting crew has to eat fast because their truck will be unloaded first.

### 10 a.m.—Meet with the House Electrician

It is my first job of the day to provide the venue's house electrician with details of both sound and lighting power requirements. He will receive the tails (Cam Loc to bare wire) for sound and lights. Most venues have a stage left feed for sound and a separate feed for lights on stage right. In addition to the main power feeds, a feed for motor power is run for the motors that are used to fly the lighting truss and the sound system. At the end of the day, the lighting crew will collect all of the tails and pack them.

By 10:30, the first of two trucks is unloaded and the lights are assembled on stage. During the time that the lights are being built, rigging points for sound are being determined and executed under the direction of Ross Ritto, owner of Sound



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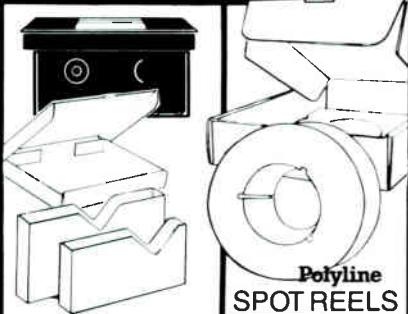
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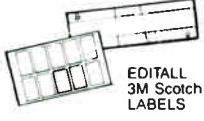
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## SOUND · ON · STAGE

or Matt Bettin's drums over a huge concert sound system is a dream come true! My joy is usually short-lived, though, as Don generally needs less than a strum to get the sound that he is looking for. I plan to issue a Jimmy Buffett/Greg McVeigh *Sound Check Greatest Hits Album*. Look for it at stores near you! After all systems have been thoroughly checked and rechecked, the remaining flooring is laid out over the exposed monitor and subsnake cables. With 12 musicians onstage, quantities of Absolut, Corona and Mount Gay rum being consumed, and a new interest in wireless systems, the surface of the stage needed to be as clean and obstacle-free as possible.

### 5 p.m.—Dinner

I am sick of talking about food. Some is good and some is atrocious.

### 6:30 p.m.—Doors Open

The crowd filters in. In some cities it's faster than in others. Once a decent sized crowd is in, music is played through the house system. On this tour, the sound crew has a large part in selecting what music will be played. Lately we have been partial to the new Warren Zevon album, as well as Joe Walsh and Level 42. As showtime nears, a CD of The Beatles' *Sgt. Pepper* is played. The crowd responds to the timeless music, as the band prepares to go on stage.

### 8 p.m.—SHOWTIME!

This is the time when *the band* works. I spend the first three songs onstage watching for any problems. I am sorry to say that I rarely had any unusual situations once the show started. The band, crew and organization are professionals who have been together for over a decade. Because of this togetherness and teamwork, disasters are rare. I have been through the Ross Ritto course on the Seven Critical Points (or is it eight?) on a microphone stand. I made it a personal crusade to see that none of the 40 or so mic stands fell down. The bottom line is that the show opened on time, the people loved it, and few problems were incurred during it.

### 10:30 p.m.—Show is Over

After the first encore of each show,

Jimmy informs the crew if he wants to play one more or two more songs. As soon as the final song is completed, tear down begins. The first thing that I do each night is take Jimmy's microphone out of its stand and put it away. You'd be surprised how many well meaning fans want to jump on stage and take that mic. Once that is done, Joey once again assigns members of the local crew to work with us to dismantle the show and pack it in the trucks. The basic idea is to undo in a few hours what has taken eight hours to assemble. The idea is to tear down all of the band gear and sound onstage so that the lights can come down and be packed. Setting up the show is akin to running the Boston Marathon: intense, yet slow and methodical, pacing yourself for a long night. Tearing down the show is a sprint. How fast can you go for a short distance? The sooner you pack it up, the sooner you can get on the bus and head to the next city.

### 1:30 a.m.—Let's Get Out of Here!

A movie, the back room with the card players, maybe some pizzas, and a bottle of white wine for Kino and me. We'll be in Houston in the morning!

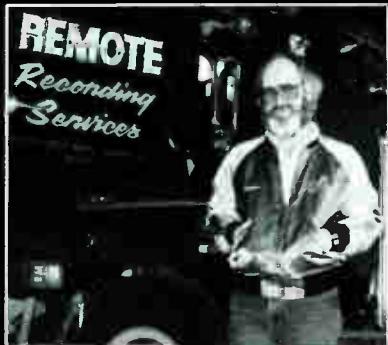
## SOME CLOSING THOUGHTS & ASSORTED MEMORIES

Shoes. God, you live in them! What used to be trendy \$85 white leather Reebok uppers become miserable leather leeches that want to suck the very life out of your feet. It seems as though you never take them off. Days begin at 9 a.m. and usually don't end until 2 or 3 a.m. Other articles of clothing can be changed daily, or even hourly, but those damn shoes....

Fingers. The first thing that goes are the fingertips. Those delicate salesman's order-writing fingertips. Cables, microphones, stands, monitors, *everything* is labelled with little pieces of gaffer's tape. Tear it off the roll and then tear it down the middle into neat little pieces. After hours of this activity my fingers were a blistered mess. It's a great way to cure nail-biting.

Comedy and Catering. Often, the food was so bad at these shows that the crew decided to deduct \$500 from the catering budget to hire a local comedian to entertain us at dinner. These shows were a highlight of the tour, with the comedy ranging in

—CONTINUED ON PAGE 131



# David Hewitt of Remote Recording Services Inc.

*on digital recording*

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When David Hewitt takes his show on the road, he does it in grand style. His show, of course, is REMOTE RECORDING SERVICES, INC. and it's a hit with some pretty popular folks in the recording business. Chances are, people who know David also know something about *remote recording*. Their demanding criteria for audio excellence depends on the exceptional sonic quality and widely accepted recording format which the Sony PCM-3324 has built its reputation on.

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by Craig Anderton

# GOT LIVE IF YOU WANT IT

**I**t was 20 years ago today...that using electronic instruments live was at best a pain in the butt, and at worst, a disaster. Synthesizers were creatures of the studio, and even under those pristine conditions, tuning stability was a problem—not to mention the hours lost in shifting patch cords around when you wanted to change from one sound to another.

Thankfully, matters have improved greatly. Today, it's even possible to take your computer on the road and maintain a reasonable degree of peace of

mind. In fact, no fewer than three companies are offering IBM-compatible machines designed specifically for the rigors of the road. The Bandwagon from RPMicro is a compact rack-mount computer that uses an LCD instead of the more fragile and heavy CRT. This little guy mounts on your keyboard stand just as easily as any expander unit, and even includes a foam-lined, heavy-duty carrying case. Fully IBM-XT compatible, it comes standard with 640K memory; a hard disk drive is also available. Computer Music Supply also



Ensoniq's latest additions to the world of high-tech keyboards: the EPS Performance Sampler and the SQ-80 Cross Wave Synthesizer.



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### **Freedom of Expression.**

The 1000 Series' generous polyphonic capabilities free you from the expressive limita-

tions of 12-voice or 16-voice systems. The 1000 PX and K1000 offer the power of 24 voices while the 1000 SX, 1000 GX and 1000 HX each have 20 voices. And, if you need more voices, you can combine all four 1000 Series modules to create an 84 voice, 8-output super-system. So go ahead. Stack voices to your heart's content. Build complex, multi-voiced sequences. Go for those big, two-fisted chord shapes. The 1000 Series modules give you miles of sonic territory to roam at will.

### **Freedom of Choice.**

The 1000 Series is truly democratic too. Three different operating modes let everyone—from novices to advanced programmers—benefit from the 1000 Series' bountiful capabilities. In Play Mode, you can use those great Kurzweil sound programs just as they are. Simply select a program and play. The Compiled Effects mode lets you apply a variety of popular effects to any of the preset sound programs. And the Modular Editing mode takes you deep inside the 1000 Series' voice architecture.

So stand up for your rights. You owe it to yourself to check out the 1000 Series. For more information, visit your nearby Kurzweil dealer. Or write to us at Kurzweil Music Systems, Inc., 411 Waverley Oaks Road, Waltham, MA 02154, (617) 893-5900. In Canada, write to Heinl Electronics Inc., 16 Mary Street, Aurora, Ontario L4G 3W8, (416) 727-1951.

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integrates hardware and software into a complete, portable, rack-mount computer package with an AT-style keyboard, monitor, and Roland interface; however, they also make a rack-mount conversion kit for existing IBM compatibles in case you've already met the computer of your dreams. A third contender, the MIDI-COMP 1000 from the Teknecom Group, is yet another high-performance IBM compatible with a 9-inch amber monitor and provisions for an optional hard disk.

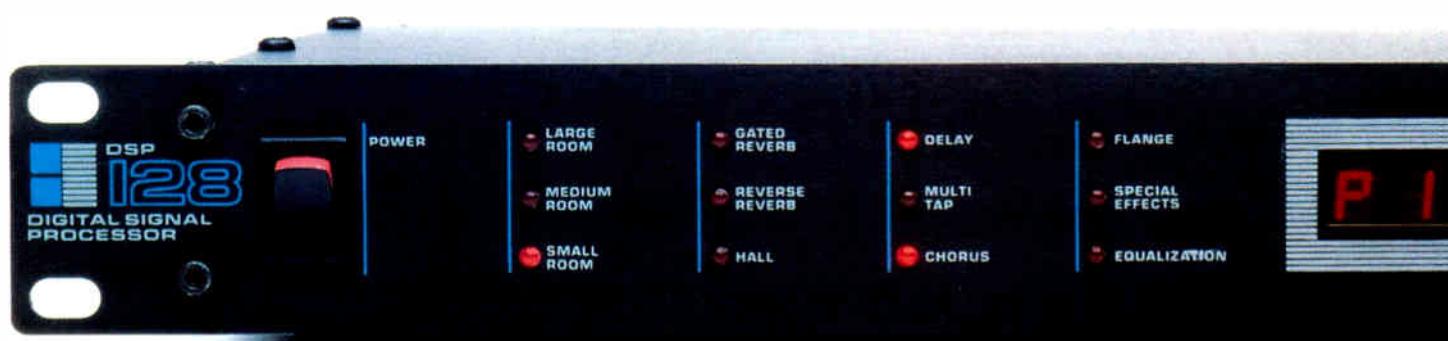
Keyboards are also getting more suited to live playing. Ten years ago, we were happy just to be able to recall several patches at the touch of a button. Nowadays, though, several patches are not enough, and many companies offer both internal and external memory/functional upgrades for popular keyboards. For example, the MSM 2000 from Forat Electronics is a small box that plugs into a synth's cartridge port and stores over 2,000 custom sounds for the DX7, RX11, or various Roland keyboards. The SynHance

Voice Vault TX512 is a similar unit designed expressly for the DX7. Internal upgrades are also handy when you want to increase a unit's functionality without adding extra outboard gear; Quad Monster (from the Monster Memory Company) makes a retrofit board for the DX7 that stores 512 sounds (plus function parameters for each sound) along with a number of other enhancements. And the people who started the whole retrofit craze in the first place, E!, have expanded their line to include retrofits for the DX7, DX7II, DX7S, and K3. These types of products, which typically list for under \$500, represent an excellent way to get what is essentially a whole new keyboard for a very reasonable price.

But what about samplers, with their humongous memory requirements? Luckily, the hard disk—a computer peripheral capable of storing 20, 40, 80, and sometimes even 360 Megabytes of data—offers lots of storage at ever-decreasing prices and with ever-increasing reliability. E-mu led the way a couple years ago with a hard disk retrofit for the Emulator II, and has

since gone on to put hard disks in "HD" versions of the Emax and Emax rack samplers (existing Emaxes can also be retrofitted for hard disk operation). Although a hard disk adds about \$1,200 to the cost of the Emax, once you've gotten used to loading sounds in just a few seconds, it's hard to think about going back to a floppy. E-mu's top-of-the-line Emulator III also includes an internal hard disk as standard equipment, and those who use the Oberheim DPX-1 sample player can now add the Oberheim HDX-20 hard disk—it's shock-mounted, rack-mounted, and loads sounds in five seconds. The only drawback with hard disks is that they make a fair amount of noise; hopefully future advances in hard disk technology will focus not just on increasing memory capacity, but in lowering their ambient noise levels.

Ensoniq has taken a different tack for their live performance-oriented sampler, the EPS. Although you can add an optional SCSI port to support a hard disk, you may not need to, since it is possible to continue playing the keyboard as you load in new sounds.



# 3 effects at the same

The new DigiTech DSP-128 does something no other digital signal processor can. It gives you up to three digital effects at the same time—for \$399. That means the creative possibilities are practically endless. Even though your bankroll isn't.

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The DSP-128 offers comprehensive MIDI control, plus the ability to download user programs to a MIDI recorder.

reverberation effects, chorusing, flanging, delays and EQ. And you can get up to three of those effects at the same time.

The DSP-128 has a 16-bit A-D-A conversion with a custom 20 bit VLSI engine that produces unbelievable dynamic range and computing power for smooth-sounding effects in stereo.

It comes with 128 factory presets. But that doesn't mean you have to live with them. Because it also lets you program your own presets, and put them where you want.

This requires a little bit of strategy—you have to load the sounds you're going to use before you actually need them, due to the access time of the on-board 3.5-inch drive—but being able to play and load is a welcome feature that means you don't have to force your singer or guitarist to tell bad jokes while your floppy spins around. The only catch is that you must have enough free memory to load the sound in question; if not, you'll need to delete some previously loaded sounds to make room for the sounds you're about to load. However, since it's rare to use all the available memory for just one or two sounds (and if that happens too much, you can upgrade the memory), this catch is not all that serious.

Both the EPS and SQ-80 (Ensoniq's enhanced version of the ESQ-1) provide another useful live performance feature pioneered by Yamaha's DX7-IIID: the ability to use the instrument's disk drive as a general purpose MIDI data recorder. This means that patch data and setups for just about any MIDI instrument can be saved on disk, and loaded into a MIDI setup just prior to

going on stage. This is certainly more convenient than loading a bunch of data from cassette, or transferring data from multiple storage programs loaded into an external computer.

Life is also getting easier for the electronic guitarist. In previous installments of "MI Update," we've touched on MIDI accessories that facilitate the routing of notes, splits, program change messages, and so on. But one of the neatest new products for this type of application is the MIDI Mitigator RFC-1, a MIDI footswitch controller from Lake Butler Sound Company. For under \$400, you get to store any MIDI command string of up to 255 bytes and trigger it via your choice of five individual footswitches. Thus, not only can you send program change commands and the usual MIDI messages, but you could even send system exclusive data—or for that matter, control your lighting via footswitch (with an appropriate MIDI lighting controller, of course). Data is organized as 128 songs (that should hold you over for at least one gig!), which can be chained together into three sets. Perhaps the

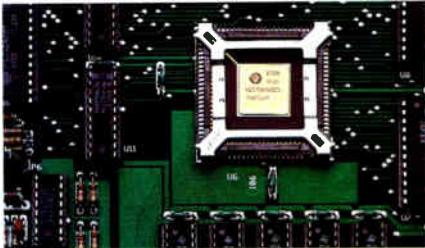
best feature, though, is a large, bright, 16-character alphanumeric display. Instead of having to remember bank numbers and such, you can actually name your songs in English. This may seem like a small point, but believe me, when the crowd is getting restless, you sure don't want to have to remember which song corresponds to some anonymous string of numbers. With devices like this, the Peavey RMC 4512, the Axxess Mapper, Akai's Programmable Note Separator and the like, guitarists can now avail themselves of many of the conveniences keyboard players have enjoyed for the past few years.

Playing live with electronic gear is not the nightmare it used to be, and from what I've seen on the drawing boards, matters will only improve. Just think—20 years from now, we'll probably look back in horror at the fact that we had to use those slow, limited memory hard disks instead of multi-gigabyte biological memories. ■

*Craig Anderton edits our sister publication Electronic Musician.*



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\*Based on *Music and Sound Retailer's* monthly survey of 1,200 audio dealers

phones in some of the studios. "They weigh me down too much, and put too much pressure on my ears," he says. "I like to use the smaller Walkman-type phones, but they just don't have the power that most cue systems put out. I wanted something to cut the power down. So I took apart one of the cue boxes from a friend's studio, analyzed the circuit and copied it into a miniature box. All it has is left and right volume controls, a stereo/mono switch and a mini jack for my small headphones. I made a cable with a mini jack on one end and a standard 3-conductor jack on the other. I plug that into the cue system and then I just clip my little box on my belt. It's really nothing but a copy of the standard box. It works OK, except on some of my synth patches the low frequencies don't always come through as well as I'd like. It also works well when I'm working with a string section and I want to hear a live sound as well as the mix."

Connie Ellisor, a contractor and leader of the A Strings (a recording string section in Nashville) says her members bring their own headphones to sessions. "I find that [having your own phones] eliminates one of the unknown factors," she notes. "You have so many things to deal with: the studios' cue system, the way the engineer works and differences in the kinds of tracks you're working with. It's like listening to the same monitoring system if you're an engineer. Most of us prefer Sennheisers. They seem to have

the best bass response.

"I prefer to have the engineer run the cue system in split mono mode with strings on one side and the track, particularly the rhythm and pitch instruments, on the other. Then we have the left earpiece off so we can hear the sound of our own instruments. Not all contractors agree about this, but I think it's important to have vocals in the mix, because a vocalist can shift the pitch center and I need to be aware of that. I like to monitor the strings, not only so I can hear my section, but because in most studios you don't have a sense of the room when you're recording, and you can get that through the cue system. And I like to hear the strings without any echo. We very much need to have our own individual control over the cue mix because different people in the section need to hear different things."

"I believe that the job of my section is to play as one instrument, as a keyboard would. So you can see that it's very important for each of us to have control over what we're hearing on the cue system. We tune from the cellos, who get their pitch from the bass, so we ask for more cellos and violas in our mix for that reason."

The lowly animal is stirring. ■

*Paul Potyen is associate editor of Mix, and co-leads the progressive Latin band, Canoneo, which is currently working on their third album. He also composes, arranges and produces music for commercial and industrial applications in his spare time, if any. He is not related to Paul Motian.*

## SOUND · ON · STAGE

—FROM PAGE 124, TOURING LIFE

quality from awful to hilarious (like the food). I believe this was a first among touring crews.

The Biloxi Shrimp Incident. After a series of disastrous meals in Biloxi, Mississippi, a local contact with a shrimp boat was hired to provide us with a fresh shrimp dinner. (What else would Jimmy Buffett's crew want?) The shrimp was delivered to the venue in time for dinner, as promised. A crew member who shall remain nameless (Ross Ritto) hooked his foot on a cable while carrying the shrimp, and fell. Not just fell, but had his feet fly out from under him. The shrimp flew

all over the amp racks, Ross' clothes had to be burned, and most of the audience was subjected to the smell of fish throughout the night.

## CONCLUSION

I wish that everyone involved in professional audio sales and/or marketing could spend a summer on the road. The insights and knowledge gained are invaluable. Daily finesse under ridiculous conditions is the norm, rather than the exception on a tour. Thanks to Ross Ritto and the Jimmy Buffett gang for allowing a salesman to look at touring. Also, thanks to QSC Audio for giving me the time to go out and remember why we are in the business. ■

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Jethro Tull's Ian Anderson,  
Dave Pegg and Martin Barre.

## DOWN ON THE FARM WITH JETHRO TULL

by Robin Tolleson

When rock legend Ian Anderson of Jethro Tull isn't tending to his lucrative salmon enterprise in Inverness, Scotland, he works in the studio he built in 1982 on his farm near High Wycombe (between London and Oxford). On the back of *Crest of a Knave*, one of Tull's best albums since the mid-1970s, Anderson describes his studio as, "... just round the corner from the kitchen in the room behind the door which used to be painted white but isn't anymore."

"We did *Under Wraps* [1984] there, and *Walk Into Light* [Anderson's solo LP] was done there as well," the singer explains. "It started off very much just as a home studio, with fairly simple equipment. The stuff that's in there is the budget end of profes-

sional equipment, but it's more or less the stuff that everybody else uses."

Anderson uses a 24-track Otari analog tape recorder. "I master on digital [at Farmyard Studios], but it's a compact sort of home set-up," he says. "The records that I make are not going to sound in any way worse because they're done there. If there's anything wrong with them it has to do with the performance, or my ability as the engineer or producer rather than the equipment. The equipment works pretty well—it never breaks down, in fact. I use a Soundcraft 2400 split console, rather than an in-line console which doesn't really suit my way of working, where I go from a sort of demo stage to multi-track stage. And I like my separate independent monitor section right through until the final mix. Plus I have the usual sort of outboard gear that you find in anybody's studio."

Jethro Tull was one of Britain's most popular exports in the 1970s with

*—CONTINUED ON PAGE 134*

the label's artists, Johnny Z., who just happens to be a doctor.

"He's being interviewed on CNN just as they roll a woman into the hospital D.O.A.," says the veteran of nearly two decades in the record business. "She was dead, and he brought her back to life, on-camera. When she comes to, wondering what all the excitement is about, she immediately asks for her make-up . . ."

That ultimate comeback story might well serve as a metaphor for the year-old, PolyGram-distributed label, which is reviving the careers of a host of artists, including Jennifer Warnes, Wendy Waldman, Jesse Colin Young, Kenny Rankin, Gary Wright and John Stewart.

The label was the brainchild of 32-year-old Bronx-born, California-educated Craig Sussman, who formerly toiled for CBS' West Coast Business Affairs Department.

"I didn't just one day

*—CONTINUED ON PAGE 136*

## CYPRESS RECORDS: RECOMMENDED FOR MATURE AUDIENCES

by Roy Trakin

One-time Warner Bros director of artist development Ted Cohen, now second in command to Cypress Records' founder and head Craig Sussman, is telling a story about one of

Cypress Records' Ted Cohen (left) and Craig Sussman.



PHOTO BY RANDY SHAW

## HOUSE MUSIC BEAT CRAZY IN CHICAGO

by Bruce C. Pilato

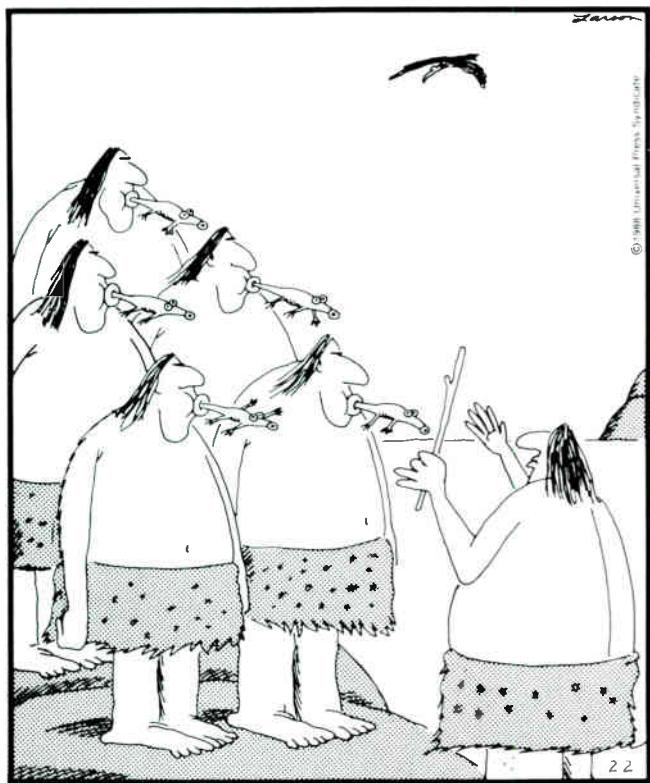
The scene inside Trax Recording Studios is one of barely controlled chaos. Located just a few blocks from Wrigley Field in Chicago, the popular recording facility is hosting a party for the city's annual Choice Picks showcase, where A&R execs from all over the U.S. fly in to the Windy City—at the expense of the Chicago Music Coalition and the Chamber of Commerce—to check out what's new, what's hot and what's available to be signed.

Inside both control rooms of Trax, pulsating rhythms blare from huge monitors. Some people are actually dancing, though most are simply moving in time with the music, entranced by the groove. And it's that groove that is paramount, for this is "house music," a bold genre which has in just a few years leaped from the DJ booths of a handful of Chicago clubs to dance floors in major urban centers all over the world, including New York, L.A., San Francisco, Tokyo, Berlin and London. House music has put Chicago back on the music industry map and at the same time contributed greatly to the city's ever-growing studio scene.

—CONTINUED ON PAGE 141

## THE FAR SIDE

By GARY LARSON



Early kazoo bands



House music artist Jesse Saunders

PHOTO BY RAYMOND BROWN

## THE TIMES ARE RIPE FOR BUNETTA & CHUDACOFF

by Rip Rense

You might say that Rick Chudacoff and Peter Bunetta are Smokey-in'. You might say that they've succumbed to the Temptations. You might say that the time is ripening for their Ripe Productions. You might not.

But you might think that, to look at the recent work of Ripe (that's "Ri" for Rick and "Pe" for Peter), Bunetta and Chudacoff are following in the rather deep footsteps of Holland-Dozier-Holland. Although they only dabble in songwriting, they have of late produced Smokey Robinson's biggest album in six years, *One Heartbeat*, which contained two bona fide hits; are currently working on their second Temptations LP—this one featuring the just-returned Dennis Edwards—and will soon work on albums for Syreeta Wright and the legendary Darlene Love.

Oh yeah, and they just did some work with Donna Summer.

Twenty or so years ago, a client list like that would have put Bunetta and Chudacoff among the most potent production teams in the business. (Maybe it still does.)

"Well," says Chudacoff in even, understated tones, "we're working for Motown a lot, and have a very nice home there."

It was anything but design. The beginning, in fact, was a fine mess. Make that *A Fine Mess*—Blake Edwards' (flopped) film. Ripe's manager (Peter's brother), Al Bunetta, roped the boys in to produce the title cut. The singers happened to be none other than the good ol' Temps.

"We had never met them before, never worked with anybody from Motown," says Chudacoff from Conway Studios in Hollywood, where they do much of their work. "We just hit it off immediately; fell in love with each other. They were close to starting a new record, and wanted to try us a little. Four tracks turned into eight, and then the whole whole record, *To Be Con-*

—CONTINUED ON PAGE 143

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## MUSIC · NOTES

—FROM PAGE 132, TULL

such albums as *Aqualung*, *Thick as a Brick*, and *Minstrel in the Gallery*; but the group had faded from view in the '80s until *Crest of a Knave*. "Robin Black engineered most of those early albums," says Tull guitarist Martin Barre. "We used to mix them, and we were learning the trade of being an engineer and actually producing your own album, and also it wasn't very sophisticated stuff in those days. Other than a couple backward echos and phasing and flanging, there wasn't a lot of stuff around to use anyway. So we weren't really involved in production, other than most of the production in the ideas of the music. But nowadays we do everything ourselves. We record Tull albums at Ian's 24-track studio. I love studios, whereas I used to hate them. [Bassist] Dave Pegg got a 16-track and I've got an 8-track, so we're all pseudo-engineers and enjoy the production as much as the music writing and playing."

Anderson was using monophonic sequencers as early as 1982 on the *Broadsword and the Beast* album. He uses a Roland MC-500 on *Crest of a Knave*, particularly on "Steel Monkey" and "Raising Steel." "Either you can use sequencers as a composing tool, or simply to put something textural here, there, or wherever on a piece of music," Anderson says. "I'm not particularly interested in that sort of stuff, other than when it seems to work in the context of a particular piece of music. 'Steel Monkey' and 'Raising Steel' felt like they could use that kind of bubbly, sort of 16th notes running all over, which kept the pace of the thing up in what would otherwise be medium tempo songs. But I don't place things like that high as priorities."

Anderson was even able to find a place for the sequencer in his ten-minute opus, "Budapest," which goes through so many musical changes a sequencer would seem to be rendered useless: "Actually there is a little piece of sequenced piano that bubbles along in the gaps between some of the verses, a double-tracked sequenced piano which is bubbling along one behind another, sort of a quarter of a bar out of sync with the other. That little piece is dropped in on the sequencer as well. Again, that's some-

thing that a piano player could play, but in fact, having created that effect, it's so metric, so precise, that when we do that onstage it is still dropped in off a sequencer in those passages by the keyboard player."

Just so you don't get the wrong idea, one reason for the success of *Crest of a Knave* is that Jethro Tull isn't using as much keyboard technology as they had on their last album. The group wanted to get back to rocking, and Anderson wanted to open up more room for his expressive guitarist Martin Barre. "Martin and I talked about that at the end of 1984, that the next record should offer more space for the guitar and get away from the domination of keyboards. The modern battery of off-the-shelf keyboards now sound incredibly boring because we've heard them all during the last four or five years. The keyboard revolution has basically run out of steam, and more people seem to be interested in guitar playing these days, since it is, I think, more directly expressive in human terms."

"I just think most keyboard players these days do tend to sound alike in terms of what they play. It's almost as if the sound gets in the way of the performance a lot of the time."

For *Crest of a Knave*, Anderson admits to getting "selfish" about composing and arranging the material, much as he took charge of *Aqualung*. "Basically most of the stuff was recorded leaving all the spaces for the guitar solos to be added at the end of the recording procedure," says Anderson.

Tull plans to tour through the spring of '88, then be back in Anderson's studio in September to begin work on the next record. And Anderson promises that the band will be staying with a "live" sound as on *Crest of a Knave*, with a lot of guitar and live drums. "It depends very much on the feel of the song, I think. But I wouldn't anticipate that you'll hear very much in the way of drum machines or gadgets on the next Jethro Tull record," he says. "It certainly won't be more and it'll likely be less than you hear on this album. More live playing."

Despite credentials that have to make him one of the most versatile of rock's leaders, and a talent behind the board as well as in front of it, Anderson claims to have no special gift. "I'm not multi-talented," he says. "I'm just too mean to pay for an engineer." ■

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## MUSIC · NOTES

—FROM PAGE 132, CYPRESS RECORDS

decide to start a record company," he explains over lunch in a fashionable Hollywood eatery. "This was the result of a great deal of research and planning. I saw indicators that there was an older group of people buying records again, especially compact discs, which have a much higher profit margin than albums. I also saw that there were plenty of artists I was interested in who were not under contract to a label, who were available."

Taking note of the graying of the

baby-boomers raised on rock and roll, Sussman began raising money from private investors to launch a label for what he began to call "adult rock and roll." Seeing the success of companies like Windham Hill spurred him on.

"I felt we could break into that marketplace with these artists and take them to the next level," he says. "We wanted to go a step beyond new age music and jazz."

The first artist he approached was Jennifer Warnes, a Grammy winner only a few years before with Joe Cocker for their duet on "Up Where We Belong." Warnes was without a

label since buying her contract back from Arista. Sussman met with the singer-songwriter and explained the concept behind Cypress, that they were trying to reach an older demographic with new, challenging music.

"I asked her what album she wanted to do that no one else would let her make," recalls Sussman. "She came up with two suggestions off the top of her head. The first was an opera, an idea she'd been formulating with Van Dyke Parks. The second was an album of Leonard Cohen songs. I asked her why, and she told me they had toured together and that he was a genuine poet whose work was known everywhere in the world except here. She thought she could bring his music to life for a larger audience. Now, from my days at CBS, I knew Leonard Cohen had experienced a great deal of sales success in Europe. And that seemed to click. It sounded like a challenge."

The result was *Famous Blue Raincoat*, the LP which launched Cypress Records when it was released in October '86. With guests like Stevie Ray Vaughan, David Lindley and Van Dyke Parks, the album earned critical kudos and sold more than 350,000 copies in North America. The sophisticated, hard-edged pop more than lived up to the expectations of Cypress Records' founder.

"We think most of our artists have a sales base of around 50,000 units," Sussman says. "Anything above that, we feel real positive about. We have a smaller overhead than a major. We don't need to sell hundreds of thousands of records. What we want to do is renew these careers and rebuild them. Sometimes that means going from one level today to another tomorrow, as the marketplace catches up to you."

Although Cypress garnered a distribution deal through PolyGram, Sussman insists the label must maintain the aggressiveness and ingenuity of an indie.

"We're David in the land of Goliaths," he says. "As a small company, we have to come up with new and original ideas."

One of those creative schemes involved a four-song promotional compact disc sampler for Wendy Waldman's *Letters Home* album, which was mailed to more than 2,000 retail, radio and media contacts. The CD inter-

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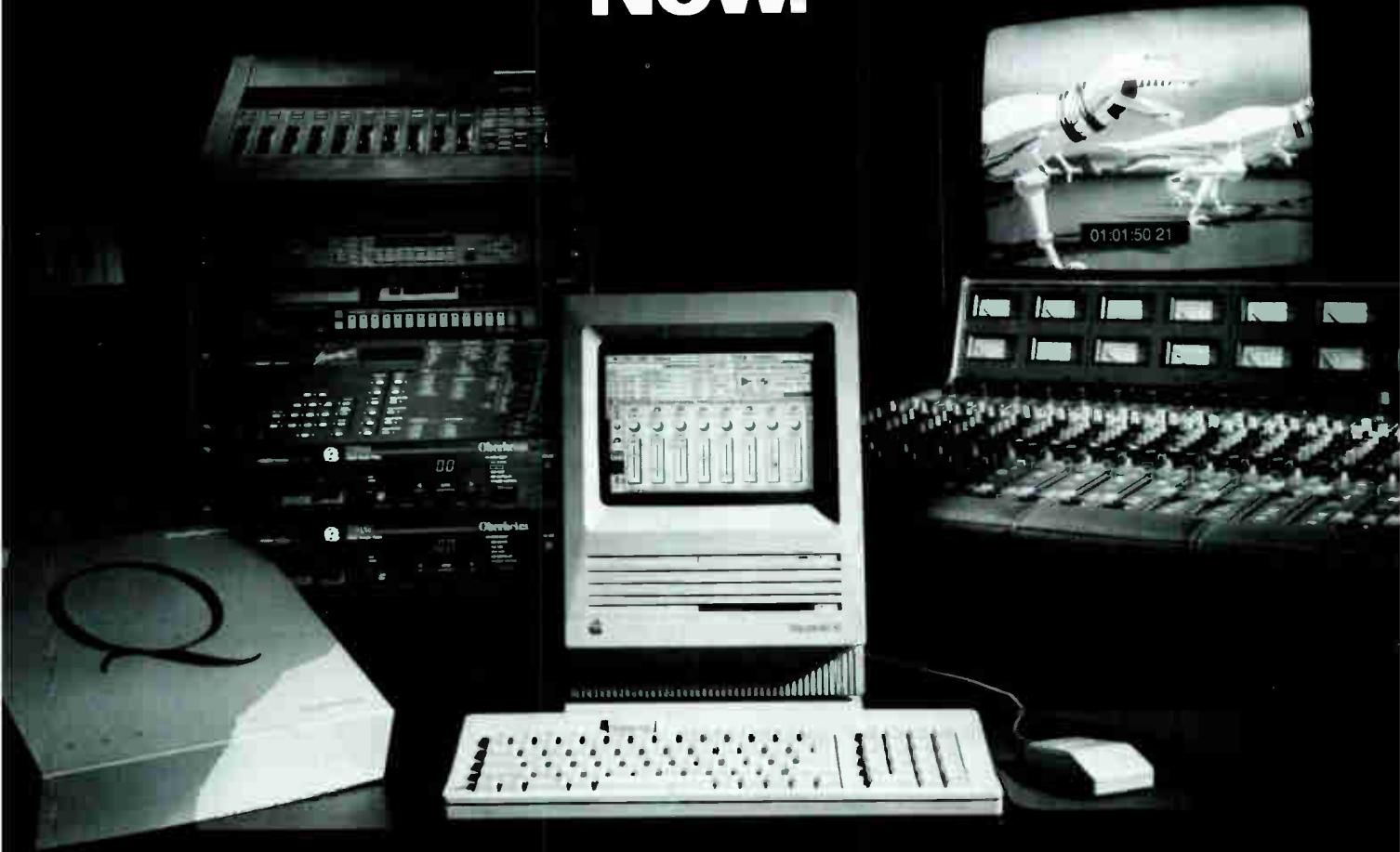
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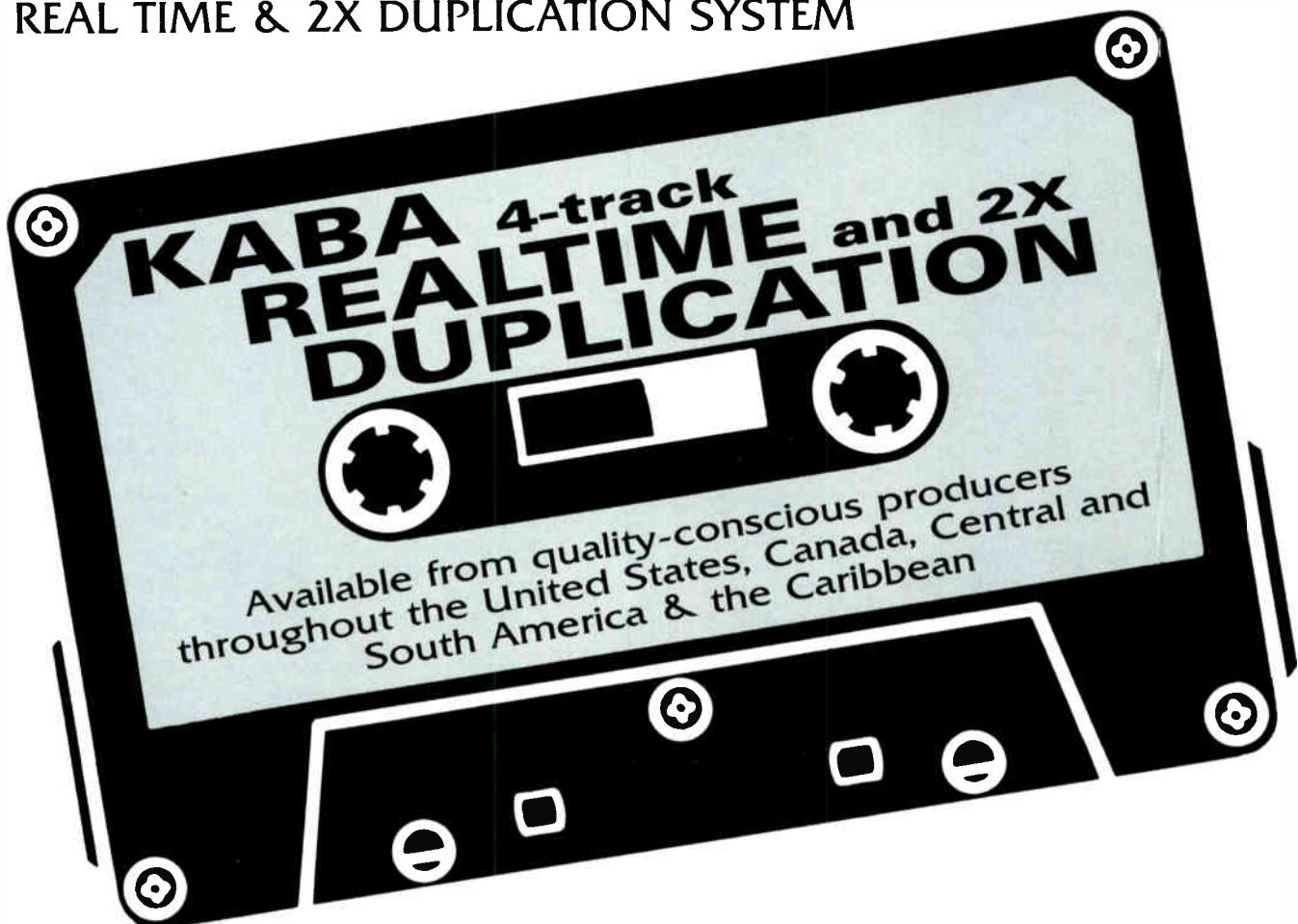
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## MUSIC · NOTES

spersed LP tracks with interview material.

"We're constantly looking at alternative marketing routes," chimes in Cohen, who learned his trade at Warner Bros. under the aegis of the late Bob Regehr. "How to get an artist established and noticed without airplay. When we decided to do the Wendy Waldman CD, we had a choice to make. For the \$5,000 we had to spend, we could've taken out a full-page trade announcement or put that money into 2,000 CDs. We figured the ad would be in someone's bathroom magazine rack a week later, while this CD would be in their face a lot longer than that. Those ads are nothing more than ego gratification anyway."

Cypress Records' six-member full-time staff includes both in-house retail and radio promotion personnel, as well as an outside publicist, art director and London-based head of European Operations on permanent retainer. Sussman and Cohen keep in constant touch with the PolyGram distri-

bution branches around the country.

"Craig and I make the marketing decisions at our weekly staff meetings, where we kick around ideas and schemes, no matter how hare-brained," says Cohen. "PolyGram's sales organization has been phenomenal in terms of implementing our direction. We just sent a letter out to them a week ago, redefining where we're at. If you have an idea at three in the morning and go, 'Nah, they'll never go for this,' that's what we want to hear."

Cohen points to Cypress' agreement to distribute Tim Weisberg's *High Risk* album as an example of what the label can do in terms of revitalizing an artist's career.

"When we first got that record, the climate was not right," he explains. "Jazz radio was a mess. There was a glut of superstar product out. Basically, we just asked Tim to be patient. Then, we saw what was happening with [new age radio outlet] the WAVE here in town, as well as some of the Sebastian stations. In the past six weeks, we've gone after the record and picked up 25 stations that didn't even exist six months ago."

Cypress continues to expand its roster with what Sussman dubs "intelligent rock music from artists that really transcend." To that end, the label has inked one-time Kingston Trio member John Stewart's *The Ship* as a haven for developing young singer-songwriters along the lines of Suzanne Vega, according to Sussman. Cypress also picked up the independently released LP by Seattle guitarist Michael Tomlinson for distribution after it sold close to 50,000 copies. With six releases in 1987 and more on the way this year, the label is starting to establish itself at retail.

Away from the protective womb of their previous major label associations, both Sussman and Cohen are enjoying life in the indie lane.

"Everything is on the line," says Sussman about the difference. "There, it's a job, here it's your life, your future. You go home with it, you live with it, the good and the bad. When things go well, it's great. Sometimes, it can be just a small success story: getting the right interview or the right radio station add. You know how hard everyone worked to make that hap-

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pen. It's a challenge."

"We both came from very big organizations," agrees Cohen, "and when you leave, there's a certain insecurity when you call people you've worked with in the past and you're not Craig from CBS or Ted from Warner. How will you be perceived? Will you be accepted? What we've found is people root for you."

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"You never know what we're gonna do," laughs Sussman. "Just when you think you've got us figured out, we'll surprise you." ■

—FROM PAGE 133, HOUSE MUSIC

"House music first came out a long time ago, actually," says Jessie Saunders, producer, arranger and artist. Saunders, whose album, *Jessie's Gang*, was released last year by Warner Bros., was among the first to have house music hits. "It really came out when the old disco died, around '77, although it didn't really get noticed outside of Chicago until a few years ago. It got its name from a club in Chicago called The Warehouse."

House music is truly a creature of the modern age. Forget guitars, pianos and horns. The basis for all house music is a drum machine and a synthesizer. Throw in a flashy DJ and a mixer and you have it.

The music is fast: usually 117 to 124 beats per minute. The beat is the single determining factor whether or not a song is considered house. If the bpm's are not within certain boundaries it is difficult for DJs to segue the song with others, and hence, it will probably not receive much airplay from club and radio jocks.

The beat in house music is from disco, but it also incorporates traces of punk, techno-pop and rap, as well as scratching and dub mixing. Despite this ragamuffin configuration, there is something about house that gives it a sound all its own.

House music seems to have begun at The Warehouse when a DJ named Frankie Knuckles began using a Roland drum machine to segue from one disco song to another. During the drum machine segments, he would

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## MUSIC · NOTES

do rap-overs. Eventually other DJs—among them a young Jessie Saunders—started introducing simple synthesizer riffs over the drum machines.

"I was a club DJ at The Playground in '83 and I decided I had been a DJ long enough, which at that point had been six or seven years," says Saunders. "I wanted to move on. I got a Roland 808 drum machine and I started making a lot of rhythm tracks and playing them at the club."

These techno-musical exercises eventually grew into rhythm-based songs, and within a few months of its emergence, hundreds of DJs, musicians and non-musicians were making their own house records in a dozen or so different Chicago studios.

"We were doing house music in '83 when our studio was still in a house, but that's not why it was called house music," laughs Reid Hyams, who, with Al Ursini, owns Trax. "We were, and still are an alternative to going to a downtown studio for the people making house. We were in a residential area and it was comfortable."

In December of 1985, just as the house scene really began to heat up, Ursini and Hyams moved Trax to its current location, an old movie theater. Trax has made itself financially affordable to many indie labels while giving them a quality facility to record at. Both control rooms feature Studer and Otari 24-track recorders. Studio A is equipped with a Harrison Master Mix automated board, while Studio B contains a Soundcraft.

The studio's impressive racks of outboard gear offer an interesting assortment of sounds; however, with house music certain processing has become taboo.

"You want a dry kick drum and a dry snare for house," says Saunders. "Digital reverb is, well, that's a no-no."

Outside of Trax, where so much house music is cut, other Chicago studios catering to this style include Twin Tone, Paragon, Sea Grape, Tone Zone (all 24-track), and Sunset and Soto Studios (both 16-track).

The average house record can usually be cut in about ten hours, Saunders says, "if those involved don't procrastinate." And although a few

major labels have rushed in to see what house is all about, only about a dozen acts have been signed nationally. Most house records are still done on small indie labels and have budgets of \$1,500 to \$3,000 per song. They often appear on compilation albums.

Profit margins on house records can be enormous, in part because much of the song is usually pre-programmed on drum machines and synthesizers prior to entering the studio. And with the new generation of affordable samplers, sequencers and drum machines, more and more house music is being done this way.

It is not unusual for a house record to start with basic tracks recorded at home on a 4-track TEAC or Fostex machine, then bumped to 24-track in a professional studio and built from there. At the same time, acts signed to major labels such as Saunders, J.M. Silk and Bang Orchestra put studios like Trax to their full technological potential.

"The acts signed to major labels use whatever is available," Hyams says. "They don't use the cheapest reverb just for the sake of getting a cheap

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sound. If they have the most sophisticated reverb there, I think they will use it.

"It's changed a lot. I remember seeing a lot of house music done on Casio keyboards and Roland 707 drum machines, along with really cheap sequencers. Now, it's not unusual to see the same people using a Fairlight or a Synclavier. They've become very sophisticated."

And so has house music in general. Its influence can be heard in such diverse records as the last Prince song

("Housequake"), Whitney Houston's hit "I Wanna Dance With Somebody" and ABC's *Alphabet City* LP.

"It's like with rock music—it went from Chuck Berry to The Beatles to Frank Zappa," Hyams says. "The people who were doing house music before in their houses suddenly realized they needed more than their home studios could offer and so, they came to studios like ours. House music is constantly evolving."

And, as amazingly, still growing after ten years. ■

PHOTO: D. J. M. BUNNETTA



Ripe Productions' Peter Bunetta and Rick Chudacoff.

—FROM PAGE 133, RIPE PRODUCTIONS

tinued, from last year. A beautiful record."

Indeed, the album was imbued with a silkiness of texture and fullness of personality long missing from Temps records—albeit lacking in heavyweight songwriting. This sound quality was not lost on the ears of Mr. Robinson. Motown A&R head Russ Regan played the record for Smokey, and "he said, 'God, who did this?'" as Chudacoff remembers. An agreement to do a few cuts on Smokey's next LP turned into an agreement to do five, then seven, then, as with the Temps, the whole album.

Why?

"What these guys do," says Robinson, "is tailor what's happening during the production to the personality they're working with. And it's not just what ends up on the record, either. It's what's happening in the studio."

Part of what was happening in the studio was unabashed frankness. Chudacoff and Bunetta are not in the habit of pulling punches. They both had

ideas about Smokey—specifically, why his upper register voice had been missing from the upper registers of the charts for six years.

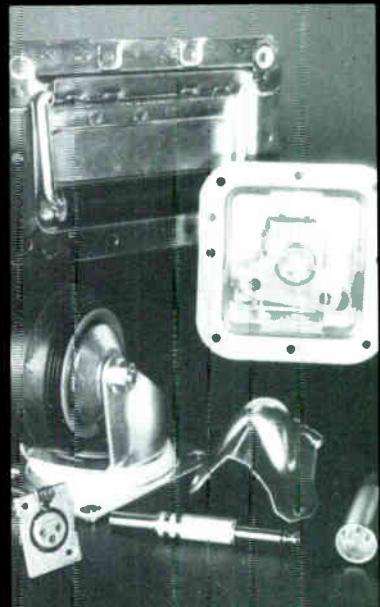
"Basically," Chudacoff (known commonly by the high school moniker "Cheese") says "he went through a period of writing good songs, but was still producing himself. He realizes now that at that time he needed somebody to sort out some of that material and arrange it. He wasn't updating himself *at all*. In order to stay with the times."

Which was not to suggest that they thought Smokey should go out there with purple hair, half-shaved pate, and an army of synthesizers. Hardly. After all, "One Heartbeat" and "Just to See Her," and "What's Too Much,"—the singles from the LP—didn't exactly sound like the Eurythmics. In point of fact, they sounded more like Smokey. The old Smokey.

"Well," says Chudacoff, "Smokey had made records, but the arrangements and songs just weren't in a form that people could get into. All his lyr-

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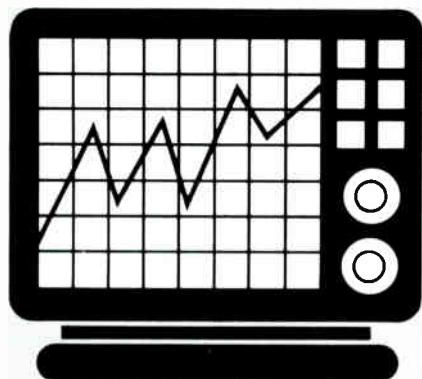
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## MUSIC · NOTES

ics were great, and musically he always has great ideas, but then the next step in the song is to make the arrangement right for 'em. So we knew how to do that."

Chudacoff and Bunetta also hope to accomplish for The Temptations what they seem to have helped Smokey to do—overcome a public perception of a career that is viewed incorrectly as being forever stuck in the '60s. Hell, if the Grateful Dead can do it....

"It'd be *great* if the Temps could make a comeback," says Chudacoff. "It's very hard, though. People still think of them as 'oh, wow, what a great oldies group.' They think they're gone, but they're still there! Three of them have been there since the beginning, and Dennis Edwards was the next lead singer after David Ruffin, and he was with 'em for 15 years. You know, he sang lead on 'Papa Was a Rolling Stone' and 'Can't Get Next To You,' and so on."

