

FEBRUARY 1982  
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THE RECORDING INDUSTRY MAGAZINE

# Mix

INTERVIEW  
LEB PAUL

Listings:  
Southeast  
Studios.

Special Report:  
Digital Synthesizers

Dave Edmunds

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Record Reviews





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FEBRUARY 1982



**Cover:**  
Studio A, Cheshire Sound Studios, Atlanta, GA.  
**Photo:** Rick Diamond.

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## VOLUME SIX, NUMBER TWO

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# INSIDE

Our first goal at Mix Magazine is to serve the professional recording and sound production industry as the forum for relevant information and essential communications. This is our challenge today, as it has been since we started. This is also why listings are such a major part of our magazine. Our listings reflect the state of the industry in a very special way. Without headlines and fanfares they let us know what the industry looks like.

We plan to expand our listings in many ways this year. Besides recording studios, look for us to feature sound reinforcement companies, digital recording services and video post-production, as well as studio designers and suppliers, mastering studios, pressing plants, duplication facilities and recording schools.

We want to do a good job with these listings, so we're asking for your help. If you fall into one of the above categories and aren't sure whether you are on our mailing list, please call or drop a note here to Mary's attention and tell her what you do and how we can get in touch with you. And then Mary will tell Amos, our computer, the good news.

## COMING:

### IN MARCH

- Northeast Studios
- Microphones
- Phil Ramone
- Spyro Gyra
- John Boylan
- The Cars

### IN APRIL

- Video Sweetening
- Satellite Rock
- Unitel
- Ray Dolby
- Island Video
- Earth, Wind & Fire

# TRACKS



Dear Mix,

I would like to draw your attention to a statement in the book "The Platinum Rainbow." This book claims to be an informative guide to a career in the music industry. In the chapter of recording engineers the authors, Bob Monaco and James Riordan (a regular columnist and contributing editor to "The Mix"), offer the following "advice":

"Like everything else, when it comes to the recording engineer, you're going to get what you pay for. A \$10 an hour engineer gives you a \$10 an hour tape. A good engineer costs anywhere from \$25 to \$50 per hour."

One can only assume from this that since an engineer costs more per hour, he is obviously more knowledgeable and magically able to deliver a better sounding tape. This is sheer nonsense!!! The difference between a competent \$10 per hour mixer and one that costs \$50 per hour is often a question of how many gold records one has cut more than anything else. And being in the right place at the right time is often the critical factor in determining just who gets the gold and who doesn't. Obviously, not all the \$10 per hour engineers *are* competent, but to judge all the *thousands* of engineers who charge less than \$25 per hour to be "not good" simply on the criteria that they don't charge *more* is beyond absurd.

Dan Alexander  
Hyde St. Studios  
San Francisco, CA

*Reply to letter from Dan Alexander:*

*Every writer's nightmare is to be quoted out of context and made out to be an idiot. Such is the case here. Mr. Alexander is correct. I hope that the spirit maintained throughout "The Platinum Rainbow" would show that I did not mean to slight those engineers who have not gotten the break in this all-to-luck-filled business. I meant that a new artist recording on his demo can not afford to "save" by hiring an "inexpensive" engineer and often he does not have the time or the knowledge to effectively evaluate an engineer's abilities except by the experience the engineer possesses. In many passages we point out the extreme value of an engineer and what determines his or her ability. Ob-*

*viously, price is not the prime factor, but in a pinch don't skimp by going with someone with less experience. Hire an engineer who can effectively do the job no matter what the price. I hope the following excerpt can put this in a better context. Thank you.*

*Sincerely,  
James Riordan*

Reprinted from "The Platinum Rainbow":

"I can't overemphasize the importance of the engineer. The greatest equipment in the world will sound like a cheap demo room in the hands of an inept engineer. You can't make a professional record without a professional engineer. When you are talking with a prospective engineer, find out who he's worked with and what kind of music he's into. Is he into your music? If you know anything about sound, ask him how he mics the drums, does he like to mic the bass or run it direct, what are his little tricks? Ask yourself if you feel good about the guy. Can you handle working with the guy for three hundred hours or so?