Whatever approach they use on the next Temps LP, Bunetta and Chudacoff

insist that it cannot be pigeonholed. There is no trademark Ripe sound, or approach, they emphasize. After all, they have not been lifelong producers. They met, Chudacoff says, "last week when I was reaching into my back pocket, and felt Peter's hand." Just a *joke*, folks. It was actually in Woodstock in 1973, where Chudacoff was playing bass in a band called Crackin'. Enter drummer Bunetta, and the band... didn't exactly take off.

"We knew we wanted to do more than just be players in a band that wasn't happening," Bunetta says. "We eventually moved to San Francisco, and just weren't getting anywhere. Finally we came to L.A., became studio musicians, then realized we could produce, too—and just got our shot. Did a couple of things, then along came Robbie Dupree."

So if there is no identifiable Ripe approach, then what is there?

"A certain polished feel," says Chudacoff, "but not an overly slick approach so that it's too homogenized. I don't know... we really like making state-of-the-art sound quality, well-played records."

Their interpretation of "state-of-the-art:" Mitsubishi 32-track X-850 digital recorders, 24-track Studer analog recorder, Neve 8108 console, and, oh yeah, an Akai 12-track. It is the 12-track, perhaps, that offers a key, if there is one, to Ripe's approach. Because Chudacoff and Bunetta are musicians and songwriters (they usually play and write a little on the albums they produce), they like to spend time getting to know their subjects.

"A lot of what we do in pre-production will end up being on the record," Chudacoff explains. "That's basically the only production *technique* we like to use. That way, we get to know the artist. We spent *months* with Syreeta Wright going over tunes, trying out stuff in pre-production on the 12-track—you know, tunes that we will *never* use on the record. But we got to know her; what works for her and what doesn't." The LP, which Ripe and Motown hope will be a long-overdue breakthrough for Wright, will be finished in early 1988.

Their interpretation of "state-of-the-art" also, interestingly, is not restricted to equipment. Although they both

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appreciate recording advances, Chudacoff and Bunetta are not audiophiles. They are not devout about things digital.

"Well, we did a lot of Smokey and the Temps digital, and some of Syreeta's will be analog. We're still feeling that out. We like the digital; it's come a long way in the last two years. A lot of it is still feeling out the situation, because it becomes little bits of differences in increments. If you're recording analog Dolby, it's very quiet. If you're recording 32-track digital, that's maybe a little more quiet. But it's margins of *quietness*," says Chudacoff.

Adds Bunetta, "Look, we did Amanda McBroom [*Dreaming* on Gecko/Monster in 1986] on a shoestring budget on a 24-track non-Dolby, and it sounds great. Maybe it has a little bit of hiss on it, but it won the award for best sounding at the Audiophile Convention in Chicago, and won her a major distribution deal. You learn what tools you have, and whatever the tools happen to be, it all comes down to *playing it right* and *recording it right*. I just bought Elvis's and Fats Domino's CDs—the sound is amazing!"

The two men try to grant equal time to the "feel" of the song, as well as the recording methods. Nothing, they say, will ever "take the place of heart."

"What we do is complement each other," says Chudacoff. "He's the side of me that's laid-back, and I'm the side of him that's more aggressive. He's more New York outgoing, and I'm more Midwestern quiet. He's from New Jersey and I'm from Omaha. But we both want to work with an artist, feel them out, find things in their personalities and know how to set a tone so we can get a good foundation. And we *never* read people wrong."

"We're different kinds of people," adds Bunetta, "but we look at the same picture, and we just might want to rearrange one little part of it."

Although gleefully wrapped up in present and upcoming projects, the pair also have eyes open for "a great R&B band—that's our roots," possibly "one of the new English bands with a strong R&B background." And beyond that...

"We're gonna raise a crop of dental floss in Montana," says Chudacoff.

Frank Zappa would approve. ■

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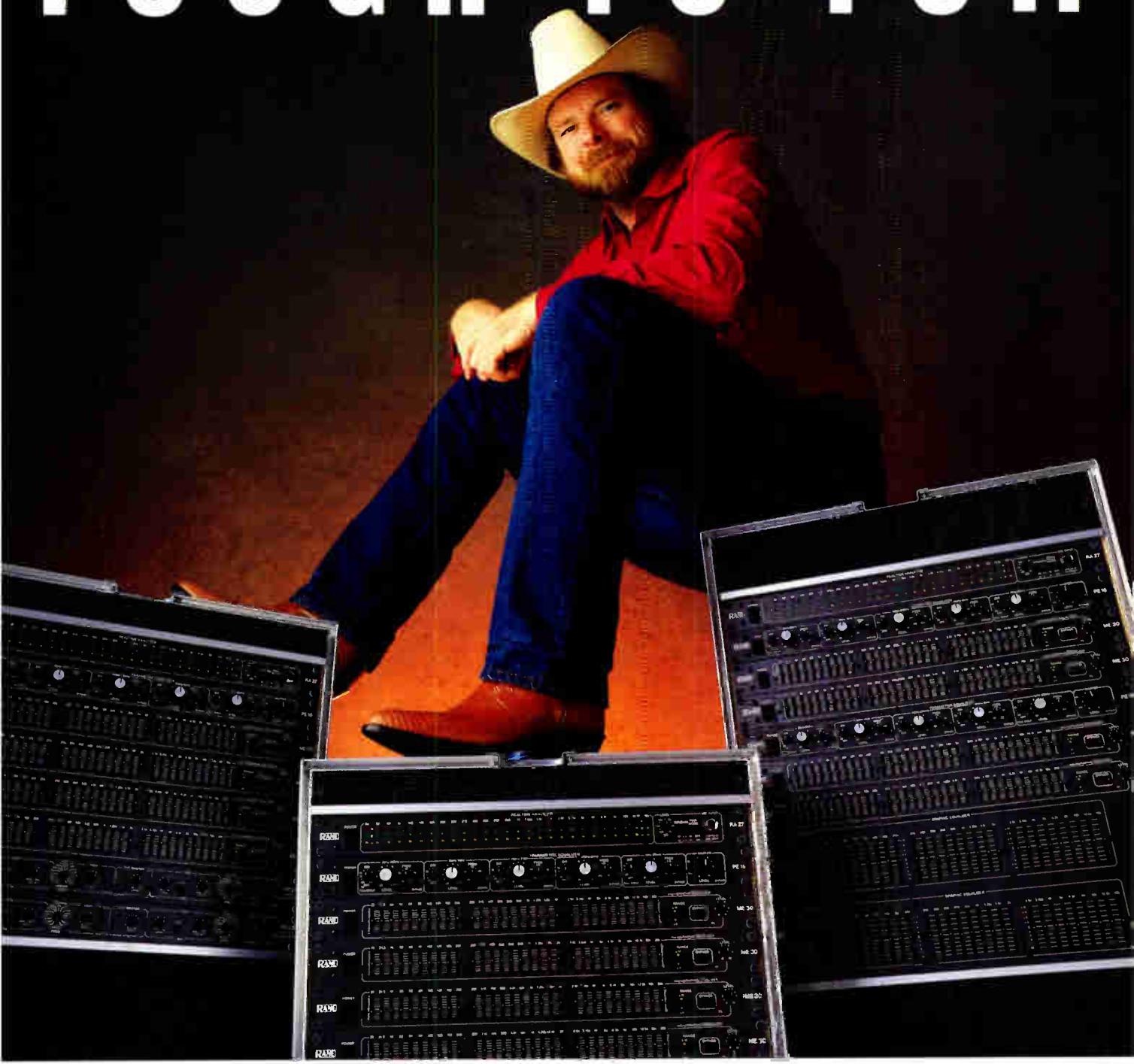
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World Radio History

by Robin Tolleson

# BRANFORD MARSALIS RENAISSANCE PLAN

**T**here are two Marsalis stories to be told regarding *Renaissance*, and if you're thinking Branford and Wynton, you're only half right. Besides Branford, witty, irreverent, soulful, 27 and coming into his own as an instrumentalist, the record is the second of Branford's to be produced by younger brother Delfeayo Marsalis, whose ears are quickly establishing him as an up-and-coming jazz record.

Perfectionism is a Marsalis trait, according to the saxman's manager/publicist Ann-Marie Wilkins. "Should be a world trait, but it's not," says Branford. "It's ridiculous," says Delfeayo. "When one of us brings in a tape for the family, anybody else would be going 'I can't believe this. It's the greatest thing I've ever heard.' But my family says, 'Oh yeah, it's all right. It's cool.'" Branford claims he's actually the least like that in his family. "I believe in things being of-the-moment," he says. "After two or three takes of something in the studio, if there's a glitch in the solo or a glitch in the melody, I'll leave it.

"You can hear that on *Renaissance*. On the melody of 'Just One of Those Things,' I play a major wrong note. Instead of playing a G concert I play an A concert at the bridge on the out chorus. It wasn't worth doing another take for that one missed note, and it was too hard to find an edit point, so leave it. Delfeayo's the one who's always, 'One more take, man. One more take for me.' He has a lot of nerve talking about perfection."

The way Branford and Delfeayo fight, they even sound like brothers. But the combination worked on *Royal Garden Blues* and again on *Renaissance*.

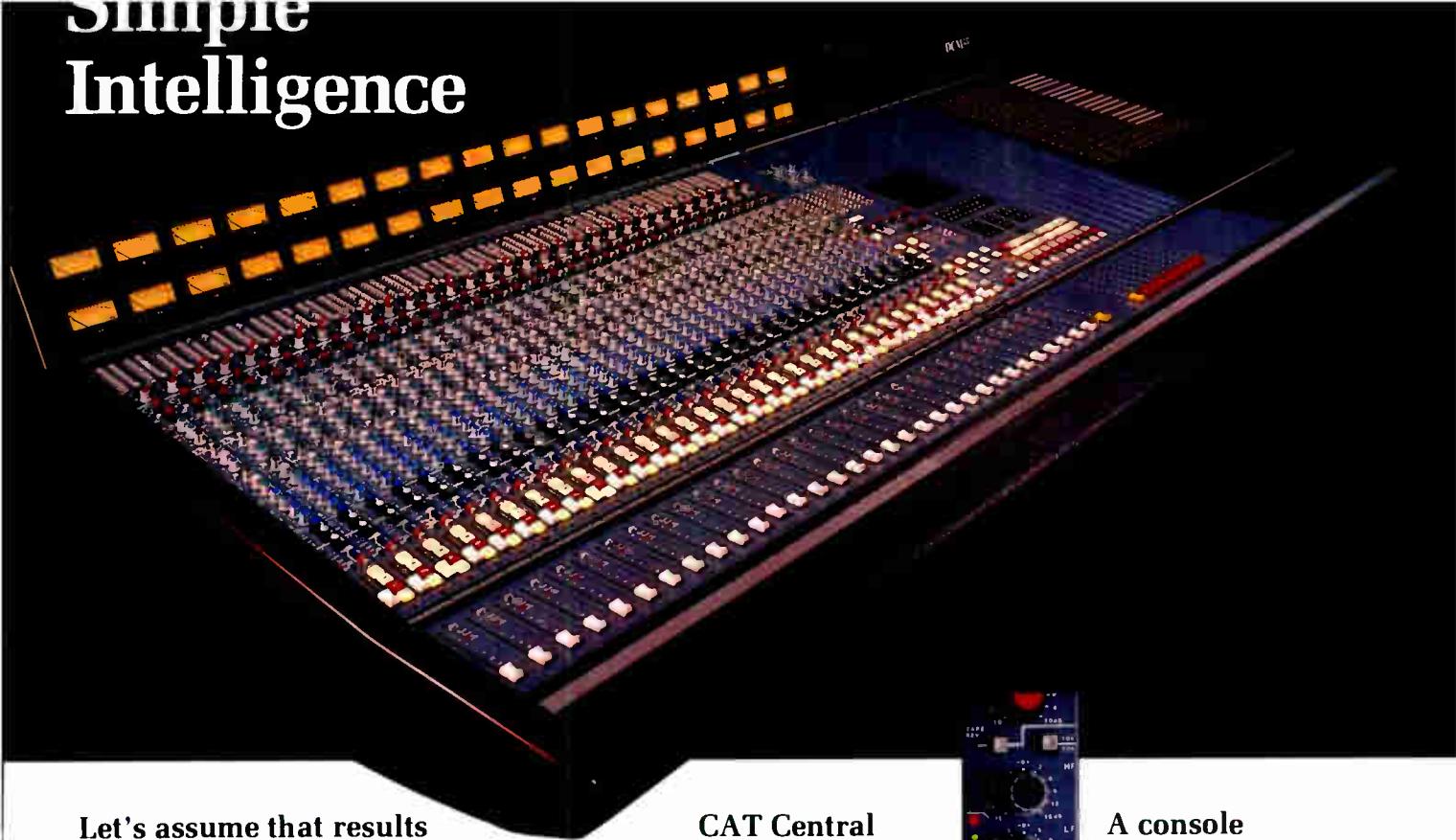
If first takes are good, they stick with them. If not, the second take usually does it, Branford relates. "And if it doesn't work after three takes, we edit takes. We listen back to the takes and find the solos that are good. One good Kenny Kirkland solo, one good Branford solo, one good drum solo, whatever, and then we edit the songs together." Branford doesn't mind cutting tape at all. "It's still a live performance, just not necessarily in that order," he says.

*Renaissance* features jazz great Tony Williams on drums, and Bob Hurst on bass, borrowed from brother Wynton's

**Branford  
(seated) and  
Delfeayo Mar-  
salis in the  
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## PLAYBACK

band. On one Keith Jarrett/ECM-inspired cut, "The Peacocks," Branford brings in Herbie Hancock on acoustic piano and bassist Buster Williams. "Branford has the greatest sense of what musicians work the best for a particular tune," says Delfeayo. "He told me he wanted to use Bob and Tony and Kenny on the record, and I said, 'Man, I don't know. Are you sure about this?' and he said, 'Shut up.' That's generally what he says, 'Shut up, man. Let me do that.' And sure enough, they were the perfect musicians to use."

On "Lament," Branford shows off his newfound love for Ben Webster's sax playing with some of the lowest, richest tones he's ever played. He has brother Delfeayo to thank for that. "When he went on the road with Sting, I had just found out about Ben Webster," says Delf. "I bought all the Ben Webster records I could find and made him tapes." Branford remembers it too. "He says, 'Man, I've been listening to Ben Webster.' I said, 'Really? That's nice.' He says 'No, man, you check this out.' I was going to Australia with Sting and he gave me three tapes. Those

were the tapes I played the entire five weeks we were there. When we weren't playing 'Set Them Free,' I was listening to Ben Webster."

Playing with Sting has made Branford better at the quick-in-and-out solo, the George Harrison four- or eight-bar gem. "One of my favorite David Sanborn solos is a nine-bar solo in 'You Belong To Me,' by Carly Simon. I remember when it came out, I said, 'Damn, that's nine bars.' And it kept my interest for those nine bars, and then he got out. That solo's something else. When you do a gig like that you can't take the time to develop a solo. It's like *Masterpiece Theater* versus *All In The Family*. *Masterpiece Theater* you can have a story. *All In The Family* you've got to get to the point, and break for a commercial."

The first time a lot of people heard Branford Marsalis was in 1982 on younger brother Wynton's debut LP. Branford's definitely established his own niche in the music world since practically stealing the show in Sting's film *Bring On The Night*, contributing to the Ellington band's *Digital Duke*, Bobby Hutcherson's *Good Bait*, Kevin Eubanks' *Opening Nights*, and Sting's

new *Nothing Like The Sun*, while carving out three impressive albums as leader.

Delfeayo Marsalis is also making his presence felt in the music world. Besides Branford's last two albums, Delfeayo has been behind the board for efforts by British sax sensation Courtney Pine, Harry Connick Jr., and the Donald Harrison-Terrence Blanchard Group. "The main reason Branford hired me was to get the proper sounds, to deal with the sound. Sometimes if he has questions about certain things he might ask me, and I'll give him my opinion. He probably won't listen to me, but I still give him my opinion."

"For any jazz musician, or any musician, the last thing you need to worry about is whether or not the sound's going to be correct. So Branford wants to get it to the point where I can go in and do what I want with the sound. Most people just try to get a good sound, but you might notice on Branford's records that all the tunes sound different. Each of the songs has its own mix, which is similar to a lot of pop records. If he's playing a Wayne Shorter tune and wants it to sound like the original Blue Note record, I know there are certain characteristics of that sound that he'd like me to recapture. Or if he's doing a tune that sounds like Ornette Coleman, then I'll make it sound kind of like the Atlantic records with Ornette."

"Branford would go crazy if we had to do every record in the same studio, using the same setup, getting the same sound. Even if it was the greatest sound in the world, he just wouldn't stand for it," says the 22-year-old Delfeayo. "Most musicians struggle to get one concept for one album, and you listen to a lot of jazz records and it sounds like they went in and just recorded for two days. But with Branford, because of the way that his mind functions, he has to have different sounding tunes on his records. Because he *plays* differently on all the tunes, I can get a different sound on tape, and then in the mixdown I know certain techniques to change the sound as well. But a lot of it has to do with the way the musicians are actually playing."

Delfeayo has done his homework. "When Delfeayo started talking about going to school for audio engineering, I'd be calling him all the time, asking about records—'Why do these records sound good and these records sound

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## PLAYBACK

bad?" Branford recalls. "He'd say, 'Let me find out.' I asked him about *Kind of Blue*, and he went to the CBS archives, found pictures of the Miles Davis session to find out where everybody was placed acoustically. Then he came to his conclusions as to why they sound the way they do. We've used some of those techniques. It ain't about me hiring my brother because he's my brother. I don't play that shit. I believe in the best man getting the job."

Delfeayo began getting a reputation as an engineer in high school, recording all the concerts that took place at the New Orleans Center for Creative Arts. "I started out because Wynton needed audition tapes for Juilliard and Eastman. I figured out the best way to record his pure sound without too much air, too much attack. All through high school, whenever anything needed recording they would call me. That was just procedure.

"I had a cheap tape recorder," Delfeayo continues, "a cheap mixer and some cheap microphones. And I'd record all the shows. When you produce an album it's the same thing. The prob-

lem with producers today is that they never did that. They're trying to learn on the larger scale equipment. But because I have such a good sense of the best way to record with a minimum of microphones, it's easier for me to deal with making records.

"I started with just one stereo microphone. It's the way we recorded 'St. Thomas' on *Renaissance*, with one generic microphone. If you have three instruments you figure out the best place to put that microphone to get the best stereo sound."

When Branford was recording his *Scenes In The City* album in 1983, he flew Delfeayo to New York to witness the sessions. "I watched everything and took a lot of notes," says Delf. "I wrote down microphones, instrument placement, and things of that nature. And I talked with Tom Mowrey, Branford's producer then. When Wynton started recording I'd go to his sessions, too, and Wynton used me to tell him what was wrong with the sound. He would try to explain it to the producer, because even though I didn't know about the techniques, I could tell him what I heard that was wrong."

He got much of his technical knowl-

**Perfectionism is a Marsalis trait.**

**"Should be a world trait, but it's not," says Branford.**

edge of recording after checking into the audio program at the Berklee School of Music in Boston. Being at the prestigious jazz school presented a dilemma of a different sort for the young Marsalis, however. "I studied classical trombone all through high school, and when I got there everybody assumed that because I'm a Marsalis I played jazz. And I had no idea how to play it, no idea. Because there was so much peer pressure, people coming up to me as if I knew things, I started really practicing the trombone."

There was some predictable razzing from brother Branford along the way. "When he told me he was going to play the trombone, I just laughed," says Branford. "I said, 'You gotta be kidding. Can't you pick a better instrument than that?' He said, 'Are you going to use me in your band?' I said, 'Hell no, I hate the trombone.' I don't really hate it, I just feel sorry for the people who play it. It sounds good in Mahler's Third Symphony, but in a jazz band, nah. You've got exceptions, like Slide Hampton or J.J., but I don't envy them at all."

Delfeayo is still quite sensitive about his producing. He wasn't happy with *Royal Garden Blues*, which wound up with a Grammy nomination, and claims he had problems with *Renaissance* as well. The first problem was finding a studio in Los Angeles for the project, until Bob Margouleff offered his services at Paramount Studio M. "They do a lot of scoring with live orchestra in Studio M, full 50-piece orchestra. It's probably one of the three largest rooms in Los Angeles," says Margouleff's assistant engineer, Howard Siegel, who set levels for the basic tracks during the two main days of recording *Renaissance* and earned the band's respect. Very little overdubbing was required, just a couple fixes. "Howard's a bitch

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## PLAYBACK

of an engineer," says Delfeayo.

"They just centered the band in the room, and used the tall baffles to isolate the bass and the drums, but tried to keep it so that people could still see each other," says Siegel, whose previous credits include David Sanborn's *As We Speak*, Weather Report's *Sportin' Life* and Wayne Shorter's *Atlantis*. "One problem was that I had the musicians too far apart," says Delfeayo, "so that when you have leakage, the distance is so great that it kind of washes out the sound of the other instruments. The drum leakage into the bass microphone—they're so far apart that there's like a half-second delay. So if I put too much bass in, the drums come back a lot. That's why it doesn't sound like I wanted it to sound."

Branford really wanted a big room for the session. "Those are the rooms where the instruments sound the best. They have the room to travel," he says. "In small rooms they wind up separating everybody, putting the drummer in a booth, putting baffles over the

piano, over the drums. Every instrument sounds separate. For pop music it works OK because you're dealing with electric signals most of the time. But with acoustic music it sounds dreadful."

The drums were behind baffles, but because the ceiling is so high there was enough room for Tony Williams' sound to travel upwards so he would have a live room sound. The baffles were wood at the bottom, plexiglass at the top, split halfway, and were about eight feet high. "Delfeayo got this idea because he saw a picture of Miles playing behind a major 11-foot plexiglass baffle in the *Kind of Blue* session, and said, 'I wonder what this does to the sound?' It gives Miles the live room sound like he had, and it also alleviates the detrimental leakage," says Branford.

Leakage is always a problem, especially when the drummer is as potent a stick-wielder as Williams. But there's something about really knowing how to play that makes recording a drummer like Williams easy. "The tom mics were pretty much right on the first time around," says engineer Siegel. "I

think we used [Sennheiser] 421s. The main concern was getting the proper isolation, because the room is pretty live and it's very large. Normally in a large room, as long as you get some distance between everybody you're okay, but it's got wood floors.

"We used a lot of [Neumann] TLM170s. They wanted to use as many as possible for everything, so I'm pretty sure we used them for drum overheads. It's similar to the U87, but it's supposedly more transparent. They had used those on another project, and loved them on everything, so it's likely we used those on drum overhead, kick drum, a pair of them on acoustic piano, on the sax, and even one on the acoustic bass, although I think we ended up with a [Neumann] FET 47 on the bass."

"The main problem with records today is the bass direct," says producer Delfeayo, who says bass is his favorite instrument to record. He wrote a special note for the back cover explaining that the acoustic bass on the record was *not* recorded direct. "Bass players like to use the bass direct because it doesn't show off all their flaws as much, because you can just turn it up and not have to worry about leakage," he says. "But it's the most dreaded sound. It makes me cringe in fear. So let bass players know that there's still hope to capture the real bass sound without using that pickup. I just used a Neumann U67 by the F hole, and an AKG 451 in the bridge. The 451 generally gives a lot of attack, and the 67 gives the bass sound, the resonance."

"Engineers are so used to jazz producers coming in and barking out orders and not knowing what they're talking about," says Branford, "that you tell them something and they say 'Yeah, right,' and they do what they want to do anyway. There was an instance when Delfeayo told them to raise the overhead mics and move the mics away from Tony's drumset. Not have them directly on the drums like you do on rock records. Rock and roll engineers are used to setting the levels for one song, and then those levels basically remain through the whole record. But with *Renaissance* we were dealing with acoustic music, loud songs and soft songs."

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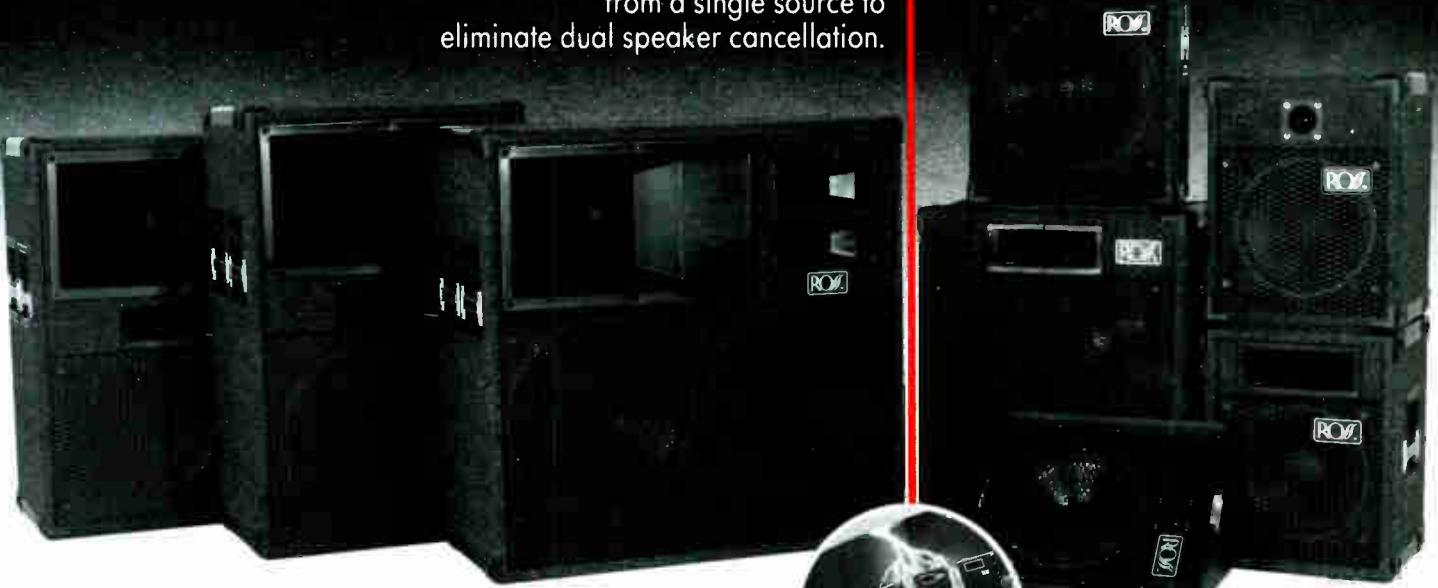
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by Philip De Lanie

# GRP TAKES DAT PLUNGE

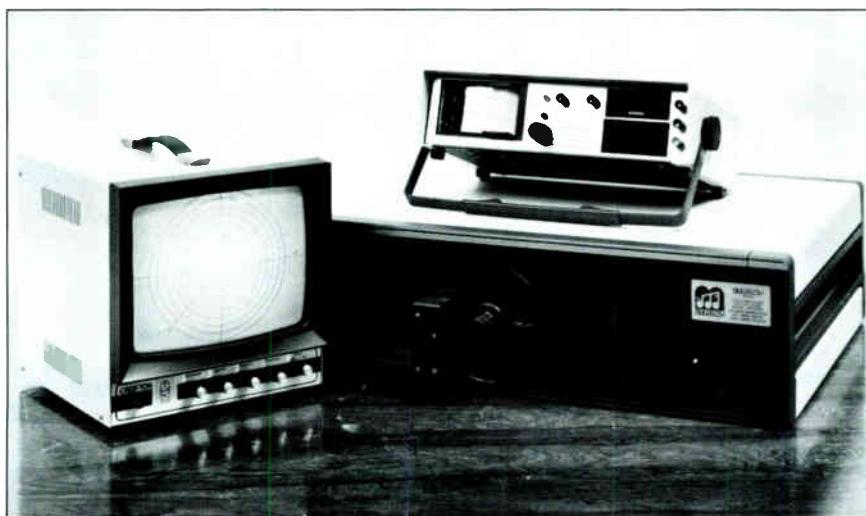
In a move said to be the first of its kind by a U.S. record company, independent contemporary jazz label GRP Records has announced plans to release product in the DAT format. The DAT rollout will begin in Europe with the release of six titles from the company's existing catalog as well as a special DAT sampler. Seven European markets (West Germany, Austria, Sweden, Norway, Denmark, Finland and France) were chosen for the initial phase of DAT introduction. All these nations have blank tape levies, and the label believes that a strong introduction of the new format will be made by the hardware manufacturers, thus creating a strong market for prerecorded DAT product. GRP's DAT distribution in Europe will be carried out directly through a wholly owned subsidiary, GRP Ltd. in Zurich, Switzerland.

The second phase of GRP's DAT startup, planned for mid-April, will cover the remaining European countries as well as the U.S. domestic market.

The company will bypass existing distribution channels, creating instead a new network of independent representatives which will contact audio retail accounts exclusively. GRP's best-selling titles have been chosen for the new release, including works by company co-founder Dave Grusin, Lee Ritenour, Chick Corea, the Duke Ellington Orchestra, and Diane Schuur. With all the controversy surrounding DAT, GRP's move is likely to earn the ire of those industry interests lined up behind the Recording Industry Association of America (RIAA) in its fight for the copy-coding of music product, but it may help break the current impasse that has delayed U.S. marketing of DAT hardware.

\* \* \*

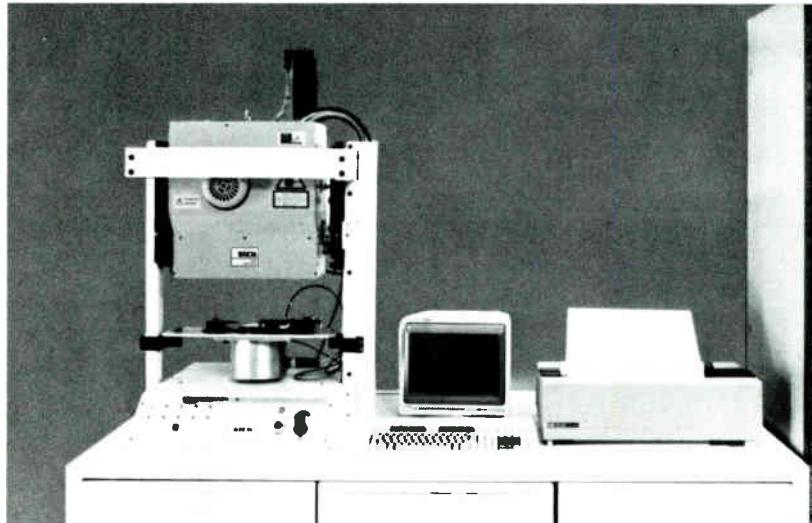
Several new products have been introduced recently to aid in quality assurance in the CD production chain. From Digital Intelligence Systems Corporation (DISC) of Santa Ana, CA comes the SP-2 CD Stamper Analysis



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## AFTER · MIX

System, which provides a method of measuring the quality and fitness of each stamper before it is used on the line. The SP-2 would normally be used in the electroforming cleanroom. As each new stamper is finished, it may be placed in the unit and examined for conformity to Philips/Sony CD specifications. The system consists of two major components: the stamper player and a computer to run the error analysis software (IBM or compatible with 640 kB RAM and 20 MB hard drive is recommended). The error analysis program computes and logs three types of error data: Block Error Rate (BLER), Burst Errors, and Uncorrectable Errors. One-second and ten-second error averages are displayed in real time on the monitor. The user may also specify start and stop locations for analyzing specific portions of a stamper. Outputs on the stamper player will also allow hookup of auxiliary gear for monitoring reflectivity, eccentricity, symmetry, crosstalk, flatness, jitter, and tracking signal magnitude and noise.

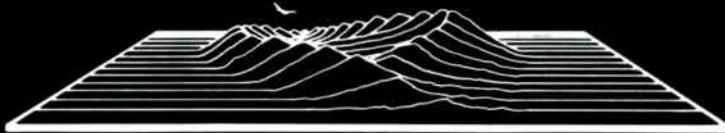


SICK Optik-Electronik CD inspection system

Meanwhile, SICK Optik-Electronik has developed an in-line compact disc inspection system for in-plant quality control. The system consists of the SC 60 Laser Scanner, two receiver systems and defect evaluation electronics for disc sorting and defect mapping. Discs are evaluated for all typical defects such as inclusions and bubbles, metalizing defects and damage. After inspec-

tion, a disc decision signal is provided to the disc handling system for routing of the disc downstream. Using the multiple language, menu-driven software, the CD manufacturer may set defect thresholds and defect priorities for the handling system according to desired quality requirements. For example, the system can ignore non-critical defects or defects occurring in areas of the CD

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without music information tracks. Combined inspection and automatic loading/unloading time takes approximately two seconds per CD. SICK may be reached in St. Paul, Minnesota.

Along the same lines, Musitech of High Wycombe, England is offering a Universal Optical Disc Tester. The unit may be used in either the manual mode, with a digital display of a selected measured parameter, or in automatic mode, in which a printed copy of the measured parameter is provided. A measuring cycle, checking the full disc from a 25-mm radius, is completed within 30 seconds. Measured parameters include birefringence, reflectivity, transmissivity, flatness and wedge angle.

Musitech also offers, in conjunction with Advent Engineering of England, a fully integrated, modular optical disc manufacturing system. Each line, linked together with an automation system from Advent, has an approximate capacity of 2 million discs per year on a three-shift production basis. Molding, sputter aluminum coating, lacquer spin coating and printing are included along with environmental and quality control units. The complete system is designed to operate in 30 square meters of manufacturing space.

In other CD production news, Den-

ton Vacuum of Cherry Hill, NJ has announced placement of its DiscLine-500 Compact Disc Metalizer at the Discovery Systems plant in Dublin, Ohio. Both center and peripheral masking are accomplished inside the unit, eliminating the need for robots to manipulate masks. Discovery has the DiscLine-500 in use in both CD-Audio and CD-ROM production.

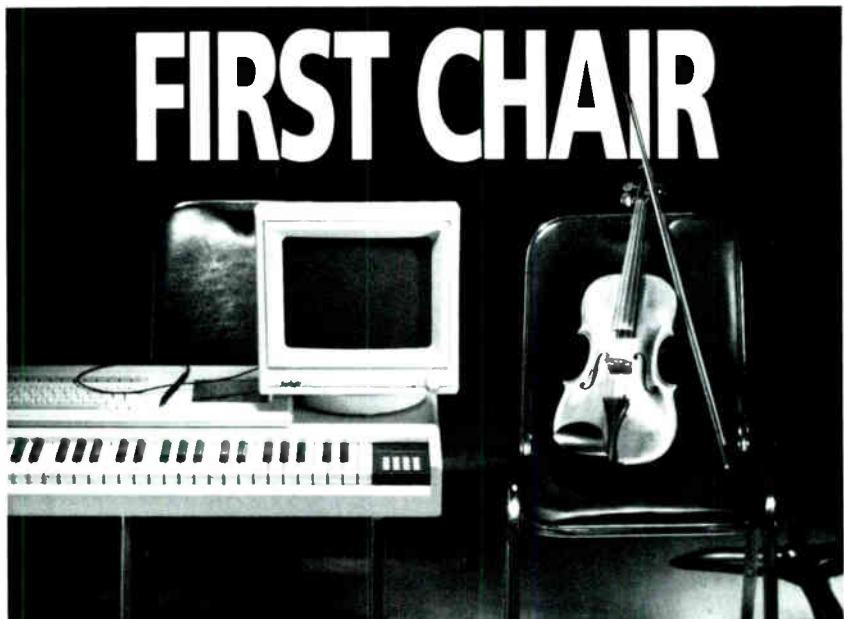
\* \* \*

Tape manufacturers and distributors have been busy over the past few months, with several introducing additions to their product lines. Sunkyong, the Korean firm which claims a 20%

market share in the U.S. professional duplicating tape industry, has come out with what it calls "pure chrome," a chromium dioxide formulation which bears the designation "UCR." UCR is presently available in 10,500-foot pancakes from Sunkyong's U.S. distribution centers. Sunkyong has also installed a "Technical Center" at its U.S. headquarters in Carson, CA where it will monitor its incoming product for consistency and quality, conduct R&D on product improvements and work with clients on tape-related problems.

Agfa-Gevaert has added to its line as well with the recent introduction of a new PE 619i "pancake product" (just

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## AFTER · MIX

add eggs and milk). The new tape, developed for both music and spoken word applications, features the same electroacoustic properties as its fore-runner PE 619, while utilizing the identical binding materials as the higher grade PE 649 series tapes. PE 619 pancakes are offered in 8,200 and 12,300-foot lengths for C-60 cassettes, and 11,500 and 15,000-foot lengths for C-90s.

Ampex Corporation's Magnetic Tape Division has expanded its line of 467 U-Matic Digital Audio Cassettes with the addition of an 80-minute play length, which joins the company's DA-30, DA-609 and DA-75. And BASF has introduced what it calls "the most precise and expensive cassette in the world," a reference cassette for azimuth standard use. The milled, metal alloy cassette housing, manufactured in West Germany, is machined to tolerances of 5/1000th of a millimeter, allowing an "exact" measurement standard for azimuth and head alignment.

A newcomer on the duplication scene, U.S. Tape Corp., has moved from Pasadena to North Hollywood. U.S. Tape, a custom duplicator and distributor of audio cassettes, was formed in July of 1987 through acquisition of the liquidated assets of a bankrupt cassette distributor. The company sells blank cassettes, loads tape into shells and runs duplication facilities.

A new product for duplicators has

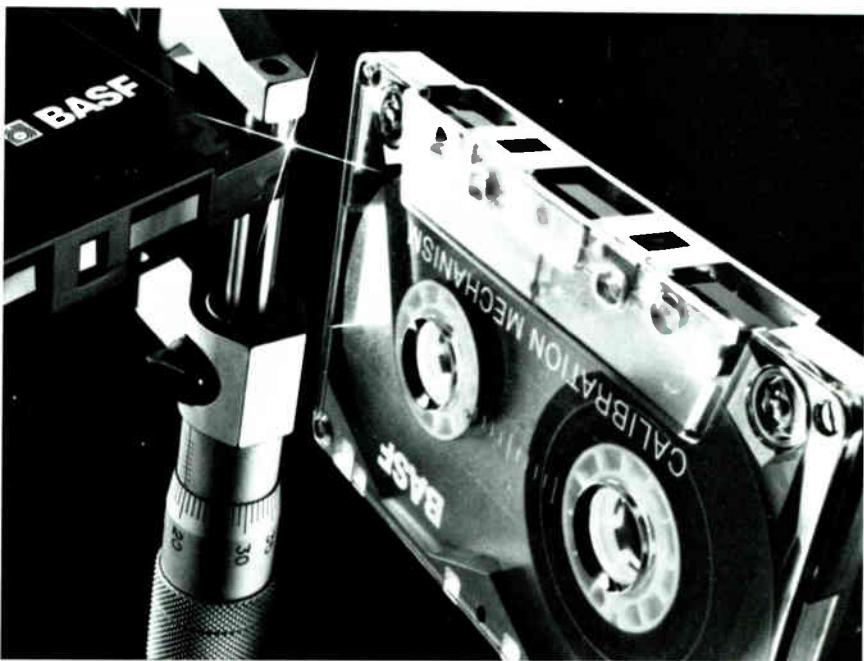
been developed by Concept Edsign in Burlington, NC. The Cassette Multi-Stacker works in conjunction with existing loaders in the Concept Design line, including the 790, MK2000, 750, 760, 770, and 780. The MultiStacker reduces operator handling, and prevents jamming because cassettes remain upright throughout their journey from loading to stacking tray.

\* \* \*

In a self-described effort to "clear up the confusion raging over preparation and handling of master tapes for vinyl disc, CD and cassette," Discmakers of Philadelphia, PA has published a 16-page booklet entitled *Guide to Master Tape Preparation*. Discmakers hopes that by clearly describing the steps and potential traps involved in pressing and duplication, the guide will help clients get the best possible sound on their products. The guide is available at no charge by calling (800) 468-9353. Discmakers has also opened a full service graphic arts and design department offering complete album cassette and CD packaging design, as well as custom full-color posters. ■

*Phil De Lanie is one of our resident voices on topics relating to record mastering and manufacturing, tape duplication, CD replication, storage and formats. He's also a mastering engineer at Fantasy Recording Studios in Berkeley.*

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# Here's the setup.

The simplicity of the diagram below belies the many capabilities of the DMP7 at work in an automated multi-track mixdown/processing system.

Dry tracks from the multi-track recorder are fed into the DMP7. A SMPTE track is fed into the SMPTE/MIDI converter. The MIDI timing track controls the MIDI sequencer/recorder.

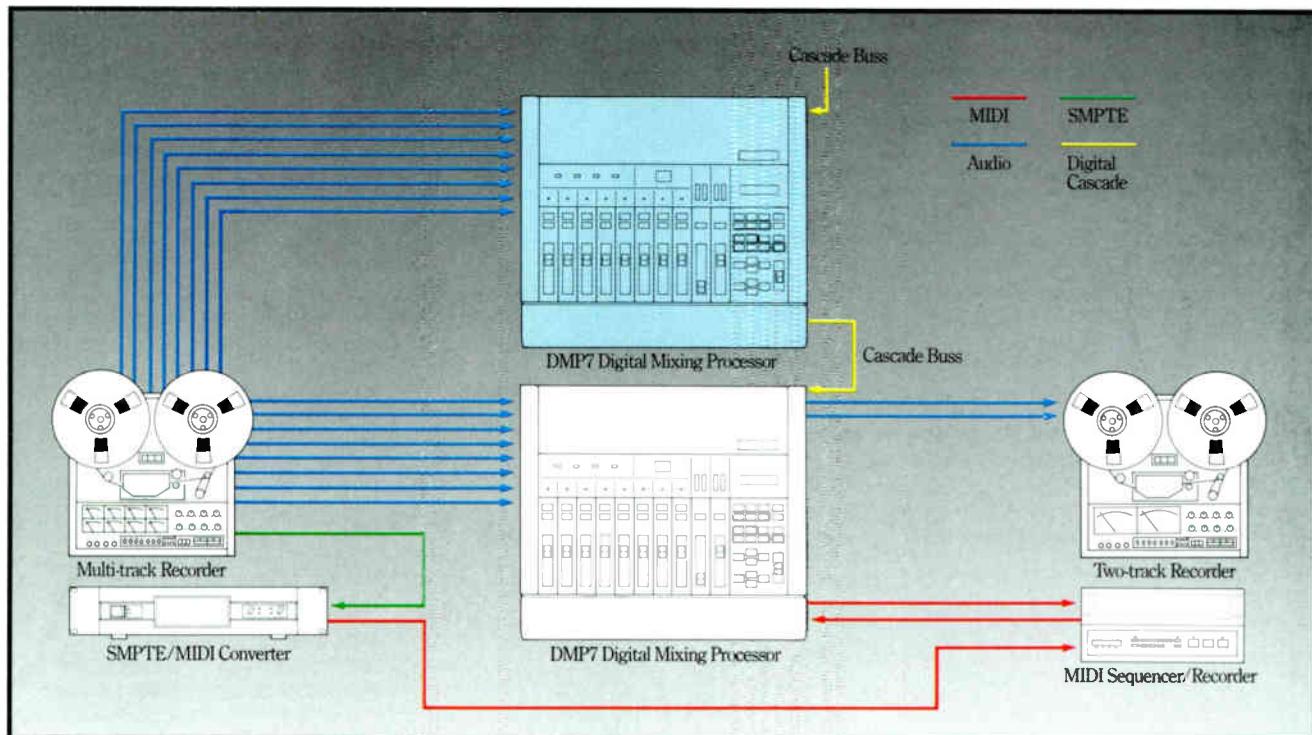
The MIDI control information for the DMP7 can now be recorded in sync with the music. The DMP7 then automatically mixes everything down into a two-track master or



demo. Until now, this level of mixed automation was only possible with more expensive consoles.

The DMP7 doesn't just do the final mixing, but the final processing as well, to each individual track. With reverbs, flanging, delay, and stereo panning. Or whatever sweetening you need. And again, in sync with the music.

What's more, if you have more than eight tracks, you can cascade in the digital domain to another DMP7 for 16 tracks. Or another for 24. And yet another for 32 tracks.



Yamaha Music Corporation, Professional Audio Division, P.O. Box 6600, Buena Park, CA 90622.  
In Canada, Yamaha Canada Music Ltd., 135 Milner Avenue, Scarborough, Ontario M1S 3R1.

by Miles Christensen

# BREAKING INTO AUDIO-FOR-VIDEO A CASE STUDY

**H**aving owned a recording studio since I was 19, I came to the conclusion very early that it would be extremely difficult to recoup the \$1 million-plus investment necessary to build a state-of-the-art room against the kind of hourly rates being charged these days at major-market studios in Los Angeles, New York, Chicago and Nashville.

I soon discovered that, because of my connections around Hollywood, I could work on music videos and promos; however I still wanted to continue with rock and roll sessions. At the same time, we could also take on audio-for-video projects, and bring a good pair of ears to sweetening and post-production. In fact, my goal was to do record sessions at night, and audio-for-video post and sweetening during the day.

Because I could bring my wide experience of music sessions to the

world of stereo post-production—what I considered my “magic ingredient”—I found that breaking into the sweetening and post market wasn’t too difficult. If you have a good facility and good staff in a town like Los Angeles, where there is a bustling post market, you can make a respectable living.

The key to success, however, is to have a firm commitment to audio quality and something *new* to offer; network and independent clients really get a kick out of innovative techniques. There’s no excuse for not dazzling the client with some really neat tricks, such as time compression or expansion to make the audio soundtrack fit a stronger or longer time slot.

Having a separate machine room for all the video and audio machines is common practice in video houses, but not so common in rock and roll studios. With the advent of integrated sys-



Post Logic  
co-owner  
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## POST · SCRIPT

tems that allow centralized control of all the tape transports—such as the Solid State Logic SL 6000 console that we have here at Post Logic—you don't need separate remote controls, and direct access to the machines in the control room. Instead, they can all be put off in a soundproofed area. That way, the console seems to "float" in the room, which is good ergonomically and aesthetically.

While planning Post Logic, I decided that I only wanted a remix facility; I didn't want to tie up a lot of my money in a large recording space. I'd rather

let other people pay for all that real estate, because a large room can never bring you the same return on your investment. Despite the fact that recording areas cost the same to develop as a control room—about \$110 per square foot—they just don't generate the same level of revenue.

As a producer myself, I like to travel all over town to track in some very interesting spaces, but without the headaches of having to operate one myself. We do have two small voice-over and overdub booths that can be used to track virtually everything—on a recent session we even tracked drums in a corridor—although our pri-

## Selecting a Console for Record Sessions and Post-Production

"The basic reason for choosing a 40-channel Solid State Logic SL 6000 for audio post," Post Logic owner Miles Christensen says, "is that it provides so much more efficiency for the mix engineer. It saves time on a session because all of the audio machines' safe/ready mode or input/replay switching functions are controlled directly by the SSL's Studio Computer system from the console. Literally everything the mixer needs is within arm's reach.

"The SSL is so fast to operate that you can set up an effect, try it out and be ready to roll in seconds. The master synchronizer will handle a maximum of five audio or video transports, the first three of which can function as a master transport—we have it set up so that the one-inch videotape, 3/4-inch U-Matic and primary multi-track can serve as the time code master. But we can also repatch any other transport to function as a master if we need to work in a different way.

"Although we may not have all five machines running simultaneously, the ability to quickly bring an additional transport on-line—maybe an additional slave 4-track—one can save time on a busy sweetening

session. The lockup time is very fast: under two seconds at 15 ips.

"Of course, you can buy a console, add some machine remotes, synchronizers and so on, and maybe get the same result. But you cannot be as efficient at the job of mixing, just because of having to take care of the running and interfacing of all that hardware.

"No client wants to see all of that clutter and wiring in the control room. The clean lines, efficiency and ease of operation of the SSL impress even the most non-technical producers.

"The Events Controller is invaluable for letting us sample an effect or music cue that is slightly off sync, or which needs to be duplicated or slid to another point in the soundtrack. It allows us to quickly sample the sound into an E-mu Systems Emulator, Akai S900 or Publison Infernal Machine and then trigger it to be relaid at a different time code location."

"And because the sampling and triggering can be controlled by the same time code track," adds Post Logic chief engineer Tom Davis, "we only have to enter an offset into the Events Controller to move the sample forwards or backwards from its original position. In the past, we would have had to first sample the sound—which can be a complex and time consuming procedure—and then work out where in the track we wanted to place it. Now we simply dial in a time code offset, and the SSL board handles the entire process for us."

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many emphasis here is on mix sessions.

Just looking at the new room here, it's hard to tell that this is a full-service post facility. Other rooms I've visited around Los Angeles have a "post" look to them: cart machines everywhere, inadequate monitoring, and an entirely different vibe. Given that our new room, Studio "A," serves a dual purpose of music sessions and post-production, we have designed the look of it to appeal to *both* markets. With the SSL computer automation and Total Recall system we can change from one kind of session to another in under 20 minutes. Using the SL 6000's flexible 6-bus mix matrix—basically set up as three stereo pairs—and the machine-control capability of the SSL Studio Computer, we can turn around for a video layback session, for example, in less than a minute.

We have also hot-rodded the SSL Events Controller to trigger digital samplers, including an Akai S900 and Pultec Infernal Machine, as well as conventional NAB cart machines—sometimes a client like NBC will bring us prerecorded sound effects on NAB cartridge. In addition to providing mag-style slipping of tracks, digital samplers also enable the play time of a sample to be altered without changing the pitch, which can be very useful for shortening or lengthening a music bed for a 15- or 30-second commercial.

We also have an Apple Macintosh Plus personal computer with custom software that lets us store a large library of digital sound effects on hard disk for uploading into an E-mu Systems Emulator II, or one of our other digital samplers, to be fired by the SSL Events Controller.

Every post house faces a profusion of problems each day; sometimes it seems like *all* you are dealing with are problems. You have to handle so many transfers that an audio-for-video house gets used to putting out small fires all day long—the time code track is bad, the sync is off and so on. The record world, on the other hand, deals with a different set of problems.

From working with record clients we know how to come up with just about any sound texture—mainly as a result of having the time to experiment in the studio. We find that our post clients can benefit from that knowledge but, because of the time pressures involved, cannot normally afford to experiment with sounds. We can

—CONTINUED ON PAGE 204

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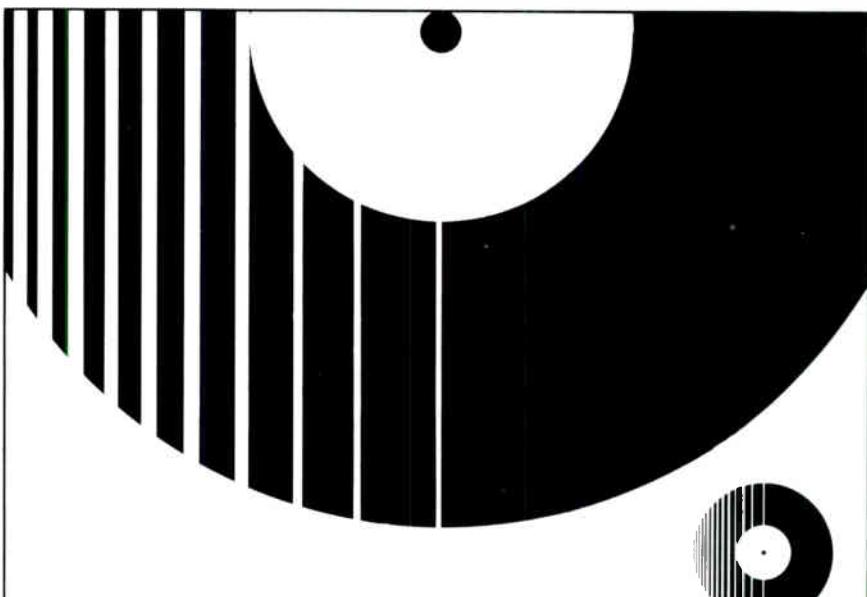
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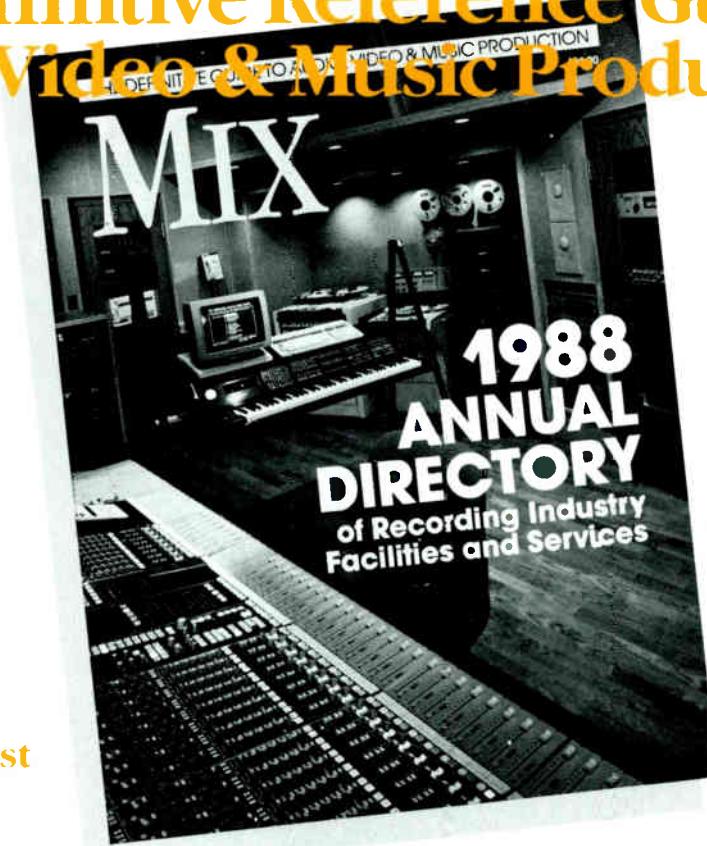
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1988 MIX DIRECTORY

# 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.



At left is Ronnie Milsap's Ground Star Laboratory in Nashville. Used almost exclusively for Milsap projects, the studio features a Neve 8128 console with 56 inputs and two Otari DTR-900 32-track digital recorders that can be locked together via an Adams-Smith 2600 synchronization system. Other goodies include a Studer A800 Mk III analog 24-track, JVC BP900 digital 2-track, Ampex ATR-100 half-inch stereo 2-track and Studer A820 half-inch analog 2-track. Photo: Randy Gardner

## ■ CONTENTS ■

171	LOCATION INDEX
174	24+ TRACK STUDIOS
189	12 & 16 TRACK STUDIOS
196	8, 4 & 2 TRACK STUDIOS

*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. Basic listings (name, address, contact) are provided free of charge. Extended listings (equipment, credits, specialization), and photographs or company logos may be included at a nominal charge. 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, (415) 653-3307.

### Upcoming Directory Deadlines:

Remote Recording/Sound Reinforcement: **March 14, 1988**  
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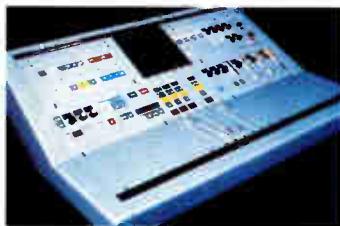
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Tony Langley,  
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Sony Professional Audio Division, Music City, U.S.A.

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Warren K. Simmons  
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Professional Audio Tape  
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# LOCATION INDEX

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### ALABAMA

#### Aniston

8 Leatherwood Sound . . . . . 198

#### Auburn

24 Rainbow River Studios . . . . . 184

#### Birmingham

24 Boutwell Recording Studios, Inc. . . . . 175

#### Decatur

16 Kykchen Sync . . . . . 192

24 Polymusic Studios, Inc. . . . . 184

24 Sound of Birmingham . . . . . 186

16 Studio One Sound . . . . . 194

#### Cahers

16 Sound Stage Music Co. . . . . 194

#### Cleveland

8 Triangle Media Productions . . . . . 203

#### Dothan

16 Birdland Recording Studios, Inc. . . . . 189

24 Studio Four . . . . . 187

12 TC Enterprises Studio Productions . . . . . 195

16 Wildwood Recorders . . . . . 195

#### Fayette

8 Flare Audio Recording . . . . . 197

#### Gadsden

16 Grapevine Studios . . . . . 191

#### Greenville

4 Ridge Recording Studios . . . . . 200

#### Hueytown

12 Bates Brothers Recording . . . . . 189

#### Huntsville

8 Ground Level Sound . . . . . 197

24 Sound Cell . . . . . 186

#### Jasper

8 Front Row Productions, Inc. . . . . . 197

#### Lafayette

16 Oak Bowery Recording . . . . . 193

#### Lexington

8 Woodrich Recording Studio . . . . . 203

#### Mobile

16 Dogwood Recording . . . . . 190

2 Nomad Productions . . . . . 200

16 Southern Sound Productions & Studios . . . . . 194

#### Montgomery

16 Studio B . . . . . 194

#### Ozark

16 L.A. East Recording Studios . . . . . 192

#### Sheffield

24 Broadway Sound Studio, Inc. . . . . . 175

16 Cactus Recording Studio, Inc. . . . . . 190

#### Smith Station

24 Studio "7" Recording Co . . . . . 187

#### Tuscaloosa

8 Druid City Sound . . . . . 197

4 Orange Street Recorders . . . . . 200

16 Underground Sound . . . . . 195

#### Tuskegee

8 Sound Shack Recordings . . . . . 202

16 Tuskegee Institute . . . . . 200

4 Nan & Associates Inc. Studio . . . . . 198

### FLORIDA

#### Bartow

16 Real To Reel Recording Studio . . . . . 193

#### Bradenton

8 Tric Tracs . . . . . 203

#### Clearwater

8 Pink Pelican Music Co. . . . . . 200

8 WKRL Radio . . . . . 203

#### Cocca Beach

8 Digitraxx Productions, Inc. . . . . . 197

### Deerfield Beach

16 L-7 Studios . . . . . 192

24 Spectrum Recording Studio . . . . . 187

### Doral Beach

8 Lady Sabre's Dungeon . . . . . 198

16 Red D Productions . . . . . 193

### Dover

8 Debra J. Studios . . . . . 197

### Edgewater

24 Conti Studio . . . . . 176

8 Omni Recording . . . . . 200

### Esterio

16 Importing Recording Studio . . . . . 191

### Fort Lauderdale

24 New River Studio . . . . . 183

24 Soundshine Productions, Inc. . . . . . 186

### Hollywood

24 Total Tape Company . . . . . 188

4 Video Ideas . . . . . 203

### Ft. Myers

8 Steve Rogers Productions . . . . . 202

### Gainesville

24 Mirror Image Recording . . . . . 182

### Hialeah

24 Sound International Corporation . . . . . 186

### Jacksonville

16 Hollywood Sync . . . . . 191

8 Perspect Audio . . . . . 200

### Jacksonville Beach

24 August Recording Studio . . . . . 175

8 Christian Recording . . . . . 196

16 Key Recording Studio . . . . . 192

16 Mangum/Afford Recording Studio . . . . . 192

8 Rick Painter Sound Studio . . . . . 200

16 Sage Productions . . . . . 194

24 The Warehouse Recording Studio . . . . . 188

### Lake Park

12 MIDI Sound Recording Center . . . . . 192

### Lutz

8 Silhouette Studios . . . . . 202

### Margate

24 Island Recording Studio . . . . . 179

### Melbourne

12 Bottom Line Studio . . . . . 189

### Miami

16 Hummingbird Recordings . . . . . 191

24 Pal Appleton Studios, Inc. . . . . . 174

16 Computers & Music . . . . . 190

24 Criteria Recording Co . . . . . 178

24 Digitraxx MIDI Sequencing . . . . . 178

### Milano

24 Miami Sound Studio . . . . . 182

16 Pinegrove Studio . . . . . 193

8 Prosound Labs, Inc. . . . . . 200

16 Rain Moon Studio . . . . . 193

24 SKD Inc. Recording Studio . . . . . 185

24 South Coast Recording Co . . . . . 187

16 Tamiami Productions, Inc. . . . . . 194

16 Tropical Recording Studio . . . . . 195

### Orlando

16 Audio Concepts Recording Company . . . . . 189

8 Audio Recording & Duplicating (+MIDI) . . . . . 196

### Mount Dora

16 Cloud Nine Recording . . . . . 190

### Naples

4 Reason's Edge Recording Studio . . . . . 200

### New Smyrna Beach

24 Crawford Productions . . . . . 176

### North Miami

24 Quadrilateral Cinema Corp. . . . . . 184

### Orlando

4 Real To Reel . . . . . 200

16 Sound Design . . . . . 194

16 Soundtrack, Inc. . . . . . 194

24 Studio Center Sound . . . . . 187

### North Miami Beach

24 Airwave Recording Company . . . . . 174

### Ocoee

24 Starke Lake Studios . . . . . 187

### Orlando

8 Bob Barnes Creative Services . . . . . 196

8 BGA Production Services . . . . . 196

24 Century III Teleproductions . . . . . 176

24 Decibels Unlimited Productions . . . . . 178

16 FMR - Magic Music . . . . . 191

24 Lone Pine Recording Studios . . . . . 180

24 Parc Studios . . . . . 183

8 Platinum Productions of Central Florida, Inc. . . . . . 200

4 Sound Stage . . . . . 202

8 X Communications Studio One . . . . . 203

### Pensacola

24 Soundtrek Recording Studio . . . . . 186

### Pinecrest Park

8 Freelance Productions . . . . . 197

### Pompano Beach

8 Hirlder Enterprises . . . . . 198

### Port St. Lucie

16 Mastercraft Recording . . . . . 192

### St. Augustine

24 Jim DeVito's Recording Studio . . . . . 178

### St. Petersburg

8 Hayes Recording . . . . . 198

8 ProtoLog Inc. . . . . . 200

8 The Time Machine Recording & Duplicating . . . . . 202

24 Telstar . . . . . 188

### Spring Hill

16 Leavell Studio . . . . . 192

### Sunrise

24 Lambtron Inc. Recording Service . . . . . 180

8 Loconto Productions & Studios . . . . . 198

16 Sound Picture Recording . . . . . 194

### Tallahassee

24 Flamingo Studios . . . . . 179

8 The Mighty Mix . . . . . 199

### Spectrum Studios

4 WFSU-FM . . . . . 194

### Tampa

8 AV Consultants . . . . . 196

8 Full Sky Recording & Production Studio . . . . . 197

24 Hayes Recording Studios . . . . . 179

8 Horizon Productions . . . . . 198

8 Just Productions . . . . . 198

24 London Music, Inc. . . . . . 180

24 Morrisound Recording . . . . . 182

8 Musical Refuge Studios . . . . . 199

4 Normadd IV . . . . . 200

16 Progressive Music Studios . . . . . 198

16 Ron Rose Productions, Inc. . . . . . 193

8 Senseless Productions . . . . . 193

8 Warm Mineral Springs . . . . . 202

24 Delshay Studios & Resort Complex . . . . . 178

### West Palm Beach

16 Steve Miles Audio Productions . . . . . 193

24 Saturn Sound Studios Inc. . . . . . 184

8 Winter Haven . . . . . 198

8 Happy Faces Productions . . . . . 198

### GEORGIA

16 Boone Sound . . . . . 189

16 Alpharetta . . . . . 195

16 Witness Productions . . . . . 195

8 Davis Productions . . . . . 197

16 Athens . . . . . 192

8 High Spirits Recording . . . . . 198

16 John Keane Studio . . . . . 195

16 Atlanta . . . . . 197

24 Arcadia Productions & Recording Studio . . . . . 174

8 Audio Craft . . . . . 196

16 Audio Works Production Services Inc. . . . . . 189

12 Black & Silver Studio . . . . . 189

24 CaisPaw Productions . . . . . 176

24 Cheshire Sound Studios . . . . . 176

24 Crawford Post Production, Inc. . . . . . 176

24 Creative Sound Concepts . . . . . 176

24 Crosstown Audio . . . . . 178

4 DCO Lab, Inc. . . . . . 197

24 Doppler Studios, Inc. . . . . . 197

8 Dub Studio Div. of Tech Sound Ind. . . . . 197

4 Ebony Star/Briefcase of Talent . . . . . 197

24 Bell Elliott Sound . . . . . 178

2 Monett Media (Ambisonics) . . . . . 199

24 Musiplex . . . . . 183

24 New Age Sight & Sound . . . . . 183

24 O'Connell Productions, Inc. . . . . . 183

16 Oliviero Music, Inc. . . . . . 193

4 Project 70 Audio Services, Inc. . . . . . 200

24 Sam's Tape Truck . . . . . 184

24 Sound Lab, Inc. . . . . . 186

24 Soundscape Studios . . . . . 186

24 Southern Tracks Rec. . . . . 187

8 Stonesilk Audio . . . . . 202

2 The Sync Productions . . . . . 202

24 Twenty-Five Sixty Recording Studio . . . . . 188

### Augusta

24 Studio South . . . . . 187

### Avondale Estates

8 Synginer Sound . . . . . 202

### Brickell

8 Forrest Anderson Recording . . . . . 197

### Carrington

16 Coley Recording Studio . . . . . 190

### Chamblee

<b>Woodstock</b>			
8 EZ Recording and Productions	197		
8 VMR Studios	203		
<b>KENTUCKY</b>			
<b>Ashland</b>			
24 Chandler Audio	176		
<b>Bowling Green</b>			
8 High St. Studio	198		
<b>Corbin</b>			
24 Revelation Recording	184		
<b>Crestwood</b>			
16 Sound On Sound	194		
<b>Cynthiana</b>			
8 Left Field Records	198		
<b>Elizabethtown</b>			
16 Alpha Recording Co., Inc.	189		
<b>Erlanger</b>			
16 Group Effort Sound Studio	191		
<b>Georgetown</b>			
8 Mays Kentucky Demo Service	199		
<b>Hildrick</b>			
24 Lundy Recording & Cassette Dup.	180		
<b>Jamestown</b>			
8 R.A.M.S. Studio (Recording and Music Services)	200		
<b>Junction City</b>			
16 Advid Studio	189		
<b>Lexington</b>			
12 Advent Productions	189		
4 Grosvenor Bang!	197		
8 House of Commons Communications	198		
16 Sun-Ray/Sky-Vue	194		
8 Tapeworm Productions	202		
<b>Louisville</b>			
24 Allen-Martin Productions	174		
16 Artists' Recording Service	189		
16 Derbytown Sound Studios	190		
<b>Nebo</b>			
8 Trusty Tuneshop Recording Studio	203		
<b>Nicholasville</b>			
16 Splice of Life Recording Studio	194		
<b>Paducah</b>			
24 Audio Creations Recording Studio	175		
4 Lost River Recording Studio	198		
<b>Pikeville</b>			
8 Simple Dreams Recording	202		
<b>Wayland</b>			
12 Lee's Studio	192		
<b>Winchester</b>			
8 RCM Sound Studio	200		
<b>Woodburn</b>			
12 Mid-South Recording	192		
<b>LOUISIANA</b>			
<b>Baton Rouge</b>			
8 Leggett Recording Studio	198		
<b>Chalmette</b>			
8 H&G Recorded Productions	198		
4 Servant Studio	202		
<b>Church Point</b>			
8 Sound Center Recorders	202		
<b>Crowley</b>			
24 Master-Trak Sound Recorders (Studio A & Studio B)	180		
<b>Houma</b>			
4 Sac-Au-Lait Music Inc.	202		
<b>Jeanerette</b>			
24 Holbrook Media Productions	179		
<b>Kinder</b>			
8 Haymon House Studio	198		
<b>Marrero</b>			
8 ProTech Productions			
Recording Studio	200		
<b>New Orleans</b>			
16 Loyola University Recording Studio	192		
8 Niteshade Studio	200		
24 Pace Recording Service	183		
8 Runz Productions	202		
24 South Lake Recording Studio	187		
24 Ultrasonic Studios Inc.	188		
<b>West Monroe</b>			
16 J.Y. Recording	192		
<b>MISSISSIPPI</b>			
<b>Canton</b>			
16 Electric Lee Studio	190		
<b>Hattiesburg</b>			
8 Mariah Recording	198		
8 The Music Room	199		
<b>Jackson</b>			
8 Makin' Trax Productions	198		
24 Terminal Recording Studios	188		
4 Trest Audio/Video Productions	202		
<b>Meridian</b>			
24 Skylane Recording Studio	186		
<b>Olive Branch</b>			
24 Roadhouse Recording	184		
<b>Pass Christian</b>			
8 Jingle Works Recording Studio	198		
<b>Ridgeland</b>			
24 Parallax Recording Studio	183		
<b>Starkville</b>			
8 Miller Recording	199		
<b>University</b>			
4 Garden Sound Studio	197		
<b>Vicksburg</b>			
8 Underground Music Recording Studio	203		
<b>NORTH CAROLINA</b>			
<b>Andrews</b>			
4 Z.a.o. Music	203		
<b>Asheville</b>			
4 Mountain Bear Productions and Broadcast Recording	199		
4 Whitewater Recording	203		
<b>Bailey</b>			
24 Mega Sound Studios, Inc.	181		
8 DM & DM Studio Inc.	197		
<b>Burnsville</b>			
16 BTM Studios	190		
<b>Carboro</b>			
16 Griffin Music Design	191		
8 Fisher Studios	197		
<b>Charlotte</b>			
24 Audio, Incorporated	175		
24 Jay Howard Production Audio Inc.	179		
16 Lamor Sound Studios Inc.	192		
<b>Greensboro</b>			
8 Mastersound, Inc.	198		
24 Reflection Studios	184		
8 Sing-A-Song Recording Studios	202		
24 Studioeast	188		
16 Z/bop/AV	195		
<b>Denver</b>			
8 EG Studio	197		
<b>Durham</b>			
8 Mirror Image Recording Studio	199		
4 WLM Recording	203		
<b>Greenville</b>			
16 Audio Arts Recording Studios and Productions	189		
8 Electronic Music & Recording	197		
<b>High Point</b>			
16 B & B Productions	189		
<b>Kinston</b>			
16 Audiocraft - Sound Hut Studios	189		
<b>Lenoir</b>			
16 Dream Maker Studios	190		
<b>Middlesex</b>			
16 Gospel World Studios	191		
<b>Raleigh</b>			
24 Associated Sound Products Inc.	175		
8 Crutch Recorders	197		
4 Dove Sounds	197		
16 Jag Studio, Ltd.	191		
8 Lenzt & Associates, Inc.	198		
4 Mobile Sound Service	199		
8 Southern City Studio	202		
<b>Reidsville</b>			
8 Miller Recording Studio	199		
<b>Rocky Point</b>			
8 Twin Oaks Studio	203		
<b>Sanford</b>			
16 Beechtree Recording Studio	189		
<b>Southern Pines</b>			
8 Offbeat Studio	200		
<b>Statesville</b>			
24 Perfect Pitch Recording & Production Co.	184		
<b>Weaverville (Asheville)</b>			
4 Comedy Now/Mountain Bear Productions	197		
<b>Wendell</b>			
16 Eagle Rock Recording Inc.	190		
<b>Winston-Salem</b>			
8 Grant Blair Productions	196		
8 Martin Audio	198		
<b>PUERTO RICO</b>			
<b>Bayamon</b>			
24 EMS Recording Studio	178		
<b>Bayamon</b>			
16 J.M. Records	192		
<b>Puerto Nuevo</b>			
12 E 1212	190		
<b>Rio Piedras</b>			
24 Melody Recording Studio	181		
<b>SOUTH CAROLINA</b>			
<b>Cayce</b>			
4 Wootten Custom Audio Productions	203		
<b>Charleston</b>			
8 The Ad Shop	196		
16 IVS Media Productions	191		
24 On Line Audio	183		
8 Steve Russell Audio	202		
<b>Columbia</b>			
8 Mufox	199		
<b>Greenville</b>			
8 Custom Recording and Sound, Inc.	197		
24 Mark Five/Sandcastle	180		
<b>Mauldin</b>			
16 Studio 105	194		
<b>McBee</b>			
16 Silver Star Recording Studio	194		
<b>Moore</b>			
24 EBS, Inc.	178		
<b>North Myrtle Beach</b>			
8 Atlantic Audio/Video	196		
<b>Rock Hill</b>			
16 South Sounds Recording Studio	194		
8 Sun Sound Studios	202		
<b>Seneca</b>			
8 Steve Campbell's Soundcrafters	196		
<b>West Columbia</b>			
24 Strawberry Skys Recording	188		
<b>Studios</b>		187	
<b>TENNESSEE</b>			
<b>Antioch</b>			
24 Gatin Bros. Music Resources, Inc.	179		
<b>Bells</b>			
16 Five Square Recording	190		
<b>Bolivar</b>			
16 A.S.I. Studios, Inc.	189		
<b>Brentwood</b>			
24 Gold Mine Studio	179		
<b>Chattanooga</b>			
8 LP Productions	198		
24 Pyramid Recording	184		
<b>Cleveland</b>			
24 Faith Productions	179		
24 Majestic Sound Studio	180		
<b>Franklin</b>			
24 Bennett House Studios	175		
24 The Castle Rec Studio	175		
<b>Heska</b>			
8 Mike Bills Productions	196		
<b>Hendersonville</b>			
24 Acorn Sound Recorders, Inc.	174		
24 Sounding Board	186		
<b>Hermitage</b>			
24 Phil Arnold Sound Services	196		
8 Jack O'Diamonds Recording Studio	198		
<b>Johnson City</b>			
8 Seven Points Recording Studio	202		
<b>Knoxville</b>			
16 Soundtrax Recording Inc.	194		
<b>Knoxville</b>			
24 Big Mama Recording Studio & Teleproductions	175		
<b>Madison</b>			
8 Brantley Sound Assoc., Inc.	196		
24 Cinderella Sound Studio	176		
<b>Mayville</b>			
8 Stonebridge Recording	202		
<b>Memphis</b>			
24 Ardent Recordings Inc.	174		
12 The Attic	189		
<b>Commercial Music Recording Complex</b>			
24 Cotton Row Recording	176		
16 Easley Recording	190		
8 Galaxy Sound Recording Studios	197		
24 Media General Broadcast Services-Studio Five	181		
24 Memphis Sound Productions	181		
16 Milledge Recording Studio	192		
24 Onyx Sound Recording Studio	183		
16 The Power House	193		
8 River City Sound Productions	200		
24 Sounds Unreel Studios	186		
8 Sun Studio	194		
8 USC Sound Enterprises	203		
8 Wilkerson Sound Studios	203		
<b>Mountain City</b>			
8 Mountain Ear Productions	199		
<b>Murfreesboro</b>			
24 Dulay Digital Music	178		
24 RIM Sound Studio	184		
<b>Nashville</b>			
4 Archer Productions, Inc.	196		
24 Audio Media Recorders	175		
16 Audio Vision, Inc.	189		
24 Carnegie Hall Recording Studio	190		
24 Eleven-Eleven Sound	178		
12 Fair Warning Recording Studio	190		
24 Fanta Professional Services	179		
24 Germantown Recording Studio	179		
24 GHL Audio Engineering	179		
8 G.I.D. Studio	197		
24 Golden Angel Music	197		
24 Grand Central Studio	179		
24 Great Circle Sound	179		
8 Horizon Recording Studio	198		
24 KCAM-TV Television Productions	179		
16 Bob Krusen's Studio	192		
24 Lakeside Productions	198		
24 Leche Recording Workshop	180		
24 Maple Hill Productions	198		
24 Masterlonics, Inc.	180		
24 MasterLink Studios, (a division of Al Jolson Enterprises, Inc.)	180		
24 Mastermix	181		
8 Mission Control Productions	199		
24 Music City Music Hall	182		
24 Music Mill	182		
24 Nashville Teleproductions/Oak Valley Sound	183		
24 Omnisound Recording Studios	183		
16 Premier Studio	193		
8 Reel Sounds	200		
24 The Reflections	184		
24 Scruggs Sound Studio, Inc.	185		
16 Shook Shack	194		
24 Sixteenth Avenue Sound	185		
8 Song Pro	202		
24 Sound Emporium	186		
24 Sound Stage Studio	186		
24 Soundshop Recording Studios	186		
24 Stargem Recording Studio	187		
24 Studio 19	187		
24 Syncsound Recording	188		
12 Top Tracks Recording Studio	195		
24 Treasure Isle Recorders	188		
<b>WEST VIRGINIA</b>			
<b>Elkins</b>			
8 Black Dog Studio	196		
<b>Follansbee</b>			
2 Lou Casini Recording	196		
<b>Oak Hill</b>			
8 Media Productions/Resistor Records	199		
<b>Parkersburg</b>			
16 SweetSong Productions/Music Factory	194		
<b>Ridgeley</b>			
16 Flight One Studio	190		
<b>St. Albans</b>			
8 Accurate Recording	196		
<b>Wheeling</b>			
24 W.J.S. Recording	188		

# **4000 SERIES IN-LINE**

*Beyond Comparison*



## D&R USA

1720 Chip N Dale Dr.  
Arlington, TX 76012  
(817) 548-1677

## D&R Electronica b.v.

Rijnkade 15B,  
1382 GS Weesp,  
Holland

**Dual Function Inline I/O Modules** double the input and patching capacity (4000-32=64 inputs in mixdown).

**Total Modular Design** incorporating F.S.S. (Floating Subgroup System), allows routing of any input or group to any track without patching, permitting unlimited flexibility and expandability.

**Discrete MIC Preamps, Proprietary IC Compensation, and Minimum Audiopath** yield outstanding signal to noise ratio, headroom, and transparency.

**Automation Ready Design** allows for D&R's "Score Automation" or the new low-cost "C-Mix" automation system.



Dealer Inquiries Welcome

S O U T H E A S T

# 24+ TRACK

## STUDIOS

### [24+] ACORN SOUND RECORDERS, INC.

329 Rockland Rd.  
Hendersonville, TN 37075  
(615) 824-4924  
Owner: Oak Ridge Boys  
Studio Manager: Jimmy Tarbutton

### [24+] AIRWAVE RECORDING COMPANY

1830 NE 153 St  
North Miami Beach, FL 33162  
(305) 949-WAVE  
Owner: Robert W. Walker  
Studio Manager: Jamie L. Keck  
Engineers: John St. John, Scott Tanner, Robert W. Walker  
Dimensions: Studio 25 x 40, control room 18 x 18.  
Mixing Consoles: MCI 536 36 x 24 w/automation  
Audio Recorders: MCI JH-24 24-track, (2) MCI JH-110 2-track,  
(3) Otari MX-5050 2-track, Scully 2-track, Sony F-1 2-track Beta  
digital  
Cassette Recorders/Duplicators: TEAC Z-5000, Technics RS-  
B7R  
Noise Reduction Equipment: Dolby A, Dolby SR, dbx.  
Echo, Reverb, & Delay Systems: AKG R20, Ecoplate II, (2)  
Yamaha SPX900.

Other Outboard Equipment: Orban parametric EQ, Orban dynamic buss control, (2) Eventide 910 Harmonizers, Compex limiter, (2) dbx 160 limiters, (2) dbx 166 compressor/limiters, (2) UREI 1176 limiters, (8) Kepex noise gates, (2) Lexicon Time, (2) Lexicon PCM42.

Microphones: AKG 414, Neumann U87, Neumann U47, Sennheiser 421, Sennheiser 441, Crown PZM, AKG D12, Sony ECM50PS, Sony C-38B.

Monitor Amplifiers: Haffer P500, BGW, Crown.

Monitor Speakers: JBL 4343, Tannoy NFM8, Auratone.

Musical Instruments: Yamaha DX7, Yamaha DX5, Yamaha TX7 rack, Oberheim DX Stretch, Yamaha RX5, Yamaha QX7, Yamaha QX1, ARP 2600, Roland Jupiter 8, Kurzweil K-250 w/sound blocks A, B, C, D.

Other: Edit/dub suite w/Hill 12 x 4 x 2 multmix.

Rates: \$85/hr., subject to change without notice.

Extras & Direction: Credits include Miami Sound Machine, Secret Society, Mike Ballard, Bernard Hepburn, Nikki Wolf, Deak Joachim, Wild Touch, Luis Diaz, Eli Wallach, Raul Aguilar, Dimension Music Library, Dimension Holophonic Sound Library, extensive local, regional and national commercial production. Simon & Schuster.



ALLEN-MARTIN PRODUCTIONS  
Louisville, KY

[24+] ALLEN-MARTIN PRODUCTIONS  
also REMOTE RECORDING  
9701 Taylorsville Rd.  
Louisville, KY 40299

### [502] 267-9658

Studio Manager: Vince Emmett, Tim Haertel  
Extras & Direction: Synclavier studio, full Synclavier system with single instrument booth linked to main 24-track studio with 30 x 40 x 20 room. We also offer: full array of reverbs, plates, digital-to-live echo chambers; extensive mic collection with several vintage mics, and audio-to-video sync (multi-cam remote capabilities and 30 x 30 cyclorama with two editing suites). Our production team is experienced in all phases of product management, from pre-pro through finished product. Staff specialist can assist in album production (musicians on staff), pressing and duplication, music video productions, film scoring, post scoring and mixing, film and video sweetening. Staff script and song writers. Jingle division clients include Coca-Cola Inc., AMC, Nationwide Insurance, Chevron, Valvoline, Hyatt International, GE, Budget Rent-a-Car, Exxon, Standard Publishing, McDonald's, Wendy's, Kentucky Fried Chicken, and independent labels. This comprehensive facility, located on a private Kentucky estate, offers a warm, creative atmosphere. Our award-winning staff of 14 is here to complete any facet of your project with a professional attitude and all the extras you need: complete kitchen, large conference room, 15 minutes from major airport, limo service available.

## Alpha Audio



ALPHA AUDIO  
Richmond, VA

[24+] ALPHA AUDIO  
also REMOTE RECORDING  
2049 W. Broad St.  
Richmond, VA 23220  
(804) 358-3852  
Owner: Alpha Recording Corporation  
Studio Manager: Mary Anne Turner

[24+] PAT APPLESON STUDIOS, INC.  
also REMOTE RECORDING  
1000 NW 159 Dr.  
Miami, FL 33169  
(305) 625-4435  
Owner: Pat Appleson Studios, Inc.  
Studio Manager: Fran Firman

[24+] ARCADIA PRODUCTION & RECORDING STUDIO  
425 Windsor Pkwy.  
Atlanta, GA 30342  
(404) 255-3284  
Owner: Sammy Knox  
Studio Manager: Steven North  
Engineers: Sammy Knox, Steven North, Laura Thorburn, Axel Black  
Dimensions: Studio 24 x 16, control room 22 x 16.  
Mixing Consoles: D&R Holland Series 2000 60 x 30.



ARCADIA  
Production &  
Recording Studio

ARCADIA PRODUCTION & RECORDING STUDIO  
Atlanta, GA

Audio Recorders: Otari MX-80 24-track, Tascam 48 8-track, Otari MX-5050 2-track, Sony PCM-601 ESD 2-track digital.  
Cassette Recorders/Duplicators: Yamaha K-1020 2-track, Nakamichi.

Noise Reduction Equipment: (2) Tascam DX-4D dbx.  
Synchronization Systems: Synchroline Technologies SMPL system, Synchance MTS1  
Echo, Reverb, & Delay Systems: Lexicon PCM70, (3) Roland SRV-2000, DeltaLab CE-1700 CompuEffectron, DeltaLab ADM 1024 Effectron II.

Other Outboard Equipment: Aphex Type C Aural Exciter, (2) dbx 165, (2) dbx 166, (4) D&R Holland gates, (3) D&R Holland parametric EQ, D&R Holland disc amp  
Microphones: (2) AKG 414, (2) Neumann U87, (2) Sennheiser 441, (8) Shure SM57, (2) Shure SM58, (2) Beyer CK-704a.  
Monitor Amplifiers: (2) Adcom GFA-555, Soundcraftsmen RA-5502, (2) Carver 1500.

Monitor Speakers: Tannoy SRM-10B, Yamaha NS-10M, Visonik Little David 6000, Hartman SUTS-SAT custom designed control monitors

Musical Instruments: (2) Emulator Emax, (2) Roland D-50, Akai S900, Emulator SP12, Oberheim Matrix 6-R, Casio CZ-101, Ensoniq ESQ-1, Yamaha TX802, (2) Fender deluxe reverbs (1963), (2) Fender Strats w/EMG, Fender D-bass w/EMG, Simmons drum pads, Simmons TM1

Other MIDI Equipment: IBM PCXT 20 meg hard drive, Voyetra sequencer plus Mkl II 1, Voyetra Patchmaster, ProLib patch librarian

Rates: \$25 to \$65/hr.



ARDENT RECORDINGS INC.  
Memphis, TN

[24+] ARDEN RECORDINGS INC.  
2000 Madison Ave.  
Memphis, TN 38104  
(901) 725-0855  
Owner: John Fry  
Studio Manager: Carol Tabor  
Engineers: Joe Hardy, Tom Laune, John Hampton, Robert "TD" Jackson  
Dimensions: Room 1: studio 25 x 40, control 16 x 25. Room 2: studio 24 x 17, control 25 x 20. Room 3: studio 25 x 35, control 18 x 25  
Mixing Consoles: Solid State Logic 6000E 40 x 32, Mitsubishi Westar 44 x 24, MCI 542 42 x 32.  
Audio Recorders: Mitsubishi X-850 digital 32-track, Mitsubishi X-800 digital 32-track, Otari MTR-90 24-track, (2) MCI JH-24 24-track, (4) Mitsubishi X-86 digital 2-track, (2) MCI JH-110 2-track.

**Echo, Reverb, & Delay Systems:** Lexicon 224XL, Quantec, (6) Yamaha REV7, (2) Publison Infernal Machine, Lexicon Prime Time, (2) Eventide Harmonizer, (3) Roland SDE-3000, DeltaLab Effectron, ADR Scamp ADT, Marshall Time Modulator, (3) EMT, AMS RMX-16, AMS DMX-16, Bel BD-8, (3) live chambers.

**Other Outboard Equipment:** (2) Fairchild limiters, (2) UA 176 limiters, UA 1176, (4) dbx 160, (6) dbx 165, Kepex, (3) Scamp Racks w/gates, compressors, de-essers, Dynamic noise filter, Auto Panner, (2) Valley Intelligent de-esser, Dr Click.

**Microphones:** Neumann: M249, U67, U87, KM84, KM86; B&K, Sanken, AKG C-422 stereo, C-414, C-451, D-12, Crown PZM, E-V RE20, RE15, Sennheiser MD-421, MD-441; Shure: SM81, SM57, Beyer 201, also Sony and RCA

**Monitor Amplifiers:** Crown, BGW

**Monitor Speakers:** Audicon, JBL 4350, KEF, Yamaha NS-10M, Auratone

**Musical Instruments:** (2) Fairlight Series III, Yamaha DX7, Yamaha TX-rack, (2) Roland Super Jupiters, Roland piano synthesizer, Minimoog w/MIDI, Moog Memorymoog, Steinway grand piano, Yamaha grand piano, Chickering grand piano, Fender Rhodes, Hohner clavinet, Hammond M-3 organ, (2) Gretsch drums

**Video Equipment:** Complete 1" video tape, 16 and 35mm film production and editing.

**Rates:** Available on request.

**Extras & Direction:** ZZ Top, Joe Cocker, Emerson Lake & Palmer, Leon Russell, Isaac Hayes, Bar-Kays, Memphis Horns, Staple Singers, Bobby Blue Bland, Roy Orbison, Johnny Cash, Roy Clark, DeGarmo & Key, Mylon LeFevre, Phil Driscoll, Glad, Blackwood Brothers, Jessie Dixon, Farrell & Farrell, Green on Red, Alex Chilton, The Rainmakers, The Beach Boys, J Blackfoot, Coral Reefer Band, Joe Walsh, Al Green.

#### [24+] ASSOCIATED SOUND PRODUCTS INC.

*also REMOTE RECORDING*

3900 Tarheel Dr., Ste. 103

Raleigh, NC 27609

(919) 878-0044

Owner: David Emory, Steve Foley

Studio Manager: Robert Clarke

#### [24+] AUDIO CREATIONS RECORDING STUDIO

*also REMOTE RECORDING*

4815 Clarks River Rd.

Paducah, KY 42003

(502) 898-6746

Owner: Ralph G. Rowton Jr., George Cumbee

Studio Manager: George Cumbee

#### [24+] AUDIO, INCORPORATED

1917 Cleveland Ave.

Charlotte, NC 28203

(704) 376-3818

Owner: Frank & Sandi Rogers

Studio Manager: Frank & Sandi Rogers

#### [24+] AUDIO MEDIA RECORDERS

808 19th Ave. S.

Nashville, TN 37203

(615) 320-5985

Owner: C.E. Jackson, Jr.

Studio Manager: Bob Wright

Engineers: Hollis Halford, Bob Wright, Michael Griffith, Ron Stuie.

**Dimensions:** Room 1 studio 28 x 25, control room 16 x 22  
Room 2 studio 14 x 13, control room 16 x 13

**Mixing Consoles:** Trident 80B (58-in onremix) 30 x 24, Harrison MR 28 x 24

**Audio Recorders:** Studer A800 MkII 24-track, Studer A80 MkIV 24-track, Sony 3202 2-track, Studer A67 2-track, Ampex 440B 2-track, Studer 810, Mitsubishi X-850 32-track

**Cassette Recorders/Duplicators:** (2) AWA ADS-20

**Echo, Reverb, & Delay Systems:** (3) EMT stereo tube plates, Lexicon 224XL, Lexicon Super Prime Time, DeltaLab 102

**Other Outboard Equipment:** LA-2A, LA-3A, dbx 160, dbx 165, UREI 1176LN, Pultec EQs, Sontec, API, Kepex II.

**Microphones:** Neumann U47 tube, Neumann U47FET, Neumann U87, Neumann U67, Neumann KM84, Neumann U249, Neumann M49, AKG 414EB, AKG 451, AKG 452, Shure 57, Sennheiser 421, E-VRE20, Sanken CU-41, Telefunken 250, (3) Neumann KM84, Neumann U249, SM57, 421

**Monitor Amplifiers:** McIntosh, Phase Linear, BGW, Crown, UREI  
**Monitor Speakers:** (2) Westlake TM-1, Yamaha NS-10, JBL 4310, Fostex 780, Westlake BBSM-6, EAW

**Musical Instruments:** New England Digital Synclavier 32-voice polyphonic, PPG Wave 2.3, Oscar, Yamaha 9' grand, Wurlitzer electric piano, ARP AXE, ARP string ensemble, ARP Omni, clavinet, various percussion.

**Video Equipment:** Post-scoring available w/Synclavier music system

**Rates:** Available upon request.

#### [24+] AUGUST RECORDING STUDIO

*also REMOTE RECORDING*

1428 Marchek St.

Jacksonville, FL 32211

(904) 743-7131

Owner: Wayne Fanning

Studio Manager: Wayne Fanning

#### [24+] BENNETT HOUSE STUDIOS, THE

134 4th Ave. North

Franklin, TN 37064

(615) 790-8696

Owner: Bob Montgomery

Studio Manager: Gene Eichelberger, Liz Jones

Engineers: Gene Eichelberger, Mike Clute, Clarke Schleicher, J.T. Cantwell, freelancers welcome.

**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 Bud Wyatt Series 80

**Audio Recorders:** (2) MCI transformerless 24-track, (2) Studer B67 2-track, Ampex ATR-100 2-track 1/2", (2) Studer 800 24-track, Sony PCM-F1 2-track digital

**Cassette Recorders/Duplicators:** Sony, (3) Sharp, Studer

**Synchronization Systems:** (3) Lynx SMPTE lock-up available  
**Echo, Reverb, & Delay Systems:** EMT 250, (2) Lawson plates, Lexicon 200, Yamaha REV7, AMS DDL, 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, Sankens, etc

**Monitor Amplifiers:** Yamaha

**Monitor Speakers:** JBL 4411s, John Meyer monitors, Yamaha NS-10, E-V Sentry 100, Braun 3-way, Auratones

**Musical Instruments:** New England polyphonic Synclavier, Baldwin 7' grand piano, Eddy Reynolds Rhodes.

**Video Equipment:** Sony 5850 3/4" VTR w/sync

**Rates:** Call for rates

**Extras & Direction:** The Bennett House Studios offer a unique recording experience designed for creature comfort. In addition to having two top-quality studios both with 48-track capabilities, there is a fully furnished three-bedroom, two-story historic home that we offer clients to stay in during master projects. Our beautiful home provides a spacious, creative atmosphere with high ceilings and many rooms. The location is most desirable since we are away from the hustle and bustle of Nashville, yet right in the heart of the small but convenient city of Franklin. We also serve a hot home-cooked meal daily (except weekends) for four people, or more at your request for a slight charge. There is also our staff, who will help make your stay a memorable one, if not just productive and enjoyable.

#### [24+] BIAS RECORDING COMPANY, INC.

*also REMOTE RECORDING*

5400 Carolina Pl.

Springfield, VA 22151

(703) 941-3333

Owner: Bill McElroy, Bob Dawson

Studio Manager: Gloria Dawson, Mary Beth Augier

Engineers: Bob Dawson, Bill McElroy, Jim Robeson, D "Dusty" Gemignani, Rob Schnapf.

**Dimensions:** Room 1: studio 16 x 25, 20 x 30, control room 12 x 16  
Room 2: studio 16 x 25, control room 12 x 6

**Mixing Consoles:** API 4032 40 x 32, MasterMix Audiokinetics automation, API modified 2488 24 x 8 w/Allison Fadex

**Audio Recorders:** Ampex MM-1200 24-track (Studio A), Ampex MM-1200 24-track (Studio B), (7) Studer B67 2-track, Studer A67 2-track, Ampex 440-B 4-track

**Cassette Recorders/Duplicators:** (2) Technics M-280, (4) Nakamichi MR-1

**Echo, Reverb, & Delay Systems:** (2) Lexicon Model 200, Lexicon 224, (2) EMT 162, Lexicon PCM70, Lexicon PCM60, Lexicon Prime Time, (2) Eventide Harmonizer, AKG BX-20E

**Other Outboard Equipment:** UREI 1178 stereo, UREI 1176LN, digital metronome, Sony PCM-F1 digital audio processor, Sony Super Beta Hi-Fi, Sony Beta Max, Nakamichi DMP-100 digital mastering processor

**Microphones:** Neumann, Sony, AKG, Shure

**Monitor Amplifiers:** Bryston (Studio A), Crown (Studio B)

**Monitor Speakers:** Auratone & Sierra/Hidelity (Studios A & B)

**Musical Instruments:** Yamaha C-5 grand piano, Hammond C-3 w/Leslie, Fender Rhodes, Hohner clavinet, Slingerland drums, Fibes drums, Fender Precision bass, Fender Twin Reverb, blond Fender Pro, (2) tweed Fender Deluxe, tweed Fender Vibrolux, Oberheim DX drum machine, Yamaha DX7, Marshall 50W head, Marshall 4 x 10 cabinet

**Rates:** Studio A: \$100/hr., Studio B: \$70/hr., bulk rate available

#### [24+] BIG MAMA RECORDING STUDIO

*& TELEPRODUCTIONS*

*also REMOTE RECORDING*

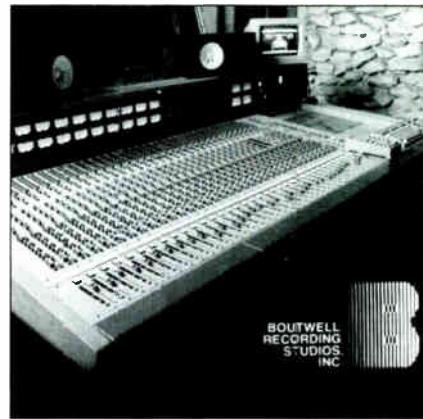
400 Ensley Dr.

Knoxville, TN 37920

(615) 577-5597

Owner: Norbert Stoval

Studio Manager: Allen Wright



BOUTWELL RECORDING STUDIOS, INC.

Birmingham, AL

#### [24+] BOUTWELL RECORDING STUDIOS, INC.

*also REMOTE RECORDING*

720 South 23rd St.

Birmingham, AL 35233

(205) 211-8889

Owner: Corporation

Studio Manager: Nancy Boutwell Cotton

Engineers: Tony Wachtel, Mark Harrelson, Charles Harnach Mixing Consoles: Sony MXP-3036 36 x 24 automated, Soundcraft 800 18 x 6, (2) Soundcraft 200 16 x 8

Audio Recorders: MCI JH-16/24 24-track, Otari MX-70 16-track, Otari MX-5050 8-track, Otari MTR-10TC 2-track, (3) MCI JH-110 2-track, (3) Anplex ATR-700 2-track

Cassette Recorders/Duplicators: Telex 300 open reel duplicator 1 x 5, various cassette decks by Yamaha, Technics, Sony, Aiwa

Synchronization Systems: Cipher Digital Softouch or scoring & sweetening, Southworth Jambox

Echo, Reverb, & Delay Systems: Lexicon PCM60 w/REV3 conversion, Lexicon PCM70 w/REV3 conversion, Yamaha SPX-90, (2) Yamaha SPX-90I, Lawson stereo plate, AKG BX-20, DeltaLab Effectron digital delay, ART 1500, ADA 1500, Ross digital delay

Other Outboard Equipment: Limiters & compressors by UREI, dbx, Ashly, Valley Audio, (2) Valley Audio auto gates

Microphones: Neumann U87, AKG 414EB, Sennheiser MD-421, Sennheiser MD-441, E-V RE20, E-V RE15, C-452s, MC-740, M420, M201, PSMs, SM81s

Monitor Amplifiers: Crown, Yamaha, Peavey, Symetrix

Monitor Speakers: (2) JBL 4333, (4) Yamaha NS-10, (4) JBL 4311, (10) Auratones

Musical Instruments: Kurzweil 250 w/MaIntosh sequencing, Yamaha DX7, Akai AX-60, Prophet-5, Yamaha RX-1 drum machine, Oberheim drum machine, Yamaha grand piano, Simmons SDS-5 drums, Pearl drum set, Fender bass guitar, Fender and Peavey assorted amplifiers, Hammond organ, Roto toms. Other MIDI Equipment: (2) Akai S900 sampler, Akai S612 sampler, Southworth 4+ Jambox.

Video Equipment: JVC CR 850 U, Sony 2860, Sony video monitors

Other: Sony AIDS 3000 automation package w/hard & floppy disc storage

Rates: On request

#### [24+] BROADWAY SOUND STUDIO, INC.

1307 Broadway St.

Sheffield, AL 35660

(205) 381-1833

Owner: David Johnson

Studio Manager: Butch Johnson

#### [24+] THE CASTLE RECORDING STUDIO, INC.

1393 Old Hillsboro Rd.

Franklin, TN 37064

(615) 791-0810

Owner: Joseph Nuyens

Studio Manager: Jozef Nuyens

Engineers: Mark Richardson, Mark Nevers, Byrion House

Dimensions: Size of castle

Mixing Consoles: Solid State Logic 4000E w/Total Recall, Computer 48 x 32, Yamaha 16-track

Audio Recorders: Mitsubishi X-850 32-track digital w/APG filters, Mitsubishi X-96 2-track digital w/APG filters, (2) Studer A80 24-track analog, Studer A80 2-track 1/2" analog, (2) Studer B67 2-track 1/4" analog

Cassette Recorders/Duplicators: Studer, (5) Sony

Echo, Reverb, & Delay Systems: AMS-RMX16 digital reverb, AMS DMX decay/sampler, Lexicon 480L, PCM42, Lexicon 224XL, Yamaha D1500, EMT-250, Lexicon 224, (3) Lexicon PCM70I, (2) Ecoplate II, Yamaha SPX90, Lexicon Super Prime Time, Lexicon Prime Time

-CONTINUED ON NEXT PAGE

**Other Outboard Equipment:** (2) Teletronics LA-2As, (2) Pultec EQs, (2) Focusrite EQs, (4) Kepex gates, Scamp mini rack EQ, (2) UREI 1176 limiters, Trident compressor/limiter, Drawmer DS-201 noise gate, dbx 165A compressor/limiter, dbx 166 stereo compressor, Tube Tech PE-1B, (2) ADR Vocal Stressors. **Microphones:** Complete selection of: Neumann, AKG, Shure, Sennheiser, E-V (3) U48, (2) U67, M50, M250, U47, SM2, KM54, KM84, M249, Altec 29B.

**Monitor Amplifiers:** (3) Bryston 4B on main, Yamaha 2201 on alternates, BGW 250s on cue.

**Monitor Speakers:** UREI 813, Yamaha NS-10, Fostex RM 780, JBL 4430 biaural.

**Musical Instruments:** Bosendorfer grand piano, Hammond B-3 organ w/Leslie, Fender Rhodes, tack piano (upright), Yamaha DX1, Roland Octapad, Roland TR-808 drum machine, Fairlight CMI system II-X.

**Other MIDI Equipment:** Akai S900 sampler, Yamaha QX1 sequencer, Yamaha MIDI rack (DX7s), Yamaha MJC8 MIDI patcher, Simmons SDS7 w/SDS6 sequencer, Oberheim Matrix 6R. Other: Fairlight CMI Series III.