Like everything else, when it comes to the engineer, you are going to get what you pay for. A ten dollar an hour engineer gives you a ten dollar an hour tape. A good engineer costs anywhere from \$25 to \$50 an hour. Some of the great ones can command even a higher price, but you should be able to find the person you need for \$25 an hour.

Build a rapport with your engineer. Talk to him. Once you've established a rapport, you'll feel more comfortable with him, and that affects the whole studio situation. A lot of the uptightness in the studio is caused by all the uptightness one feels with the individuals in the room, and most of that can be straightened out before the session. If the artist and the engineer don't have a rapport, the artist usually suffers. When you and the engineer do not understand each other, he will probably wind up doing everything his own way. His way may be good, but it may not be right for you. If he understands you, he can use his talent to get what you want and that's what you're paying him for. Equally important is the fact that when you feel confident with your engineer, you'll listen to him. That's very important because he's the man who can get you through the pitfalls of the studio, especially if you're a beginner."

# THE NEW TOA RX SERIES SUB-COMPACTS.

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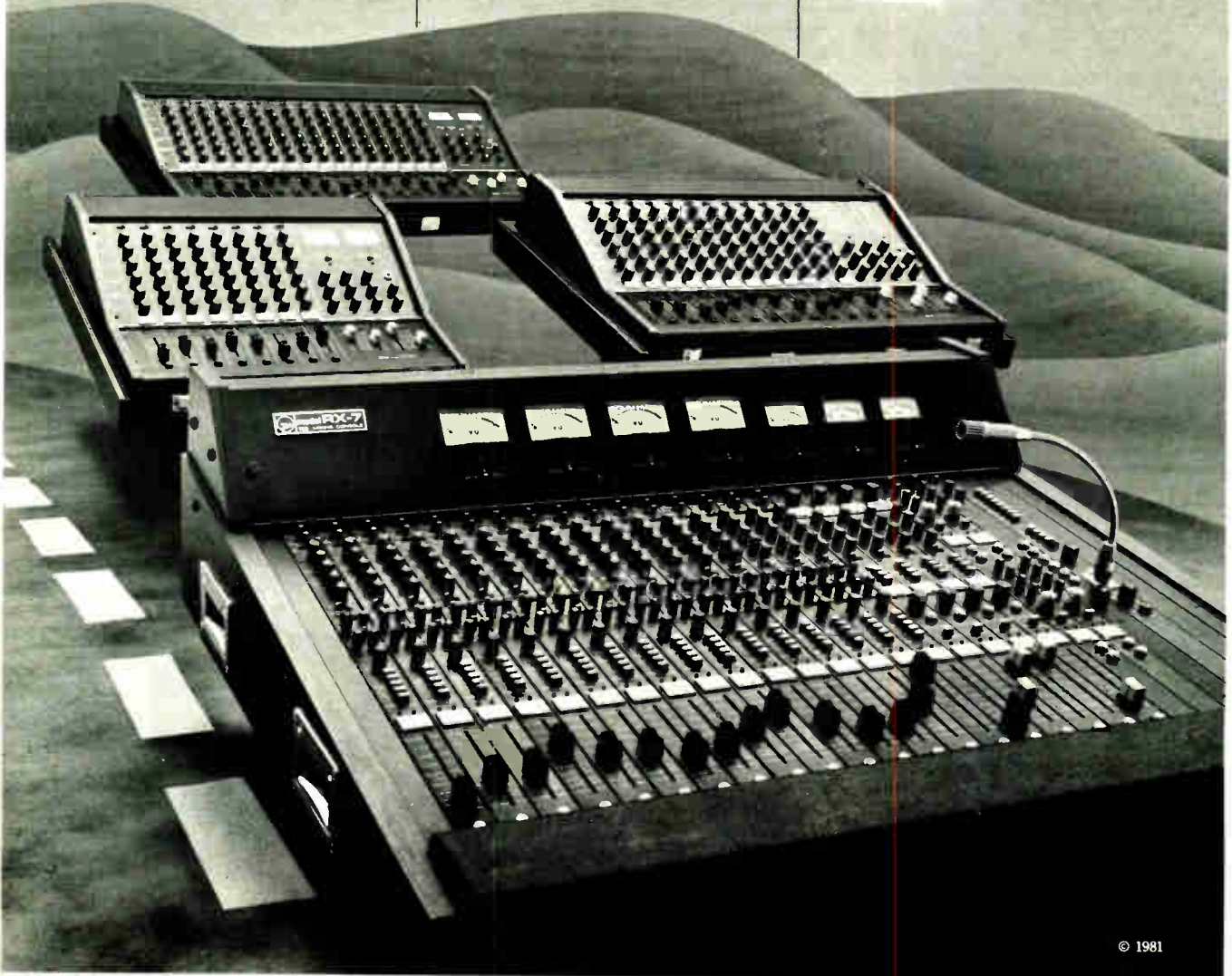
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# CURRENT