Rates: Upon request

[24+] CATSPAW PRODUCTIONS  
3033A Maple Dr. NE  
Atlanta, GA 30305  
(404) 233-3173  
Owner: Cat's Paw Productions, Inc.  
Studio Manager: Brad Jones

[24+] CENTURY III TELEPRODUCTIONS  
5000 Eggleston Ave.  
Orlando, FL 32804  
(305) 297-1000  
Owner: Ross Cibella  
Studio Manager: Oliver Peters

[24+] CHANDLER AUDIO  
also REMOTE RECORDING  
1617 W. Midland Trail Rd.  
PO Box 5629  
Ashland, KY 41105  
(606) 928-9507  
Owner: Chandler Audio, Inc.  
Studio Manager: Ed Lambert  
Engineers: Dick Hawkins, Ed Lambert, Otis Dillon, Denny Chandler  
Dimensions: Studio 22 x 24, control room 19 x 16  
Mixing Consoles: Harrison 3624 36 x 24 w/automation.  
Audio Recorders: Studer A80 24-track, Ampex ATR-800 2-track  
Cassette Recorders/Duplicators: (2) Nakamichi BX-300.  
Synchronization Systems: Lynx Timeline  
Echo, Reverb, & Delay Systems: Klark-Teknik DN-780, (2) Yamaha REV7, Ibanez SDR-1000+, Lexicon PCM60, Yamaha SPX90II, Korg SDD-3000, Ursus Major Space Station, ADA STD-1, Lexicon Prime Time, Roland chorus/echo  
Other Outboard Equipment: Dyna-Mites, (2) UREI 1176, (4) Ashly comp/limiters, (2) dbx 160X comp/limiters, Aphex compellor, Orban de-esser, Barcus-Berry BBE, White EQ, Gatem noise gates, Aphex B

Microphones: AKG, The Tube, 414s; Neumann: U87, KM84s, Sennheiser: 421, 441; Shure: SM7, 54, 57, 58, 81, 330, E-V RE20, Crown PZMs; Beyer M300.

**Monitor Amplifiers:** Crown  
**Monitor Speakers:** UREI 813B, JBL 4311, Yamaha NS-10, Auratones, E-V 100s.

**Musical Instruments:** Yamaha C-5 grand piano, Yamaha DX7, TX7, GS-2, Oberheim OB-8, Matrix 6, DPX-1, DMX, Roland MKS-20, MKS-30, MKS-70, D-50, 707, 727, 360 Systems digital keyboard, Linn 9000 w/Fortrat custom mods, Ensoniq ESQ/M, Akai S612, Sequential Prophet-5 w/MIDI, Rogers drum kit, Music Man electric bass, Musser vibes & orchestra bells.

**Other MIDI Equipment:** Digital Creations patch bay, IBM PC, Macintosh computer w/librarian software, Roland SBX-10 sync box

**Video Equipment:** JVC 6250 3/4" U-Matic facilities available in-house and remote

Rates: On request

[24+] CHESHIRE SOUND STUDIOS  
2093 Faulkner Rd. NE  
Atlanta, GA 30324  
(404) 321-3886  
Owner: TG Wright, Jr.  
Studio Manager: Wynette Smith

[24+] CINDERELLA SOUND STUDIO  
1108 Cinderella St.  
Madison, TN 37115  
(615) 865-0891  
Owner: Wayne Moss  
Studio Manager: Wayne Moss

## S O U T H E A S T 24+ TRACK STUDIOS



**COMMERCIAL MUSIC RECORDING COMPLEX**  
Memphis, TN

[24+] COMMERCIAL MUSIC RECORDING COMPLEX  
Memphis State University  
Dept. of Music, MSU  
Memphis, TN 38152  
(901) 454-2550  
Owner: Memphis State University  
Studio 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 12, electronic music lab: 16 x 10 x 12  
Mixing Consoles: MCI JH-636 36 x 24.  
Audio Recorders: MCI JH-24 24-track, Otari: 5050 MkIII-8 8-track, MCI JH-110B 2-track, Studer/Revox PR99, others.  
Echo, Reverb, & Delay Systems: Lexicon 224XL, Lexicon M97 Super Prime Time  
Other Outboard Equipment: Aphex Type B Aural Exciter, H949 Harmonizer, dbx 160X, Valley People Dyna-Mite, Scamp, Yamaha SPX90.  
Microphones: Neumann U47, Neumann U87, Neumann KM84, AKG C414, AKG C452, Sennheiser MD-421, Shure SM81, Shure SM57, E-V RE20, E-V RE10, Crown PZM.  
Monitor Amplifiers: BGW, AB Systems.  
**Monitor Speakers:** UREI 813A, UREI 811A, Yamaha NS-10, JBL 4401, JBL 4412, Auratones.  
**Musical Instruments:** Steinway grand piano, Baldwin grand piano, Yamaha DX7, Roland JX-10, Roland MC-500, Roland MPU-101, PAD 8 Octapad, Roland TR-707, TR-727, Akai S900, Akai ME-30P, Moog 3C, Apple Macintosh SE, full complement of studio, orchestral and percussion instrumentation available.  
**Video Equipment:** Complete 1" and 3/4" Betacam video production/CMT post-production services available, funding has been requested to enable video production suite to be interfaced with recording studios.

Rates: The CMUS Complex is operated primarily as an instructional facility and was developed to handle the needs of the university's Commercial Music degree programs and Highwater record company. Although normally unavailable for commercial use, studio rental is authorized under special circumstances. Availability and rates upon request.

[24+] CONTI STUDIO  
also REMOTE RECORDING  
509 N. Ridgewood  
Edgewater, FL 32032  
(904) 427-2480  
Owner: Conti Family  
Studio Manager: Dick Conti

[24+] COTTON ROW RECORDING  
1503 Madison Ave.  
Memphis, TN 38104  
(901) 276-8518  
(901) 276-8520  
Owner: Nikos Lyras, Ward Archer, Jr.  
Studio Manager: Melanie Hundt  
Engineers: Niko Lyras, Eric Patrick, Danny Jones, Doug Nightwine  
Dimensions: Studio 32 x 22, control room 17 x 20.  
Mixing Consoles: Trident Series 80 32 x 24

**Audio Recorders:** Otari MTR-90 24-track, Otari MTR-10 2-track, TEAC A-3300 2-track

**Cassette Recorders/Duplicators:** Tascam 122, Tascam 112.

**Noise Reduction Equipment:** dbx

**Echo, Reverb, & Delay Systems:** Lexicon 224, Lexicon PCM70, Lexicon PCM60, Yamaha SPX90, ART O 1A, Lexicon PCM41, DeltaLab Effectron, DeltaLab Effectron, Jr.

**Other Outboard Equipment:** dbx 106X, Audio Logic MT66 dual comp/gate, Dynamite Dual, Omni Craft 4 in 1, Aphex Type C Aural Exciter, Orbital dual de-esser

**Microphones:** AKG C414EB, AKG C451E, AKG CKB, AKG 1000E, AKG D12E, AKG D200E, Neumann KM84, Crown PZM, Sennheiser MD-421, E-V RE20, Shure SM57.

**Monitor Amplifiers:** Yamaha P2201, BGW 250-B, Crown D150A

**Monitor Speakers:** Tannoy FSM-U (modified) by Steve Durr w/White room EQ), E-V Sentry Five, Yamaha NS-10M, Auratone 5c

**Musical Instruments:** Kawai grand piano, Hammond B-3 organ w/Leslie speaker, Yamaha RX15 drum machine, Fender Strat electric guitar, Schecter Strat electric guitar, Seymour Duncan amp.

**Other MIDI Equipment:** Linn sequencer, Akai S900 sampler, Akai MIDI patch bay, Roland D50, Yamaha DX7, Yamaha DX21, Korg Poly-800, Roland Juno 106, Emulator II.

[24+] CRAWFORD POST PRODUCTION, INC.

535 Plasmar Dr.

Atlanta, GA 30324

(404) 876-7149

Owner: Jesse Crawford

Studio Manager: Mike Greene

Engineers: Steve Davis, Tom Race, Kathy Gray, Carl Maduri, Greg Crawford, Albert James.

Dimensions: Room 1: studio 32 x 25 x 14, control room 34 x 27. Room 2: studio 6 x 8, control room 12 x 12. Room 3: studio 9 x 13, control room 21 x 23.

**Mixing Consoles:** Studio 1: Neve 8128 40 x 32, Necam 96 automation. Studio 2: Trident Series 70 24 x 16. Studio 3: Sony/MCI JH-600 36 x 24, VCA automation.

**Audio Recorders:** Studio 1: (2) Studer A80 MkIV 24-track, Ampex ATR-102 1/4", Otari MTR-12 center track 1/4", Ampex ATR-104 1/2" 4-track, Studer A80 1/2" 2-track; Studio 2: Otari MTR-90 II 24-track, Otari MTR-12 center track 1/4", Ampex ATR-102 2-track ATR-101 full-track; Studio 3: Otari MTR-90II 24-track, Otari MTR-12 center track 1/4", Ampex ATR-102 1/4" 2-track, ATR-101 1/4" full-track.

**Cassette Recorders/Duplicators:** Studio 1: Tascam. Studio 2: Nakamichi MR-1. Studio 3: Nakamichi MR-1.

**Noise Reduction Equipment:** Studios 1, 2 and 3: dbx Type 1.

**Synchronization Systems:** Adams-Smith 2600 Series, (5) synchronizers, code reader, code generator, character inserter, controlled by Alpha automation Boss computerized audio editor. (Same rig all three studios.)

**Echo, Reverb, & Delay Systems:** Studio 1: (2) Lexicon 224X, AMS RMX-16, (2) Lexicon 200, (2) Lexicon PCM70 reverbs, (2) Lexicon PCM42, Lexicon Super Prime Time DDLS, Eventide Harmonizer, Yamaha SPX90, PCM60 reverb. Studio 2: Lexicon 200 reverb, Yamaha SPX90. Studio 3: Lexicon PCM70 reverb, Lexicon PCM42 DDLS, PCM60 reverb.

**Other Outboard Equipment:** dbx, Neve, Aphex, ADR, Audioarts, UREI, Ursus Major, Klark-Teknik, Teletronix, Valley People.

**Microphones:** Neumann, AKG, Sennheiser, Beyer, Milab, Crown, Shure, Schoeps, Fostex, E-V, Sony.

**Monitor Amplifiers:** Crest, Crown, Hafer, AB System, BGW.

**Monitor Speakers:** Custom Design, Yamaha NS-10M, Auratone, MD-4.

**Musical Instruments:** Yamaha C7, LinnDrum, Tama drums, Simmons Drums, Prophet T-8, Rhodes, Marshall amp, Synclavier: (32) polyphonic sampling voices, (8) stereo digital FM synthesis voices, 20 megabytes RAM, 160 megabyte hard disk, 100kHz stereo sample to disk.

**Other MIDI Equipment:** Synclavier MIDI interface.

**Video Equipment:** Studio 1: Sony BVU-800 3/4"; Studio 2: Sony BVU-800 1/2"; Studio 3: Sony BVU-800 1/2". On patch Ampex 2B 1" C format video.

**Other:** (4) 1" on-line video edit suites w/ADO, Quantel production studio (Harry, Encore, Paintbox Mirage), (2) Abekas A-62, Abekas 53-D and A-42, Vidifont, Chyron, computer generated graphics, Ampex AVA I and AVA III paintbox, Bosch FGS-4000, Dubner CBGII, Wavefront 3-D modeling software, mechanical concepts motion control system, Sony DVR-1000.

[24+] CRAWFORD PRODUCTIONS

PO Box 1192

New Smyrna Beach, FL 32070

(904) 427-6626

Owner: Warren Crawford

Studio Manager: Rusty Crawford

[24+] CREATIVE SOUND CONCEPTS

495 Armour Cir. NE

Atlanta, GA 30324

(404) B73-6628

Owner: Dennis Baxter, Spencer Herzog

Studio Manager: Laura Connely



# We designed the Performer Series for studios with a low overhead.

People who spend half their lives waiting until they can afford studio time usually spend the other half trying to make professional recordings at home.

But nowadays, recording in less than totally professional surroundings ain't what it used to be — it's better. Especially when you apply the natural advantages of dbx signal processing to your music.

The dbx 163X Compressor/Limiter is a great place to start for professional sound. Let's say your synth bass patch needs bottom, but you can't add any more without losing definition on top. The 163X lets you get both, along with a punchier, apparently louder overall sound. dbx OverEasy® compression is not only gentle on the sound, it's incredibly easy to use. A single slider and "thumb adjust" level control provide the ultimate in hands-off/ears-on convenience.

At home, noise can be a major problem throughout

the recording chain. The dbx 463X Noise Gate Expander cleans up *all* of the accumulated noise before final mixdown. It's also versatile enough to create those special gated reverb effects found on today's recordings.

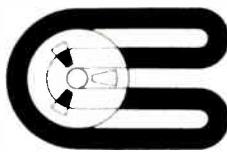
You want the vocals up in the mix, but you don't want to hear harsh sibilants (excessive "ess" sounds) or high-frequency distortion. The dbx 263X De-Esser lets you get crisp, detailed vocals that cut through the hottest mixes without any unpleasant side effects.

Now that tape machines (most of which use dbx noise reduction), mikes and consoles for home recording are better than ever, doesn't it make sense to complete the cycle with professional signal processing from dbx? After all, the better your demos are today, the less you'll have to wait until you can get your recording out of the garage and into the studio — where it belongs.

**dbx**®

Professional Products Division, 71 Chapel Street, Newton, Mass. 02195 617/964-3210





## criteria recording studios

**CRITERIA RECORDING CO.**  
Miami, FL

[24+] CRITERIA RECORDING CO.  
1755 NE 149th St  
Miami, FL 33181  
(305) 947-5611  
Owner: Mack Emerman  
Studio Manager: Margie Curry  
Dimensions: Room A: studio 46 x 67, control room 14 x 17.  
Room C: studio 25 x 32, control room 15 x 16. Room D: studio 14 x 22, control room 17 x 19. Room E: studio 50 x 50, control room 23 x 26.  
Mixing Consoles: (2) Solid State Logic 6000E 48 x 32, MCI 532C 32 x 32, (2) MCI 532B 32 x 32, MCI 5560 48 x 32.  
Audio Recorders: Mitsubishi X-800 32-track, (2) Otari MTR-90 24-track, (2) MCI JH-24 24-track, (2) Mitsubishi X-80 2-track, (2) MCI JH-110B 4-track, (3) MCI JH-110B 2-track.  
Cassette Recorders/Duplicators: (5) Yamaha K-1020, (5) Yamaha K-540.  
Noise Reduction Equipment: dbx 900 rack 8 units, (5) Dolby 24 units.  
Synchronization Systems: Audio Kinetics Q.Lock 3.10, MCI JH-45  
Echo, Reverb, & Delay Systems: (3) live stereo chambers, (4) Ecoplates, EMT 251, Lexicon 224XL, AMS RMX, AMS DMX 1580-S, (2) Yamaha REV7, (2) Lexicon PCM41, (6) Lexicon PCM42.  
Other Outboard Equipment: Focusrite EQ modules, Lexicon 480L, Eventide 2016, (4) Drawmer gate systems, (2) Yamaha SPX90, (2) Lexicon PCM70, Kepex II, (8) Pultec EQs, (3) UREI LA-2A tube limiters.  
Microphones: AKG C-24 tube stereo, (4) Neumann U47 tubes, (2) Neumann U47 FET, (8) AKG 414, (6) AKG 452 EB, (5) Beyerdynamic 260, (12) Schoeps Collette Series, various capsules, (4) Sennheiser MD-421, (2) Schoeps CMT-501 stereo, (10) Neumann U87, (8) Shure SM57, (2) Shure SM7.  
Monitor Amplifiers: (7) McIntoshamps, (2) UREI 6500, (2) APT-1 amps  
Monitor Speakers: (2) Criteria custom tri-amped systems, (3) Criteria/ED Long custom monitors, (3) Yamaha NS-10, ADS 810.  
Musical Instruments: Set of Rogers drums, (2) Baldwin SD10X 9' concert grand pianos, Mason Hamlin 9' piano, (2) Fender Rhodes, (2) Hammond B-3 organs.  
Video Equipment: JVC CR8200 3/4" VCR.  
Other: (4) Magna-Tech 35/16 dual dubbers, Magna-Tech 3-track recorder, (2) film projectors (35/16mm).  
Rates: By request.

[24+] CROSSTOWN AUDIO  
2135 Defoor Hills Rd. NW, Ste. I  
Atlanta, GA 30318  
(404) 352-4790  
Owner: Brandon Wade, Jon Aaron  
Studio Manager: Jon Aaron

[24+] DECIBELS UNLIMITED PRODUCTIONS  
3342 T.C.U. Blvd.  
Orlando, FL 32817  
(305) 657-6481  
Owner: Robert A McBride

[24+] DELSHAY STUDIOS & RESORT COMPLEX  
452 Granada Blvd.  
Warm Mineral Springs, FL 34287  
(813) 426-2063  
Owner: David Lipuralo  
Studio Manager: Ricardo-Rick-Mozo

[24+] JIM DEVITO'S RECORDING STUDIO  
also REMOTE RECORDING  
6249 AIAS  
St. Augustine, FL 32084

# S O U T H E A S T 24+ TRACK STUDIOS

(904) 471-0506  
Owner: Jim DeVito  
Studio Manager: Bill Parker

[24+] DIGITRACKS MIDI SEQUENCING  
6219 SW 78 St  
South Miami, FL 33143  
(305) 667-4373  
Owner: Mark Hill  
Studio Manager: Kay O'Neil

[24+] DOPPLER STUDIOS, INC.

1922 Piedmont Circle  
Atlanta, GA 30324  
(404) 873-6941  
Owner: Pete Caldwell  
Studio Manager: Pete Caldwell  
Engineers: Bill Quinn, Joe Neil, Curt Bush, Granger Beern, Mitch Eaton, Steve Schwartzberg, Wayne Murray, Steve Simmons  
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 10 x 15. Room 5: studio 12 x 15, control room 15 x 13.  
Mixing Consoles: SSL 4000E 34 x 24, Sphere Eclipse C 40 x 24. Sphere A 28 x 24, Audtronics 110-A 20 x 4, custom 8 x 8  
Audio Recorders: (2) Otari MTR-901 24-track, Otari MTR-90 24-track, 3M M-79 24-track, Otari MTR-10 4-track, (2) Ampex ATR-102 2-track, (9) Otari MTR-10 2-track.  
Cassette Recorders/Duplicators: Nakamichi MR-1, (11) Nakamichi MR-2.  
Noise Reduction Equipment: dbx.

Synchronization Systems: (2) Softouch Systems.

Echo, Reverb, & Delay Systems: (2) Lexicon 224XL, Lexicon 2070, Eventide 969 Harmonizer, Lexicon Prime Time II, (2) Yamaha SPX90II, (2) EMT plates, Marshall Time Modulator, Eventide 1745M.

Other Outboard Equipment: (7) dbx 165X limiter/compressors, ADR Vocal Stresser, Aphex Compellor, (2) Allison Kepex II, (2) Allison Gain Brain II, (4) dbx 160 compressors, Orban parametric equalizer, Orban de-esser, UREI 1176LN compressor.

Microphones: (8) Neumann U87, (2) Neumann U67, (2) Neumann KM84, (2) Neumann KM85, Neumann U64, (2) Studer SKM5, (4) AKG 414-EB, (2) AKG C452, (4) Sennheiser 441, (8) Sennheiser 421.

Monitor Amplifiers: (2) UREI 6500, (8) Hafler P500  
Monitor Speakers: (6) UREI 813B, (8) EAW MS-30, (2) Yamaha NS-10, (4) JBL 4311, (4) AR-18, (12) Auratone.

Musical Instruments: Steinway B grand piano, Baldwin baby grand piano, Ludwig drums, Hammond B-3 organ, (3) Fender amps.

Video Equipment: Sony BVH-1000A 1" Type C w/TBC, (3) Sony VO-5850 3/4" U-matic, Sony VO-5800 3/4" U-matic.  
Other: (2) Plycord active cue systems.

Rates: Upon request.

[24+] DUFAY DIGITAL MUSIC

also REMOTE RECORDING  
2610 Charter Court  
Murfreesboro, TN 37130  
(615) 898-1653  
Owner: Dr. Frederick J. Bashour  
Studio Manager: Mac Intosh

[24+] EBS, INC.

1125 Moore Duncan Hwy, PO Box 66  
Moore, SC 29369  
(803) 574-6104  
Owner: Duane Evans, Joseph Evans  
Studio Manager: Lyndon Vestal  
Engineers: Duane Evans, Denver Wright, Babe Williamson, David Rochester  
Dimensions: Studio 50 x 60, control room 24 x 20.  
Mixing Consoles: MCI JH-600 28 x 24.  
Audio Recorders: MCI JH-24 24-track, MCI JH-110B 2-track, Ampex 2-track, TEAC 3340 4-track, Recordex CS-4000, GT4-A duplicator 5 bays, 8.1.  
Cassette Recorders/Duplicators: Nakamichi MR-1, (2) TEAC cassettes.  
Echo, Reverb, & Delay Systems: Yamaha REV-1, Yamaha REV7, Lexicon PCM60, plate, Eventide H-949, Electro EP-500, DDL, Master Room stereo reverb, MXR digital time delay, Lexicon PCM41, Roland SDE-1000 DDLs.  
Other Outboard Equipment: dbx 165, dbx 160, Teletronix LA-3A, UREI 1176, Audioarts stereo parametric EQ, Aphex Type C

Aural Exciter, Furman ON-4, Soundcraftsmen SP-4002 signal processor.

Microphones: Neumann U47, AKG 414, E-VRE20, AKG D202, Sennheiser MD-421, Neumann KM84, Shure SM57, Shure SM58, Shure SM53, E-V PL77.

Monitor Amplifiers: (3) Crown DC-300A, (2) Crown D60.

Monitor Speakers: (3) JBL 4331, JBL 4311, JBL 4301, Auratone cubes, Yamaha NS-10M.

Musical Instruments: Vintage Mason and Hamlin grand, Hammond B-3000, Leslie 722, PolyMoog, MicroMoog, Yamaha DX7, Emulator II, Tama Techstar electronic drums, Fender Strat, Gibson Les Paul, Fender Precision, congas, assorted rhythm instruments.

Video Equipment: Available at extra charge.  
Rates: \$80/hr; call for day and block out rates.

[24+] ELEVEN-ELEVEN SOUND

1111 17th Ave. S.  
Nashville, TN 37212  
(615) 329-1111  
Owner: Larry Butter  
Studio Manager: John Abbott  
Engineers: John Abbott, Rodney Good, independents.  
Dimensions: Studio 34 x 36, control room 12 x 14.  
Mixing Consoles: Neve V-series III 48 x 48.  
Audio Recorders: Mitsubishi 850 32-track (digital), Studer A80 24-track, Mitsubishi X-80A 2-track (digital), Studer A80 2-track, Studer B67 2-track, Studer A67 2-track.  
Echo, Reverb, & Delay Systems: Lexicon 224XL w/LARC, Lexicon 224, EMT 140, EMT 162.  
Other Outboard Equipment: GML moving fader automation, Lexicon Prime Time, TC Electronic 2290, Valley People 440 limiter/compressor, Harmonizer.  
Microphones: Neumann: 249 tube, 67 tube, 47 FET, 87s, KM84s, AKG: 462, 414; Sennheiser 421, E-V, Sony's.  
Monitor Amplifiers: McIntosh 2500, BGW 600, BGW 250s, Crown 150 and 60s, Sony.  
Monitor Speakers: Sierra Audio w/oak dispersion horns, Yamaha NS-10M.  
Musical Instruments: Steinway 9' grand w/Forte Music MIDI, Yamaha DX7, Rhodes piano, Wurlitzer piano, Hammond B-3, congas.  
Rates: Available upon request.

[24+] BERT ELLIOTT SOUND

also REMOTE RECORDING  
2080 Peachtree Ind. Ct. Ste. 114  
Atlanta, GA 30341  
(404) 452-1140  
Owner: Bert Elliott  
Studio Manager: Margie Gorney

[24+] EMS RECORDING STUDIO

Rio Maravilla St., AP-13 Rio Hondo  
Bayamon, PR 00619  
(809) 784-5624  
Owner: Eddie Fernandez  
Studio Manager: Ronnie Torres  
Engineers: Ronnie Torres, Ito Serrano, Eddie Fernandez.  
Dimensions: Studio 30 x 20, control room 15 x 15.  
Mixing Consoles: Trident Series 75 28 x 56.  
Audio Recorders: Otari MX-80 24-track (pre-wired 32), Otari MTR-12C 2-track, Ampex 4400C 2-track, Tascam 32B 2-track.  
Cassette Recorders/Duplicators: Tascam 144, Sony DAT.  
Noise Reduction Equipment: Dolby 162 stereo, Dolby 166, (2) Valley People 440.  
Synchronization Systems: (3) Lynx Timeline, Fostex.

Echo, Reverb, & Delay Systems: Lexicon 200, Lexicon 60, Lexicon 70, Yamaha REV7, Yamaha SPX90, Lexicon PCM41, Roland 2000, Fostex digital delay, DeltaLab Compu-effectron, Ibanez 2000.

Other Outboard Equipment: Yamaha 3-band Professional Series EQ, (2) Fostex EQ, Aphex Studio Dominator, Aphex compellor, Aphex Aural Exciter, GateX noise gate, mic preamp.

Microphones: Neumann 87, Neumann 47, (2) AKG 414, (8) AKG S190, (3) Shure 57, (2) Sennheiser 421, Sennheiser 441, AKG D-12, (2) Shure 58.

Monitor Amplifiers: Crown 1200 Micro-Tech stereo, Crown 150, (2) HH Electronic 400 watts each.

Monitor Speakers: (2) JBL 4333, (2) Fostex RM780, (2) Aurora 5C, (2) JBL LT1.

Musical Instruments: Emulator II w/optical media hard disk, Roland MKS-20 digital piano, Yamaha DX7, Yamaha DX21, (5) Yamaha TX, Yamaha KX88, Roland D-50, Roland Juno 106, Roland Juno 1, Ensoniq ESQ-1, SP12, Yamaha PF15, Yamaha GS2, Korg DW-8000, Roland 727 Percussion, Simmons head, Roland digital drum w/pads.

Other MIDI Equipment: Apple IIe w/Master Tracks and Polywriter programs, Macintosh 512K w/Master Tracks Pro.

Video Equipment: JVC 8050 3/4", (2) TV color monitors.

Rates: Call for rates on 24 tracks and video and audio sync.  
Extras & Direction: We are dedicated to jingle productions and albums as well. For local artists and Spanish singers in general. EMS offers the highest quality in compositions, arrangements and musicians, with vast experience in the music field.

[24+] FAITH PRODUCTIONS  
also REMOTE RECORDING  
Rt 2, Box 1012  
Cleveland, TN 37311  
(615) 478-7251  
Owner: Church of God  
Studio Manager: Mike Baker

[24+] FANTA PROFESSIONAL SERVICES  
also REMOTE RECORDING  
1213 16th Ave. S.  
Nashville, TN 37212  
(615) 327-1731  
Owner: John Rosen  
Studio Manager: Robin Victor

[24+] FLAMINGO STUDIOS  
2195 Lake Bradford Rd.  
PO Box 2434  
Tallahassee, FL 32316  
(904) 576-4741  
Owner: Charlie Roberts  
Studio Manager: Dorene Giblin

[24+] FLOOD ZONE STUDIO  
11 S. 18th St., PO Box 7105  
Richmond, VA 23221  
(804) 644-0935  
Owner: Mason Wyatt, Bruce Olsen, Steve Payne  
Studio Manager: M. Wyatt

[24+] GATLIN BROS. MUSIC RESOURCES, INC.  
254 Cedarview Dr.  
Antioch, TN 37013  
(615) 834-9944  
Owner: Gatlin Bros., Michael G. Smith  
Studio Manager: M. Smith

[24+] GERMANTOWN RECORDING STUDIO  
1209 4th Ave. N.  
Nashville, TN 37208  
(615) 244-8019  
Owner: Michael Bridges  
Studio Manager: Michael Bridges

[24+] GHL AUDIO ENGINEERING  
also REMOTE RECORDING  
2807 Azalea Pl.  
Nashville, TN 37204  
(615) 269-5183  
Owner: Gary Hedden Ltd.  
Studio Manager: Jim Kaiser

[24+] GOLD MINE STUDIO  
2020 Sunnyside Dr.  
Brentwood, TN 37027  
(615) 373-8840  
Owner: Chris Christian  
Studio Manager: Michael G. Koreiba

[24+] GRAND CENTRAL STUDIO  
1708 Grand Ave.  
Nashville, TN 37217  
(615) 321-5140  
Owner: Pat Patrick  
Studio Manager: Kent Madison

[24+] GREAT CIRCLE SOUND  
365 Great Circle Rd.  
Nashville, TN 37228  
(615) 742-6800  
Owner: The Benson Co.  
Studio Manager: Bob Clark

[24+] HAYES RECORDING STUDIOS  
2406 S. MacDill Ave.  
Tampa, FL 33629  
(813) 837-6384  
Owner: Paul Hayes  
Studio Manager: John Uhrig  
Engineers: John Uhrig, Bob Bodell, independents welcome.  
Dimensions: Studio 20 x 24 x 12, isolation rooms 8 x 9 and 8 x 10, control room 20 x 15 x 9.  
Mixing Consoles: Sphere A 32 x 16 custom.  
Audio Recorders: Ampex MM-1200 24-track, Studer A80RC 2-track 1/2" and 1/4", (2) Ampex 440-B 2-track, Ampex 440-B full-track, Scully 280-B 2-track.  
Cassette Recorders/Duplicators: Studer A710  
Noise Reduction Equipment: dbx 24-channel.  
Synchronization Systems: Audio Kinetics 3.10 controller and 4.10 brain (SMPTE).



HAYES RECORDING STUDIOS  
Tampa, FL

Echo, Reverb, & Delay Systems: Lexicon Model 200, BAE LP 140 plate, DeltaLab DL-2, Eventide H910, MXR II delay system, DeltaLab ADM2048 Super Time Line.  
Other Outboard Equipment: (2) dbx 160 compressor, (2) Audioarts 4200 parametric, Orban 516EC de-esser, ADR Vocal Stresser, EXR 3 exciter, UREI 539 room EQs, (8) US Audio Gates, Symetrix SG200 noise gates, UREI 960 digital metronome, Technics SP-25 turntables, Countryman direct boxes, Symetrix TI-101 telephone interface, Spectra Sonics 601 limiters, Yamaha SPX90.  
Microphones: Neumann U87, Neumann U48A (tube), AKG 414/P48, AKG 452EB, AKG 451E, AKG D202, Beyerdynamic M100N, E-V RE20, E-V RE16, E-V 666, Shure SM54, Shure SM58, Sennheiser MD-421, RCA 77DX, RCA 44DX, Sony C-37 (tube), Countryman 85, Wahrenbrock PZM.  
Monitor Amplifiers: Crest P:3500, Crest 2501S, McIntosh 2105 (phones).  
Monitor Speakers: E-V Sentry III, E-V MDM4, Auratone 5C, E-V Sentry 1A.  
Musical Instruments: Marshall and Kendall grand pianos, Hammond organ w/Leslie, Deagan electric chimes, Ludwig drums w/Zildjian cymbals, Scholz Rockman X-100B, Fender Twin guitar amps, various percussion, Emulator II+, Oberheim OB-8, RX11 drums.

Other MIDI Equipment: Macintosh Plus 1MB computer w/Mark of the Unicorn, Southworth, Opcode and Digidesign hardware/software.  
Rates: Available upon request. Flexible packages available.

[24+] HOLBROOK MEDIA PRODUCTIONS  
also REMOTE RECORDING  
2143 W. Main St.  
Jeanerette, LA 70544  
(318) 276-6267  
Owner: Bob & Kim Holbrook  
Studio Manager: Bob Holbrook

[24+] JAY HOWARD PRODUCTION AUDIO INC.  
307 Atherton St.  
Charlotte, NC  
(704) 525-7864  
Owner: Jay Howard  
Studio Manager: JoAnn Jeffries

[24+] ISLAND RECORDING STUDIO  
only REMOTE RECORDING  
17501 Lakeshore Rd.  
Lutz, FL 33549  
(813) 962-2709  
Owner: David Artis  
Studio Manager: David Artis

[24+] KCAM-TV TELEVISION PRODUCTIONS  
also REMOTE RECORDING  
827 Meridian St.  
Nashville, TN  
(615) 226-9589  
Studio Manager: Brenda Bridges

[24+] KIVA RECORDING STUDIO  
904 Rayner  
Memphis, TN 38114  
(901) 278-1888  
Owner: Gary Belz  
Studio Manager: Keith Seppanen  
Engineers: Keith Seppanen  
Mixing Consoles: SSL 4000E 40 x 32 w/Total Recall, Harrison MR-3 28 x 24.

—CONTINUED ON NEXT PAGE

# Art vs. Money.



“I've made huge compromises in my music before, and I was very unhappy with the outcome. Why even do it if it ends up sounding like someone else?

Music as a part-time endeavor can be beneficial because it doesn't really require much personal sacrifice. But if you choose it full-time, you've automatically put yourself in the position of doing whatever it takes to make money. And you could still fail. If you fail doing something you love and believe in, at least you had the pleasure of satisfying yourself.”

Howard Kleinfeld  
Songwriter, sound producer, recording artist, all-around musician



“I have a certain pride in my playing. I've worked long and hard to perfect my sound. And when I'm asked to do a recording session or gig, I would hope I was chosen for those reasons. However, now and then producers have quite a different idea of the way my part should be played. Of course, I must realize I was hired to do a job. After all, why should artistic compromises be any different than ones made in any other job? I decided long ago that feeding my ego was not worth denying the possibility of creating a comfortable existence for myself.”

A.J. Altieri  
Drummer,  
percussionist

Whatever your viewpoint, we have what you're looking for.

We continually strive to bring you the best with:  
▼ Huge, in-store inventory major brands  
▼ Consistently low prices, year after year  
▼ Friendly, knowledgeable salespeople

▼ National award-winning service center  
▼ Free UPS delivery in the continental U.S.  
▼ 24-hour delivery available  
▼ Mail order layaway also available

**THOROUGHBRED**  
2204 E. Hillsborough Avenue  
Tampa, Florida 33610  
**JMUSIC** (813) 237-5597

Circle #122 on Reader Service Card

**Audio Recorders:** Mitsubishi X-800 32-track digital, Studer A80 24-track, Studer A80 2-track, Mitsubishi X-86 2-track digital.  
**Cassette Recorders/Duplicators:** (2) Yamaha C300.  
**Noise Reduction Equipment:** Dolby 24-track.

**Echo, Reverb, & Delay Systems:** (3) Yamaha REV5, Yamaha REV7, Yamaha SPX90, Korg DRV-3000, EMT 140 plate, Lexicon 480, Lexicon 224, live chamber.

**Other Outboard Equipment:** UREI 1176, dbx 160, Aphex Aural Exciter, Kepex, Prime Time.

**Microphones:** AKG 414, AKG 460, AKG D112, Neumann U87, Neumann KM84, Shure SM57, Sennheiser 421, Neumann TLM170.

**Monitor Speakers:** JBL, Yamaha NS-10.

**Musical Instruments:** Yamaha DX7 II FD, Baldwin acoustic, Hammond B-3, Roland Juno 106, Roland D-550, PPG, clavinet.

[24+] LAMBTRON INC. RECORDING SERVICE

8461 NW 21 Ct

Sunrise, FL 33322

(305) 748-7010

Owner: Lambtron Inc.

Studio Manager: Gary Lambert

[24+] LECHE RECORDING WORKSHOP

also REMOTE RECORDING

PO Box 121702

Nashville, TN 37212

(615) 321-5479

Owner: Carl Tatz

Studio Manager: Carl Tatz

[24+] LIMELITE VIDEO

7355 NW 41 St

Miami, FL 33166

(305) 593-6911

Owner: Frank D. Tolin

Studio Manager: Mike Garrett

Engineers: Richard Achor, Mike Hoffmann.

Mixing Consoles: Neve V36 36 x 36 w/Necam 96.

**Audio Recorders:** Mitsubishi X-850 32-track, Otari MTR-90II 24-track, Otari MTR-20 24-track, Nagra 2-track.

**Cassette Recorders/Duplicators:** (2) Nakamichi MR-1.

**Noise Reduction Equipment:** Dolby SR 24 channels.

**Synchronization Systems:** Adams-Smith AV-2600.

**Echo, Reverb, & Delay Systems:** Lexicon 224XL, AMS RMX-16,

Quantec room simulator, (2) Lexicon PCM42, (2) Lexicon PCM-70, (2) Yamaha SPX90II, AMS 15-80S, Lexicon 480L.

**Other Outboard Equipment:** (2) Drawmer gates, Aphex compellor, (2) dbx 165, Sontec parametric EQ, Symetrix phone patch, Lexicon 2400 time compressor/expander.

**Microphones:** (4) AKG 414/P48, (4) Neumann TLM170, (2) Neumann U87A/2, (2) Neumann FET47, (2) Neumann KMR82, (2) Neumann KM81, (4) Neumann KM84, (4) Sennheiser MD-421, (6) Sennheiser MKE-23, Calrec Soundfield stereo mic, Neumann SM69 stereo mic.

**Monitor Amplifiers:** Perreaux 3000B, Perreaux 9000B.

**Monitor Speakers:** Ed Long MDM-TA3, Yamaha NS-10, Auratone cubes, Ed Long custom monitors.

**Musical Instruments:** Fairlight CMI III, Yamaha 7' grand piano, Yamaha DX7.

**Video Equipment:** Sony BVH-2800 1" video w/two POM audio channels.

**Other:** Adams-Smith A/V 2600.

[24+] LONDON MUSIC, INC.

5120 N. Florida Ave.

Tampa, FL 33603

(813) 238-3900

Owner: Howard Conder

Studio Manager: Ken Burchenel

[24+] LONE PINE RECORDING STUDIOS

5024-A Simmons Rd.

Orlando, FL 32812

(305) 281-6881

Owner: Michael Hurley

[24+] LUNDY RECORDING & CASSETTE DUP.

also REMOTE RECORDING

PO Box 408

Hidrick, KY 40949

(606) 546-6650

Owner: David Lundy

Studio Manager: Duran Lundy

[24+] MAJESTIC SOUND STUDIO

also REMOTE RECORDING

3800 Keith St.

Cleveland, TN 37311

(615) 472-8200

Owner: Church of God of Prophecy (HDQ)

Studio Manager: Thomas Duncan

S O U T H E A S T  
24+TRACK  
STUDIOS

[24+] MARK FIVE/SANDCASTLE

also REMOTE RECORDING

10 Michael Dr., PO Box 7620

Greenville, SC 29610

(803) 269-1111

Owner: Rick Sandidge, Eddie Howard, Chris Cassells

Studio Manager: Rick Sandidge

[24+] MASTER SOUND RECORDING STUDIO

also REMOTE RECORDING

5249 Chaledon Dr.

Virginia Beach, VA 23462

(804) 499-0000

(804) 496-0553

Owner: Robert E. Ulsh

Studio Manager: Robert E. Ulsh

Engineers: Robert Ulsh, Bruce Buehman, Brent Havens, Mark Olmstead.

Dimensions: Room 1: studio 45 X 35 w/two isolation booths (10 x 12 and 10 X 8), control room 22 X 20. Room 2: studio 45 x 35, control room 18 X 12 MIDI room.

**Mixing Consoles:** Amek G 2520 40 x 24 x 80 returns with VCA bypass mode and Master Mix automation, Rama WRT 820 16-track 20 X 16 MIDI program console.

**Audio Recorders:** Sony/MCI JH-24 24-track with auto locator III, Otari MTR-12H 30 ips, 1/2" track, (2) Tascam 52 1/2-tracks, Tascam 58 8-track recorder.

**Cassette Recorders/Duplicators:** (2) Tascam Z-7000 cassette recorder.

**Noise Reduction Equipment:** (2) dbx 180A 1/2 track units.

**Synchronization Systems:** Sony JH-45 SMPTE time code lock up, Southworth Jam Box IV SMPTE to MIDI, Sony JH-48 Video SMPTE lockup w/24-track.

**Echo, Reverb, & Delay Systems:** (2) Lexicon 200 stereo digital reverb, (2) Yamaha SPX90 stereo digital effects processor, Yamaha REV7 stereo digital reverb, Ibanez SDR-1000 stereo digital delay, Lexicon 969 Harmonizer/delay, Lexicon PCM41 digital delay, Lexicon PCM42 digital delay.

**Other Outboard Equipment:** (2) Drawmer DS 201 noise gates, Orban 424 Stereo compressor/limiter, LT Sound CLX-2 stereo compressor/limiter/exp, Universal Audio 175 tube limiter, Aphex Aural Exciter, Valley People 4-channel noise gate, (2) dbx 160X compressor/limiter, dbx 166 stereo compressor limiter, Amek 4-band fully parametric EQ, (2) Rane 1/3 octave stereo EQ.

**Microphones:** (2) Neumann TLM170, (6) AKG 414P-48, AKG TLM-414ULS, (8) AKG C451-460, AKG "The Tube", AKG D12E, Neumann U89, AKG D112, (6) Sennheiser 421, (2) Sennheiser 441, (17) add'l assorted dynamic microphones.

**Monitor Amplifiers:** Acoustus Trans Nova Twin 200 mos-fets, Kenwood Basic M-2 440 watts.

**Monitor Speakers:** (2) JBL/UREI 4435, (2) JBL 4411, (2) Yamaha NS-10, (2) Auratone, (2) Tora.

**Musical Instruments:** Yamaha C7 76" concert grand piano, Ludwig 7-pc acoustic drum set, Emulator SP-12 drum machine, Emulator II digital sampling keyboard with extensive library, Emulator II digital sampling keyboard, Fender Rhodes keyboard, Yamaha DX7, Yamaha FB01, Oberheim Matrix-6, Ensoniq ESQ, System 360 MIDI bass, (4) acoustic guitars (6- and 12-string), (5) electric Fender and Hamer guitars and basses, (3) Mesa/Boogie, Laney and Yamaha amplifiers, Martin D-35 Anniversary acoustic guitar.

**Other MIDI Equipment:** Apple Mac SE with 20 meg hard drive, Southworth Jam Box III SMPTE to MIDI controller, (3) Southworth MidiPaint, Performer, Digidesign Sound Designer, Apple Ile w/Syntech sequencing program.

**Video Equipment:** Sony BVU-800 1/2" video recorder, Sony 19" color monitor, Sony JH-45 SMPTE video to 24-track controller.

**Rates:** 24-track \$85/hr., 16-track \$70/hr., video sweetening \$125/hr.

[24+] MASTER TRAK SOUND RECORDERS (STUDIO A & STUDIO B)

413 N. Parkerson Ave.

Crowley, LA 70526

(318) 788-0773

Owner: Jay Miller

Studio Manager: Mark Miller

[24+] MASTERFONICS, INC.

28 Music Square E.

Nashville, TN 37203

(615) 327-4533

Owner: Glenn Meadows

Studio Manager: Margaret Meadows



MASTERFONICS, INC.

Nashville, TN

Dimensions: Control room 38 x 35

Mixing Consoles: SSL-4000E 48 x 32

**Audio Recorders:** Otari DTR-900 32-track, Otari MX-80.

**Cassette Recorders/Duplicators:** Awa F-660

**Synchronization Systems:** Zeta III.

**Echo, Reverb, & Delay Systems:** EMT-250, EMT-252, (2) Lexicon 224XL, Publison Infernal 90 21 sec. sample, Lexicon PCM70, Quantec room simulator, Eventide H969.

**Other Outboard Equipment:** LA-2A, (2) dbx 160X, (2) Neve 32254e compressors, Wendel percussion system, Sontec DRC, Sonetc 2-channel parametric.

**Microphones:** M49, (2) Telefunken 251, AKG 441P48.

**Monitor Amplifiers:** FM Acoustics FM1000

**Monitor Speakers:** Kinoshita/Hidelity 2V 20Hz monitors

**Rates:** Upon request.

**Extras & Direction:** First 20Hz monitor environment in the world. Must be heard to be appreciated.

[24+] MASTERLINK STUDIOS

(A DIVISION OF AL JOLSON ENTERPRISES, INC.)

31 Music Square W.

Nashville, TN 37203

(615) 242-1580

Owner: Albert Jolson

Studio Manager: Albert Jolson, Sean McMehon

Engineers: Sean McMehon, Tony Gerber (MIDI programmer).

Dimensions: Room 1: studio 12 x 18, control room 10 x 12.

Room 2: control room 10 x 12.

**Mixing Consoles:** Trident 24 36 x 24, Studer 169 8 x 4, Akai 12/12 12 x 12 (in MIDI room).

**Audio Recorders:** Tascam MS-16 16-track, Akai 12-12 12-track, Otari 5050 8-track, Studer A80 2-track, Studer A810 2-track w/center track time code, Studer B67 2-track, Nakamichi DMP-100 2-track A-D processor.

**Cassette Recorders/Duplicators:** Nakamichi MR-1 2-track.

**Noise Reduction Equipment:** (2) Dolby 361 w/Dolby SR and Type A cards.

**Echo, Reverb, & Delay Systems:** AMS AMX-16 digital reverb, (2) Lexicon PCM70 digital effects processor, Lexicon 200 digital reverb, Lexicon Super Prime Time digital delay, (2) Yamaha SPX90 digital effects processor, Roland DEP-5, Eventide 949 Harmonizer.

**Other Outboard Equipment:** Summit Audio tube leveling amplifier, Sonetc parametric equalizer, API 5502 discrete EQ, Valley International PR-10 rack w/Kepex, Gain Brains, Commanders, (2) US Audio GateX quad and noise gates, Symetrix 522 stereo comp/limiter, Symetrix 501 compressor/limiter, Symetrix CL-150 compressor/limiter, Barcus-Berry BBE-202A, (2) Aphex Type B Aural Exciter.

**Microphones:** Neumann U87, Neumann KM84, Sony C-48, AKG 414, (2) Sennheiser MK40, (3) Sennheiser 421, (4) Countryman EM-101, Shure SM57, (3) Audio-Technica.

**Monitor Amplifiers:** (2) Crown Micro-Tech 1000, (2) Studer A-68, (6) Yamaha P2200.

**Monitor Speakers:** (2) Westlake BBSM-10, (2) B&W BM-100, (2) Yamaha NS-10, (2) E-V Sentry 100, (2) Auratone Sound Cubes.

**Musical Instruments:** Kawai grand piano w/MIDI controller, Roland MKB-1000 88-key MIDI controller, Emulator II+HD, Akai S900 w/audio input triggers, Roland D-550, Roland Super Jupiter w/programmer module, Yamaha TX816 rack w/8 modules, Oberheim Matrix 6-R, Moog Minimoog, Roland DDR-30 "digital drums" w/pads, Roland Octapad, Gretsch drum kit w/MIDI triggers, Roland GM-70 guitar-to-MIDI converter.

**Other MIDI Equipment:** Macintosh II w/color monitor and graphics, animation software, Macintosh Plus w/20 meg HD, JL Cooper MSB 16/20 MIDI switcher, Southworth Jambox IV SMPTE interface.

**Video Equipment:** (2) Sony SLHF-600 1/2" Super Beta, Minolta 1/2" VHS, Minolta K-800S AF color video camera.

[24+] **MASTERMIX**  
 1808 Division St.  
 Nashville, TN 37203  
 (615) 321-5970  
 Owner: Trio Entertainment Co.  
 Studio Manager: Hank Williams  
 Engineers: Tom Brown  
 Dimensions: Overdub/sampling room with RPG diffusion, control room 23 x 19 x 11.  
 Mixing Consoles: Calrec AMS automated UA-8000, 56/64 x 32.  
 Audio Recorders: Otari DTR-900 32-track digital, Otari MTR-90 24-track, Otari MTR-10 2-track (1/2" and 1/4"), Sony digital PCM-1630.  
 Echo, Reverb, & Delay Systems: AMS RMX 16, AMS 15-80, Pulsion Infernal 90, Lexicon 224 XL, Lexicon Super Prime Time, EMT 250/251, Eventide H-949, Studer DAD-16.  
 Other Outboard Equipment: Valley People, Trident, Sonics, ITI, dbx, Audio-Design, API, Scamp, UREI, Teletronix, Neve, Fairchild Instruments, BBE.  
 Microphones: Sanken, Calrec, Neumann, AKG and classic tubes.  
 Monitor Amplifiers: Bryston, Lenco, Haller, Yamaha.  
 Monitor Speakers: State-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.  
 Extras & Direction: Stereo disc mastering, CD prep, Sony digital editing.

[24+] **MASTERWORKS STUDIOS**  
 also **REMOTE RECORDING**  
 4024 Williamsburg Ct.  
 Fairfax, VA 22032  
 (703) 385-1780  
 Owner: Michael Zook

[24+] **MEDIA GENERAL BROADCAST SERVICES-STUDIO FIVE**  
 1711 Poplar Ave.  
 Memphis, TN 38104  
 (901) 320-4254  
 Owner: Media General Broadcast Svcs.  
 Studio Manager: Cindy Reding

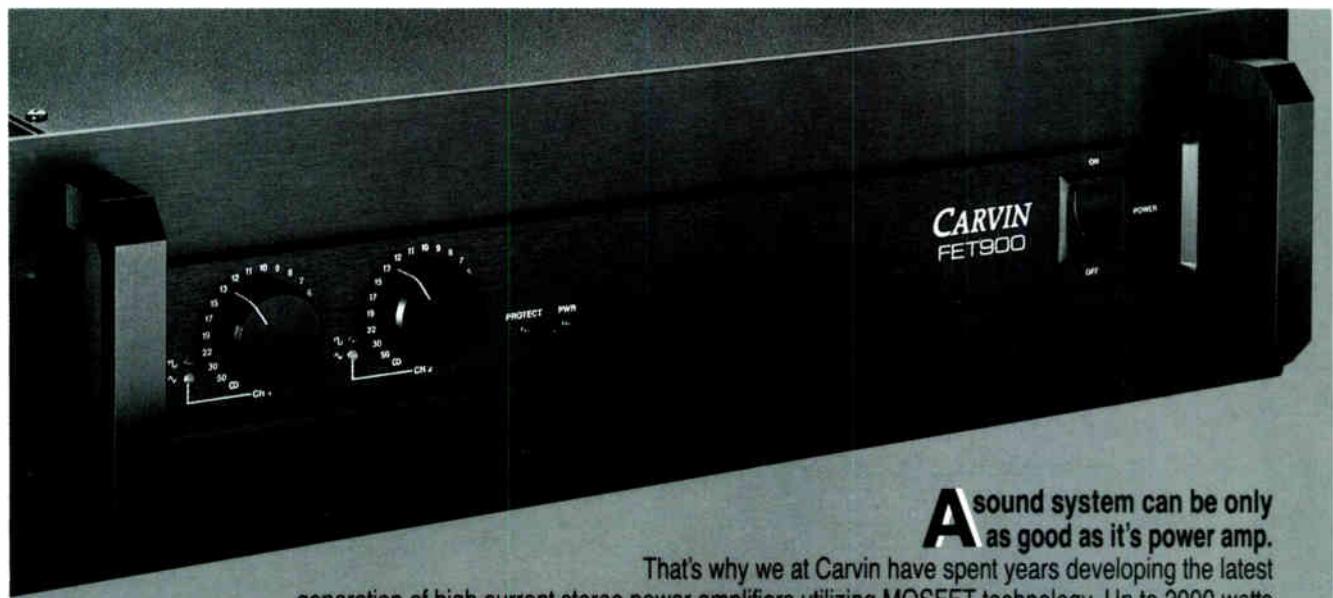
[24+] **MEGA SOUND STUDIOS, INC.**  
 542 E. Main St., PO Box 189  
 Bailey, NC 27807  
 (919) 235-3362  
 Owner: Richard H. Royall, Daniel R. Dixon III  
 Studio Manager: Richard H. Royall  
 Engineers: Dan Dixon, Johnny Falzone, Richard H. Royall.  
 Dimensions: Studio 18 x 30, control room 12 x 18.  
 Mixing Consoles: Harrison w/864 auto-set computer 3232 A/B 32 x 32, MCI 416 24 x 24, location mixer, custom 12 x 8.  
 Audio Recorders: MCI JH-114 24-track w/autolocator III, Scully 280B 2-track, Revox A-77 2-track, Revox A-77 1/4-track.  
 Cassette Recorders/Duplicators: Sony, Nakamichi, Hitachi.  
 Noise Reduction Equipment: dbx 28 channels.  
 Echo, Reverb, & Delay Systems: Lexicon 224 XL w/LARC, DeltaLab DL-2, Lexicon Prime Time.  
 Other Outboard Equipment: dbx and UREI compressor/limiters, Ashly and Scamp parametric EQs, Scamp EQ gates and expanders, UREI 1/3-octave EQs, Eventide audio analyzer w/Apple computer, Roland Dimension D.  
 Microphones: AKG, E-V, Neumann, RCA, Sennheiser, Shure, Sony.  
 Monitor Amplifiers: Crown, McIntosh, Phase Linear, Yamaha.  
 Monitor Speakers: JBL bi-amplified, Yamaha, Auratone.  
 Musical Instruments: Yamaha conservatory grand piano, Hammond B-3 organ, Fender precision bass guitar, Pearl drums w/cymbals by Paiste and Zildjian, Roland and Yamaha synthesizers, Linn and Yamaha drum machines, Ibanez electric guitars, Yamaha acoustic guitars.  
 Video Equipment: Full video production services in association with Southeast Video Services, JVC, Sony, Panasonic equipment, Datamax computer animation.  
 Rates: Write or call for rate schedule and brochure.  
 Extras & Direction: Available AMS 15-805 with loop editing and 2-channel pitch change. AMS-RMX-16 digital reverb. MDB 16-bit window recorder, Lexicon PCM70, dbx 160X compressor/limiters, Drawmer dual noise gates, Valley People Dyna-Mite noise gates, Roland SDE-3000 delay, ART 01A digital reverb, Roland RE-201 space echo, US Audio Gatem, "Fast Forward."

[24+] **MELODY RECORDING STUDIO**  
 De Diego #2, Urb. San Francisco  
 Rio Piedras, PR 00927  
 (809) 763-3555  
 Owner: Javier D. Hernandez  
 Studio Manager: Javier D. Hernandez  
 Engineers: Rei Pena, Javier Hernandez  
 Dimensions: Studio 25 x 30, control room 20 x 15 (plus two iso).

Mixing Consoles: Neotek 36 x 26.  
 Audio Recorders: Otari MTR-90 24-track, Otari MTR-12 2-track, Otari MX-5050 2-track.  
 Cassette Recorders/Duplicators: Nakamichi MR-1.  
 Echo, Reverb, & Delay Systems: Lexicon M200, Lexicon PCM-70, Lexicon PCM60, Lexicon PCM42, Cornerstone plates.  
 Other Outboard Equipment: LA-4 compressors, Drawmer noise gates, Aphex Aural Exciter, API EQs, Eventide Ultra A-3000.  
 Microphones: Neumann U87, Neumann U89, Sennheiser MD-441, Sennheiser 421, Crown PZMs, AKG 414, Shure SM81.  
 Monitor Amplifiers: (6) Bryston.  
 Monitor Speakers: JBL 4430, Yamaha NS-10, Auratone 5-C.  
 Musical Instruments: Steinway grand piano, Yamaha CP80, Yamaha drum set w/triggers, Simmons SDS-8 w/pads, complete Latin percussion array, Poly 800, Roland Juno 106, DX7IID, Emulator, SP1200, MKS-20 piano module, (2) bass guitars, (3) guitars.  
 Other MIDI Equipment: Octapads, MD-32 module, JL Cooper MIDI patcher, Simmons MTI interface.  
 Rates: \$55-65/hr; depending on how many hours.

[24+] **MEMPHIS SOUND PRODUCTIONS**  
 315 Beale St.  
 Memphis, TN 38103  
 (901) 525-5500  
 Owner: J. Fleskes, T. Goodwin, J. McDowell  
 Studio Manager: T. Goodwin  
 Engineers: Robert L. Jackson (T.D.), John L. Fleskes, Dan Pleifer, Richard Scott.  
 Dimensions: Studio 50 x 40, control room 27 x 25.  
 Mixing Consoles: Soundcraft TS-24 44 x 24, Tascam M-50 12 x 8, E-V 100M 10 x 2.  
 Audio Recorders: Otari MTR-90 24-track, Otari MTR-12 2-track, Otari MTR-10 2-track, (2) Studer/Revox PR-99 2-track, Nakamichi DMP-100 2-track, Tascam 38 8-track.  
 Cassette Recorders/Duplicators: Nakamichi CR-7A, Tascam 122, Recordex ST/Pro H 16-1.  
 Noise Reduction Equipment: Dolby A 24-channel, (2) dbx 411, (4) dbx 150.  
 Echo, Reverb, & Delay Systems: (2) Lexicon 224XL 8.2v, Lexicon 224 4.1v, Yamaha REV7, (2) Yamaha SPX901, (2) Lexicon PCM60, (2) Lexicon PCM41, Eventide H949 Harmonizer, Ursa Major 8 x 32, DeltaLab Effectron II.  
 Other Outboard Equipment: (8) dbx 903 comp/limit, (6) dbx 904 noise gate, Teletronix LA-2A tube limiter, Valley People Dual Dyna-Mite, Orban 622B para/EQ, Aphex Type B Aural Exciter, Valley International HH2x2B bump-box.  
 Microphones: (2) AKG 414 B-ULS, AKG "The Tube", (2) Neu-

—CONTINUED ON NEXT PAGE



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mann U89, AKG D-12E, (2) AKG 460, (8) Sennheiser MD-421, (7) Shure SM57, AKG 452EB, Audio-Technica RE-20, Shure SM5B, plus 20 other various mics.

Monitor Amplifiers: (2) McIntosh MC-2300, McIntosh MC-2100, (2) QSC 1400.

Monitor Speakers: Stephen Durr design, Yamaha NS-10M, Auratone 5C, JBL 4430, JBL 4301B, JBL 4612OK.

Musical Instruments: Yamaha TX816, Yamaha DX7, Ensoniq Mirage, Akai MPC-60 MIDI production center, Korg P-61M, Yamaha grand piano, Hammond B-3 w/Leslie 122 and 147, Ludwig Pearl acoustic drums, Fairlight CMI III (upon request), LinnDrum w/MIDI, Fender Twin Reverb II.

Other MIDI Equipment: Apple Macintosh Plus w/Dataframe (20 meg. drive), Opcode Studio Plus II, DX7 software w/over 5,000 voices, Soundlab software for Mirage and voice storage.

Rates: Call for rates.

[24+] MIAMI SOUND STUDIO

697 NW 28th St.

Miami, FL 33127

(305) 635-4890

Owner: Carlos and Angie Diaz-Granados

Studio Manager: Angie Diaz-Granados

Engineers: Carlos Diaz-Granados Jr., Paul Khouri

Dimensions: Studio 17.5 x 13.75 x 28, control room 17 x 10 x 15.

Mixing Consoles: Neve 8028 24 x 16-24.

Audio Recorders: Studer A80 24-track, Ampex 440-B 2-track, Scully 2-80 24-track, Studer/Revox 77 2-track, Studer 810 2-track.

Echo, Reverb, & Delay Systems: Echo delay tape, (2) EMT 140 echo chambers, Lexicon 200 digital reverb, Lexicon Prime Time 93

Other Outboard Equipment: Eventide Harmonizer, Scamp Rack, UREI Teletronix LA-2A and LA-3A limiters, Pultec equalizers/compressors, Neve limiters/vocal doubler, Electro digital delay, Roland phase shifter, Roland stereo flanger, Simmons Clap Trap, LinnDrum, Simmons electronic drums, Roland Dimension D.

Microphones: Neumann U87, Neumann U67, Neumann KM84, AKG 451, E-V RE20, Sennheiser, Shure 57, Sony C-37P, RCA 77-DX, RCA 44.

Monitor Amplifiers: McIntosh 2300, McIntosh 2105, McIntosh 255.

Monitor Speakers: JBL 4343 (Gauss), JBL 4311, Auratone, Tannoy SC, Fostex.

S O U T H E A S T  
24+TRACK  
STUDIOS



MIAMI SOUND STUDIO  
Miami, FL

Musical Instruments: Yamaha grand piano, Fender Rhodes, Roland synthesizer, rhythm box harmonizer, Slingerland drums, Synars, Hammond B-3.

Rates: Rates upon request.

Extras & Direction: Studio philosophy: simply that our engineers strive to treat every recording as if it were their own aspiration, to be categorized as a hit making quality studio "We've got the sound you want."

[24+] MIRROR IMAGE RECORDING

also REMOTE RECORDING

619 S. Main St.

Gainesville, FL 32601

(904) 376-8742

Owner: Bob McPeek, Paul Pavelka

Studio Manager: Mark Pinske

[24+] MORRISOUND RECORDING

12111 N. 56th St

Tampa, FL 33617

(813) 989-2108

Owner: Morrisound Recording Inc.

Studio Manager: Tom Morris

Engineers: Tom Morris, Jim Morris, Rick Miller, Scott Burns, Judd Packer

Dimensions: Room 1: studio 32 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, Anek Scorpio 24 x 16

Audio Recorders: Otari MTR-90 24-track w/autolocator, Otari 5050 MkIII 8-track, Otari MTR-12 2-track, (2) Otari 5050-B MkII 2-track.

Cassette Recorders/Duplicators: (6) Denon DR-M33HX

Noise Reduction Equipment: (4) dbx 150

Synchronization Systems: BTX Shadow

Echo, Reverb, & Delay Systems: Lexicon 224XL, Lexicon PCM-60, (2) Lexicon PCM70, (2) Lexicon PCM41, Lexicon PCM42, Lexicon Prime Time, Loft 450, Ecoplate, Yamaha REV7, T.C. Electronics 12290.

Other Outboard Equipment: DeltaLab DL5 and Eventide 910H Harmonizers, (2) dbx 165 and (2) UREI LA-4 compressor/limiters, (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) Haffer.

Monitor Speakers: UREI 811A, UREI 813B, JBL 4312, (2) Yamaha NS-10M, E-V Sentry 100, (2) Auratone 5C

Musical Instruments: Yamaha grand piano, Yamaha 5-piece drum set, Synclavier II, Emulator II, Emax, Yamaha DX7, Roland D-50, Oberheim DX drum machine, (2) Oberheim OB-8, Ensoniq Mirage, Korg DDD-1 drum machine

Video Equipment: Audio post-production for film or video, Sony VO-5800, (2) JVC CR850U.

Rates: Please call.

[24+] MUSIC CITY MUSIC HALL

30 Music Square W.

Nashville, TN 37203

(615) 244-1060

Owner: Owen Bradley

Studio Manager: Michael Bevington

Engineers: Bill Harris, Doug Crider, Bobby Bradley

Dimensions: Studio 50 x 80 x 30, control room 28 x 18 x 10.

Mixing Consoles: Neve 8038 32 x 24 w/Allison Research, Fadex automation.

Audio Recorders: Studer A80 24-track, Studer A80 2-track master recorder, Studer B67 2-track.

Cassette Recorders/Duplicators: (2) Studer B710.

Noise Reduction Equipment: Dolby

Echo, Reverb, & Delay Systems: Lexicon 224XL, (3) EMT plates, Gotham Audio digital delay, Eventide Harmonizer, JL Cooper Time Cube.

Other Outboard Equipment: (2) ADR Vocal Stressors, Scamp rack, Teletronix compressors, LA-2A limiter, LA-3A limiter, EXR Exciter, Eventide Phaser, Yamaha REV7, Yamaha SPX90.

Microphones: Neumann U87, Neumann U67, Neumann U47, Neumann U48, Neumann M49, Neumann KM84, Neumann KM56, E-V RE16, E-V RE20, Sony ECM-50, Sony C-500, Sony C-55, RCA 44, RCA 77, ELA 251, AKG 414.

Monitor Amplifiers: McIntosh 2100.

Monitor Speakers: UREI 813, JBL 4313B, Auratone, Yamaha NS-10M

Musical Instruments: Baldwin 9' grand w/MIDI capabilities, Yamaha PF15 electronic piano, Fender Rhodes stereo, Wurlitzer electric piano, Hammond B-3 organ w/Leslie, Hohner 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

Studio Manager: Paul Goldberg

Engineers: Jim Cotton, Paul Goldberg, Joe Scaife

Dimensions: Room 1: studio 23 x 19, control room 31 x 36. Room 2: studio 23 x 19.

Mixing Consoles: (3) Trident TSM 32 x 32 w/Fadex/Allison automation.

Audio Recorders: (2) Mitsubishi X-850 32-track digital multi-tracks, (2) Studer A800 24-track multi-tracks, (2) Studer A80 2-track 1/2", (3) Studer B67 2-track 1/4", JVC BP-90 2-track digital.

## If Only I'd Known...

In today's complex and rapidly evolving musical environment the wrong decision in equipment produces incalculable losses in money & clientele. Before you make a purchase based on "What's your lowest price"

**CONTACT US.** We can arm you with that valuable commodity you can't buy at any price—**KNOWLEDGE**—The knowledge to guide and assist you in your gear selection and operation—choose from our very complete inventory featuring all major lines.

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**PRO AUDIO AND MUSICAL EQUIPMENT**  
**704/375-8662**

# Reliable Music

650 East Stonewall Street Charlotte, NC, USA 28202

Circle #124 on Reader Service Card

Cassette Recorders/Duplicators: (2) Studer A710.

Synchronization Systems: Mitsubishi X-850 hook-up.

Echo, Reverb, & Delay Systems: EMT 250, Lexicon 224X w/LARC, (2) EMT 140 plate reverbs, (2) BAE L140 plate reverbs, Marshall AR-300 tape eliminator.

Other Outboard Equipment: Sontec DRC202, (4) Kepex II, (6) Scamp expander/gate, Aphex Type B Aural Exciter, ADR Vocal Stresser, (2) Eventide H949 Harmonizer, (2) Lexicon Prime Time 93, (4) dbx 160X, (4) Teletronix LA-3A, Teletronix LA-2A. Microphones: (2) Sanken C-41, Neumann M49, (5) Neumann U87, (2) Neumann U67, Neumann U47 FET, (2) AKG C452, (2) AKG C460, (5) AKG C414EB, (4) Shure SM57, (2) Shure SM56, (2) Sony ECM-30.

Monitor Amplifiers: (4) McIntosh 2300, (4) BGW 250, (2) McIntosh 2205.

Monitor Speakers: (2) Super Reds w/Mastering Lab crossovers, (2) Yamaha NS-10M, (2) Auratone 5C, JBL 4430.

Musical Instruments: Yamaha 57" grand w/Forte Music MIDI-mod, Dyno-My-Piano, 73 w/chorus and tri-stereo unit, Wurlitzer electric piano, Pearl drum kit, D-6 clavinet, misc. amplifiers.

Other MIDI Equipment: Forte Music MIDI-mod.

Other: Revox B-790 DD turntable.

Rates: On request.

[24+] **MUSIPLEX**

2091 Faulkner Rd. NE

Atlanta, GA 30324

(404) 321-2701

Owner: T.G. Wright, Jr.

Studio Manager: Steve McCormick

[24+] **NASHVILLE TELEPRODUCTIONS/**

**OAK VALLEY SOUND**

also **REMOTE RECORDING**

105 Oak Valley Dr.

Nashville, TN 37207

(615) 262-2600

Owner: Nashville Teleproductions Inc.

Studio Manager: Kevin McManus

Engineers: Kevin McManus, Rick Salyer, Chris White, Denis Ryan.

Dimensions: Room 1: studio 40 x 30, control room 18 x 22. Room 2: control room 10 x 20.

Mixing Consoles: Amek Angela 28 x 28, Sound Workshop Series 30 28 x 28, Hill Multimix 16 x 4 x 2.

Audio Recorders: Studer A80 24-track, Tascam MS-16 16-track, Studer A80 2-track, Studer B67 2-track, Otari 5050 2-track.

Cassette Recorders/Duplicators: Nakamichi, Tascam.

Noise Reduction Equipment: dbx 24-channel, dbx 16-channel, dbx 2-channel.

Synchronization Systems: Adams-Smith, SMPTE generator, readers and syncro.

Echo, Reverb, & Delay Systems: (2) EMT plates, Yamaha REV7, Yamaha SPX90, Lexicon PCM60, DeltaLab Electron, Eventide H910 Harmonizer, DeltaLab Acousticomputer, Roland SDE-1000, Sundholm 2103 EQ, SAE stereo 1/2-octave.

Other Outboard Equipment: (4) Gatemax gates, Audio & Design Vocal Stresser, (16) dbx limiters, (2) Orban parametric EQs.

Microphones: Wide variety from Shure, AKG, Neumann, Sennheiser, E-V, Sony, (2) Neumann tube mics.

Monitor Amplifiers: NAD 2200, Hafler 400, Symetrix 60.

Monitor Speakers: (2) EAW MS-50, (2) EAW MS-30, (2) EAW MS-30B, (4) Auratones.

Musical Instruments: Baldwin 7' grand piano, Yamaha DX7, Slingerland drums, LinnDrum machine.

Video Equipment: JVC 3/4" SMPTE-based A/B roll edit system w/Paltek controller, Paltek Gemini DVE/frame sync, Crosspoint 6112 SEG, Chyron VP2 C.G., Panasonic monitors, (3) JVC 320 pro-cams w/CCUs.

Other: 30' audio/video remote truck, multi-camera w/multi-track audio.

Rates: On request.

[24+] **NEW AGE SIGHT & SOUND**

also **REMOTE RECORDING**

120 Interstate N, Pkwy. #164

Atlanta, GA 30339

(404) 956-7956

Owner: William Allgood

Studio Manager: Mitch Dorf

Engineers: William Allgood, Mitch Dorf, Jason Bonnette.

Dimensions: Room 1: studio 40 x 50, control room 23 x 21. Room 2: studio 20 x 13, control room 20 x 11. Video room: studio 40 x 50, control room 20 x 11.

Mixing Consoles: Sound Workshop Series 34 50 x 24, Sound Workshop Series 34 28 x 24, Sound Workshop Logex 8 12 x 8.

Audio Recorders: Sony PCM3224 24-track, Otari MTR-90 24-track, Sony PCM-1610 2-track, MC1JH-110 2-track, Sony PCM-501 2-track, Sony PCM-F1.

Cassette Recorders/Duplicators: (10) Nakamichi BX-100.

Noise Reduction Equipment: (2) Dolby A.

Synchronization Systems: (2) Lynx Time Code modules.

Echo, Reverb, & Delay Systems: Lexicon 224X, Lexicon PCM-70, Lexicon Prime Time, Lexicon PCM41, (2) Yamaha SPX90, Eventide H969.

Other Outboard Equipment: Eventide H969 Harmonizer, (2) dbx 900 racks, (4) Gatemax noise gates, (4) Symetrix noise gates/

expander, (2) Aphex Aural Exciters, (2) dbx 166, (2) dbx 165A.

Microphones: (3) Neumann TCM170, (6) Neumann KM84, (4) AKG 414, Neumann SM2 tube, (6) Sennheiser 421, (6) Shure SM57, E-V PL-20, (2) Sony 535-P, (2) Sony 555-P

Monitor Amplifiers: (2) Hafler P-500, (5) Hafler DH-220, Hafler P-225.

Monitor Speakers: UREI 813, Yamaha NS-10M, UREI 809, Aurora, JBL 4411, Tannoy SRM-15X.

Video Equipment: (3) Sony BVU-800, (3) Sony M-3 cameras, Paltek editor, Chyron VP2+.

Other: Symetrix telephone interface.



**NEW RIVER STUDIO**  
Fort Lauderdale, FL

[24+] **NEW RIVER STUDIO**

408 S. Andrews Ave.

Fort Lauderdale, FL 33301

(305) 524-4000

Owner: New River Productions

Studio Manager: Virginia Cayia

Engineers: Dave Barton.

Dimensions: Studio 36 x 35, control room 35 x 25.

Mixing Consoles: Neve 8108 56 x 48 w/Necam 96.

Audio Recorders: (2) Studer A800 MkIII 24-track, (2) Studer A80 MkIII 2-track 1/2" and 1/4", Studer B77 1/4".

Cassette Recorders/Duplicators: (2) Studer B710, (2) Yamaha K1000.

Noise Reduction Equipment: (2) Dolby SP24, (4) Dolby 361.

Synchronization Systems: Q.Lock 3.10 synchronizer, Adams-Sync 2600.

Echo, Reverb, & Delay Systems: AMS RMX-16 digital reverb, Lexicon 224XL digital reverb, Lexicon 480L digital effects system, EMT 140S stereo tube plate, Eventide H910 Harmonizer, (2) Eventide H949 Harmonizer, (2) Teletronix LA-2A, (2) API 550 equalizer, (2) API 550A equalizer, Drawmer DS-201 dual noise gate and many more.

Other Outboard Equipment: Compressors, limiters, noise gates.

Microphones: Neumann M49 tube, (2) Neumann KM84, (2) Neumann KM86, (2) Neumann U47, (2) Neumann U89Z, (4) Neumann U87Z, (7) AKG, (6) Beyer, (7) Schoeps, (4) Sennheiser, (13) Shure, and many others.

Monitor Amplifiers: Acoustats and many others.

Monitor Speakers: (2) Meyer 833, (2) UREI 813B, (2) JBL 4311, (2) JBL 4430 studio monitors, Yamaha NS-10M, (2) Auratone 5C.

Musical Instruments: Yamaha C7D grand piano, Fender Rhodes, Hammond B-3 w/Leslie, drum kit, Mesa/Boogie amp, Yamaha iX88, Yamaha TX802 module, others too numerous to mention.

Other MIDI Equipment: Mac Plus computer w/Ocicode software.

Video Equipment: JVC 3/4" U-matic, (2) JVC monitors.

Other: Drakus direct to disc 2-track recorder.

Rates: Upon request.

Extras & Direction: We have established contacts with hotels, rental cars, yacht charters, etc., with special rates for our clients.

We would be happy to structure a package to suit your needs.

The studio has a private lounge, producer's office and conference room for our clients. It is situated off the New River, only three miles to the beaches and airport. Having completed five years in operation, New River has established itself as Florida's premier full service facility. Our staff is top notch, with well maintained equipment. We are proud to have worked with Jimmy Buffet, Miami Sound Machine, Peter Frampton, The Everly Brothers and all the other fine artists. We thank you for your support.

Other: Drakus direct to disc 2-track recorder.

Rates: Upon request.

Extras & Direction: We have established contacts with hotels,

rental cars, yacht charters, etc., with special rates for our clients.

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[24+] **OMNISOUND RECORDING STUDIOS**

1806 Division St.

Nashville, TN 37203

(615) 321-5526

Owner: Esprit Sound, Inc.

Studio Manager: Richard Headen

[24+] **ON LINE AUDIO**

also **REMOTE RECORDING**

701 E. Bay St., Ste. 436

Charleston, SC 29403

(803) 724-3506

Owner: Robert Graves

Studio Manager: Gregory O. Larkins

[24+] **ONYX SOUND RECORDING STUDIO**

1646 Bonnie Dr.

Memphis, TN 38116

(901) 346-1483

Owner: Robby Turner

Studio Manager: Robby Turner

[24+] **PACE RECORDING SERVICE**

only **REMOTE RECORDING**

2504 Bayou Rd.

New Orleans, LA 70119

(504) 949-2414

Owner: Glen Himmiegh

Studio Manager: Glen Himmiegh

[24+] **PARALLAX RECORDING STUDIO**

also **REMOTE RECORDING**

123 E. State St.

Ridgeland, MS 39157

(601) 856-2525

(800) 257-5539

Owner: Parallax Records

Studio Manager: James Griffin



**PARC STUDIOS**

Orlando, FL

[24+] **PARC STUDIOS**

also **REMOTE RECORDING**

PO Box 547877, Orlando, FL 32854

658 Douglas Ave.

Orlando, FL 32714

(305) 788-6341

Owner: Pat Armstrong/Parc Records, Inc.

Studio Manager: Andy deGanahl (for bookings: Pat Armstrong, (305) 299-0077)

Engineers: Andy deGanahl.

Dimensions: Studio 40 x 30, control room 25 x 25.

Mixing Consoles: SSL 6000E 56 x 44, Sphere Eclipse Model A

32 x 24 (mobile).

Audio Recorders: Studer A800 24-track, Studer A80 4-track, Studer A80 2-track, (2) dbx 700 w/Sony U-matic 5800 2-track VCR, Otari MX-80 24-track, Otari MTR-10 2-track (mobile), Otari MTR-12 2-track 1/2".

Echo, Reverb, & Delay Systems: AMS RMX-16 reverb, Lexicon 224 XL reverb, (2) Lexicon 200 reverb, Micmix Super Creverb, AMS DMX 1580 delay, Eventide 969, (2) Lexicon PCM42, (2) Lexicon PCM41, (2) Lexicon Prime Time 93.

Other Outboard Equipment: (2) Drawmer DS-201 dual gate, Drawmer stereo tube compressor, dbx 900 rack w/(2) compressors/(2) de-essers/(4) parametric EQ, Aphex compellor, Eventide flanger, Eventide phaser, Aphex Aural Exciter.

Microphones: Neumann U47 tube and FET, Neumann U89, Neumann KM84, AKG 460, AKG 414EB, AKG C-12A, Sennheiser 421, Sennheiser 441, Sanken CU41, B&K 4000 Series, Shure SM57, Shure SM58, Shure SM81, UREI direct boxes.

Monitor Amplifiers: (3) Hafler DH-500, (3) Hafler DH-220

—CONTINUED ON NEXT PAGE

**Monitor Speakers:** Fostex LS-3, Fostex RM780, Yamaha NS-10, UREI 811, Auratone.  
**Musical Instruments:** Yamaha C7 grand piano. Rental of any required instrument with 24-hour notice.

[24+] THE PEACH  
PO Box 150  
Covington, GA 30209  
(404) 787-1843  
Owner: Kerry Lvgren

[24+] PERFECT PITCH RECORDING & PRODUCTION CO.  
Rt 8, Box 433-A  
Statesville, NC 28677  
(704) 872-2360  
(704) 328-2489  
Owner: Marcus Kearns  
Studio Manager: Melody Hicks

[24+] PERFECTION SOUND  
2871 Jonquil Dr.  
Smyrna, GA 30080  
(404) 436-7410  
Owner: Herb Morris  
Studio Manager: Kent Morris  
Engineers: Steve Easter, Donnie Glass.  
Dimensions: Room 1: studio 55 x 65, control room 20 x 13.  
Room 2: studio 28 x 33, control room 18 x 11.  
**Mixing Consoles:** Neotek Series 3C 28 x 24, Sound Workshop Series 30 20 x 16.  
**Audio Recorders:** MCI JH-24 24-track, MCI JH-16 16-track.  
**Cassette Recorders/Duplicators:** King, Liberty loop bins. (5) Liberty slaves, (3) King autoloctors.  
**Noise Reduction Equipment:** dbx, Dolby A  
**Synchronization Systems:** BTX Shadow.  
**Echo, Reverb, & Delay Systems:** Lexicon, Ursa Major, Alesis, Yamaha.  
**Other Outboard Equipment:** Klark-Teknik EQ, Altec 436 compressors, Dynatech limiters.  
**Microphones:** (62) Telefunken, AKG, Neumann, E-V and Shure.  
**Monitor Amplifiers:** Yamaha.  
**Monitor Speakers:** JBL, Auratone.  
**Musical Instruments:** Yamaha grand, Kawai grand, Korg DSS1, Korg DDD1 drum machine.  
**Other MIDI Equipment:** 48-track PC (sequencing software).  
**Other:** Mastering suite w/Scully lathe.  
**Rates:** 24-track \$80/hr., 16-track \$60/hr.

[24+] POLYMUSIC STUDIOS, INC.  
225 Oxmoor Cir., #812  
Birmingham, AL 35209  
(205) 942-3222

Owner: Daniel E. Whiteside  
Studio Manager: Daniel Whiteside  
Engineers: Mike Panepento, Andy Bray, Daniel Whiteside.  
Dimensions: Studio 25 x 23 main, keyboard room 15 x 20, isolation 12 x 8, control room 25 x 23 main, Synclavier room 35 x 18.  
**Mixing Consoles:** Trident 80B 30 x 24, Quantum QM-128 20 x 8.  
**Audio Recorders:** Otari MTR-90 24-track, Ampex ATR-800 2-track, Ampex ATR-102 2-track, Ampex ATR-700 2-track  
**Cassette Recorders/Duplicators:** Technics and JVC  
**Echo, Reverb, & Delay Systems:** Lexicon 224, Eventide Harmonizer and flanger, Lexicon PCM41, Lexicon PCM42 DDL, (2) Yamaha REV7, Yamaha SPX90, Roland SRV-2000, Yamaha REV-1 digital reverb, Roland Vocoder.  
**Other Outboard Equipment:** Barcus-Berry 202R, Orban parametric, UREI, Eventide and dbx compressor/limiters, (4) dbx noise gates

**Microphones:** Neumann, Shure, E-V, RCA, Sennheiser, AKG.  
**Monitor Amplifiers:** BGW and Yamaha.  
**Monitor Speakers:** JBL 4411, JBL 4311B, JBL 4401, Auratones, (2) Yamaha NS-10M "Studio".  
**Musical Instruments:** Synclavier II w/16 synth voices, 16 Polyphonic sampling voices, music printing, Yamaha DX7, Yamaha TX816 rack, Roland RD-1000 digital piano, LinnDrum, Yamaha G2 piano, Hammond B-3 w/128 Leslie, Prophet-5, ARP 2600, Odyssey, ARP Omni, Poly and MicroMoog, full Yamaha and Pearl drum sets, vibes and a complete array of Latin percussion, assorted guitars and amps.  
**Rates:** \$60/hr. for 24-track; \$50/hr. for Synclavier. Block rates call.  
**Extras & Direction:** Polymusic has a highly qualified, friendly staff of musicians, writers, lyricists and arrangers to assist you. We also have an in-house jingle production company. Our productions cover a broad range of musical styles and our wide range of services is a definite plus. Polymusic has a growing list of loyal clients and we invite you to become one of them.

[24+] THE PROCESS RECORDING STUDIOS  
also REMOTE RECORDING  
3404 West Wendover Ave., Suite E  
Greensboro, NC 27407

## S O U T H E A S T 24+ TRACK STUDIOS

[919] 855-1941  
Owner: The Process Recording Studios Inc.  
Studio Manager: Patrice Hamden

Engineers: Ron Schrank, Bobby Kelly, Hayden Clement.  
Dimensions: Room 1: studio 40 x 30, control room 22 x 22.  
Room 2: studio 11 x 11, control room 16 x 14. Room 3: studio 14 x 14, control room 16 x 15. Room 4: control room 14 x 12.  
**Mixing Consoles:** Sound Workshop Series 34 w/ARMS II Automation, 40 x 24, Trident 65 32 x 16, Tascam M-512 12 X 8, Tascam 106 6 X 4.

**Audio Recorders:** New England Digital 8-track digital direct to disk system (125 min. per track), Studer A-80VU 24 24-track, Tascam 58 8-track, Otari MTR-12C 2-track w/CB-109 locator, Otari MTR-10C 2-track, (7) Otari 5050B MK III various 1-, 2- & 4-track.

**Cassette Recorders/Duplicators:** Nakamichi MR-2, (2) Tascam 122, Otari DP-4050C1 hi-speed 4-track duplicator.

**Noise Reduction Equipment:** dbx Type A available on all recorders.  
**Synchronization Systems:** Fostex 4030 & 4035 to sync to all recorders including Synclavier and direct to disk.

**Echo, Reverb, & Delay Systems:** (2) Yamaha REV7, Lexicon PCM60, Micromix XL-305, (2) Yamaha SPX90, DeltaLab ADM 1024, DeltaLab ADM 64.

**Other Outboard Equipment:** (2) dbx 166 limiters, (2) dbx 160 limiters, (2) Ashly SC-50 limiters, (2) Roger Mayer RM-50 noise gates, Symetrix SG-200 noise gates, Orban 526-A sibilance controller, Aplex Aural Exciter, Audioarts 4100 parametric equalizer, Soundcraft 2012-A graphic equalizer.

**Microphones:** Neumann, AKG, Sennheiser, E-V, Crown, Beyer, Sony, Shure (over 30 mics).  
**Monitor Amplifiers:** Hafler, Crown Micro-Tech, UREI.

**Monitor Speakers:** (2) JBL 4430, (4) Fostex RM780, (4) Yamaha NS-10M, (4) Auratone, (2) Toa.

**Musical Instruments:** Synclavier System: 64-voice, optical disc, 20 meg ram, multiple timbre and sfx libraries, 8 tracks direct to disk digital recorder, Emulator II w/ hard drive and CD-ROM, Akai S900, Yamaha DX7, TX7, Yamaha RX11, Korg DDD-1, Takamine GTM-6 MIDI guitar, 5' grand piano, Fender Rhodes Stage, Crumar Performer, Crumar DS-2, Tama Techstar drums, Rogers acoustic drums.

**Other MIDI Equipment:** Atari 1040 ST w/Steinberg Pro 24 software, Apple Macintosh II+ w/Opcodes Studio Plus, Digidesign Sound Designer.

**Video Equipment:** Panasonic AG-6800.

**Rates:** Call Patrice Hamden for rate card.

[24+] PYRAMID RECORDING  
1228 Lula Lake Rd., Box 331  
Chattanooga (Lookout Mtn.), TN 37350  
(404) 820-2356  
Owner: R.H. Maclellan  
Studio Manager: Jim Stabile

[24+] QUADRADIAL CINEMA CORP.  
14203 NE 18th Ave.  
North Miami, FL 33181  
(305) 940-7971  
Owner: Robert Ingraham & Mary Shaham

[24+] RADIO ACTIVE AUDIO  
also REMOTE RECORDING  
9 W. Grace St.  
Richmond, VA 23220  
(804) 643-2022  
Owner: Victor Benshoff  
Studio Manager: Victor Benshoff

[24+] RAINBOW RIVER STUDIOS  
also REMOTE RECORDING  
PO Box 1708  
Auburn, AL 36831  
(205) 821-4876  
Owner: Larry Barker, Kittie Watson  
Studio Manager: Larry Barker

[24+] REELPEOPLE RECORDING SERVICES  
& CONSULTANTS  
also REMOTE RECORDING  
3210 Gary Ct.  
Falls Church, VA 22042  
(703) 532-REEL  
Owner: Remy David  
Studio Manager: Bob Lloyd

[24+] REFLECTION STUDIOS

1018 Central Ave.

Charlotte, NC 28204

(704) 377-4596

Owner: Wayne Jernigan

Studio Manager: Mark Williams

Engineers: Steve Haigler, Mark Williams.

Dimensions: Studio A: 44 x 32 w/18' ceiling; Studio B: tape duplicating; Studio C: 28 x 24 w/12' ceiling; control room A: 19 x 24 plus 8 x 10 isolation room; Control room C: 18 x 14 plus alcove for recorders.

**Mixing Consoles:** Sony MX-3036 36-input automated, MCI JH-636 24-input.

**Audio Recorders:** (2) Sony APR-5002 2-track, Sony/MCI JH-110C 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.

**Echo, Reverb, & Delay Systems:** Lexicon 224XL, EMT, Lexicon PCM70, Lexicon 200, DeltaLab delays, Effectron, Super Time Line.

**Other Outboard Equipment:** UREI comp, (2) dbx 900 series w/de-essers, gates, limiters, (2) Valley People 440, Orban comp, Drawer turntable gates.

**Microphones:** Neumann, AKG, Shure, E-V, Sennheiser, RCA, Sony.

**Monitor Amplifiers:** AB Systems, BGW, Hafler.

**Monitor Speakers:** TAD custom components, double woofer system, JBL 4401, ROR.

**Musical Instruments:** Yamaha grand, Kawai grand, Fender Rhodes stereo, Wurlitzer electric piano, Farfisa, upright tack piano, Sonor drums and percussion, Musser vibes.

**Rates:** Upon request. Block rates available.

[24+] THE REFLECTIONS

2741 Larmon Dr.

Nashville, TN 37204

(615) 269-0828

(615) 269-3405

Owner: Gene Lawson

Studio Manager: Gene Lawson

[24+] REVELATION RECORDING

PO Box 1096

Corbin, KY 40701

(606) 528-1111

(800) 782-1771

Owner: Revelation Production Group, Inc.

Studio Manager: Tim Collins

Engineers: Tim Collins, Jeff Woodlee

Dimensions: Studio 44 x 30, control room 23 x 20.

**Mixing Consoles:** Sound Workshop Series 1600 28 x 24.

**Audio Recorders:** Sony JH-24 24-track w/ALII, Otari MkIII 2-track.

**Cassette Recorders/Duplicators:** Yamaha 1200.

**Echo, Reverb, & Delay Systems:** Lexicon PCM60 reverb unit, Alesis Microverb reverb unit, ADA digital delay system.

**Other Outboard Equipment:** CDT multicompressor in poly/frame units (compressors, gates, etc.), BBE 802, (2) White 28-band EQ.

**Microphones:** (4) AKG 414 ULS, (3) Neumann 841, (10) Shure SM57, PZM system, AKG D112.

**Monitor Amplifiers:** (2) Hafler P500, (2) Hafler P230.

**Monitor Speakers:** (2) UREI 809, (2) Yamaha NS-10M studio.

**Musical Instruments:** Yamaha 6' pro grand piano, Pearl 7-piece pro drum kit, Yamaha DX7, ARP Omni II, Yamaha RX5 drum machine.

[24+] R.I.M. SOUND STUDIO

Middle Tennessee State University

Murfreesboro, TN 37132

(615) 898-2518

Owner: Recording Industry Management

Studio Manager: Christian L. Hasseleu

[24+] ROADHOUSE RECORDING

7472 Old Hwy. 7B

(5 minutes from SE Memphis)

Olive Branch, MS 38654

(901) 365-4234

Owner: Mark Patrick, Ronnie Vandiver

Studio Manager: Mark Patrick, Ronnie Vandiver

[24+] SAM'S TAPE TRUCK

also REMOTE RECORDING

2785 Osborne Rd.

Atlanta, GA 30319

(404) 237-9075

Owner: Joe Neil, Larry Goode

Studio Manager: Ruth Neil

[24+] SATURN SOUND STUDIOS INC.

also REMOTE RECORDING

515 S. Olive Ave.

West Palm Beach, FL 33401

(305) 832-2148

Owner: Clinton Smith, Allen Pearson

**Studio Manager:** Jim Crockett  
**Engineers:** Clinton Smith, James Crockett.  
**Dimensions:** Studio 32 x 22, control room 15 x 12.  
**Mixing Consoles:** MCI 416LM 24 x 24 w/5534 ICs and Valley.  
**Xfmless mc preamps.**  
**Audio Recorders:** MCI JH-24 24-track w/autoloader III, (2) MCI JH-110B 2-track, Sony PCM-601 2-track digital encoder w/ Sony HF-750 Beta.  
**Cassette Recorders/Duplicators:** (2) Tascam 122B.  
**Synchronization Systems:** MCI JH-45.  
**Echo, Reverb, & Delay Systems:** (2) Lexicon 200, Lexicon Prime Time, Eventide H910, Eventide H949.  
**Other Outboard Equipment:** (4) Gain Brain I, (7) Kepex I.  
**Microphones:** AKG, Crown, Shure, Sennheiser, Neumann.  
**Monitor Amplifiers:** (2) Crown DC-300, Crown DC-150, Crown D-75.  
**Monitor Speakers:** Control room: JBL 4411, Yamaha NS-10M. Studio: Bozak Monitor "C".  
**Musical Instruments:** Kawai GS-30 6' grand piano, Fender Rhodes, Yamaha DX7, Ludwig 6-piece drum kit, Oberheim DMX drum machine.  
**Video Equipment:** Sony 3/4" VTR, Canon VHS VTR, Sony Beta VTR.  
**Rates:** Rates upon request. Block rate bookings are available.

[24+] SCRUGGS SOUND STUDIO, INC.

2828 Azalea Pt.  
Nashville, TN 37204  
(615) 383-7994  
**Owner:** Randy Scruggs  
**Studio Manager:** Sloan Edwards  
**Dimensions:** Studio 32 x 26, control room 21 x 14.  
**Mixing Consoles:** MCI 636 32 x 32 automated console.  
**Audio Recorders:** Mitsubishi X-850 32-track digital recorder, MCI JH-24 24-track analog recorder, MCI JH-10 2-track 1/2" 2-track, MCI JH-10 2-track 1/4".

**Cassette Recorders/Duplicators:** (2) Aiwa 990 cassette machines.  
**Noise Reduction Equipment:** dbx 208 24-chan. noise reduction.  
**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.  
**Other Outboard Equipment:** Eventide Harmonizer, (4) dbx limiter/compressors, vocal stresser, UREI LA-3 limiter/compressor, (6) noise gates & other misc. gear.  
**Microphones:** Sanken, (2) Neumann U87, (2) AKG 414, other assorted mics from AKG, Neumann, Studer, Shure, Beyer, Cal-

rec, Sony, Sennheiser.  
**Monitor Amplifiers:** McIntosh 2300 amplifier, Yamaha, B&W, Crown amps.  
**Monitor Speakers:** 604E Big Reds, Yamaha NS-10, E-V Sentry 100, Auratone.  
**Musical Instruments:** Yamaha 7.5' acoustic piano w/Forte MIDI-mod, Yamaha DX7 synth, Linn 9000 drum machine/sequencer, Hammond organ, Fender, Ampeg, Polytone amps.  
**Rates:** Rates available upon request.

[24+] SIXTEENTH AVENUE SOUND

1217 Sixteenth Ave. South  
Nashville, TN 37212  
(615) 327-8787  
**Owner:** Services Mgmt. Inc.  
**Studio Manager:** Barry Sanders  
**Engineers:** Dave Parker, Barry Sanders.  
**Dimensions:** Room 1: studio 23 x 28, control room 22 x 24 (w/iso booths). Room 2: studio 29 x 15, control room 13 x 15. Room 3: control room 16 x 13.  
**Mixing Consoles:** SSL 4000E 48 x 32, Soundcraft 1600 24 x 16, Soundcraft 400B 20 x 16.  
**Audio Recorders:** Mitsubishi X-850 32-track digital, Soundcraft 760 MkIII 24-track analog, Tascam 8516B6 16-track analog, Studer A820 2-track 1/4", 1/2" analog, Tascam 422 2-track analog, Nakamichi DMP-100 2-track digital.  
**Cassette Recorders/Duplicators:** (2) Nakamichi MR-1, (3) Tascam 122.

**Synchronization Systems:** Adams-Smith Zeta 3.  
**Echo, Reverb, & Delay Systems:** (2) Yamaha REV7 effects processor, Yamaha SPX90 effects processor, Lexicon PCM42 digital delay, AMS DXS 15-805, AMS RX 16, Lexicon 480L, Lexicon 224X, Lexicon PCM70, Lexicon PCM41, Effectron ADM 1024.

**Other Outboard Equipment:** Drawmer 1960 compressor/amp, dbx 165A, Valley People 440 compressor/limiter, Valley People leveler, Valley People Kepex II.  
**Microphones:** Neumann TLM170, KM84, U47, FETI, KM86i, Sony C-48, AKG 414, AKG 460 w/61 capsules, Sanken CU-41, Sennheiser MD-421, Shure SM57, E-V RE20/PC 20.  
**Monitor Amplifiers:** Perreaux PMF 5150B, Yamaha P2250 C, Hafter.

**Monitor Speakers:** B&W 808, B&W DM 100, Yamaha NS 10M, Tannoy SRM 12B, Auratone.  
**Musical Instruments:** Kawai 7' grand piano, Yamaha U-1 studio upright piano, LinnDrum computer, Music Man Stingray bass guitar.  
**Other:** Pool table, fully equipped kitchen, lounge with cable TV & stereo, VHS VCR.  
**Rates:** Please call for rate quotes. Block rates are available.



SKD INC. RECORDING STUDIO  
Miami, FL

[24+] SKD INC. RECORDING STUDIO

6157 NW 167th St. Unit F-4  
Miami, FL 33015  
(800) 654-7047  
**Owner:** Kenneth Black  
**Studio Manager:** Wellesley Charoo  
**Engineers:** Oswald Palmer.  
**Dimensions:** Studio 15 x 19, control room 18 x 15.  
**Mixing Consoles:** SSL 6000E 56 x 56.  
**Audio Recorders:** Sony PCM-3324 24-track 1/2" digital, MCI JH-16 24-track 2" analog, (2) MCI JH-110 2-track 1/4" analog, (2) Sony PCM-3202 2-track 1/4" digital.  
**Cassette Recorders/Duplicators:** Technics RS-B100  
**Noise Reduction Equipment:** (2) Drawmer DS-201, (6) ADR Scamp S-30.  
**Echo, Reverb, & Delay Systems:** Lexicon 224X digital reverb, (2) Yamaha REV7 digital reverb, (4) Yamaha SPX90 digital effects processor, Lexicon PCM70 digital effects processor, AKG BX-10 reverb.  
**Other Outboard Equipment:** (20) API 550A parametric equalizer, (2) Orban 622B parametric equalizer, (2) UREI Model 546 parametric equalizer, (2) dbx 165A compressor/limiter, dbx

—CONTINUED ON NEXT PAGE

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(Deadline: June 3)

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

ZIP \_\_\_\_\_

(\_\_\_\_\_) TELEPHONE \_\_\_\_\_

**Mail to: Mix Directories**  
**6400 Hollis St. #12**  
**Emeryville, CA 94608**

**NOTE:** Questionnaires for specific issues will be mailed five months prior to issue date.

160 compressor/limiter, (2) Drawmer DL-231 expander/compressor, Eventide H949 Harmonizer, Roland DEP-5 digital effects processor, (2) Aphex Type B Aural Exciter, Teletronix LA-2A leveling amplifier.

**Microphones:** AKG Tube, AKG 414, AKG C-460B, AKG D12, Neumann U87A, Neumann U47, Sennheiser MD-421, Shure SM57.

**Monitor Amplifiers:** Meyer MS-1000, UREI 6300, Yamaha P2075.

**Monitor Speakers:** Meyer 833, Meyer 834, Yamaha NS-10M, Auratone.

**Musical Instruments:** Emulator II+ keyboard, Yamaha DX7 keyboard, Emulator SP12 drum machine, Roland DDR-30 digital drum.

**Rates:** Negotiable.

#### [24+] SKYLINE RECORDING STUDIO

2626 State Blvd.

Meridian, MS 39305

(601) 482-8541

Owner: Tim Chesney

Studio Manager: Tim Chesney

#### [24+] SOUND CELL also REMOTE RECORDING

601 Meridian St.

Huntsville, AL 35801

(205) 539-1868

Owner: Douglas G. Smith

#### [24+] SOUND EMPORIUM

3102 Belmont Blvd

Nashville, TN 37212

(615) 383-1982

Owner: Roy Clark

Studio Manager: Gary Laney, Susan Howell

Engineers: Gary Laney, Todd Sholar.

Dimensions: Room 1: studio 33 x 40, control room 20 x 22. Room 2: studio 14 x 23, control room 15 x 17.

Mixing Consoles: Neve 8128 48 x 32, Harrison 28/24 28 x 24.

Audio Recorders: Otari MTR-90II 24-track, Sony/MCI JH-24 24-track.

Cassette Recorders/Duplicators: (2) Revox B-170.

Synchronization Systems: (2) Adams-Smith 2600.

**Echo, Reverb, & Delay Systems:** (2) EMT 140 plates, AMS RMS-16, (2) Lexicon PCM70, Yamaha SPX90, Lexicon Prime Time 90, Lexicon Prime Time II, Lexicon PCM42, Marshall Time Modulator, Quantec room simulator, Lexicon 224XL, (2) 910 Harmonizers, 969 Harmonizer, (2) live chambers.

**Other Outboard Equipment:** (3) LA-2A, 1179, (2) Trident stereo compressors, (4) dbx 160 compressors, Neve stereo comp., Vocal Stresser, (4) Jensen mic preamps, (2) Pultec 16A EQ.

**Microphones:** (10) Neumann U87, Neumann U67, Neumann M49, (2) Neumann U47 FET, (2) Neumann KM84, (2) Neumann KM86, (2) AKG 441, (8) AKG 414, (8) Sennheiser 421, (2) AKG D112, (6) Shure SM57, Shure SM7, (2) Sanken 41, (2) Shure 81, (4) Studer, (2) PZM, (2) RCA 77DX, (3) E-V RE-20, (4) Sony ECM-50.

**Monitor Amplifiers:** BGW 750, BGW 500, BGW 250, Hafler 500, Tannoy, Perreaux, Crown.

**Monitor Speakers:** Tannoy LGM-12, Yamaha NS-10M, Ed Long Synergistics, Westlake, Auratone, Fostex, BGW, JBL 4310.

**Musical Instruments:** Baldwin piano, Chickering piano, B-3 organ, C-3 organ, Roland drum machine, Minimoog, Akai synth, clavinet, marimbas, celeste, elec. harpsichord, Wurlitzer, Fender Rhodes.

#### [24+] SOUND INTERNATIONAL CORPORATION

4730 E. 10th Lane

Hialeah, FL 33013

(305) 685-8409

Owner: Enzo Caputo

Studio Manager: Ayal Joshua

#### [24+] SOUND LAB, INC. also REMOTE RECORDING

1639 Tullis Cir. NE, Ste. 115

Atlanta, GA 30329

(404) 321-6300

Owner: Winton Cobb

Studio Manager: Sheryl Martin

#### [24+] SOUND OF BIRMINGHAM also REMOTE RECORDING

3625 5th Ave. S.

Birmingham, AL 35222

(205) 595-8497

Owner: Don Mosley

Studio Manager: Noah White

## SOUTHEAST

# 24+ TRACK

STUDIOS

#### [24+] SOUND STAGE STUDIO

10 Music Circle S.

Nashville, TN 37203

(615) 256-2676

Owner: Ron Kerr

Studio Manager: Ron Treat

#### [24+] SOUND-TREK RECORDING STUDIO

PO Box 172

Pensacola, FL 32523

(904) 434-0052

Owner: Glen Fowler, C.B. Fowler

Studio Manager: Glen Fowler

#### [24+] SOUNDING BOARD also REMOTE RECORDING

PO Box 1072

Hendersonville, TN 37077

(615) 822-7865

Owner: Otis & Sharon Forrest

Studio Manager: Otis Forrest

#### [24+] SOUNDS UNREAL STUDIOS

also REMOTE RECORDING

1902 Nelson Ave.

Memphis, TN 38114

(901) 278-8346

Owner: Jon Hornyak, Don Smith

Studio Manager: Jon Hornyak

Engineers: Don Smith, Jack Holder, Evan Rush, Andy Black.

Dimensions: Studio 44 x 19 x 12, control room 19 x 15 1/2 x 11 1/4.

Mixing Consoles: Soundcraft TS24 32 x 24.

Audio Recorders: Otari MTR-90II 24-track, Otari MTR-10 2-track, Otari MX5050B 2-track.

Echo, Reverb, & Delay Systems: Lexicon 224XL, Lexicon 200, AMS RMX 16, Ursus Major 8 x 32 digital reverb, AMS DMX 15-80S digital delay/harmonizer, Korg programmable digital delay, Yamaha SPX90.

Other Outboard Equipment: dbx 900 mainframe with limiter/compressors, noise gates and de-esser, Symetrix 501 limiter/compressor, LA-2A, Fairchild Instruments 670, Roland Dimension-D, EXR Exciter, MARC MXI and MXE, Universal 1176, BBE 802.

Microphones: AKG Tube, AKG 414, AKG 451, AKG D12E, AKG 224, Neumann U87, Neumann KM84, Shure SM7, Shure SM57, Shure SM58, Shure SM81, Sennheiser 421, E-V RE20, E-V RE16, Crown PZM, Beyer M500.

Monitor Amplifiers: Yamaha, Crown, BGW, McIntosh.

Monitor Speakers: Steven Durr custom monitors (JBL, TAD), Yamaha NS-10M.

Musical Instruments: Steinway grand piano, Hammond B-3, Yamaha DX7, PPG 2.3 w/Wavetrem, Fairlight CMI, Emulator II, Roland JX-8P, JX-3P, MSQ700, Juno 60, Oberheim DMX 4-voice, Fender Rhodes, Prophet-5, Minimoog, LinnDrum, Marshall amps, Carvin amps, strings and things, custom guitars and basses.

Rates: Upon request!

#### [24+] SOUNDSCAPE STUDIOS

677 Antone St.

Atlanta, GA 30318

(404) 351-1003

Owner: Jon Maret

Engineers: Larry Turner, Edd Miller.

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: Neve 8068 32 x 24 w/Necam I, Neotek Series IIIC 28 x 24.

Audio Recorders: Studer A80 24-track w/Dolby SR, Studer A80 MkIV 24-track transformerless, Studer DB20X 2-track dash digital recorder, Studer A80 2-track 1/2" transformerless, Studer A810 2-track 1/2", Studer B76 2-track, TEAC A3440 2-track.

Cassette Recorders/Duplicators: Tascam T-122, Studer A710.

Noise Reduction Equipment: Dolby SR 24-/2-track.

Synchronization Systems: Adams-Smith Zeta III.

Echo, Reverb, & Delay Systems: Quantec QRS, 224XL, EMT 140 plate, PCM70, PCM42, PCM41, AKG BX20E1, Super Prime Time, (2) Marshall TM, (2) Eventide H910 Harmonizers, Eventide 1745 DDL, AMS 1580S, AMS RX16 available.

Other Outboard Equipment: BBE 202, BBE 2002, (6) Drawmer



#### SOUNDSCAPE STUDIOS Atlanta, GA

201 dual gates, (4) Kepex gates, (3) CLX C/L/E, (5) UREI 1176, (4) Neve 32264 comp/lm, RCA tube limiter, dbx 162, Pultec EQP10S, Sonatec stereo PEQ, Klark-Teknik ST 27-band graphic EQ, UREI 545 PEQ, LT Sound PEQ.

Microphones: Neumann, AKG, Crown, Beyer, Sennheiser, Schoeps, Shure, RCA, E-V, Sony.

Monitor Amplifiers: FM Acoustics, Belles, Hafler, Crest, McIntosh, Studer.

Monitor Speakers: Yamaha NS-10, Minimus 7, Tannoy 10B, Auratone, Hartman sub-sat system, custom design four-way, all coned w/DYN Audio and RCF components.

Musical Instruments: Yamaha C7 piano, Prophet-5, Oberheim OB8, Yamaha DX7, Gretsch drums, guitar amps.

Video Equipment: Sony 5850 3/4", Panasonic AG6800 1/2".

Rates: Call for rates.

Extras & Direction: Extensive lighting system includes 50 PARs (500-1,000 watts), (3) Far-cyces, Strand Century console with programmable dimmer assignment, assortment of 1.5-10 KW Mole-Richardson and McAllister lights, stage for band rehearsals and showcases upon request. Developing MIDI system and room. Large drive-in door and comfortable lounge facilities with kitchen, bedroom and private bathroom with shower. Soundscape Studios is a state-of-the-art multi-media complex which combines a qualified, amiable staff to serve a client's full spectrum of needs. The flexible 3,000 sq.ft. Studio A allows for a simple transition from a recording studio to a soundstage for video or movie production. The built-in comfort of the control room and lounge facility provides the perfect complement to a quality industrial, commercial or album production.

#### [24+] SOUNDSHINE PRODUCTIONS, INC.

also REMOTE RECORDING

723 W. Sunrise Blvd.

Ft. Lauderdale, FL 33311

(305) 463-9882

Owner: Thomas M. Graef

Studio Manager: Frank Cornelius

#### [24+] SOUNDSHOP RECORDING STUDIOS

1307 Division St.

Nashville, TN 37203

(615) 441-4149

Owner: Wm. D. Killen

Studio Manager: Patrick McMakin

Engineers: Mike Bradley, John Dickson, Mike Psanos, Pat McMakin.

Dimensions: Room 1: studio 40 x 36. Room 2: studio 25 x 18.

Mixing Consoles: (3) MCI JH-528 28 x 32

Audio Recorders: (2) Studer A800 24-track, Otari MTR-90 24-track, (2) Studer A810 2-track 1/2", (2) Studer A80 2-track 1/2", (2) Studer B67 2-track 1/2", Studer A80 2-track 1/2"

Noise Reduction Equipment: (3) Dolby M-16 racks w/Dolby A 24 channels each rack, dbx K-9 cards 24-channel.

Synchronization Systems: Studer TLS2000

Echo, Reverb, & Delay Systems: AMS RMX-16 reverb, AMS DMX digital delay, PCM70 reverb, (6) EMT plates, Yamaha REV5 reverb, (2) Lexicon Super Prime Time digital delays, Yamaha SPX90 multi-effects, Yamaha REV7 reverb.

Other Outboard Equipment: (4) Sontec preamps, (2) ADR ES900 sweep EQ, (8) UREI LA-3A, (6) dbx 160 limiters, dbx 165 limiter.

Microphones: (2) Neumann U67 tube, Neumann U47 tube, Neumann 249 tube, Neumann U48 Nuvistor, (2) B&K 4006, (2) Studer SKM5, (6) AKG 414, (6) AKG 452, (6) Sennheiser 421, many others.

Monitor Amplifiers: Hafler, (2) Yamaha 2200P, (6) BGW various.

Monitor Speakers: Tannoy LGM, (3) Yamaha NS-10M, UREI 815 Time Aligned, 6048G custom, JBL custom

Musical Instruments: Pearl, Steinway 7' 1930s vintage, Steinway 9', Yamaha C7, (3) Fender Rhodes 88

Video Equipment: JVC 8200 3/4" video for sync-to-multi-track.

Other: Studio A: wired exclusively with Mogami cable.

Rates: Call

[24+] SOUTH COAST RECORDING CO.  
1975 NE 149th St  
Miami, FL 33181  
(305) 945-7272  
Owner: Paul Kaminsky, George Blackwell  
Studio Manager: Jenny Blackwell

[24+] SOUTH LAKE RECORDING STUDIO  
3229 8th St.  
New Orleans, LA 70002  
(504) 833-7926  
Owner: Paul DeCote  
Studio Manager: Steve Hirsch  
Engineers: David Farrell, Steve Hirsch  
Dimensions: Studio 35 x 25, control room 25 x 15  
Mixing Consoles: MCI JH-600 32 x 24.  
Audio Recorders: Studer A80 MKIV 24-track, MCI JH-110 2-track, Fostex E2 2-track, Sony F1 digital.  
Cassette Recorders/Duplicators: Yamaha, Sony  
Echo, Reverb, & Delay Systems: (3) Yamaha SPX90, Lexicon 200, PCM42, Roland DEP-5, Eventide 949, others available upon request.  
Other Outboard Equipment: (6) Valley People Kepex II and (2) Gain Brain, Drawmer gates, (2) UREI 1178 limiters, Vocal Stresser, (4) Audiocraft parametric EQ, Orban 424A compressor/de-esser, BBE 802.  
Microphones: (2) Neumann 89, Neumann 249, (2) AKG 414, (4) Shure 57, (2) AKG 451, (4) Beyer M201, (2) Beyer 88, (2) Sennheiser 421, E-V RE20, (2) Shure SM81, (3) E-V RE16.  
Monitor Amplifiers: Crown, Peavey, BGW.  
Monitor Speakers: JBL, Yamaha, Fourier, Auratones, Peavey  
Musical Instruments: Yamaha 6' grand, Premier drum set, (2) snare drums to choose from, Roland S-50, Roland D-50, Yamaha DX7 plus other synthesizers upon request. If you need it we'll find it.  
Video Equipment: Full Betacam system, 3/4" off-line editing, VHS and Beta duplicating  
Rates: Call for information.

[24+] SOUTHERN TRACKS RECORDING  
3051 Clairmont Rd., Studio Complex  
Atlanta, GA 30329  
(404) 329-0147  
Owner: Bill Lowery  
Studio Manager: Russ Fowler

[24+] SP SOUND PRODUCTIONS  
709 Shadowfield Ct.  
Chesapeake, VA 23320  
(804) 547-4000  
Owner: Steve Peppos

[24+] SPECTRUM RECORDING STUDIO  
also REMOTE RECORDING  
999 S. Federal Hwy.  
Deerfield Beach, FL 33441  
(305) 428-0119  
Owner: Jim Kalamasz  
Studio Manager: Jim Kalamasz

[24+] STARGEM RECORDING STUDIO  
43 Music Square E.  
Nashville, TN 37203  
(615) 244-1025  
Owner: Wayne Hodge  
Studio Manager: Barbara Brown

[24+] STARKE LAKE STUDIOS  
also REMOTE RECORDING  
275 N. Lake Shore Dr.  
Ocoee, FL 32761  
(305) 656-8989  
Owner: Glen Gettings  
Studio Manager: Paul Miner

[24+] STRAWBERRY SKYS RECORDING STUDIOS  
1706 Platt Springs Rd.  
West Columbia, SC 29169  
(803) 794-9300  
Owner: Gary Bolton  
Studio Manager: Gary Bolton  
Engineers: Ron Hollins, Gary Bolton, Independents.  
Dimensions: Studio 28 x 36 w/large iso room, control room 17 x 22 w/video and MIDI interface.  
Mixing Consoles: MCI automated w/plasma displays, JH-636 AF-LM automated 28 x 24  
Audio Recorders: MCI JH-24 24-track, MCI JH-110C 2-track w/1/2" heads 30 ips, Tascam 80-8 w/DX-8, TEAC 2300 w/dbx 150, Pioneer RT-707 1/4-track.  
Cassette Recorders/Duplicators: (2) Aiwa F770  
Echo, Reverb, & Delay Systems: Lexicon 224, Yamaha SPX90, Lexicon Prime Time 93, (2) DeltaLab 2048, ART DR2, MXR flanger/doubler.



STRAWBERRY SKYS RECORDING STUDIOS  
West Columbia, SC

Other Outboard Equipment Aphex Aural Exciter, GATEX 4-channel gates, dbx 162 limiter (stereo), (2) dbx 160X limiter/compressor, (3) UREI 1176 limiters, Symetrix 150 limiter, Magnavox CDB-650 CD player, Panasonic color video monitor.  
Microphones: Neumann L47, Neumann KM84, AKG C414EB, AKG C451, AKG C452, Sennheiser 421, Sennheiser 441, Shure SM57, Shure SM58, Sony EC-9.  
Monitor Amplifiers: Hafler, Crown, Phase Linear  
Monitor Speakers: JBL 4435 bi-amped bidials, Yamaha NS-10M, Auratone 5C  
Musical Instruments: LinnDrum w/MIDI interface, Atari 1040ST, Oberheim Prommer, Fender bass and guitars, Takamine acoustic guitar, Yamaha bass and guitar amps, anything available by rental  
Rate: Call for quote, our rates are surprisingly affordable!  
Extras & Direction: Already one of South Carolina's most progressive studios, Strawberry Skys continues to meet the growing demand for album, jingle and film work in the Southeast. We are committed to providing the finest recording services within an environment that is conducive to creativity. To all our clients who have contributed to our success—Thank You!

[24+] STUDIO CENTER SOUND  
14875 NE 20th Ave.  
North Miami, FL 33181  
(305) 944-2911  
Studio Manager: Craig Powell

[24+] STUDIO FOUR  
also REMOTE RECORDING  
1918 Wise Dr.  
Dothan, AL 36303  
(205) 794-9067  
Owner: Jerry Wise  
Studio Manager: Steve Clayton

[24+] STUDIO 19  
821 19th Ave. S.  
Nashville, TN 37203  
(615) 327-4927  
Owner: Larry Rogers  
Studio Manager: Larry Rogers

[24+] STUDIO ONE  
3864 Oakcliff Industrial Ct.  
Doraville, GA 30340  
(404) 449-5147  
Owner: Georgia State University  
Studio Manager: Gregory M. Quesnel

[24+] STUDIO "7" RECORDING CO.  
also REMOTE RECORDING  
PO Box 57  
Smith Station, AL 36877  
Owner: Frank B. Gowan  
Studio Manager: James Gregory Jenkins

[24+] STUDIO SOUTH  
also REMOTE RECORDING  
2510 Peach Orchard Rd.  
Augusta, GA 30906  
(404) 793-7800  
Owner: Howard Lovett  
Studio Manager: Howard Lovett



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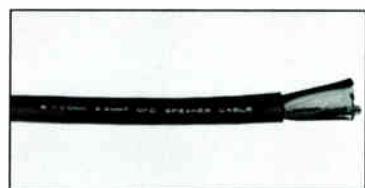
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[24+] STUDIOEAST

5457 Monroe Rd.

Charlotte, NC 28212

(704) 536-0424

Owner: Don Lawrence, Tim Eaton

Studio Manager: Tim Eaton, Don Lawrence

Engineers: Doug Hawthorn, Jim Brock

Dimensions: Studio 45 x 42 x 25(H); control room 20 x 24.

Mixing Consoles: 1986 Amek Angela 36 x 24 with Audio Kinetics Master Mix MX644 floppy disk drive; Amek Scorpion S3 16-, 8- and 2-track

Audio Recorders: Studer A80 24-track, MCI 110 1/2" master 2-track, Otari MkIII 8-track, (3) Scully 280B 1/2" 2-track

Echo, Reverb, & Delay Systems: Lexicon 224XL, EMT 140 stereo reverb plate, EMT 140 mono reverb plate, Eventide instant flanger, Eventide Clockwork Harmonizer, (2) Yamaha REV7, Yamaha SPX90 MkII, Yamaha SPX90 MkIII, Lexicon PCM60

Other Outboard Equipment: dbx limiter/compressor equalizer

Microphones: Neumann U87s, Neumann U47s, Neumann KM84s, Neumann KM86s, Sennheiser MKH-405s, Sennheiser MD-42105s, AKG, Beyer, E-V, and RCA

Monitor Amplifiers: Tannoy 840, Crown DC-300A, (2) Crown DC-150, McIntosh 2300

Monitor Speakers: Tannoy F5Ms, Tannoy NFM-10M, JBL 4411, Yamaha NS-10, Auratones

Musical Instruments: Kurzweil 250, Yamaha 7'4" grand, Hammond C-3 w/Leslie tone cabinet, Gretsch drum kit, Ludwig Octaplatu Vistalight drum kit, Minimoog, Hohner D-6 clavinet, Baldwin harpsichord, Fender 88 electric piano, Fender amps, Music Man amp, Yamaha RX5 digital drum machine, Simmons SDS-5, Marshall guitar amp, Kustom Hi Watt 50

Other MIDI Equipment: Macintosh 512K computer

Rates: Available upon request

[24+] SYNCROSOUND RECORDING

1030 16th Ave. S.

Nashville, TN 37212

(615) 242-1666

Owner: Mike Robertson, Randy Wachtler

Studio Manager: Patti Sedon

[24+] TELSTAR

also REMOTE RECORDING

2074 17th St

Sarasota, FL 33580

(813) 365-0337

Owner: Rick Moulton

Studio Manager: Lynn Nieder

Engineers: Rick Moulton, Bud Snyder

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- and 16-track, Sony/MCI JH-110 (1/4") 2-track, Sony/MCI JH-10 (1/2") 2-track, Sony PCM-F1 2-track

Cassette Recorders/Duplicators: Otari-Tascam real time duplication

Echo, Reverb, & Delay Systems: Lexicon 224XL, Lexicon PCM-60, Lexicon PCM42s, Prime Time, Eventide Harmonizer.

Other Outboard Equipment: UREI 1176s, LA-3s, dbx 160s, Allison Research Gain Brains, Kepex's, Valley People Dynamics, Dyna-Mics 610, Orban 516EC, Audioarts parametrics, AXE direct boxes

Microphones: Neumann U87s, AKG 414s, PZMs, Shure SM-85s, Shure SM81s, Shure SM57s, Shure SM56s, Beyer 160s, 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+] TERMINAL RECORDING STUDIOS

4747-B McWillie Dr.

Jackson, MS 39206

(601) 932-2627

Owner: Rick Garner

Studio Manager: Randy Everett

[24+] TOTAL TAPE COMPANY LIMITED

1300 NW 31st Ave.

Fort Lauderdale, FL

(305) 581-1166

Owner: Craig Bulmer

Studio Manager: Craig Bulmer

Engineers: Craig Bulmer, Vince Vezzi

Dimensions: Studio 16 x 22, synclavier suite

Mixing Consoles: Tascam M-520 20 x 8.

Audio Recorders: Otari MX-5050 4-track, Tascam 44 4-track, MCI 8-track, Akai 173DSS 4-track, Akai 4400 2-track.

Cassette Recorders/Duplicators: TEAC Z-7000

Microphones: (4) Shure, E-V

Monitor Amplifiers: (4) Sunn power amps, Yamaha power amps.

Monitor Speakers: JBL 4301 broadcast monitors

Musical Instruments: Synclavier digital music system w/direct-to-hard disk recording capability, Pearl CB700 9-piece drum set, Wurlitzer upright piano, Rickenbacker 330 electric 6-string,

# S O U T H E A S T

# 24+ TRACK

## STUDIOS

Ovation Ultra acoustic 6-string, Peavey T-140 electric bass  
Video Equipment: Ikegami HL-79EAL, Sony BVH-500 1" VTR, BVP3 Betacam, BVW field player, single and multi-camera mobile units and download packages.  
Rates: Jobs bid on per project basis, brochure available upon request

[24+] TRANSMEDIA PRODUCTIONS, INC.

561-F Thornton Rd.

Lithia Springs, GA 30057

(404) 948-4813

Owner: Hugh Harrer

Studio Manager: Hugh Harrer

[24+] TREASURE ISLE RECORDERS

2808 Azalea Pl.

Nashville, TN 37204

(615) 297-0700

Owner: Mariner Trust

Studio Manager: Fred & Dave

[24+] TURTLE POINT RECORDING

also REMOTE RECORDING

PO Box 7472

St. Thomas, 00801 Virgin Islands

(809) 776-2104

Owner: John L. Johnston

Studio Manager: John L. Johnston

[24+] TWELVE OAKS STUDIO

3830 S. Cobb Dr.

Smyrna, GA 30080

(404) 435-2220

Studio Manager: Randy Bugg

[24+] TWENTY-FIVE SIXTY RECORDING STUDIO

also REMOTE RECORDING

2560 Niskey Lake Rd. SW

Atlanta, GA 30331

(404) 349-7511

Owner: Theodore Bland

Studio Manager: Eddie Irons

[24+] ULTRASONIC STUDIOS INC.

also REMOTE RECORDING

7210 Washington Ave.

New Orleans, LA 70125

(504) 486-4873

Owner: Jay Gallagher

Studio Manager: Scott Goudeau

Engineers: Jay Gallagher, Scott Goudeau.

Dimensions: Studio 50 x 50, control room 25 x 16. (2) isolation booths, drum room.

Mixing Consoles: MCI 652 52 x 48 w/automation

Audio Recorders: MCI JH-24 24-track, Sony 5003 2-track w/center track timecode, MCI JH-110 2-track, Otari 5050 2-track, Sony PCM-F1 2-track.

Synchronization Systems: Audio Kinetics Pacer synchronization.

Echo, Reverb, & Delay Systems: (2) Yamaha REV7, IVE chamber, (2) Yamaha SPX90, Lexicon Prime Time, Lexicon PCM42.

Other Outboard Equipment: (4) UREI 1176, Allison Kepex/Gain Brains, EXR Exciter, Gemini compressor/limiter, UREI 565 filter set, outboard EQ.

Microphones: Neumann, Sennheiser, RCA, AKG, Shure, Beyer

Monitor Amplifiers: BGW, Crown

Monitor Speakers: JBL 4331-A, Yamaha NS-10, Auratones

Musical Instruments: Kawai grand, Ludwig drums, Mesa Boogie, Yamaha, Fender guitar amps, keyboards, drum machines, etc. Available on request, Fender P-Bass

Video Equipment: Sony 5800 3/4" U-matic.

Rates: 48-track recording available on request.

[24+] VIRGINIA ARTS PRODUCTION STUDIOS

also REMOTE RECORDING

Box 800

Louisa, VA 23093

(703) 967-2245

Owner: R. Paul Brier

Studio Manager: R. Paul Brier

[24+] THE WAREHOUSE RECORDING STUDIO

also REMOTE RECORDING

2071 Emerson St., Unit 20

Jacksonville, FL 32207

(904) 399-0424

Owner: Thomas H. Markham, Sr.

Studio Manager: Roger J. Peck



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Nashville, TN

[24+] WESTPARK SOUND

3212 West End Ave., Ste. 201

Nashville, TN 37203

(615) 292-5838

Owner: Duncan Nelson

Studio Manager: Tom Reeves

Engineers: Ted Wilson, Dan Wujcik

Dimensions: Room 1: studio 10 x 12, control room 13 x 30. Room 2: studio 9 x 7

Mixing Consoles: MCI 636 28 x 24, Soundcraft 8 x 4 sub-mixer

Audio Recorders: MCI JH-24 24-track, Revox PR99 2-track

Sony 701-ES 2-track digital processor (Beta format)

Cassette Recorders/Duplicators: Nakamichi MR-1

Synchronization Systems: Roland SBX80 sync box

Echo, Reverb, & Delay Systems: Lexicon 224XL, (2) Yamaha SPX90 II, Yamaha REV7, Korg DRV-1000, Ibanez SDR-1000+, Lexicon PCM42

Other Outboard Equipment: (2) dbx 160 compressor/limiter, Symetrix 501 comp/limiter, (2) dbx 163, Aphex B Exciter, Gates, BBE 200-2R, (5) Kepex, AudioArts 4200A EQ 2 channels, Roland SDD-320 Dimension D, Iota systems MIDI fader

Microphones: Sanken CU-41, Neumann U89, Neumann TLM-170, (4) AKG 414, (5) Sennheiser 421, (3) Shure SM57, Sennheiser 441, (2) PZMs

Monitor Amplifiers: Yamaha P2200, Yamaha P2100, Crown D-150A

Monitor Speakers: Yamaha NS-10, Fostex RM865, Auratones

Musical Instruments: Kurzweil 250 QLS Version 4, Emulator II+, Yamaha DX7, Yamaha DX7IID, Roland Juno 106, Roland D-50, Young Chang 6'1" acoustic grand piano, Yamaha KX88, E-mu SP-12 turbo, Roland Super Jupiter w/programmer, Oberheim Xpander, Roland Octapad, Pearl drum set w/RIMS and drum bug triggers

Other MIDI Equipment: (2) Macintosh computers, Mac Plus w/4 meg internal 80 meg external (20 meg data frame), Opcode Studio Plus interface, full software facilities incl. Performer/Pro Composer/MidiPaint/Sound Designer/Drumfile/Sequencer 2 53/Patch Librarian/Opcode/Southworth/Digidesign

Video Equipment: Available upon request—monitor, 3/4" machine

Other: Casio CZ-101, 360 Systems MIDIBass, (2) Altec 436C compressor amps (tube), huge keyboard and SP-12 libraries available on Macintosh

Rates: \$65/hr with staff engineer or \$50/hr without staff engineer, \$650/day 12 hours with engineer

Extras & Direction: Westpark Sound is a studio looking towards the '90s. We offer the full spectrum of cutting-edge music technology... at an affordable price. Our staff is committed to service, creativity and expertise. Hear your demos, jingles, albums, film scoring and video post-productions come to life as never before at Westpark Sound.

[24+] W.J.S. RECORDING

1320 National Rd.

Wheeling, WV 26003

(304) 242-8601

Owner: Bill Shvlin

Studio Manager: Bill Shvlin

[24+] WOODLAND SOUND STUDIOS, INC.

101 Woodland St.

Nashville, TN 37206

(615) 227-5027

Owner: AVI

Studio Manager: Tim Farmer

S O U T H E A S T

# 12&16 TRACK STUDIOS

[12] ADVENT PRODUCTIONS  
also REMOTE RECORDING  
2518 Southview Dr.  
Lexington, KY 40503  
(606) 278-5852  
Owner: Don C. Morgan  
Studio Manager: Don C. Morgan

[16] ADVID STUDIO  
also REMOTE RECORDING  
Mitchell St.  
Junction City, KY 40440  
(606) 854-6756  
Owner: Richard Akin  
Studio Manager: Richard Akin

[16] ALIVE RECORDINGS  
1251 Virginia Ave.  
Harrisonburg, VA 22801  
(703) 434-6703  
Owner: Mennonite Board of Missions  
Studio Manager: Abe Rittenhouse

[16] ALPHA RECORDING CO., INC.  
also REMOTE RECORDING  
207 S. Mulberry St.  
Elizabethtown, KY 42701  
(502) 765-7899  
Owner: James Cottrell  
Studio Manager: Keith Pacey

[16] AMAZING MUSIC  
also REMOTE RECORDING  
3795 Mercer University Dr.  
Macon, GA 31204  
(912) 474-4700  
Owner: Edward Vance  
Studio Manager: Edward Vance

[16] ARTISTS' RECORDING SERVICE  
also REMOTE RECORDING  
980 Barret Ave.  
Louisville, KY 40204  
(502) 581-9294  
Owner: Artists' Recording Service, Inc.  
Studio Manager: Bob Hunter/Mike Franklin

[16] A.S.I. STUDIOS, INC.  
102 Warren St.  
Bolivar, TN 38008  
(901) 658-5500  
Owner: Jeff Shackelford  
Studio Manager: Jeff Shackelford  
Engineers: Jeff Shackelford  
Dimensions: Studio 18 x 20, control room 12 x 15  
Mixing Consoles: Allen & Heath Brenell CMC 24 24 x 16  
Audio Recorders: Fostex B-16 16-track, Otari MX-5050IIIB  
2-track  
Cassette Recorders/Duplicators: Nakamichi MR-2, Akai CS-MO2, Recordex Mini-Max high speed stereo duplicator  
Noise Reduction Equipment: Dolby "C" (standard equipment on Fostex B-16)  
Echo, Reverb, & Delay Systems: Yamaha REV7 digital reverberator, ART 01A digital reverb, DeltaLab ADM 4096 digital delay loop  
Other Outboard Equipment: Rane PE-15 parametric EQ, Rane GE-14 stereo graphic EQ, (2) Symetrix 501 compressors/limiters, Fostex 4050 autocalibrator w/SMPTE and MIDI sync, (3) Symetrix 32 point patch bays  
Microphones: Beyer M-500, (2) Beyer 201, (2) Audio-Technica ATM 11, (2) Audio-Technica ATM 63, AKG D12E, (3) E-V PL76B, (2) E-V PL88L, (2) E-V PL95, (2) Stewart ADB-1 active direct boxes, (3) Whirlwind IMP2 direct boxes  
Monitor Amplifiers: Symetrix A-220 headphones, NAD 2200

Monitor Speakers: (2) Fostex SM-6600, (6) Fostex T-20 headphones  
Musical Instruments: Korg DW-6000, Sequential Circuits MAX-MIDI voice expander, Roland DR-220A drum machine, Tama 8-piece drum kit, Fender twin reverb amplifier, Peavey Bandit amplifier, Lab Series L2 bass amplifier, Fender Telecaster, Gibson Les Paul standard, Ibanez Artist 50, Alvarez acoustic, Epiphone acoustic, Vantage bass guitar  
Rates: \$25/hr Block rates available upon request

[16] ATLANTICOAST RECORDING  
PO Box 64784  
Virginia Beach, VA 23464  
(804) 495-1348  
Owner: Dean Kohler  
Studio Manager: Dean Kohler

[12] THE ATTIC  
1503 Madison Ave.  
Memphis, TN 38104  
(901) 276-8525  
Owner: John Scott, John David  
Studio Manager: John David

[16] AUDIO ARTS RECORDING STUDIOS  
AND PRODUCTIONS  
Rt. 1, Box 59, Hwy 43 N.  
Greenville, NC 27834  
(919) 758-2240  
Owner: Audio Arts, Inc.  
Studio Manager: Sonny Johnson

[16] AUDIO CONCEPTS RECORDING COMPANY  
5 Cedar St.  
Milton, FL 32570  
(904) 626-0139  
Owner: Gregory D. Pendleton  
Studio Manager: Gregory D. Pendleton

[16] AUDIO VISION, INC.  
also REMOTE RECORDING  
1102 17th Ave. S., Ste. 200  
Nashville, TN 37212  
(615) 321-3612  
Owner: Jim Reyland, Jim Gilmore  
Studio Manager: Jim Reyland

[16] AUDIO WORKS PRODUCTION SERVICES INC.  
2310-D Marietta Blvd.  
Atlanta, GA 30318  
(404) 355-0909  
Owner: Tim Larsen  
Studio Manager: Tim Larsen  
Mixing Consoles: Trident Series 65 24 x 16  
Audio Recorders: Soundcraft 760 MKIII 16-track 2", Soundcraft Series 20 2-track 1/4" and 1/2", JVC VP101 PCM 2-track digital  
Cassette Recorders/Duplicators: Revox B710, (10) Technics M205 real time  
Echo, Reverb, & Delay Systems: (2) Eventide 2016 reverb and fx units (well stocked), Lexicon 224 reverb unit, Audio Digital TC-2-DDL, Eventide Ultraharmonizer, Eventide 949 Harmonizer, Eventide 910 Harmonizer  
Other Outboard Equipment: Barcus-Berry 202R, dbx 120X subharmonic synthesizer, EXR Exciter, (2) dbx 160X compressors, (2) dbx 160 compressors, (2) LT Sound compressors/pekkexes, (2) UREI 1176 LN limiters, Orban stereo parametric EQ  
Microphones: Beyer C740 condenser, (2) Neumann U87, (2) AKG C414, (2) AKG C460, (2) AKG C450, (2) Crown PZM 31S, Crown 6LP, (6) Sennheiser 421, Beyer 380 kick mic, E-V RE20, Beyer 420, Beyer 422, Beyer M500, Shure SM57, Shure SM58, and C-Ducers  
Monitor Amplifiers: Haller pre and power amps, QEC, AB systems



AUDIO WORKS PRODUCTION SERVICES INC.  
Atlanta, GA

Monitor Speakers: Gauss 3588 coaxial mains, Auratone cubes, Tannoy NFM 8s  
Musical Instruments: Complete MIDI production room Macintosh-based, Akai S900, Ensoniq Mirage samplers, Roland D-50, Yamaha RX5, Oberheim Xpander, Yamaha TX802, Roland Super JX, Yamaha G5 grand piano, Sonor drums, much more  
Rates: Call for rates

[16] AUDIOCRAFT - SOUND HUT STUDIOS  
also REMOTE RECORDING  
1604 W. New Bern Rd.  
Kinston, NC 28501  
(919) 527-8845  
Owner: Clark Tutt  
Studio Manager: Clark Tutt

[16] B & B PRODUCTIONS  
Rt. 2, Box 653  
High Point, NC 27260  
(919) 769-3714  
Owner: Mark A. Black  
Studio Manager: Mark A. Black

[12] BATES BROTHERS RECORDING  
also REMOTE RECORDING  
25 Joy Ave., Ste. 101  
Hueytown, AL 35023  
(205) 491-4066  
Owner: Eric Bates, Eugene Bates  
Studio Manager: Eugene Bates

[16] BEECHTREE RECORDING STUDIO  
2804 Beechtree Dr.  
Sanford, NC 27330  
(919) 774-8926  
Owner: Bill Tripp  
Studio Manager: Bill Tripp

[16] BIRDLAND RECORDING STUDIOS, INC.  
3116 Sandlin Rd.  
Decatur, AL 35603  
(205) 353-8324  
Owner: James Murphree, Owen Brown, Jeff Simpson  
Studio Manager: Owen Brown

[12] BLACK & SILVER STUDIO  
605 Kimberly Ln., Apt. A  
Atlanta, GA 30306  
(404) 881-6127  
Owner: James Lanier  
Studio Manager: James Lanier

[16] BOONE SOUND  
also REMOTE RECORDING  
313 Highland Ave.  
Albany, GA 31701  
(912) 436-6508  
Owner: Jesse Boone  
Studio Manager: Jesse Boone

[12] BOTTOM LINE STUDIO  
also REMOTE RECORDING  
450 NW 69th Ter.  
Margate, FL 33063  
(305) 755-1868  
Owner: Mark R. Nowak  
Studio Manager: Mark R. Nowak

[16] BTM STUDIOS  
PO Box 928  
Burnsville, NC 28714  
(704) 675-5685  
Owner: Frank Wyatt  
Studio Manager: Frank Wyatt

[16] CACTUS RECORDING STUDIO INC.  
also REMOTE RECORDING

105 W. 5th St.  
Sheffield, AL 35660  
(205) 383-2702

Owner: Cactus Inc

Studio Manager: Don Sygley

Engineers: Don Sygley, John Powell, Greg Pace, Kim Sygley  
Dimensions: Studio 40 x 15, control room 20 x 12  
Mixing Consoles: Neotek Series 11 24 x 16, Audiotrack 16 x 8

Audio Recorders: Otari MX-5050 MkIII 8-track, Fostex E-16

16-track, JVC 2-track digital processor, Sony SL-H750 2-track

Beta Hi-Fi, Tascam 35-2 2-track

Cassette Recorders/Duplicators: Hitachi DX-10, JVC, TEAC

Noise Reduction Equipment: dbx, Dolby

Synchronization Systems: Hybrid Arts SMPTEmate

Echo, Reverb, & Delay Systems: Yamaha REV7 digital reverb, Yamaha SPX90 digital reverb, Lexicon PCM70 digital reverb, (2) ART 01A digital reverb, ART DF2 digital reverb, Ibanez SDR-1000 digital reverb, Korg SDD-3000 digital delay, Roland SDE-1000 digital delay, Ibanez DMD-2000 digital delay

Other Outboard Equipment: dbx 166 compressor/limiter/gates, (2) Gain Brains compressor/limiter/gates, Furman LC-3 compressor/limiter/gates, Kepex compressor/limiter/gates, Eventide 901 Harmonizer, Eventide FL201 flanger, Rane PE15 parametric EQ, UREI 31-band graphic EQ, Aphex Type C Aural Exciter, Hitachi compact disc player

Microphones: Neumann U87, (2) AKG 421, (14) Shure SM57, (9) Audio-Technica various, (3) Beyerdynamic, (3) Crown PZM

Monitor Amplifiers: BGW 250-D, Marantz 250-M, Crown 0-60 Monitor Speakers: (2) JBL 4311, (2) JBL L-100, (2) DA PS 6, (2) Auratone

Musical Instruments: Steinway 6' baby grand piano, Roland MKB-3000 MIDI controller, Yamaha TX812, Roland MKS-100 digital sampler, Roland Juno-1, Prophet T-8, Prophet 600, Korg Poly-800, Yamaha RX11 drum computer, (2) Scholz Rockmans and Bass Rockman, (4) Fender Stratocasters, Precision GTRs, Pearl 7-piece drum set, (5) vintage amps, Marshall, Fender, Ampeg B-15, tube amps

Other MIDI Equipment: Atari 1040ST computer-Hybrid Arts software, Atari 130XE Hybrid Arts MIDImate, Apple IIe computer w/popular software, large sample library

Video Equipment: Sony Beta Hi-Fi, Mitsubishi VHS.

Rates: No hourly rates, price per project. Please call

[16] CARNEGIE HALL RECORDING STUDIO

1901 Murfreesboro Pk. #112  
Nashville, TN 37217  
(615) 360-9840

Owner: Vaughn R Skow

Studio Manager: Vaughn R. Skow

[16] CHARISMA SOUND PRODUCTIONS, INC.

17394 118th Terr.  
Jupiter, FL 33478  
(305) 747-3432

Owner: Douglas G Krauff

Studio Manager: Sharon V Hearn

[16] CLASSIC RECORDING STUDIO

also REMOTE RECORDING

13 Moore St.  
Bristol, VA 24201  
(703) 466-8675

Owner: Classic Records

Studio Manager: Bandy Brownlee

[16] WALLY CLEAVER'S RECORDING

also REMOTE RECORDING

1518 Princess Anne St.  
Fredericksburg, VA 22401  
(703) 373-6511

Owner: Peter L. Bonta

Studio Manager: Lori Stannard

Engineers: Peter Bonta, Pete Fields, Lin Arroyo

Dimensions: Studios: main room 20 x 22, dead room 9 x 13.5, isolation booth 6 x 7. Control rooms: main room 12 x 14, post-production room 10 x 10

Mixing Consoles: Sound Workshop Series 30 24 x 24 x 2 w/ARMS VCAs

Audio Recorders: Tascam 85-16B 16-track, Revox A77 2-track, 3M M-79 4-2-track 1/2", Otari 5050 2-track, Scully 280 2-track

Cassette Recorders/Duplicators: (3) TEAC

Echo, Reverb, & Delay Systems: Yamaha REV7 digital reverb, AKG BX-1011, Lexicon PCM60, Lexicon PCM41, DeltaLab DL-2, DeltaLab Effectron 1024, Micromix "Master Room"

Other Outboard Equipment: (2) UREI 1176LN, Eventide 910 Harmonizer, (2) UREI LA-4, Symetrix 522, (2) Valley People Dyna-Mite, (3) dbx 160, (2) dbx 163, Aphex Aural Exciter, dbx

## S O U T H E A S T

# 12&16 TRACK

STUDIOS

[16] DERBYTOWN SOUND STUDIOS

5900 Outer Loop

Louisville, KY 40219

(502) 968-2320

Owner: John Wesley

[16] DOGWOOD RECORDING

also REMOTE RECORDING

2813 Springhill Ave.

Mobile, AL 36606

(205) 476-0858

Owner: Tad Denson

Studio Manager: Kevin Wicker

[16] DREAM MAKER STUDIOS

613 Powell Rd. NE

Lenoir, NC 28645

(704) 758-0220

Owner: Henry Starnes

Studio Manager: Lisa Starnes

[12] E 1212

also REMOTE RECORDING

Ave. Andalicia #769

Puerto Nuevo, PR 00926

(809) 782-2745

Owner: Carlos A Bigio Agosto

[16] EAGLE ROCK RECORDING INC.

Rt. 1, Box 109 Taylor Rd.

Wendell, NC 27591

(919) 365-9446

Owner: Rex A Bost, Buddy Bryan

Studio Manager: Rex A Bost

[16] EASLEY RECORDING

also REMOTE RECORDING

3744 Marion

Memphis, TN 38111

(901) 323-5407

Owner: Doug Easley

Studio Manager: Doug Easley

[16] ELECTRIC LEE STUDIO

Rt. 3, Box 250

Canton, MS 39046

(601) 856-5324

Owner: Keith Lee, Debbie Lee, Kerry Lee, Kendall Lee

Studio Manager: Keith Lee

[16] EMERY RECORDING

10407 Headly Court

Fairfax, VA 22032

(703) 323-0263

Owner: James D. Emery, Jr.

[16] EVANSOUND PRODUCTIONS (ESP)

Five Wall Street

Fredericksburg, VA 22405

(703) 371-8000

Owner: Jim Evans

Studio Manager: Jim Evans

[16] EXOCET

3264 Shallowford Rd., Suite D

Chamblee, GA 30341

(404) 455-7256

Owner: Michael D. Adams

Studio Manager: Steven S. Boyes

[16] FAIR WARNING RECORDING STUDIO

also REMOTE RECORDING

246 Eisenhower Dr.

Nashville, TN 37211

(615) 367-1737

Owner: Fair Warning Ministries

Studio Manager: Mark G. Shipsey

[16] FIVE SQUARE RECORDING

PO Box 420

Bells, TN 38006

(901) 772-6216

Owner: Paul T Jackson

Studio Manager: Paul T Jackson

[16] FLIGHT ONE STUDIO

Rt. 2, Box 104

Ridgeley, WV 26753

Owner: Greg Johnson

Studio Manager: Greg Johnson

[16] FMR - MAGIC MUSIC  
120 S. Court Ave. #223  
Orlando, FL  
(305) 648-8666  
Owner: Michael Redman  
Studio Manager: Michael Redman

[16] HUMMINGBIRD RECORDINGS  
also REMOTE RECORDING  
113-A Nelson Ave.  
Melbourne, FL 32935  
(305) 259-6576  
Owner: John O Foley  
Studio Manager: John O Foley

[16] IVS MEDIA PRODUCTIONS  
also REMOTE RECORDING  
517 Meeting St.  
Charleston, SC 29403  
(803) 577-9185  
Owner: Corporation  
Studio Manager: Steve Green

[16] GOSPEL WORLD STUDIOS  
Rt. 2, Box 366  
Middlesex, NC 27557  
(919) 235-4691  
Owner: Jerald Boykin  
Studio Manager: Dale Adkins

[16] IMPORTANT RECORDING STUDIO  
also REMOTE RECORDING  
352 Broadway  
Estero, FL 33928  
(813) 947-0103  
Owner: John McLane, Diankeri Bernet  
Studio Manager: Diankeri Bernet

[16] IZZIT REEL PRODUCTIONS  
also REMOTE RECORDING  
14019 Beach Blvd., Lot 914, Box 162  
Jacksonville Beach, FL 32250  
(904) 223-3338  
(904) 641-9690  
Owner: Howie Lucero  
Studio Manager: Howie Lucero

[16] GRAPEVINE STUDIOS  
PO Box 8324  
Gadsden, AL 35902  
(205) 546-6249  
Owner: Cris Mahy  
Studio Manager: Karen Mahy

[16] INNER EAR RECORDING STUDIOS  
712 S. Ivy St.  
Arlington, VA 22204  
(703) 892-2123  
Owner: Don Zientara  
Studio Manager: Eli Janney

[16] JAG STUDIO, LTD.  
also REMOTE RECORDING  
3801-C Western Blvd.  
Raleigh, NC 27606  
(919) 821-2059  
Owner: Joy Cook  
Studio Manager: Byron T McCay

[16] GRIFFIN MUSIC DESIGN  
Ste. 425, Carr Mill Mall  
Carborro, NC 27510  
(919) 942-8075  
Owner: Robert Griffin  
Studio Manager: Burton Whicker

[16] GROUP EFFORT SOUND STUDIO  
also REMOTE RECORDING  
2656 Crescent Springs Rd.  
Erlanger, KY 41017  
(606) 331-8273  
Owner: Dan Murphy, Wayne Hartman, Jeff Seeman, Bill Gwynne  
Studio Manager: Dan Murphy, Wayne Hartman, Jeff Seeman, Bill Gwynne

[16] GYPSY STUDIO  
also REMOTE RECORDING  
3039 Hazelton St.  
Falls Church, VA 22044  
(703) 241-7445  
Owner: Mike Rivers  
Studio Manager: Mike Rivers

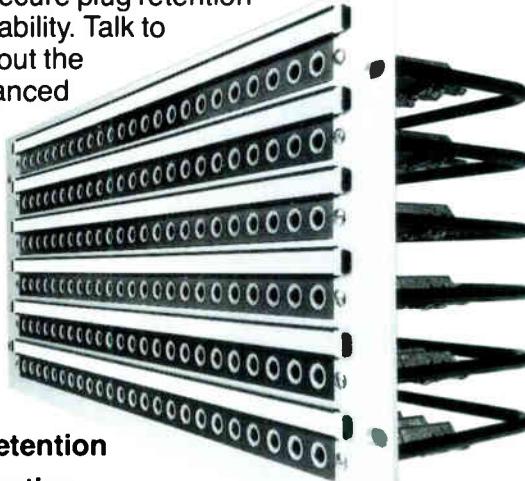
[16] HERITAGE RECORDS & RECORDING STUDIO  
Rt. 3, Box 280  
Galax, VA 24333  
(703) 236-9249  
Owner: Bobby Patterson  
Studio Manager: Bobby Patterson

[16] HOLLYWOOD SYNC  
3130 Pembroke Rd., #448  
Hollywood, FL 33009  
(305) 962-1586  
Engineers: Wayne Ricker, Jamie Swartz.  
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: Tascam 85-16 16-track, Tascam 35-2B 2-track, Ampex 2-track.  
Cassette Recorders/Duplicators: (5) Tascam 25000, JVC KD-A3.  
Noise Reduction Equipment: dbx 150 on 16-track.  
Synchronization Systems: KMS 30 sync box, SMPTE time code generator.  
Echo, Reverb, & Delay Systems: Yamaha REV7 digital reverb, ART 01A digital reverb, Eventide H949 Harmonizer, Lexicon Prime Time, DeltaLab DL-4 digital delay.  
Other Outboard Equipment: dbx 165 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 D-50 Linear synth, Yamaha DX7, Yamaha CP80 electric grand piano, E-mu SP-12, LinnDrum.  
Other MIDI Equipment: Linn sequencer.

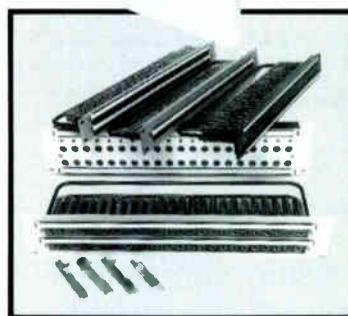
[16] HOMESTEAD RECORDINGS, INC.  
also REMOTE RECORDING  
Rt. 1, Box 1097  
Norton, VA 24273  
(703) 679-4182  
Owner: Ron Swindall  
Studio Manager: Ron Swindall

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at (415) 653-3307.

**DEADLINE: MARCH 14**

**SOUTH EAST  
12&16 TRACK  
STUDIOS**

[16] LEAVELL STUDIO  
2045 Anderson Snow Rd.  
Spring Hill, FL 33526  
(904) 799-6102  
Owner: John & Becky Leavell  
Studio Manager: John Leavell

[12] LEE'S STUDIO  
PO Box 18  
Wayland, KY 41666  
(606) 358-4411  
Owner: Curtis B Lee  
Studio Manager: Curtis B. Lee

[16] LIVE NOTE STUDIO  
PO Box 16  
Hampton, VA 23669  
(804) 838-6930  
Owner: Tom & Fonda Breeden  
Studio Manager: Fonda M. Breeden  
Engineers: Tom Breeden  
Dimensions: Studio 18 x 30, control room 12 x 15 x 10  
Mixing Consoles: Amek/TAC Scorpion 16 x 8 x 2 w/16 monitor  
tracks  
Audio Recorders: Tascam MS-16 16-track, Tandberg TD-20SE  
2-track

Cassette Recorders/Duplicators: (2) Sony, (2) Pioneer  
Echo, Reverb, & Delay Systems: Yamaha REV7, Yamaha SPX-  
90 digital processor, Alesis MIDiverb, DeltaLab Super TimeLine,  
MXP-01A digital reverb  
Other Outboard Equipment: BBE 402 Maxie Sonic Maximizer  
audio enhancer, (2) Audioarts 1200 compressor/limiter, (4) Loft  
Model 400 noise gate/limiters  
Microphones: Neumann U89, Neumann U87, (3) Sony C38-B,  
(4) Sony 23-F, (2) Audio-Technica AT-10, (4) Shure SM55, AKG  
D-112, assorted others  
Monitor Amplifiers: Bryston 4-B  
Monitor Speakers: Yamaha NS-10, Infinity/Magnepan QRS-ID  
Musical Instruments: Ensoniq Mirage DSK sampling w/all-factory  
disk, Steinway acoustic piano, Yamaha DX21, Roland Juno 106,  
Sequential Circuits Six-Trak, Ludwig drum kit w/Zildjian cymbals,  
Yamaha RX5 drum machine, Aria Pro II Cat bass, Ibanez  
BE-10 bass EQ, Scholz Rockman guitar and bass sustainer,  
Yamaha SPX90, Segma acoustic guitar  
Video Equipment: Audio transfer to 1/2" or 3/4" video tape  
Rates: \$35/hr subject to change without notice. Sessions by  
appointment only

[16] LOYOLA UNIVERSITY RECORDING STUDIO  
Loyola University College of Music  
6363 St. Charles Ave.  
New Orleans, LA 70118  
(504) 865-2773  
Owner: Loyola University  
Studio Manager: Sanford Hinderlie

[16] MANGUM/ALFORD RECORDING STUDIO  
also REMOTE RECORDING  
3524 Morton St.  
Jacksonville, FL 32217  
(904) 737-9242  
Owner: Larry Mangum, Jeff Alford  
Studio Manager: Larry Mangum

[16] MASTERCRAFT RECORDING  
also REMOTE RECORDING  
7145 Rosemary Ln.  
Port St. Lucie, FL 34952  
(305) 878-2041  
Owner: Marc and Kerry Rabins  
Studio Manager: Marc and Kerry Rabins

[12] MID-SOUTH RECORDING  
685 Milliken's  
Woodburn, KY 42170  
(502) 542-7340  
Owner: Stephen Webber  
Studio Manager: Susan Webber

[12] MIDI SOUND RECORDING CENTER  
903 Neptune Rd.  
Kissimmee, FL 32743  
(305) 847-9757  
Owner: Angelo Ballesteros  
Studio Manager: Virginia Ann Forsley

[16] MILEEDGE RECORDING STUDIO  
5281 Lochinvar  
Memphis, TN 38116  
(901) 346-8818  
Owner: Michael Elledge  
Studio Manager: Michael Elledge  
Engineers: Michael Elledge, Dean Bryant, Wayne Loden

Dimensions: Studio 21 x 11, control room 8 x 14.  
 Mixing Consoles: Tascam M-520 20 inputs.  
 Audio Recorders: Fostex B16D 16-track, TEAC A3300 SX 2-track.  
 Noise Reduction Equipment: dbx stereo noise reduction.  
 Echo, Reverb, & Delay Systems: Yamaha REV7, Yamaha SPX-90, Yamaha R1000 reverb, DeltaLab ADM 1024 digital delay.  
 Other Outboard Equipment: (2) Yamaha GC2020 stereo comp/limiters, DOD stereo graphic EQ, Scholz Rockman, Aphex Type C Aural Exciter.  
 Microphones: Shure, Audio-Technica, Beyer, E-V.  
 Monitor Amplifiers: Crown D-150A Series II, Tascam MH-40.  
 Monitor Speakers: JBL 4311B, Yamaha NS-10M.  
 Musical Instruments: Korg DSS-1 sampling synthesizer, (2) Seymour Duncan Convertible guitar amps, (2) Latin Percussion congas, various percussion instruments, Story & Clark console piano, Ludwig 9-piece drum set.  
 Rates: \$30/hr. Block discounts available.

[16] STEVE MILES AUDIO PRODUCTIONS  
*also REMOTE RECORDING*  
 2643 Mohawk Cir.  
 West Palm Beach, FL 33409  
 (305) 471-1774  
 Owner: Steve Miles  
 Studio Manager: Steve Miles

[16] MIRROR MUSIC RECORDING  
 Virginia Beach, VA 23452  
 (804) 340-4053  
 Owner: Ira White  
 Studio Manager: Ira White

[16] OAK BOWERY RECORDING  
*also REMOTE RECORDING*  
 Rt. 3, Box 185  
 Lafayette, AL 36862  
 (205) 749-8804  
 Owner: E. Logan Patton Jr.  
 Studio Manager: E. Logan Patton Jr.

[16] OLIVERIO MUSIC, INC.  
 750 Ralph McGill Blvd., NE  
 Atlanta, GA 30312  
 Owner: James Oliverio  
 Studio Manager: Richard B. Burgess

[16] ORACLE RECORDING STUDIO  
*also REMOTE RECORDING*  
 PO Box 464188  
 Lawrenceville, GA 30246  
 (404) 921-7941  
 Owner: Gene Smith  
 Studio Manager: Gene Smith  
 Engineers: Gene Smith.  
 Dimensions: Studio 12 x 12, control room 21 x 12.  
 Mixing Consoles: Soundcraft 200 16 x 4.  
 Audio Recorders: Tascam MS-16 16-track 30 ips, Otari 5050-B II 2-track, Sony Digital PCM F-1 2-track, Sony SL-HF 450 2-track Super Beta Hi-Fi.  
 Cassette Recorders/Duplicators: Tascam 122 MKII.  
 Synchronization Systems: JL Cooper PPS-1.  
 Echo, Reverb, & Delay Systems: Lexicon PCM70, Alesis MIDIverb II.  
 Other Outboard Equipment: CDT MC-8 compressor/limiter.  
 Microphones: Beyer MC 740 N, (2) AKG 460B, AKG 460 ULS/61, Sennheiser MD-409 U3, Sony ECM-23, Beyer M-500, Shure SM59.  
 Monitor Amplifiers: Hafler XL-280, Hafler P-125, Tascam PA-20B.  
 Monitor Speakers: (2) Tannoy LGM 12B, (2) E-V Sentry 100, (2) Tascam CM-4.  
 Musical Instruments: DX7/FD, Oberheim OB-8, Oberheim DMX drum machine, Martin D-28 acoustic guitar, Fender Strat, Fender pre-CBS custom Telecaster, Epiphone 12-string acoustic guitar, Guild G-37 acoustic guitar, 360 Systems MIDbass, Casio FZ-1 sampler.  
 Other MIDI Equipment: Macintosh Plus w/Performer 2.2 software, Opcode Systems Studio Plus.  
 Other: Tascam AC-65 auto-locater, Technics SH-CDB7 compact disc player, Ampeg V-7 guitar amp.  
 Rates: Call for rates.

[16] PENGUIN STUDIO  
*also REMOTE RECORDING*  
 1305 Cedar Keys Ct.  
 Stone Mountain, GA 30083  
 (404) 299-2614  
 Owner: Alex Ayers  
 Studio Manager: Alex Ayers

[16] PINEGROVE STUDIO  
 10985 S.W. 172 Terrace  
 Miami, FL

(305) 255-1495  
 Owner: Newton Simmons  
 Studio Manager: Newton Simmons

[16] THE POWER HOUSE  
 3505 Macon Rd.  
 Memphis, TN 38122  
 (901) 452-8063  
 Owner: Steve Hauth  
 Studio Manager: Steve Hauth

[16] PREMIER STUDIO  
*also REMOTE RECORDING*  
 1024 16th Ave. So.  
 Nashville, TN 37212  
 (615) 254-4455  
 Owner: Andy Anderson  
 Studio Manager: Mike Hopkins

[16] PROGRESSIVE MUSIC STUDIOS  
*also REMOTE RECORDING*  
 2116 Southview Ave.  
 Tampa, FL 33606  
 (813) 251-8093  
 Owner: Kenneth E. Veenstra  
 Studio Manager: Kenneth E. Veenstra

[16] RAIN MOON STUDIO  
 85 NW 67th Ave.  
 Miami, FL 33126  
 (305) 261-5947  
 Owner: Rafael M. Irizarry

[16] REAL TO REEL RECORDING STUDIO  
 970 E. Lake Dr.  
 Bartow, FL 33830  
 (813) 533-4650  
 Owner: Stanley Warren  
 Studio Manager: Howard Warren

[16] REAL TO REEL STUDIO, INC.  
 4911 N. Henry Blvd.  
 Stockbridge, GA 30281  
 (404) 474-4776  
 Owner: Bill Turpin  
 Studio Manager: Ed Roland, Joe Randolph

[16] RED D PRODUCTIONS  
 1845 SW 4th Ave., #13  
 Delray Beach, FL 33444  
 (305) 265-1825  
 Owner: Dennis Tooker  
 Studio Manager: Brad Ducoat

[16] RON ROSE PRODUCTIONS, INC.  
*also REMOTE RECORDING*  
 3409 W. Lemon St.  
 Tampa, FL 33609  
 (813) 873-7700  
 Owner: Ron Rose Productions, Ltd.  
 Studio Manager: Mike Stram  
 Engineers: Five.

Dimensions: Room 1: studio 11 x 12, control room 16 x 18  
 Room 2: studio 11 x 12, control room 15 x 18. Room 3: studio 9 x 11 (middle booth). Room 4: control room 12 x 26 (duplication).  
 Mixing Consoles: (2) Soundcraft 600 16 x 8 x 2, TEAC Model 5 8 x 4 x 2.

Audio Recorders: Tascam MS-16 16-track 1", (2) Tascam Model 58 8-track 1/2", (6) Tascam Model 52 2-track 1/4", (2) MCI JH-110C full track mono 1/4", Tascam 44 4-track 1/4", Technics RS-1520 2-track 1/4", Tascam 70-4 4-track 1/2".  
 Cassette Recorders/Duplicators: (2) Tascam 122B 2-track, Tascam 122 MkII 2-track, (2) Sony TC-FX210, Marantz PMD221, Telex 6120 4-track mono/stereo cassette dup 11 slaves, Magnefax 652-1 mono/stereo reel-to-reel duplicator 5-slave.

Synchronization Systems: BTX 4700 w/Shadowpad and 2 event starts, modified to sync 16-track or 8-track audio to Sony BVH-2000 1" VTR or Sony VO-5850 3/4" VTR.  
 Echo, Reverb, & Delay Systems: (2) Lexicon PCM60, Yamaha SPX90 digital audio processor, Eventide H910.

Other Outboard Equipment: Orban 621 B/R parametric EQ, Orban 536A de-esser, (2) Aphex Compellors compressor/limiter, (3) Symetrix TI-101 telephone/telephone, Bryant Eng. variable puisher, LT Sound Vocal Eliminator.

Microphones: (5) AKG C-414EB condensers, (3) Sennheiser MD-421, Shure SM7, Shure SM57, (3) Crown PZM 180, others available.

Monitor Amplifiers: (2) Hafler P-225, (2) Sony.  
 Monitor Speakers: (4) JBL 4411, (2) Tannoy NF-8, (4) Auratone 5C, (8) Infinity RS-9B, (2) Infinity RS-11, (2) Infinity RS-1000.  
 Musical Instruments: Keyboards/samplers/drum machines available.

Video Equipment: Sony BVH-2000 1" VTR, Sony VO-6500 3/4" VTR, ESE time code generator, Sony VO-5850 3/4" VTR, Kenwood KV917 1/2" Hi-Fi, (2) NEC 1/2" VCR, VAC sync generator.

—CONTINUED ON NEXT PAGE

**MASTER**  
**A**  
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Complete Mastering Services for:

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- Records
- Cassette

**Sony PCM 1630/DMR-4000**  
**Sony PCM 3202, Sony PCM 601**  
**Mitsubishi X-80**

ENG: Michael Fuller

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 1755 N.E. 149 STREET / MIAMI, FLORIDA 331B1 / (305) 945-6697

Eric Clapton  
 Rod Stewart  
 Kenny Rogers  
 Judas Priest  
 The Romantics  
 Company B  
 Barry Manilow  
 Expose'  
 Julio Iglesias  
 Eddie Money  
 Dionne Warwick  
 Braulio  
 Bee Gees  
 Bellamy Brothers  
 Kenny Loggins  
 George Clinton

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—CONTINUED FROM PAGE 193

NEC CT1901 monitor, NEC CT1420 monitor, Hedco VDA, Hedco video switcher, Sanyo AVM-150 monitor  
Other: (50) music and sound effects libraries (70,000 cuts), Denon CD player, Sony CD player, computer shipping and expediting, remote recording.  
Rates: 8-track \$75/hr, 16-track \$95/hr, audio post-production starting at \$105/hr. Please call for quotes

[16] SAGE PRODUCTIONS  
*also REMOTE RECORDING*  
5757 Arlington Road  
Jacksonville, FL 32211  
(904) 743-5106  
Owner: John Calvin, Scott Shepard, Jane Shepard  
Studio Manager: Bert Hazel

[16] SHOOH SHACK  
802 18th Ave. South  
Nashville, TN 37203  
(615) 242-1421  
Owner: Don Cox, Hoyt Henry  
Studio Manager: Hoyt Henry

[16] SILVER STAR RECORDING STUDIO  
*also REMOTE RECORDING*  
PO Box 428  
McBee, SC 29101  
(803) 335-7703  
Owner: Don Tiller  
Studio Manager: Terry Tiller

[16] SOUND DESIGN  
1943 NE 148 St.  
N. Miami, FL 33181  
(305) 945-1728  
Owner: Sound Design Studio Inc.  
Studio Manager: Anny Novoa

[16] SOUND LAB RECORDING STUDIO, INC.  
*also REMOTE RECORDING*  
2319 Fernwood Dr.  
Greensboro, NC 27408  
(919) 288-0185  
Owner: Thomas Rowan  
Studio Manager: Mary Schenck  
Engineers: J. Thomas Rowan, Mary L. Schenck  
Mixing Consoles: Soundcraft Series 1600 24 x 16.  
Audio Recorders: Tascam MS16 16-track, Tascam 42 2-track, Tascam 58 8-track, Tascam 32 2-track, Tascam AQ-65 auto locator, TEAC A 2300 SX 2-track, Sony PCM-F1 digital.  
Cassette Recorders/Duplicators: Nakamichi, TEAC, Technics, Telex  
Noise Reduction Equipment: LT Sound NR-8.  
Synchronization Systems: On the way!  
Echo, Reverb, & Delay Systems: Lexicon 200, (2) Lexicon PCM70, Lexicon PCM41, Vestax MXR, Eventide Harmonizer  
Other Outboard Equipment: dbx, LT Sound comp/limiters, Soundcraftsman & Ashly equalizers, Drawmer, Ashly, Symetrix, LT Sound noise gates and de-essers, Aphex Aural Exciter.  
Microphones: (2) AKG 414, AKG D12E, (3) SM81, AKG C 451EB, (3) Shure SM57, (3) Shure SM58, (3) E-V RE20.  
Monitor Amplifiers: Crown D150A, Crown DC 300A.  
Monitor Speakers: JBL 4111, (2) Auratone, (2) EPI.  
Musical Instruments: Korg Poly 6, Yamaha DX72D, LinnDrum, Roland DDR-30, Sequential Prophet 2002, Tama Imperial Star drums, Wurlitzer piano, Custom designed bass cabinet, and Fender head, Fender super reverb amp w/Marshall A-3203 head, Scholz Rockman X100.  
Other: Macintosh computer, printer and sequencer  
Rates: \$50/hour, \$360/day, project rates (quoted)

[16] SOUND ON SOUND  
7109 Apple Orchard Ln.  
Crestwood, KY 40014  
(502) 241-5115  
Owner: Howell H. Gano  
Studio Manager: Howell H. Gano

[16] SOUND PICTURE RECORDING  
*also REMOTE RECORDING*  
2730 NW 105th Ln.  
Sunrise, FL 33322  
(305) 742-0019  
Owner: Charles Reichel  
Studio Manager: Robin Reichel

[16] THE SOUND ROOM, INC.  
325 Patterson Ave.  
Fort Oglethorpe, GA 30742  
(404) 866-2432  
Owner: Steve Mullinx  
Studio Manager: Steve Mullinx

# S O U T H E A S T 12&16 TRACK STUDIOS

[16] SOUND STAGE MUSIC CO.  
*also REMOTE RECORDING*  
PO Box 1082, 300 Main St.  
Calera, AL 35040  
(205) 668-1981  
Owner: Charles A. Sampson  
Studio Manager: Greg Brown

[16] SOUND TRAXX  
3391 S. Perkins  
Memphis, TN 38118  
(901) 794-6277  
Owner: Jeff Robinson  
Studio Manager: Jeff Robinson

[16] SOUNDTRACK, INC.  
1975 NE 149th St.  
North Miami, FL 33181  
(305) 945-4449  
Owner: George Blackwell  
Studio Manager: Jenny Blackwell

[16] SOUNDTRAX RECORDING INC.  
*also REMOTE RECORDING*

Rt. 2, Box 291 C  
Johnson City, TN 37601  
(615) 926-3986  
Owner: Richard Hinchman

Engineers: Rick Monday, Curtis Cecil, Virginia Fuentes.  
Dimensions: Room 1: studio 35 x 16, control room 16 x 30.  
Room 2: studio 12 x 12. Room 3: studio 16 x 12. Room 4: studio 12 x 13.

Mixing Consoles: Neotek Series II 24 x 16, Hill Multimix 16 x 4 (for keyboards)  
Audio Recorders: Fostex E16 16-track 15 ips/30 ips, Tascam 80-8 8-track, Tascam 70-H 8-track, Tascam 32 1/2-track  
Cassette Recorders/Duplicators: Yamaha K1020, Nakamichi CX-300

Noise Reduction Equipment: dbx DX 2B, DX 8DS Type 1, (2) dbx 155, Dolby C, Rocktron Hush IIB.

Synchronization Systems: Fostex 4050, Fostex 4030, SU 1000 locator

Echo, Reverb, & Delay Systems: Alesis XTC, Alesis MIDiverb.

Yamaha SPX90, Digitech 3.6 delay, Ibanez DM-2000, Lexicon PCM70

Other Outboard Equipment: (2) dbx 163X, (2) dbx 163, dbx 160,

DOD EXR projector SPII R860, (2) Toa 910 EQ, Sony CDP-30

CD player

Microphones: Neumann U89, Neumann U87, E-V RE20, Sennheiser 441, (2) Shure SM58, (2) Shure SM77, (2) Shure 588,

Shure 588SE, Shure SM81, Shure SM85, Sony ECM-22P

Monitor Amplifiers: Crown PS200, Toa P912, Aiwa AAV 301

Monitor Speakers: (2) Yamaha NS-10M, (2) JBL 4430 studio monitors, (2) Scott Pro II studio monitors.

Musical Instruments: Roland JX-8P, Korg DW-6000, Kawai SX 240, Roland JU-6, Yamaha DX7II FD, Roland MSQ-70, Yamaha RX5 drum machine, Ensoniq Mirage, Roland MKS-30 module.

Other MIDI Equipment: Commodore 64 computer w/ Dr. T software, MasterMix complete unit, JL Cooper MSB MIDIPatcher, custom made program for tracks.

Video Equipment: JVC CR850 1/4" recorder and editor, Sony VP-3800 1/4" portable recorder, Sony VP-2011 1/4" playback only, Sony VP1600 1/4" recorder and playback, NEC 14" color monitor, Panasonic 21" color monitor, Bally Miratel monitor, various other monitors and video equipment.

Other: NEC 14" color monitor, Panasonic 21" color monitor, BALLY Miratel monitor, various other monitors and video equipment

Rates: On request

[16] SOUTH SOUNDS RECORDING STUDIO  
3004 Timber Ridge Ln.  
Rock Hill, SC 29730  
(903) 327-9613  
Owner: W.R. Proctor  
Studio Manager: W.R. Proctor

[16] SOUTHERN SOUND PRODUCTIONS & STUDIOS  
717 Dauphin Island Pkwy.  
Mobile, AL 36606  
(205) 476-1171  
Owner: Jerry Powell  
Studio Manager: Jerry Powell

[16] SPECTRUM STUDIOS

410 Dunwoody Street  
Tallahassee, FL 32303  
(904) 224-6737  
Owner: Stuart Reese, Scott Carswell  
Studio Manager: Scott Carswell

[16] SPLICE OF LIFE RECORDING STUDIO  
*also REMOTE RECORDING*  
PO Box 123  
Nicholasville, KY 40356  
(606) 885-7257

Owner: J. Michael McKenney  
Studio Manager: Cheryl McKenney  
Engineers: J. Michael McKenney, Cheryl McKenney  
Dimensions: Room 1: studio 24 x 24, control room 12 x 12  
Room 2: studio 14 x 14.  
Mixing Consoles: SECK 1882 Mill 18 x 8 x 2  
Audio Recorders: Fostex E-16 16-track, Revox B-77 2-track, Tascam 32 2-track.

Cassette Recorders/Duplicators: Aiwa AD-520 stereo, Sony CFS-W440 stereo, Tascam PortaOne 4-track  
Noise Reduction Equipment: Dolby B and C systems  
Echo, Reverb, & Delay Systems: (2) Yamaha SPX90

Other Outboard Equipment: Aphex Aural Exciter, Fostex 3070 compressor/limiter, Furman QN-4 noise gates-quad, (2) MXR 31-band EQ

Microphones: (4) AKG C414, D1000E, (2) E-V PE20, SD357, (2) Crown PZM, (2) Sennheiser 421, (4) Shure SM57

Monitor Amplifiers: Phase Linear A30, Crown D150, Peavey M-2600

Monitor Speakers: (2) Toa 312-ME, (2) Auratone cubes, Advent II.  
Musical Instruments: Bush & Lane grand piano (12 x 12 room), Yamaha DX7, Crumar Orchestrator, Fender Rhodes, E-mu Drumulator, 12-pc drum kit (12 x 12 booth), Hascal Hale acoustic guitars, Music Man bass, Gibson Les Paul guitar, (2) saxophones, flute, French horn, timbales.

Other: Guitar amps, bass amps, various percussion, various effects pedals  
Rates: \$45.00/hour

[16] STUDIO B

*also REMOTE RECORDING*  
1119 Bell St.  
Montgomery, AL 36104  
(205) 834-6881  
Owner: Jayonn Bearden  
Studio Manager: J. Michael Bryan

[16] STUDIO ONE SOUND

PO Box 9411  
Birmingham, AL 35126  
(205) 681-5856  
Owner: Mark A. LeBerte  
Studio Manager: Mark A. LeBerte

[16] STUDIO 105

105 Devon Dr.  
Mauldin, SC 29662  
(803) 288-5908  
Owner: Phil Blackwell

[16] SUN-RAY/SKY-VUE

*also REMOTE RECORDING*  
1682 Wyatt Parkway  
Lexington, KY 40505  
(606) 254-7474  
Owner: James T. Price  
Studio Manager: Darrel Burtin

[12] SUN STUDIO

706 Union Ave.  
Memphis, TN 38103  
(901) 521-0664  
Owner: Gary A. Hardy  
Studio Manager: David Aron

[16] SWEETSONG PRODUCTIONS/MUSIC FACTORY

*also REMOTE RECORDING*  
Rt. 9, Box 332-A  
Parkersburg, WV 26101  
(304) 428-7773  
Owner: Roger Hoover  
Studio Manager: Jim Rauhoff

[16] TAMIA MI PRODUCTIONS, INC.

12245 S.W. 130th St.  
Miami, FL 33186  
(305) 253-9397  
Owner: Roberto Arana  
Studio Manager: Roberto Arana

[12] T.C. ENTERPRISES STUDIO PRODUCTIONS

1002 Mendheim Dr., PO Box 1566

Dothan, AL 36302

(205) 677-2370

Owner: Steven Acklin

Studio Manager: Steven Acklin

[16] THRESHOLD RECORDING

410 Elm Ave. SW

Roanoke, VA 24016

(703) 345-2539

Owner: F Howard Beasley, J. Harold Thompson

Studio Manager: F Howard Beasley

[12] TOP TRACKS RECORDING STUDIO

1019 17th Ave. South

Nashville, TN 37143

(615) 321-4876

Owner: Tom Pallardy

Studio Manager: Clark Williams

[16] TOTAL TRACS, INC.

4194 Meadow Ct.

Marietta, GA 30066

(404) 924-2141

Owner: Dwight Waggener

Studio Manager: Dwight Waggener

[16] TRACKS RECORDING STUDIO

also REMOTE RECORDING

Rt. 6, Box 304A

Waycross, GA 31501

(912) 283-5369

Owner: Billy Ray Herrin

Studio Manager: Cindy Johnson



TROPICAL RECORDING STUDIO  
Miami, FL

[16] TROPICAL RECORDING STUDIO

7393 SW 42 St.

Miami, FL 33155

(305) 264-4511

Owner: Danny Diaz, Gary Real

Studio Manager: Rick Reed

Engineers: Rick Reed.

Dimensions: Studio 24 x 23, control room 13 X 16.

Mixing Consoles: Trident 65 24 x 16.

Audio Recorders: Tascam MS-16 16-track, Otari MTR-12 2-track, Otari MX-5050 MkII 2-track, Otari MX-5050.

Cassette Recorders/Duplicators: Nakamichi MR-1, Nakamichi ZX-9.

Noise Reduction Equipment: Drawmer DS-201 dual noise gate,

dbx 16-channel multi-track system.

Synchronization Systems: SBX-80 synchronizer, Hybrid Arts "SMpte Mate".

Echo, Reverb, & Delay Systems: Yamaha REV7 reverb, Yamaha SPX90 effects processor, ART 01a reverb, TC Electronics TC-2290 digital delay, Roland SDE-3000 digital delay, Roland DE-200 digital delay.

Other Outboard Equipment: Aphex Aural Exciter, TC Electronics TC 1140 parametric equalizer, TC Electronics TC 1210 stereo chorus/flanger, (2) dbx 166X stereo compressor, KIA Electronics XZ-100 digital mixing automation system.

Microphones: Neumann U87, Sennheiser MD-441, (3) Sennheiser MD-421, (2) AKG C-461, AKG D-112, AKG D-12E, AKG D-321, Crown GLM-200, (2) Shure SM57, Shure SM58, E-V PL6.

Monitor Amplifiers: Yamaha 2200, Rane MA6.

Monitor Speakers: (2) JBL 4430, (2) Yamaha NS-10M, (2) Klipsch Cornwall, (2) Auratone 5C.

Musical Instruments: E-mu SP-12 turbo drum machine, Ober-

heim DX drum machine, Ensoniq Mirage sampler, Korg DW-6000 synthesizer, Korg EX-800 synthesizer.

Other MIDI Equipment: Atari 1040 ST w/Hybrid Arts "SMpte Mate" 60-track sequencer

[16] TWENTY-TWENTY INTERNATIONAL RECORDING

2020 Capitol St.

Savannah, GA 31404

(912) 236-0000

Owner: Ferman Tyler, James Barefoot

Studio Manager: James Barefoot

[16] UNDERGROUND SOUND

3010-Skyland Blvd. E.

Tuscaloosa, AL 35405

(205) 556-0030

Owner: Andy Chappell

Studio Manager: Joey Laycock

[16] WILDWOOD RECORDERS

1005 Tate Dr.

Dothan, AL 36301

(205) 792-7172

Owner: Michael Boyd

[16] WILLOW CREEK RECORDING STUDIOS

2228 Redmond Cir.

Rome, GA 30161

(404) 232-6954

Owner: Morgan Ayers

Studio Manager: Morgan Ayers

[16] WITNESS PRODUCTIONS

also REMOTE RECORDING

723 Saratoga Dr.

Alpharetta, GA 30201

(404) 594-7210

Owner: Tom Knesel

Studio Manager: Judy Knesel

[16] WOODHOUSE RECORDING

2900 Brittany Way

Chesapeake, VA 23321

(804) 483-6212

Owner: Larry K. Carr

Studio Manager: Larry K. Carr

Engineers: Larry K. Carr

Dimensions: Studio 22 x 24 x 10, control room 10 x 8

Mixing Consoles: Tascam M520 20 x 8 x 16.

Audio Recorders: Tascam MS-16 16-track, Tascam 38 8-track,

Tascam 32 2-track.

Cassette Recorders/Duplicators: Technics RST80R, Tascam 122, Tascam Portastudio.

Noise Reduction Equipment: dbx on all recorder channels, Rocktron Hush IC.

Echo, Reverb, & Delay Systems: (2) SPR-1000, (2) Yamaha SPX90, DM-500, DM.

Other Outboard Equipment: (2) Yamaha QC2020B gate/limiters, Biamp quad gate/limiter, BBE Maxie 402.

Microphones: AKG D12, AKG D112, Tascam 250, (2) ATM 33, (5) ATM 63, (5) Beyer M69, (2) Shure SM57, (2) Shure SM58, (2) AKG D190, others.

Monitor Amplifiers: Carver 175, AMR PMA 200, Rane HC6.

Monitor Speakers: AMR 312, AMR 308

[16] Z/BOP/AV

also REMOTE RECORDING

Walnut Hollow - 1301 Briar Creek Rd

Charlotte, NC 28205

(704) 376-2864

(704) 889-4508

Owner: Cal Walker

Studio Manager: Cal Walker

## HYPERMEDIA.

**What is it?**

**Who does it?**

**Who should be involved?**

**Find out from the experts  
in a special supplement in  
the April issue of Mix.**

# Tired of Shopping?

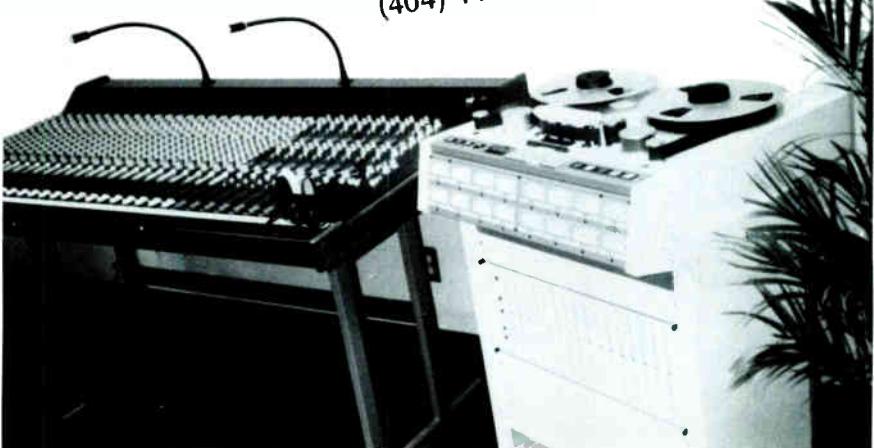
Whether it's consoles, 24 track recorders, signal processing or video gear, we are in the business of helping you define your needs, equipping you with the best products available and being on hand to help you complete your project.

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# S O U T H E A S T

# 4&8 TRACK STUDIOS

[8] AC PRODUCTIONS  
*also REMOTE RECORDING*  
3750 N. Lyons St.  
Macon, GA 31206  
(912) 784-1891  
Owner: Alfred C. Cotton Sr

[8] ACCURATE RECORDING  
952 Poplar Dr.  
St. Albans, WV 25177  
(304) 727-4008  
Owner: Bill Stevens  
Studio Manager: Bill Stevens

[8] ACOUSTIC CREATIONS  
*also REMOTE RECORDING*  
4813 W. Wendover Ave.  
Greensboro, NC 27410  
(919) 299-6307  
Owner: Kip Williams  
Studio Manager: Kip Williams

[8] THE AD SHOP  
PO Box 31261  
Charleston, SC  
(803) 766-6095  
Owner: Ronald E. Clifton  
Studio Manager: Edd Salen

[2] AIRSHOW, INC.  
*only REMOTE RECORDING*  
5727 N. 25th Rd.  
Arlington, VA 22207  
(703) 237-8312  
Owner: David Glasser  
Studio Manager: Ann Blonston

[8] AMBERWOOD RECORDING STUDIO  
12538 Cavalier Dr.  
Woodbridge, VA 22192  
(703) 494-0234  
Owner: Jim and Paula Williams  
Studio Manager: Jim Williams

[4] ARCHER PRODUCTIONS, INC.  
24 Music Square W.  
Nashville, TN 37203  
(615) 254-1149  
Owner: Nick Archer  
Studio Manager: Terri Kawczynski

[2] PHIL ARNOLD SOUND SERVICES  
*only REMOTE RECORDING*  
4201 Saddlebrook Pl.  
Hermitage, TN 37076  
(615) 889-4182  
Owner: Phil Arnold

[8] ATLANTIC AUDIO/VIDEO  
*also REMOTE RECORDING*  
616 20th Ave. N.  
North Myrtle Beach, SC 29582  
(803) 249-5632  
Owner: Ron Simpson  
Studio Manager: Ron Simpson

[8] ATLANTIS AUDIO INNOVATIONS  
3147 Northplace Way  
Smyrna, GA 30080  
(404) 432-4511  
Owner: Vincent Luciani  
Studio Manager: Vincent Luciani

[8] AUDIO CRAFT  
288 Fourteenth St. NW, Ste. 100  
Atlanta, GA 30318  
(404) 876-1600  
Owner: Henry Howard  
Studio Manager: Henry Howard

[8] AUDIO RECORDING & DUPLICATING (+MIDI)  
323 Santa Villa Dr.  
Milton, FL 32571  
(904) 994-9297  
Owner: Ty Bracken  
Studio Manager: Ty and Glenda Bracken

[8] AUDIO ZONE PRODUCTIONS  
937 Allensville Ridge  
Sevierville, TN 37862  
(615) 453-1654  
Owner: Harold Peters  
Studio Manager: Harold Peters

[4] AUDIOIMAGE RECORDING  
*also REMOTE RECORDING*  
110 N. Jefferson St.  
Richmond, VA 23220  
(804) 644-7700  
Owner: John Valentine  
Studio Manager: Roger Price

[8] A/V CONSULTANTS  
*also REMOTE RECORDING*  
9601 Shalimar Ct.  
Tampa, FL 33615  
(813) 884-4423  
Owner: E.R. Barlick

[4] AV-TEK PRODUCTIONS  
*only REMOTE RECORDING*  
PO Box 35356  
Richmond, VA 23235  
(804) 745-4462  
Owner: Richard R. Hencye  
Studio Manager: Sharon L. Hencye

[8] THE BALANCE RECORDING COMPANY  
*also REMOTE RECORDING*  
PO Box 3413  
La Grange, GA 30241  
(404) 884-3138  
Owner: Jeffrey W Gray  
Studio Manager: Jeffrey W Gray

[8] BOB BARNES CREATIVE SERVICES  
2994 Edgewater Dr.  
Orlando, FL 32804  
(305) 422-2035  
Owner: Bob Barnes  
Studio Manager: Bob Barnes

[4] BARR-NOTE  
*also REMOTE RECORDING*  
316 Thomas St.  
Staunton, VA 24401  
(703) 885-2454  
Owner: Denny Barr  
Studio Manager: Eric John

[2] BGA PRODUCTION SERVICES  
*also REMOTE RECORDING*  
4420 Dunwoody Pl.  
Orlando, FL 32808  
(305) 290-5747  
Owner: Bruce Gerstein

[8] MIKE BILLS PRODUCTIONS  
*also REMOTE RECORDING*  
Rt. #1, Box 310  
Heiskell, TN 37754  
(615) 457-4990  
Owner: Mike Bills  
Studio Manager: Mike Bills

[8] BLACK DOG STUDIO  
17 Third St.  
Elkins, WV 26241  
(304) 636-0388  
Owner: Brad Gum  
Studio Manager: Melody Meadows

[8] GRANT BLAIR PRODUCTIONS  
2748 Woodlore Trail  
Winston-Salem, NC  
(919) 765-4188  
Owner: Grant Blair  
Studio Manager: Grant Blair

[4] BLUE BUCKY MUSIC CO.  
*also REMOTE RECORDING*  
1613 Saint Anne's Rd.  
Charlottesville, VA 22901  
(804) 971-3894  
Owner: Robert L Pomerantz  
Studio Manager: Bob Varsity

[8] BRANTLEY SOUND ASSOC., INC.  
*only REMOTE RECORDING*  
724 Vanoke Dr.  
Madison, TN 37115  
(615) 859-9568  
Owner: Leland P Brantley  
Studio Manager: Bobby Brantley

[4] BRIGHT STAR MUSIC  
*also REMOTE RECORDING*  
3117 Bright Star Rd.  
Douglasville, GA 30135  
(404) 949-6335  
Owner: Michael Butorac  
Studio Manager: Michael Butorac

[8] STEVE CAMPBELL'S SOUNDCRAFTERS  
*also REMOTE RECORDING*  
105 Cool View  
Seneca, SC 29021  
(803) 882-2762  
Owner: Steve Campbell

[2] LOU CASINI RECORDING  
*only REMOTE RECORDING*  
1001 Neville St.  
Follansbee, WV 26037  
(304) 527-1758  
Owner: Lou Casini  
Studio Manager: Lou Casini

[4] CHARISMA STUDIOS  
*also REMOTE RECORDING*  
PO Box 7654  
Greensboro, NC 27417  
(919) 852-1678  
Owner: Steve & Deirdre Monroe  
Studio Manager: Deirdre Monroe

[4] CHEAPSKEATEBOARD PRODUCTIONS  
*also REMOTE RECORDING*  
118 Bay Valley Dr.  
Milledgeville, GA 31061  
(912) 453-8934  
Owner: Tim Vacula  
Studio Manager: Tim Vacula

[8] CHILE STUDIOS  
9960 Abbey Ln.  
Jonesboro, GA 30236  
(404) 473-9741  
Owner: Mike Childers  
Studio Manager: Jim Mitchell

[8] CHRISTIAN RECORDING  
718 Nelson Ave.  
Jacksonville, FL 32205  
(904) 388-1705  
Owner: Bill Sorrells Jr.  
Studio Manager: Suzie Sorrells

- [4] COMEDY NOW/MOUNTAIN BEAR PRODUCTIONS  
136 Union Chapel Rd.  
Weaverville (Asheville), NC 28787  
(704) 645-4269  
Owner: Ken Mays  
Studio Manager: Ken Mays
- [8] CRUTCH RECORDERS  
*also REMOTE RECORDING*  
PO Box 33301  
Raleigh, NC 27636  
(919) 851-0767  
Owner: Doug Llewellyn  
Studio Manager: Doug Llewellyn
- [8] CUSTOM RECORDING AND SOUND, INC.  
*also REMOTE RECORDING*  
1225 Pendleton St., PO Box 7647  
Greenville, SC 29610  
(803) 269-5018  
Owner: Sara Edwards  
Studio Manager: Jere Davis
- [8] D&J STUDIOS  
*also REMOTE RECORDING*  
405A Belmont Dr.  
Warner Robins, GA 31088  
(912) 929-5533  
Owner: David A. Klee, Sr.  
Studio Manager: Julia W. Klee
- [4] DAVE'S PRICE AUDIO PRODUCTIONS  
*also REMOTE RECORDING*  
4701 Kenmore Ave., Ste. 506  
Alexandria, VA 22304  
(703) 370-5066  
Owner: David S. Pulwers
- [8] DAVIS PRODUCTIONS  
*also REMOTE RECORDING*  
1208 Elm Ave.  
Americus, GA 31709  
(912) 924-2521  
Owner: King C. Davis  
Studio Manager: Russell L. Lowe
- [8] DAVROY STUDIO  
2427 Kingsley Dr. NE  
Marietta, GA 30062  
(404) 973-9536  
Owner: Roy Franco, David Hobbs  
Studio Manager: Roy Franco, David Hobbs
- [4] DCO LAB, INC.  
*also REMOTE RECORDING*  
1401 Meridian St. SE  
Atlanta, GA 30317  
Owner: Sheryl M. Martin  
Studio Manager: Sheryl M. Martin
- [8] DEBRA J. STUDIOS  
3204 Sydney Dover Rd.  
Dover, FL 33527  
(813) 659-1066  
Owner: George Riddle  
Studio Manager: George Riddle
- [8] DESIGN RECORDING  
*only REMOTE RECORDING*  
2576 Liberty Hill Rd.  
Powhatan, VA 23139  
(804) 794-6701  
Owner: C.L. Bolling  
Studio Manager: B.L. Bolling
- [4] DIGITAL GRAPHICS & AUDIOVISUALS  
710-B Thimble Shoals Blvd.  
Newport News, VA 23606  
(804) 873-3303  
Owner: Richard Joyce  
Studio Manager: Richard Joyce
- [8] DIGITRAXX PRODUCTIONS, INC.  
5 Francis St.  
Cocoa Beach, FL 32931  
(305) 799-2352  
Owner: David Blackburn, Jim Docter  
Studio Manager: David Blackburn
- [8] DM & DM STUDIO INC.  
*also REMOTE RECORDING*  
205 Davis Ln.  
Belmont, NC 28012  
(704) 825-9179  
Owner: Doug McKinnon  
Studio Manager: Doug McKinnon
- [4] DOVE SOUNDS  
*also REMOTE RECORDING*  
1305 Glen Eden Dr.  
Raleigh, NC 27612  
(919) 782-1095  
Owner: Matthew Dove  
Studio Manager: Christopher Droessler
- [8] DRUID CITY SOUND  
3511 18th St., E.  
Tuscaloosa, AL 35404  
(205) 556-3968  
Owner: Jim Ingram  
Studio Manager: Jim Ingram
- [8] DUB STUDIO DIV. OF TECH SOUND IND.  
*also REMOTE RECORDING*  
1705 Shirley St.  
Atlanta, GA 30310  
(404) 755-6113  
Owner: Curtis Cain, Fred Townsend  
Studio Manager: Curtis Cain
- [8] EARWORKS, INC.  
PO Box 1303  
Virginia Beach, VA 23451  
(804) 425-0745  
Owner: Robert C. Smith  
Studio Manager: Robert C. Smith
- [4] EAST AMERICAN RECORDINGS  
(EAST AMERICAN ENTERTAINMENT)  
*also REMOTE RECORDING*  
PO Box 582  
Norcross, GA 30091  
(404) 497-0134  
Owner: Landon B. Lee  
Studio Manager: Landon B. Lee
- [4] EBONY STAR/BRIEFCASE OF TALENT  
*also REMOTE RECORDING*  
1612 Marbrook Dr.  
Atlanta, GA 30307  
(404) 371-8583  
Owner: Robert Howell  
Studio Manager: Stan Hodgin
- [8] EG STUDIO  
Rt. 2, Box 349-A  
Denver, NC 28037  
(704) 483-3798  
Owner: Michael Eagen  
Studio Manager: Danny Graves
- [8] ELECTRONIC MUSIC & RECORDING  
2741 E. 10th St.  
Greenville, NC 27858  
(919) 758-5316  
Owner: Ronnie Daw  
Studio Manager: Kelly Craven
- [8] EZ RECORDING AND PRODUCTIONS  
119 Williamsburg Ln.  
Woodstock, GA 30188  
(404) 924-0433  
Owner: Ricky & Connie Payne  
Studio Manager: Ricky Payne
- [8] FISHER STUDIOS  
*also REMOTE RECORDING*  
113 Mallette St.  
Chapel Hill, NC 27514  
(919) 968-4931  
Owner: Steve Fisher  
Studio Manager: Steve Fisher
- [8] FLARE AUDIO RECORDING  
*also REMOTE RECORDING*  
Rt. 2, Box 88-B  
Fayette, AL 35555  
(205) 932-3806  
Owner: Stephen Fowler, Greg Lowery  
Studio Manager: Greg Lowery
- [8] FORREST ANDERSON RECORDING STUDIO  
3217 Norwich St.  
Brunswick, GA  
(912) 265-1256  
Owner: Paul O'Berry, John Jackson  
Studio Manager: Paul O'Berry
- [8] FREELANCE PRODUCTIONS  
6464-93rd Terr. N., #505  
Pinellas Park, FL 34666  
(813) 545-8040  
Owner: Lance Abar  
Studio Manager: Lance Abar
- [8] FRONT ROW PRODUCTIONS, INC.  
*also REMOTE RECORDING*  
1104 Myrtle Dr.  
Jasper, AL 35501  
(205) 221-5282  
Owner: Ross Roberts, Betsy Simmons
- [8] FULL SKY RECORDING & PRODUCTION STUDIO  
PO Box 261072  
Tampa, FL 33685  
(813) 855-5901  
Owner: Michael A. Normandeau
- [8] GALAXY SOUND RECORDING STUDIOS  
*also REMOTE RECORDING*  
1508 Harlem, Ste. 203  
Memphis, TN 38114  
(901) 274-2726  
Owner: GCS Communications Int.  
Studio Manager: Dominic Herron
- [4] GARDEN SOUND STUDIO  
*also REMOTE RECORDING*  
PO Box 4870  
University, MS 38677  
(601) 236-1246  
Owner: Britt A. Fitts  
Studio Manager: Britt A. Fitts
- [8] G.I.D. STUDIO  
25 Music Square E.  
Nashville, TN 37203  
(615) 244-8950  
Owner: Charley Pride  
Studio Manager: Jim Scherer
- [8] GLOBAL VILLAGE RECORDING STUDIO  
*also REMOTE RECORDING*  
117-B Welk Pl.  
Charlottesville, VA 22903  
(804) 979-4081  
Owner: Magruder Dent III  
Studio Manager: Magruder Dent III
- [8] GOLDEN ANGEL MUSIC  
4104 Hillsboro Rd.  
Nashville, TN 37215  
(615) 297-7222  
Owner: Angel Pontier  
Studio Manager: Angel Pontier
- [8] GOLDREEL STUDIO  
3611 Centreville Rd.  
Chantilly, VA 22021  
(703) 481-3453  
Owner: Golder O'Neill
- [4] GROSVENOR BANG!  
*also REMOTE RECORDING*  
318 Grosvenor Ave.  
Lexington, KY 40508  
(606) 252-7372  
(606) 233-1568  
Owner: Billy Quinn, Jamie Tittle  
Studio Manager: Billy Quinn, Jamie Tittle
- [8] GROUND LEVEL SOUND  
2717-A Clayton Dr.  
Huntsville, AL 35810  
(205) 852-7454  
Owner: John Heilman, William Roof, Len Bullard, Steve Weber  
Studio Manager: John Heilman

[8] H&G RECORDED PRODUCTIONS  
also REMOTE RECORDING  
PO Box 161  
Chalmette, LA 70044  
(504) 469-7963  
Owner: N.B. Hardy  
Studio Manager: Marcelle B. Hardy

[4] HAMPTON UNIVERSITY DEPT. OF MUSIC  
PO Box 6583, Hampton University  
Hampton, VA 23668  
(804) 727-5511  
(804) 727-5404  
Owner: Hampton Univ.  
Studio Manager: Bob Ransom

[8] HAPPY FACES PRODUCTIONS  
419 Lanier Ln.  
Winter Haven, FL 33884  
(813) 324-3487  
Owner: Charlie Massey

[8] HAYES RECORDING STUDIO/WEST  
6331 Bahama Shores Dr. S.  
Saint Petersburg, FL 33705  
(813) 867-8330  
Owner: Tech-Coh Communications Corporation  
Studio Manager: Paul Hayes

[8] HAYMON HOUSE STUDIO  
also REMOTE RECORDING  
Rt. 2, Box 23F, Hwy. 383  
Kinder, LA 70648  
(318) 738-5181  
Owner: Stephen C. Haymon  
Studio Manager: Stephen C. Haymon

[8] HIGH SPIRITS RECORDING  
1705 Cedar Shoals Dr.  
Athens, GA 30605  
(404) 546-9425  
Owner: Robin Kristal  
Studio Manager: Robin Kristal

[8] HIGH ST. STUDIO  
1504 High St.  
Bowling Green, KY 42101  
(502) 842-7316  
Owner: Marc Owens, Billy Smith  
Studio Manager: Marc Owens

[8] HIRDLER ENTERPRISES  
2200 Cypress Bend Dr. S., #302  
Pompano Beach, FL 33069  
(305) 971-1457  
Owner: Bruce F. Hirlder  
Studio Manager: Bruce F. Hirlder

[8] HORIZON PRODUCTIONS  
1010 W. Platt St.  
Tampa, FL 33606  
(813) 254-3399  
Owner: Robert Stephenson  
Studio Manager: Phil Schwarz

[8] HORIZON RECORDING STUDIO  
2807 Eastland Ave.  
Nashville, TN 37206  
(615) 226-2227  
Owner: Richard Owens  
Studio Manager: Richard Owens

[8] HOUSE OF COMMONS COMMUNICATIONS  
also REMOTE RECORDING  
705 Werne Dr.  
Lexington, KY 40504  
(606) 252-0369  
Owner: Ed Commons  
Studio Manager: Neil Kesterson

[8] HUNTWICK MUSIC GROUP  
7454 Huntwick Trail  
Nashville, TN 37221  
(615) 662-2025  
Owner: Joseph W. Morris  
Studio Manager: Allen H. Tuten

[8] JACK O' DIAMONDS RECORDING STUDIO  
also REMOTE RECORDING

# S O U T H E A S T

# 4&8 TRACK

## STUDIOS

4201 Central Pike  
Hermitage (Nashville), TN 37076  
(615) 883-9600  
Owner: Alex Zanetis  
Studio Manager: Jon "Mr. Big" D'Amelio

[8] JINGLE WORKS RECORDING STUDIO  
PO Box 717  
Pass Christian, MS 39571  
(601) 452-2331  
Owner: Rick Sierra  
Studio Manager: Marsha Daniel

[8] JUST IN PRODUCTIONS  
also REMOTE RECORDING  
2573-1 Seaford Cir.  
Tampa, FL 33613  
(813) 971-8719  
Owner: Dan Smith  
Studio Manager: Dan Smith

[8] LADY SABRE'S DUNGEON  
also REMOTE RECORDING  
PO Box 1323  
Delray Beach, FL 33447  
(305) 734-4657  
Owner: Chris Warren, Sandra Thomas  
Studio Manager: Chris Warren

[8] LAKESIDE PRODUCTIONS  
PO Box 24482  
Nashville, TN 37202  
(615) 361-4081  
Owner: Steve Thomas  
Studio Manager: Steve Thomas

[8] LEATHERWOOD SOUND  
also REMOTE RECORDING  
4107 Bynum-Leatherwood Rd.  
Anniston, AL 36206  
(205) 238-1038  
Owner: Kevin Freeman  
Studio Manager: Kevin Freeman

[8] LEFT FIELD RECORDS  
13 E. Pike St.  
Cynthiana, KY 41031  
(606) 234-3161  
Owner: Wm. D. Field, Larry White  
Studio Manager: Wm. D. Field

[8] LEGGETT RECORDING STUDIO  
223 Broadmoor Ave.  
Baton Rouge, LA 70815  
(504) 923-0729  
Owner: Chuck & Therese Leggett  
Studio Manager: Chuck Leggett

[8] LENTZ & ASSOCIATES, INC.  
also REMOTE RECORDING  
501 Washington St.  
Raleigh, NC 27605  
(919) 828-6761  
Owner: L.A. Lentz  
Studio Manager: L.A. Lentz

[8] GERALD LEWIS RECORDING  
only REMOTE RECORDING  
Box 3671  
Arlington, VA 22203  
(703) 521-1871  
Owner: Gerald Lewis  
Studio Manager: Gerald Lewis  
Engineers: Gerald Lewis, George Duman, Mark Walters, Mike Robinson.  
Dimensions: Remote recording only from fully equipped Dodge van.  
Mixing Consoles: Auditronics 110 24 x 8.

Audio Recorders: Otari MX-5050 8-track, Otari MX-5050 2-track, Studer B67 2-track, (2) Sony 2000 2-track PCM w/Nakamichi DMP-100 processor.

Cassette Recorders/Duplicators: (50) Nakamichi LX-5, Nakamichi ZX9, Nakamichi B-300.  
Noise Reduction Equipment: dbx 208 8-track, dbx 150 2-track, (2) dbx 154 4-track, dbx 157 2-track.  
Echo, Reverb, & Delay Systems: Lexicon PCM70, Lexicon PCM60.  
Other Outboard Equipment: (2) UREI 1176 limiters, UREI 1178 stereo limiter, UREI LX-4 limiter, (2) UREI 530 graphic equalizers, Barcus-Berry BBE-802 processor, (2) Poly-graph graphic equalizers.

Microphones: (3) Schoeps omni (colette series) condensers, Sennheiser M-20 omni condenser, (3) AKG 414EB condenser, (2) AKG P-40 condenser, (4) Neumann U87 condenser, (2) Neumann KM84 condenser, (2) AKG 460 w/cardiod and omni capsules (condenser), (5) AKG 224E (dynamic), (5) AKG 320 dynamic, (9) Shure SM57.

Monitor Amplifiers: Bryston 3B, Nakamichi A7.  
Monitor Speakers: JBL 4311B, ADS 1590, Yamaha NS-10M, JBL 4310, JBL 4301.  
Video Equipment: 12" monitor for recording purposes.  
Rates: Recording: \$60/hr. for 2-track, \$70/hr. for 8-track, plus mileage and expenses when applicable; mixing \$50/hr; editing \$40/hr.

Extras & Direction: A location recording service by musicians specializing in digital and analog 2- and 8-track recording, mixing and editing. Production includes CDs, albums, 45s, stereo cassettes (real time duplication only!) and all related printing and fabricating services including color separations, one- to four-color album printing, one- to four-color cassette J cards, album and cassette labels. No custom job too small! Prices and literature available upon request.

[4] LINDEN INC.  
also REMOTE RECORDING  
229 N. Henry St.  
Alexandria, VA 22314  
(703) 549-4424  
Owner: Katherine Monteith  
Studio Manager: Gregg Powers

[8] LOCONTO PRODUCTIONS & STUDIOS  
7766 NW 44 St.  
Sunrise, FL 33351  
(305) 741-7766  
Owner: Frank X. Loconto  
Studio Manager: Phyllis Finney Loconto

[4] LOST RIVER RECORDING STUDIO  
631 N. 9th St.  
Paducah, KY 42001  
(502) 444-7594  
Owner: Clyde F. Wood  
Studio Manager: Clyde F. Wood

[8] L.P. PRODUCTIONS  
also REMOTE RECORDING  
9522A Fuller Rd.  
Chattanooga, TN 37421  
(615) 899-3364  
Owner: Larry Patton  
Studio Manager: Larry Patton

[8] MAKIN' TRAX PRODUCTIONS  
PO Box 22951  
Jackson, MS 39225  
(601) 355-7306  
Owner: Evans and Associates, Inc.  
Studio Manager: William Evans

[8] MAPLE HILL PRODUCTIONS  
2910 Elm Hill Pike  
Nashville, TN 37214  
(615) 883-3649  
Owner: Barry Greer

[8] MARIAH RECORDING  
also REMOTE RECORDING  
337 N. 25th Ave.  
Hattiesburg, MS 39401  
(601) 545-1886  
Owner: Vaughn Wilson  
Studio Manager: Vaughn Wilson

[8] MARTIN AUDIO  
only REMOTE RECORDING  
1205 Martin St.  
Winston-Salem, NC 27103  
(919) 721-1729  
Owner: Frank Martin

[8] MASTERSOUND, INC.  
only REMOTE RECORDING

7425 Buckland Rd.  
Charlotte, NC 28208  
(704) 588-2491  
Owner: Jim Deal  
Studio Manager: Jim Deal

[8] MAYS KENTUCKY DEMO SERVICE  
340 N. Broadway  
Georgetown, KY 40324  
(502) 863-1533  
Owner: Elmer Jones  
Studio Manager: Norman L. Mays

[4] McDONALD SOUND STUDIO  
2808 Napier Ave., PO Box 2186  
Macon, GA 31203  
(912) 746-2586  
Owner: Ray McDonald  
Studio Manager: Ray McDonald

[8] MEDIA PRODUCTIONS/RESISTOR RECORDS  
also REMOTE RECORDING  
125 Miller Ave.  
Oak Hill, WV 25901  
(304) 465-5786  
Owner: W Doug Gent  
Studio Manager: W Doug Gent

[2] MERCER UNIVERSITY EDUCATIONAL MEDIA CENTER  
also REMOTE RECORDING  
1400 Coleman Ave.  
Macon, GA 31207  
(912) 744-2985  
Owner: Mercer University  
Studio Manager: John Chaffa

[8] THE MIGHTY MIX  
also REMOTE RECORDING  
PO Box 3809  
Tallahassee, FL 32315  
(904) 877-1467  
Owner: David Murphy  
Studio Manager: Martha Graham, Mark Friedemann

[8] MILLER RECORDING  
also REMOTE RECORDING  
Rt. 5, Box 447, Hwy. 25 S.  
Starkville, MS 39759  
(601) 323-0728  
Owner: Bill & Virginia Miller  
Studio Manager: Bill Miller

[8] MILLER RECORDING STUDIO  
also REMOTE RECORDING  
2513 S. Scales St.  
Reidsville, NC 27320  
(919) 349-8911  
(919) 342-1892  
Owner: Robbin D. Miller  
Studio Manager: Robbin D. Miller

[8] MIRROR IMAGE RECORDING STUDIO  
4617 Rollingwood Drive  
Durham, NC 27713  
(919) 544-6660  
Owner: B.J. McAlister  
Studio Manager: Ali McAlister

[8] MISSION CONTROL PRODUCTIONS  
also REMOTE RECORDING  
PO Box 210902  
Nashville, TN 37221  
Owner: Steven Cooper  
Studio Manager: Laurie Cooper

[8] MO HUNCH  
also REMOTE RECORDING  
Aldie, VA 22001  
(703) 471-7612  
Owner: Roadducks Inc.  
Studio Manager: Bill Culver

[4] MOBILE SOUND SERVICE  
also REMOTE RECORDING  
1010A Dorothea Dr.  
Raleigh, NC 27603  
(919) 834-3158  
Owner: Ted E. Bissette  
Studio Manager: Ted E. Bissette

[2] MONETT MEDIA (AMBISONICS)  
only REMOTE RECORDING  
400 Colony Sq., Ste. 2010  
Atlanta, GA 30361  
(800) 222-9050 out of GA  
(404) 876-3929  
Owner: Monett Media, Inc.  
Studio Manager: David Monett

[4] MOUNTAIN BEAR PRODUCTIONS AND BROADCAST  
RECORDING  
136 Union Chapel Road  
Asheville (Weaverville), NC 28787  
(704) 645-4269  
Owner: Ken Mays  
Studio Manager: Ken Mays

[8] MOUNTAIN EAR PRODUCTIONS  
also REMOTE RECORDING  
PO Box 77  
Mountain City, TN 37683  
(615) 727-5070  
Owner: Ralph Nielsen  
Studio Manager: Marci Nielsen

[8] MR. O AUDIO  
also REMOTE RECORDING  
2035 S. Lumpkin Rd.  
Columbus, GA 31903  
(404) 687-6221  
Owner: Maurice R. Owens  
Studio Manager: Maurice R. Owens  
Engineers: Maurice Owens, David Norman, Mike Osborn.  
Dimensions: Studio 30 x 50, control room 20 x 14.  
Mixing Consoles: Soundcraft 500 32 x 8, Canary 32 x 8,  
Studiomaster 20 x 4, Studiomaster 20 x 8 monitor, Yamaha 12 x 4

Audio Recorders: Tascam 38 8-track, Tascam 234 4-track,  
TEAC A3300 SX 2-track, Tascam 32 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 SPX90 II, (2) Eventide  
H910 Harmonizer, Ibanez HD-1500, Effectron III.  
Other Outboard Equipment: (2) Valley People Dyna-Mite, (2)  
UREI 539 1/3 octave EQ, (4) Yamaha 2031 dual 1/3 octave EQ,  
(2) dbx 161 comp/limiters, (2) dbx 160 comp/limiters, (2) UREI  
525 crossovers, (4) Symetrix 501 comp/limiters, (3) Furman  
TX-3 crossovers  
Microphones: (8) Shure SM58, (8) Shure SM57, (8) Shure  
PE56P, (4) Sennheiser 421, AKG 414.  
Monitor Amplifiers: (6) Crown DC-300A, (6) BGW 750, (6) Yamaha  
2200  
Monitor Speakers: (2) JBL 4312, (2) JBL L-36, (2) Auratone 5C  
Musical Instruments: Oberheim DX drum machine, Roland 505  
drum machine, Korg Poly 61M, Minimoog, Akai AX13 synth,  
Akai S612 sampler, disk and delay, Rickenbacker bass, (10)  
assorted guitars, Rockman sustainer and chorus, Rane HC-6  
headphone amp  
Other: (12) OAP DP-118 full-range speakers, all JBL loaded  
(one 18", two 12", one 2441 on bi-radial), (12) OAP SM-115  
monitors (one JBL 15" & one 1" JBL 2425 in each), (8) HME/  
Beyer headset comm., (72) PAR 64 w/trusses & dimming.  
Rates: Call for rates

[8] MUFEX  
919 Bluff Rd., Suite 104  
Columbia, SC 29202  
(803) 254-4463  
Owner: Leslie Mizell

[8] MUSIC & SOUND PRODUCTION SERVICES  
also REMOTE RECORDING  
1908 S. Randolph St.  
Arlington, VA 22204  
(703) 892-6615  
Owner: Gregg Krech  
Studio Manager: Gregg Krech

[8] THE MUSIC ROOM  
310 Williams St.  
Hattiesburg, MS 39401  
(601) 583-1815  
Owner: Tim Frazier  
Studio Manager: Tim Frazier

[8] MUSICAL REFUGE STUDIOS  
Also REMOTE RECORDING  
6403 Elliot Dr.  
Tampa, FL 33615  
(813) 884-2854  
Owner: Gary Griffith, Carl Esselmeyer  
Studio Manager: Carl Esselmeyer

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(704) 658-2067

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[4] NAN & ASSOCIATES INC. STUDIO  
also REMOTE RECORDING  
PO Box 37  
Tuskegee Institute, AL 36088  
(205) 727-3921  
Owner: Nan Poole Spicer  
Studio Manager: Nan Poole Spicer

[8] NITESHADe STUDIO  
927½ N. Hagan Ave.  
New Orleans, LA 70119  
(504) 488-7408  
Owner: Donald J. Hull  
Studio Manager: Donald J. Hull

[2] NOMAD PRODUCTIONS  
only REMOTE RECORDING  
PO Box 5868  
Mobile, AL 36660  
(205) 479-2769  
Owner: Barry L. Little  
Studio Manager: Barry L. Little

[4] NOMADD IV  
also REMOTE RECORDING  
15228 Pond Woods Dr. East  
Tampa, FL 33618  
(813) 961-7567  
Owner: Andrew Dobson  
Studio Manager: Marina Dobson

[8] OFFBEAT STUDIO  
965 Old U.S. 1 South  
Southern Pines, NC 28387  
(919) 692-6594  
Owner: Bob Hensley  
Studio Manager: Bob Hensley

[8] OMNI RECORDING  
also REMOTE RECORDING  
2104 Hibiscus Dr., Suite F  
Edgewater, FL 32032  
(904) 423-6664  
Owner: Bill Chapin  
Studio Manager: Marianne Chapin

[4] ORANGE STREET RECORDERS  
305 Orange St. E.  
Tuscaloosa, AL 35401  
(205) 752-3191  
Owner: Brook Clement  
Studio Manager: Brook Clement

[8] RICK PAINTER SOUND STUDIO  
also REMOTE RECORDING  
2826 Iroquois Ave.  
Jacksonville, FL 32210  
(904) 388-7649  
Owner: Rick Painter  
Studio Manager: Donna Painter

[8] PERSPECT AUDIO  
2512 Cleveland St.  
Hollywood, FL 33020  
(305) 925-3629  
Owner: Michael Cohagen  
Studio Manager: Jamie Cohagen

[8] PINK PELICAN MUSIC CO.  
2908 Edenwood St.  
Clearwater, FL 34619  
(813) 799-0661  
Owner: Tom Klepacki  
Studio Manager: Tom Klepacki

[8] PLATINUM PRODUCTIONS OF CENTRAL FLORIDA, INC.  
6427 Undine Way  
Orlando, FL 32818  
(305) 298-3917  
Studio Manager: Michael Creamer

[8] THE PRODUCTION LAB  
515 North Highland Ave.  
Memphis, TN 38122  
(901) 324-1919  
Owner: The Production Lab, Inc.  
Studio Manager: Rick Tarrant

[4] PROJECT 70 AUDIO SERVICES, INC.  
also REMOTE RECORDING

# S O U T H E A S T 4&8 TRACK STUDIOS

777 Lambert Dr. NE  
Atlanta, GA 30324  
(404) 875-7000  
Owner: Jerry L. Connell  
Studio Manager: Jerry L. Connell

[8] PROSOUND LABS, INC.  
5625 S.W. 108 Pl.  
Miami, FL 33173  
(305) 595-7071  
Owner: M.S. Salas Jr.

[8] PROTECH PRODUCTIONS RECORDING STUDIO  
also REMOTE RECORDING  
950 Manson St.  
Marrero, LA 70072  
(504) 341-2454  
Owner: Rick Naiser  
Studio Manager: Tom Andrews

[8] PROTOLOG INC.  
also REMOTE RECORDING  
4470 57 Ave. N.  
St. Petersburg, FL 33714  
(813) 345-8836  
Owner: Protolog Inc.  
Studio Manager: Michael Petruzz  
Engineers: Michael Petruzz  
Dimensions: Studio 15 x 17, control room 10 x 8.  
Mixing Consoles: Trident Series 65 24 x 16, Soundcraft Series 200 24 x 8 x 4, Yamaha PM1000 16 x 4, Yamaha PM700 12 x 6  
custom headphone mix, Rane HC-6 x 2.  
Audio Recorders: Tascam 58-OB 8-track, Fostex A20 2-track  
center SMPTE, TEAC 3340-S 4-track.  
Cassette Recorders/Duplicators: Nakamichi MR-1 2-track  
Noise Reduction Equipment: (8) dbx 180 Type I balanced, (2)  
dbx 150 Type I balanced.  
Synchronization Systems: SMPTE lock (MIDI/FSK/SMPTE).  
Echo, Reverb, & Delay Systems: (4) dbx 160X compressor,  
Yamaha SPX90 II, Lexicon PCM60 update software, Lexicon  
PCM41 DDL, Roland SRV-2000, Yamaha D1500.  
Other Outboard Equipment: (2) Klark-Teknik DN300 EQ, Carver  
holographic pre-amp, IOS FFT analyzer, Eventide RT60 and  
spectrum analyzers, Sony CD player, Rane HC-6 headphone  
amp, Crown OC 150A meter bridge.  
Microphones: (12) Sennheiser 421, (4) Sennheiser 441, (4)  
Sennheiser 431, (2) AKG 460B pre-amp, (2) AKG CK-1 capsule,  
AKG VLS-62 capsule, (2) E-VRE20, E-VD-35, (4) Shure SM57,  
SM58, SM60, (2) Shure 5M, AKG 414B-ULS.  
Monitor Amplifiers: Crown DC 300A Series II, Carver 1.5.  
Monitor Speakers: Auratone 5C, Yamaha NS-10M.  
Musical Instruments: Fender 1965 jazz bass, Yamaha DX7,  
TX812, RX11, Emulator II+ with upgrade, Emulator SP-12 turbo,  
Kurzweil MIDIBoard, Oberheim Matrix-6R, Roland JX-3P, En-  
soniq drum computer, Commodore 64, IBM PC Jr., Prophet-5,  
Hammond B-3, most other equipment on request (Synclavier  
II).  
Other MIDI Equipment: Apple IIe w/256K Macintosh w/512K  
and 10 mg hard drive, Opcode Studio Plus interface, Yamaha  
8 x 8 MIDI patch.  
Video Equipment: Sony-JVC equipment on request, SMPTE/  
TBC, tape machines.  
Other: Digidesign Sound Designer, Soft Synth, Opcode Seq.  
2.0, DX-TX librarian/editor, Matrix 6 lib/editor, various custom  
written acoustics programs, 32-track MIDI program.  
Rates: \$25/hr. programming and production extra.

[8] PROTRACKS  
75 Steele Rd.  
Covington, GA 30209  
(404) 786-1397  
Owner: Steve Jeffries  
Studio Manager: Steve Jeffries  
Engineers: Steve Jeffries.  
Dimensions: Studio 24 x 30 (including drum booth), control  
room 8 x 10.  
Mixing Consoles: Tascam M-50 12 x 8.  
Audio Recorders: Tascam 38 8-track, Tascam 22-2 2-track.  
Cassette Recorders/Duplicators: Technics RS-B11W, Akai CS-  
M02.  
Echo, Reverb, & Delay Systems: Lexicon PCM60 digital reverb  
room simulator, Furman spring reverb, ADA 1280 digital delay,  
DigiTech 1000 digital delay.  
Other Outboard Equipment: dbx noise reduction, Ross 31-  
band EQ, Yamaha GC2020 limiter/compressor w/noise gate,  
Furman limiter/compressor, Furman parametric EQ, Aphex

Aural Exciter, Ibanez, DOD, Morley, Electro-Harmonix, electron-  
ic metronome, Korg tuner, Conn Strobotuner.  
Microphones: AKG 414, Shure SM57, Shure SM58, Shure  
SM80, E-V, PZM.  
Monitor Amplifiers: Pioneer.  
Monitor Speakers: E-V Sentry 100, Auratone cubes, KLH, cus-  
tom built 3-way main studio playback system.  
Musical Instruments: Casio CZ-1000 synth, upright piano, Sling-  
erland drums w/rototoms, Syndrum, other percussion, Marshall  
amps, Fender amps, Mesa Studio 22 amp, Telecasters, P-Bass,  
Gibson Firebird, Yamaha acoustic mandolin, Sho-Bud LDG  
steel guitar, many others!  
Rates: \$25/hr.

[8] PYRAMID SOUND LABS  
also REMOTE RECORDING  
600 New Street  
Macon, GA 31201  
Owner: Stanley Jackson  
Studio Manager: Stanley Jackson

[8] R.A.M.S. STUDIO (RECORDING AND MUSIC SERVICES)  
also REMOTE RECORDING  
Esto Road, Box 220  
Jamestown, KY 42629  
(502) 343-4503  
Owner: Rickie Mann  
Studio Manager: Rickie Mann

[8] RCM SOUND STUDIO  
300 Flanagan Station Rd.  
Winchester, KY 40391  
(606) 744-5345  
Owner: Bill Martin  
Studio Manager: Paul Martin

[4] REAL TO REEL  
also REMOTE RECORDING  
14805 NE 14th Ave.  
North Miami, FL 33161  
(305) 949-3530  
Owner: Gary Willhoite  
Studio Manager: Angelo Enriquez

[4] REASON'S EDGE RECORDING STUDIO  
also REMOTE RECORDING  
3530 Seagrape Ave.  
Naples, FL 33942  
(813) 643-0927  
Owner: Gary J. Edgington

[4] RED ROAD PRODUCTIONS  
also REMOTE RECORDING  
4537 W. Wendover Ave.  
Greensboro, NC 27410  
(919) 855-1525  
Owner: Bryan Smith  
Studio Manager: Bryan Smith

[8] REEL SOUNDS  
75 Parrish Ave.  
Nashville, TN 37210  
(615) 255-6347  
Owner: Mr. Dana L. Clark  
Studio Manager: Cindy B. Clark

[8] REELPEOPLE RECORDING SERVICES  
& CONSULTANTS  
also REMOTE RECORDING  
3210 Gary Ct.  
Falls Church, VA 22042  
(703) 532-REEL  
Owner: Remy David  
Studio Manager: Bob Lloyd

[4] RIDGE RECORDING STUDIOS  
also REMOTE RECORDING  
407 South St.  
Greenville, AL 36037  
(205) 382-7800  
Owner: Cleveland Poole  
Studio Manager: Cleveland Poole

[8] RIVER CITY SOUND PRODUCTIONS  
2146 Old Lake Cv  
Memphis, TN 38119  
(901) 756-3843  
Owner: Steve Wenger, Bob Pierce  
Studio Manager: Bob Pierce

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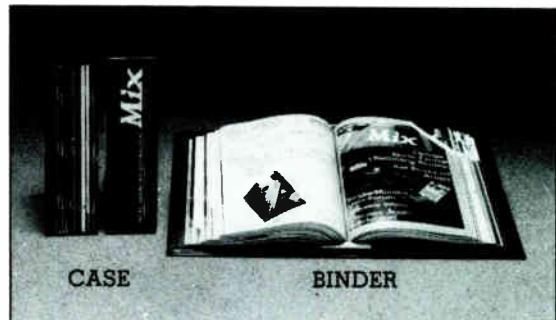
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Studio Manager: Jeffrey Talbot

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Studio Manager: Rick Ware

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Studio Manager: Johnny Pontiff

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Studio Manager: Terry Devane

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Studio Manager: James D. Gaulon II

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1215 Hermitage Park Drive  
Hermitage, TN 37076  
(615) 889-7737  
Owner: Imran H. Rahmani  
Studio Manager: Michele J. Borowy

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14269 Palmwood Rd.  
Lake Park, FL 33410  
(305) 622-7861  
Owner: Mark Brown  
Studio Manager: Cecilia Erazo

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Pikeville, KY 41501  
(606) 478-9445  
Owner: Wil and Deanne Freebody  
Studio Manager: Derik Skeens

[8] SING-A-SONG RECORDING STUDIOS  
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10227 Hanover Woods Pl.  
Charlotte, NC 28210  
(704) 542-9761  
Owner: Slep-Tone Entertainment Corp.  
Studio Manager: Derek J. Slep

[8] SONG PRO  
*also REMOTE RECORDING*  
821 19th Ave. So.

# S O U T H E A S T 4&8 TRACK STUDIOS

Nashville, TN 37203  
(615) 321-4803  
Owner: Jim Buckner  
Studio Manager: Jim Buckner

[4] THE SOUND CATEGORY  
*only REMOTE RECORDING*  
PO Box 9  
Merrifield, VA 22116  
(703) 280-9119  
Owner: Ralph & Mary Haller  
Studio Manager: Mary Haller

[8] SOUND CENTER RECORDERS  
*also REMOTE RECORDING*  
329 N. Main, PO Box 233  
Church Point, LA 70525  
(318) 684-2176  
Owner: Lee Lavergne  
Studio Manager: Lee Lavergne

[8] SOUND EFFECTS STUDIO  
2923 Sagemont Place  
Snellville, GA  
(404) 979-7648  
Owner: Herbie Sully  
Studio Manager: Herbie Sully

[8] SOUND PLUS  
*also REMOTE RECORDING*  
Rt. 4, Box 41  
Leesburg, VA 22075  
(703) 777-7176  
Owner: Philip W. Goshorn  
Studio Manager: Bob Gaskill

[8] SOUND SHACK RECORDINGS  
*also REMOTE RECORDING*  
PO Box 34 VAMC  
Tuskegee, AL 36083  
(205) 727-0292  
Owner: B. Curtez Huntley  
Studio Manager: B. Curtez Huntley

[4] SOUND STAGE  
*also REMOTE RECORDING*  
2042 N. Rio Grande Ave., Suite F  
Orlando, FL 32804  
(305) 849-9767  
Owner: Fletcher/Franklin Assoc., Inc.  
Studio Manager: Dan Franklin

[8] SOUNDS, REASONABLE!  
*also REMOTE RECORDING*  
10203 Bent Tree Ln.  
Manassas, VA 22111  
(703) 631-6376 Metro DC  
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Owner: Fred Wygal  
Studio Manager: Fred Wygal

[8] SOUTHERN CITY STUDIO  
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7317 Bayhill Ct.  
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(919) 872-6443  
Owner: John Hopkins  
Studio Manager: John Hopkins

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1440 Ludlow Dr.  
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(804) 474-2492  
Owner: Alan V. Sharps  
Studio Manager: Kathy Sharps

[8] STONEBRIDGE RECORDING  
Rt. 15, Box 54  
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(615) 983-7448  
Owner: Michael Ishibashi  
Studio Manager: Michael Ishibashi

[8] STONESILK AUDIO  
2824 Clearwater Rd. S.W.  
Atlanta, GA 30331  
(404) 349-4452  
Owner: Bill Campbell  
Studio Manager: Bill Campbell

[8] STUDIO HELL  
917 N. Oceanfront  
Jacksonville Beach, FL 32250  
(904) 246-8972  
Owner: M. Fitzgerald  
Studio Manager: Greg Smith

[8] SUN SOUND STUDIOS  
*also REMOTE RECORDING*  
PO Box 4271 CRS  
Rock Hill, SC 29731  
(803) 328-1723  
Owner: Jake Hunter, Rod Hunter, Mark Dickson  
Studio Manager: Jake Hunter, Mark Dickson

[8] THE SYNC PRODUCTIONS  
1094 Ponce De Leon Ave.  
Atlanta, GA 30306  
(404) 874-1564  
Owner: Paul B. MacDonald  
Studio Manager: Paul B. MacDonald

[8] SYNC RECORDS  
*also REMOTE RECORDING*  
9111 Parliament Dr.  
Burke, VA 22015  
(703) 978-4999  
Owner: George A Bowley  
Studio Manager: Laurie A. Bowley

[8] SYNGRINER SOUND  
*also REMOTE RECORDING*  
280 Northern Ave. #201  
Avondale Estates, GA 30002  
(404) 294-6910  
Owner: Bernie Griner  
Studio Manager: Bernie Griner

[8] T&S STUDIO  
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(305) 746-6520  
Owner: Tom Green  
Studio Manager: Tom Green

[8] TAPEWORM PRODUCTIONS  
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Lexington, KY 40502  
(606) 263-4290  
Owner: Michael J. Schneider  
Studio Manager: Michael J. Schneider

[8] THE TIME MACHINE RECORDING & DUPLICATING  
*also REMOTE RECORDING*  
2852 20th Ave. N. #2  
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Owner: Steve Repetti  
Studio Manager: Steve Repetti

[4] TREST AUDIO/VIDEO PRODUCTIONS  
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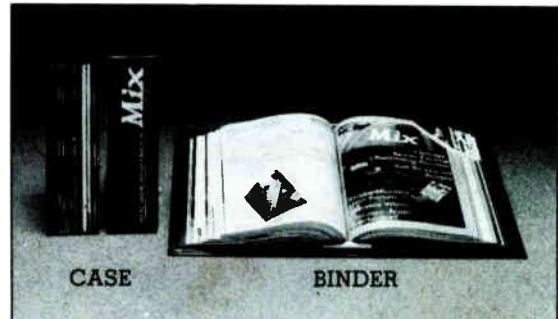
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Studio Manager: Jim Buckner

[4] THE SOUND CATEGORY  
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PO Box 9  
Merrifield, VA 22116  
(703) 280-9119  
Owner: Ralph & Mary Haller  
Studio Manager: Mary Haller

[8] SOUND CENTER RECORDERS  
*also REMOTE RECORDING*  
329 N. Main, PO Box 233  
Church Point, LA 70525  
(318) 684-2176  
Owner: Lee Lavergne  
Studio Manager: Lee Lavergne

[8] SOUND EFFECTS STUDIO  
2923 Sagemon Place  
Snellville, GA  
(404) 979-7648  
Owner: Herbie Sully  
Studio Manager: Herbie Sully

[8] SOUND PLUS  
*also REMOTE RECORDING*  
Rt. 4, Box 41  
Leesburg, VA 22075  
(703) 777-7176  
Owner: Philip W. Goshorn  
Studio Manager: Bob Gaskill

[8] SOUND SHACK RECORDINGS  
*also REMOTE RECORDING*  
PO Box 34 VAMC  
Tuskegee, AL 36083  
(205) 727-0292  
Owner: B. Curtez Huntley  
Studio Manager: B. Curtez Huntley

[4] SOUND STAGE  
*also REMOTE RECORDING*  
2042 N. Rio Grande Ave., Suite F  
Orlando, FL 32804  
(305) 849-9767  
Owner: Fletcher/Franklin Assoc., Inc.  
Studio Manager: Dan Franklin

[8] SOUNDS, REASONABLE!  
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10203 Bent Tree Ln.  
Manassas, VA 22111  
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(703) 369-4250  
Owner: Fred Wygal  
Studio Manager: Fred Wygal

[8] SOUTHERN CITY STUDIO  
*also REMOTE RECORDING*  
7317 Bayhill Ct.  
Raleigh, NC 27615  
(919) 872-6443  
Owner: John Hopkins  
Studio Manager: John Hopkins

[8] STARSONGS MUSIC PRODUCTIONS  
1440 Ludlow Dr.  
Virginia Beach, VA 23456  
(804) 474-2492  
Owner: Alan V. Sharps  
Studio Manager: Kathy Sharps

[8] STONEBRIDGE RECORDING  
Rt. 15, Box 54  
Maryville, TN 37801  
(615) 983-7448  
Owner: Michael Ishibashi  
Studio Manager: Michael Ishibashi

[8] STONESILK AUDIO  
2824 Clearwater Rd. S.W.  
Atlanta, GA 30331  
(404) 349-4452  
Owner: Bill Campbell  
Studio Manager: Bill Campbell

[8] STUDIO HELL  
917 N. Oceanfront  
Jacksonville Beach, FL 32250  
(904) 246-8972  
Owner: M. Fitzgerald  
Studio Manager: Greg Smith

[8] SUN SOUND STUDIOS  
*also REMOTE RECORDING*  
PO Box 4271 CRS  
Rock Hill, SC 29731  
(803) 328-1723  
Owner: Jake Hunter, Rod Hunter, Mark Dickson  
Studio Manager: Jake Hunter, Mark Dickson

[8] THE SYNC PRODUCTIONS  
1094 Ponce De Leon Ave.  
Atlanta, GA 30306  
(404) 874-1564  
Owner: Paul B. MacDonald  
Studio Manager: Paul B. MacDonald

[8] SYNC RECORDS  
*also REMOTE RECORDING*  
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Burke, VA 22015  
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Owner: George A. Bowley  
Studio Manager: Laurie A. Bowley

[8] SYNRINER SOUND  
*also REMOTE RECORDING*  
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Owner: Bernie Griner  
Studio Manager: Bernie Griner

[8] T&S STUDIO  
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67 Colony Road  
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(305) 746-6520  
Owner: Tom Green  
Studio Manager: Tom Green

[8] TAPEWORM PRODUCTIONS  
250 Eagle Creek Drive  
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(606) 263-4290  
Owner: Michael J. Schneider  
Studio Manager: Michael J. Schneider

[8] THE TIME MACHINE RECORDING & DUPLICATING  
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Owner: Steve Repetti  
Studio Manager: Steve Repetti

[4] TREST AUDIO/VIDEO PRODUCTIONS  
*also REMOTE RECORDING*  
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Jackson, MS 39216  
(601) 961-3385  
Owner: Perry Trest

[8] TREY RECORDS  
*also REMOTE RECORDING*  
PO Box 538  
Gordon, GA 31031  
(912) 628-2594  
Owner: Willie W. Smith, Jr.  
Studio Manager: Willie W. Smith, Jr.

[8] TRIANGLE MEDIA PRODUCTIONS  
also REMOTE RECORDING  
Rt. 1, Box 291  
Cleveland, AL 35049  
(205) 681-0602  
Owner: Hawk & Phoenix Sims  
Studio Manager: Hawk & Phoenix Sims

[8] TRIC TRACS  
also REMOTE RECORDING  
6308 5th St. W.  
Bradenton, FL 34207  
(813) 758-5953  
Owner: Bob Fazioli  
Studio Manager: Faye Fazioli

[8] TRUSTY TUNESHOP RECORDING STUDIO  
also REMOTE RECORDING  
Rt. 1, Box 100  
Nebo, KY 42441  
(502) 249-3194  
Owner: Mrs. Elsie Childers  
Studio Manager: Michael Cain

[8] TWIN OAKS STUDIO  
also REMOTE RECORDING  
PO Box 187  
Rocky Point, NC 28457  
(919) 675-9226  
Owner: Tempo I Inc.  
Studio Manager: L. Joseph Teachout

Microphones: (2) Sennheiser, (4) Shure, (2) E-V, (2) AKG, (2) Audio-Technica, (2) Crown PZM.  
Monitor Amplifiers: Onkyo, Crown, Rane.  
Monitor Speakers: (2) JBL, (2) Auratone 6-C, (2) Altec Lansing.  
Musical Instruments: Gulbransen baby grand, Akai AX-80, Gibson 1985 Les Paul, Fender 1971 Stratocaster, Fender 1976 jazz bass, Gibson 1963 S-G, Guild 1977 D-25M, Tama drum set, Slingerland drum set, Zildjian and Paiste cymbals.  
Other: Ampeg, Fender, Traynor amps, Tom Scholz Rockman, assortment of guitar pedal effects, full bath, lounge and workout facilities.  
Rates: \$25/hr., \$100/5-hour block.

[8] USC SOUND ENTERPRISES  
only REMOTE RECORDING  
4829 Barfield Rd.  
Memphis, TN 38117  
(901) 682-7002  
Owner: Rodney Peppenhorst  
Studio Manager: John Jenkins

[2] VENUS VIDEO AND SOUND ARTS  
also REMOTE RECORDING  
2219 N. Columbus St., Ste. 104  
Arlington, VA 22207  
(703) 524-7443  
Owner: John J. Ozolins  
Studio Manager: John J. Ozolins

[4] VIDEO IDEAS  
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Ft. Lauderdale, FL 33308  
(305) 561-1447  
Owner: Doug Donohoe  
Studio Manager: John DePace

[8] VMR STUDIOS  
173 W. Putnam Ferry Rd.  
Woodstock, GA 30188  
(404) 926-3268  
Owner: Deryl Voutilta  
Studio Manager: Deryl Voutilta

[4] WFSU-FM  
also REMOTE RECORDING  
2561 Pottsdamer St.  
Tallahassee, FL 32304  
(904) 487-3086  
Owner: Florida State University  
Studio Manager: Wayne Lynch

[4] WHITEWATER RECORDING  
20 Battery Park Ave., Ste. 612  
Asheville, NC 28803  
Owner: Adam Greenberg  
Studio Manager: Adam Greenberg

[8] WILKERSON SOUND STUDIOS  
3794 Park Ave.  
Memphis, TN 38111  
(901) 458-1624  
Owner: Skip Wilkerson  
Studio Manager: Skip Wilkerson

[8] WISTARIA STUDIO, INC.  
also REMOTE RECORDING  
607 Piney Point Rd.  
Yorktown, VA 23692  
(804) 898-8155  
Owner: Kim Person  
Studio Manager: Lana Puckett

[8] WKRL RADIO  
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Engineers: Steve Schneider  
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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.  
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Technics compact disc players, Audioarts 4200A parametric equalizers.

Microphones: (6) E-V RE-20.

Monitor Amplifiers: BGW Model 85, Rane headphone amp  
Monitor Speakers: (2) E-V Sentry 100, (4) AKG 240 headphones.

Other: Technics SL-1200 MkII turntable.

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[4] WLM RECORDING

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Studio Manager: Watts Lee Mangum

[8] WOODRICH RECORDING STUDIO

also REMOTE RECORDING  
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(205) 247-3983  
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Studio Manager: Woody Richardson

[4] WOOTTEN CUSTOM AUDIO PRODUCTIONS

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1711 Chadsworth Dr.  
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Studio Manager: Edwin Wootten, Jr.

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Owner: Keith Brodie  
Studio Manager: Keith Brodie

[8] X COMMUNICATIONS STUDIO ONE

PO Box 720009  
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(305) 277-8372  
Owner: Jay Fradet  
Studio Manager: Chip Fradet

[4] Z.A.O. MUSIC

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Studio Manager: Scott Duncan

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—FROM PAGE 37, WHO'S LISTENING

an enormous amount of power, but the speakers are very efficient. [Criteria's other rooms have triamped three-way speakers with JBL components, custom-designed by the studio.]

"Most people work on smaller speakers in all-day use," notes Pechenik, "because of the overwhelming sound of the large speakers. Our reference monitors float from room to room. Virtually everyone still wants the NS10s. We've been demoing two

kinds of Genelec speakers, which sound phenomenal. And we have a pair of Spicas from a New Mexico company. They're audiophile speakers like the Genelec, not necessarily geared to the studio environment. People are funny when they work. They like to use what they're used to using, even if they don't sound great." ■

*Linda Jacobson is an assistant editor at Mix Publications.*

—FROM PAGE 82, AUDIO ENGINEERS  
ready supply of interns."

"I was hoping they would hire me at the Sound Shop," Rose remembers. "When they couldn't afford to, I thought, 'What am I going to do now?' So I went around town giving out my resume. I hung around and got my name into the pile with the rest of them. And I was persistent. I kept on trying until I found a gig. Above all, you have to have faith in yourself; faith in what you're doing as a career."

"You have to start meeting people and making connections," Peterzell advises. "You can't come to Nashville, drop off your resume at the top 20 studios, and sit around waiting for the phone to ring; that's out, even for the guy who's got gold records hanging on his wall! You've got to meet studio managers, musicians, producers, artists. Fortunately, in Nashville, it's not hard to meet people who are in the music business. Get in touch with studio suppliers and companies that build studios; they know when someone's buying a studio and putting in new gear. Remember, you can make a job for yourself if you're open to all possibilities, not just the ideal situation you're looking for right then."

"There's really a hard step between school and the studio," Eichelberger observes. "Almost no step. I couldn't hire somebody from just a resume and a tape. And it's really hard to hire a person fresh out of college without any experience unless they are just exceptional. Try getting some experience in smaller studios and learn as much as you can. You might try running live sound on the road for awhile. You can learn an awful lot trying to make a PA system work every night in a different place. You get experience setting up and dealing with a full range of sound problems. And when you think you're ready to apply for a

second engineering position, you should know signal flow when you walk into any studio, period. When you look at the patch bay and the mic patching on the wall, you should understand totally what's going on and where you want to patch in your equipment."

"There aren't any rules in the music business that say you can't get a degree, walk into a studio, and engineer a Number One record," Peterzell offers. "But the odds are that you're not going to be able to do it because this is more than just a technical business; it's a personality business. And that's something you can only really learn by being here."

And after you get that first job as an assistant, work for months or years, apprenticed to a first engineer, how do you graduate to the big padded chair directly in front of the mixing board? Maybe this anecdote from Lynn Peterzell will give you a clue: "I had been working at Woodland as an assistant for several months. One day we did a session where the head engineer didn't have time to do any rough mixes for the producer. So I took the initiative and said, 'I'll run off some roughs tonight, if you want, after I'm done in the studio.' I mixed them after midnight, after 16 hours in the studio. About a month later, one of those rough mixes came out as a record. As a result, I got that producer as a client. From that, I got several of the top country acts in this town as clients, and I became a full-fledged engineer." ■

*Musician and writer Greg Armbruster lives in the Nashville area where he works as house pianist for the Maxwell House Hotel. Formerly assistant editor of Keyboard magazine, Greg's byline has appeared in Keyboard, Frets and Mix.*

## POST · SCRIPT

—FROM PAGE 167, AUDIO-FOR-VIDEO

help them come up with unique and interesting sounds that would otherwise take them hours to develop for themselves.

In the final analysis, though, it's people who make a facility worth going to. Virtually anyone can install the necessary hardware in a good sounding room, but without great people running it, all that care and attention is for nothing. Having good, competent people on your staff leads to a creative atmosphere in the control room. And that's what every client is looking for. ■

*Miles Christensen is co-owner with Mike Busby of Post Logic Studios, Hollywood, a two-room complex that has been designed to handle music recording and post-production sweetening. A seasoned percussionist and drummer, Christensen has toured with Iron Butterfly, plays regularly with the band Stabilizers, and now produces and engineers a wide range of record label and sweetening sessions at Post Logic.*

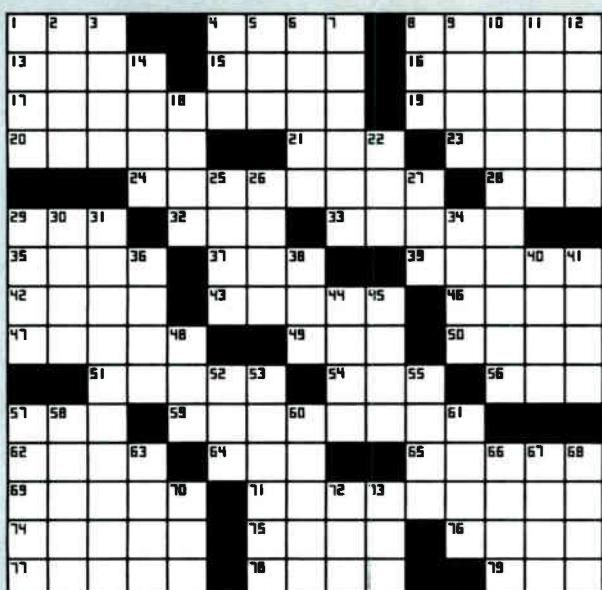
—FROM PAGE 80, MAKING IT

want to design automobiles, you don't want to be on an assembly line for four years putting spark plugs in a car, never seeing its front or back end. Music is the same. It's OK to say all you want to do is country music, but a lot of the music we do today in Nashville comes from different parts of the South, not just Nashville. Get out and learn about all kinds of music."

Kling notes that learning how to cut a vinyl record "takes good side-by-side training with a mastering engineer." Possession of an engineering degree almost goes without saying. Among the characteristics he lists for a potential mastering engineer are: "Good attitude, creativity and lots of mental energy. The ability and desire to learn and grasp. It's important to be diversified, to be into pop as well as country, and to know that this is exactly what you want to do. If you're just oriented toward Van Halen then you can't put your whole heart into mastering."

—Linda Jacobson

## MIX WORDS



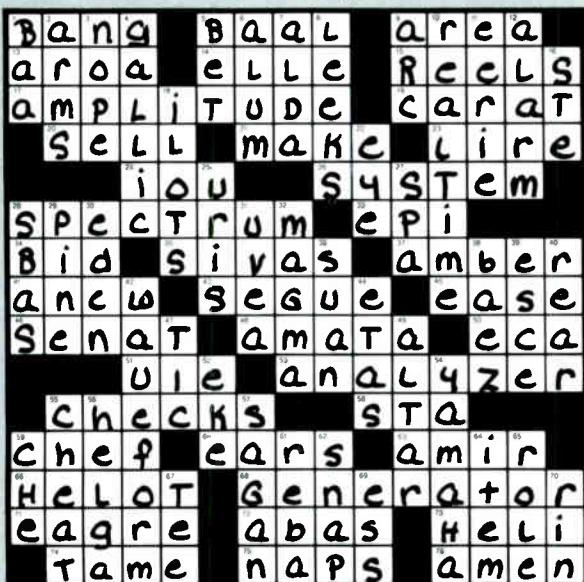
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### CRESCENT CITY SOUND

- ACROSS**
- Profit
  - Not here
  - Chesterfields
  - "When I was . . . ."
  - Green land
  - Recede
  - Music from 31D
  - Ancient city of Jordan
  - Mongol, e.g.
  - Haiphong holiday
  - Belgian river
  - 31D's "Bach of Rock"
  - Moines
  - Fogelberg
  - Lunar area
  - "Blue \_\_\_ ala Turk"
  - Familiar spread
  - A Gabor
  - Greek island
  - Eft
  - A Kennedy
  - Music signal standard
  - Film music
  - Period
  - Wife of Geraint
  - Celebrity
  - Affirmatives
  - Buddhist 57A
  - Everything
  - 31D trombone style
  - Hard fat
  - Latin lesson word
  - Have origin
  - "I \_\_\_ Myself!"
  - Foremost 31D musician
  - Sea birds
  - Field's oath
  - Portico
  - Trials
  - Jane
  - One of the oldest tools
- DOWN**
- Zilch, to Zorro
  - Region of ancient Greece

- Type of dancing
- Spotlight adjunct
- Mouths
- Beethoven's \_\_\_
- Become liked
- Weaken
- Follow orders
- R&R great from 31D
- Up \_\_\_
- Makes black-fish
- Radio part
- Seth's son
- Spanish uncle
- Drink style
- Donated
- Hospital folk
- Spanish V.I.P.s
- Guiness
- Home of Congo Square
- British title
- Spanish other
- Summer drink
- Norse god
- \_\_\_-fills (monitors)
- Type of racing
- Gumbo \_\_\_
- Consume
- Measurement type
- Angry speech
- RBI, e.g.
- Something worth having
- Money
- Truck, to Ringo
- Slips
- Waste allowance
- Bit
- Mislead
- Equal, in Lyons
- Curve
- Deface
- Holy woman, in Orleans

### Solution to February Mix Words



## NEXT IN MIX

### APRIL

- Video Production/NAB Issue
- HyperMedia Supplement
- Directory: Video Production and Post-Production Facilities

### MAY

- Northeast Studios Directory
- Mixing Console Technology
- New York Recording

### AD CLOSING:

MARCH 7

### MATERIALS DUE:

MARCH 15

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- Remote Recording/Sound Reinforcement Directory
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# ADVERTISERS INDEX

PAGE ADVERTISER	PAGE ADVERTISER	PAGE ADVERTISER
<p>110 A &amp; R Record and Tape Manufacturing</p> <p>141 ACO Pacific, Inc.</p> <p>136 Adams-Smith</p> <p>119 Akai/IMC</p> <p>41, 130 Alesis Studio Electronics</p> <p>211 Allen &amp; Heath Brenell</p> <p>111 Alpha Audio</p> <p>95 AMP Services</p> <p>11 Ampex Corporation</p> <p>53 API Audio Products, Inc.</p> <p>62 Sam Ash Music</p> <p>160 Audio Gallery</p> <p>135 AudioLine, Inc.</p> <p>192 Bertech Organization</p> <p>23 Beyer Dynamic</p> <p>42 Biamp Systems</p> <p>47 Bryston</p> <p>50 Burlington Audio/Video Tapes, Inc.</p> <p>122-123 Carvin Corporation &amp; 181</p> <p>90 The Castle Recording Studio</p> <p>55 Cetec Gauss</p> <p>25 Cipher Digital, Inc.</p> <p>152 Clarity Cassette Duplication</p> <p>103 CMX Corporation</p> <p>145 J.L. Cooper Electronics</p> <p>99 Crawford Audio Services</p> <p>98 Crosstown Recorders</p> <p>173 D &amp; R USA</p> <p>177 dbx, Inc.</p> <p>153 DIC Digital Supply</p> <p>137 Digidesign, Inc.</p> <p>77 Digital Recorders</p> <p>128-129 Digitech/DOD</p> <p>170 Disc Mastering</p> <p>22 Diskmakers, Inc.</p> <p>34-35 Dolby Laboratories, Inc.</p> <p>85 E.A.R.S.</p> <p>151 Electro-Voice, Inc.</p> <p>73 Eleven Eleven Sound</p> <p>160 Europadisk, Ltd.</p> <p>138 Evatone Soundsheets</p> <p>17 Eventide</p> <p>108 Everything Audio</p> <p>79 Fairlight Instruments</p>	<p>28 Fostex Pro Sound Division</p> <p>134 Four Designs Company</p> <p>131 Full Compass Systems</p> <p>193 Fullersound</p> <p>142 Furman Sound, Inc.</p> <p>167 Future Disc Systems</p> <p>150 Genelec</p> <p>93 Georgetown Masters</p> <p>15 GoldLine/Loft</p> <p>29 Alan Gordon Enterprises</p> <p>60 Granny's House</p> <p>104 Dick Grove School</p> <p>49 Hardy Company</p> <p>36 JBL Professional</p> <p>50 JRF Magnetic Sciences</p> <p>139 KABA Research &amp; Development</p> <p>124 KCC Audio/Video</p> <p>149 Klark Teknik</p> <p>62 KRK Monitoring Systems</p> <p>127 Kurzweil Music Systems</p> <p>138 LD Systems</p> <p>20 Lexicon, Inc.</p> <p>64 LimeLite</p> <p>51 Manny's Professional Audio</p> <p>187 Marshall Electronics, Inc.</p> <p>113 Meyer Sound Labs</p> <p>18-19 Mitsubishi Pro Audio Group</p> <p>168 1988 Mix Annual Directory</p> <p>144 Mix Bookshelf</p> <p>69 Nashville Record Productions</p> <p>71 National Sound &amp; Comm Association (NSCA)</p> <p>195 National Sound &amp; Video</p> <p>3, 68, 89 Rupert Neve, Inc.</p> <p>9 New England Digital (NED)</p> <p>100 New River Studios</p> <p>134 Opus Recording &amp; Equipment</p> <p>12 Orban Associates, Inc.</p> <p>7, 54 Otari Corporation</p> <p>27 Peavey Electronics</p> <p>143 Penn Fabrication</p> <p>63, 191 Penny &amp; Giles, Inc.</p> <p>124 Polylite Corporation</p> <p>140 Power Studio Supply</p>	<p>166 The Production Garden</p> <p>102 Professional Audio Services &amp; Supply</p> <p>121 Professional Audio Systems</p> <p>16 Pronous</p> <p>95 QCA Record Pressing</p> <p>156 Ramsa</p> <p>147 Rane Corporation</p> <p>199 RCA Test Tapes</p> <p>111 The Recording Workshop</p> <p>88 The Reflections</p> <p>182 Reliable Music</p> <p>167 Rhythm City</p> <p>115-117 RolandCorp U.S.</p> <p>155 Ross/IMC</p> <p>166 Seam Tech</p> <p>106-107 Solid State Logic (SSL)</p> <p>38-39, Sony Professional Audio &amp; 125</p> <p>75 Sound Emporium</p> <p>159 Sound Genesis</p> <p>154 Sound Impressions, Inc.</p> <p>212 Soundcraft</p> <p>158 Soundscape Studios</p> <p>110 Sprague Magnetics</p> <p>97 State of the Art Electronik</p> <p>2 Studer Revox</p> <p>49 Studio Consultants</p> <p>59 Studiomaster</p> <p>31 Tannoy Professional Products</p> <p>33 TASCAM</p> <p>179 Thoroughbred Music</p> <p>199 Vertigo Recording Services</p> <p>146 Wise Music</p> <p>81 Woodland Sound Studios</p> <p>187 World Records</p> <p>161-164 Yamaha Music Corporation, Professional Audio Division</p>

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Yet such quality, and the reliability that goes with it, can actually cost you less than an ordinary desk.

Because with advanced production techniques we're able to offer the Series 600 at very competitive prices.

So there's no reason to accept half measures. Especially in your music.

Call your nearest Soundcraft dealer for a demonstration.