## Sony to Take Betamax Case to Supreme Court

Sony Corporation of America has announced that it will appeal the October 1981 ruling on the Betamax copyright case to the U.S. Supreme Court in order to protect the rights of home video recorder users to tape television programs. The Ninth U.S. Circuit Court of Appeals has denied a Sony request to reconsider the ruling which stated that off-the-air recording of television shows was illegal, making millions of home VTR owners into criminals.

The original lawsuit by Universal Studios and Walt Disney Productions against Sony was a 1976 effort to prevent the private use of video-cassette recorders. After a five week trial in Los Angeles, a federal court ruled in favor of Sony, stating "non-commercial home use recording of material broadcast over the public airwave is fair use" and thus was exempt from copyright infringement. Universal and Disney appealed the decision which eventually led to the October 19, 1981 reversal.

Unless Sony is successful in their current bid for a Supreme Court appeal, consumers and

manufacturers of home video recorders could be sued for damages resulting from the Circuit Court ruling.

## MPR First Radio Station to Have Digital Recording Equipment

Minnesota Public Radio has become the first broadcasting operation in the United States to be fully equipped with a multi-track digital recording and editing system. Tom Voegeli, MPR Productions Vice-President, said: "the acquisition of 3M's Digital Mastering System and Digital Editor will enable MPR to produce and broadcast programming with the finest quality sound technologically feasible today."

The digital system has been installed in MPR's state-of-the-art 24 track production studio, where "Star Wars for Radio" was post-produced; where the new Columbia recording of Lucasfilm's "Raiders of the Lost Ark: The Story on Record" was mixed; and where "Saint Paul Sunday Morning," a weekly chamber music series broadcast by more than 100 public radio stations nationwide is recorded and produced. The digital equipment will also be used in the production of

special remote broadcasts such as performances by the Minnesota Orchestra and Saint Paul Chamber Orchestra.

MPR's use of this equipment is a major step in radio history and will set new standards for the technical quality of national satellite-broadcast programs.

## Allen and Heath Brenell Forms New U.S.A. Distribution Firm

Allen and Heath Brenell Limited, of London, the British manufacturer of quality professional mixing consoles and equipment, has announced the formation of Allen and Heath Brenell U.S.A., Ltd., to handle all operations in the United States.

Appointed to the position of National Sales Manager is Mr. Charles Augustowski, a long time representative of Allen & Heath products in the U.S. His first activities will include: A re-organization of American AHB operations, and tighter quality control of all products shipped from their Stamford, Connecticut headquarters. New regional representatives have been appointed nationwide to increase dealer support.

## notes...

According to Rick Plushner of Sony's Digital Audio Division, in Compton, CA, the SPARS L.A. Roadshow in mid-March will be dedicated to digital audio recording. All major manufacturers are expected to demo their products and participate in a panel discussion... SPARS has also launched a Booster Membership which, for \$10, gets you a SPARS membership roster, admission to chapter functions and entry into a contest with prizes of 300, 200 and 100 hours of studio time at member studios... Dave Teig has left his general manager position at Atlantic Studios in New York City and is currently negotiating with several companies for a high level position... The Nashville Music Association has moved to larger quarters at 14 Music Circle East, Nashville, TN 37203. Their new telephone number is (615) 242-9NMA... Donald F. Bogue, Audio Tape Products Business Manager for the Ampex Corporation has nam-

ed Philip M. Ritti as their Industrial Audio Product Manager for their cassette duplicator and industrial cassette product lines... The Audiotechniques Equipment Exchange, of New York City, has opened a second showroom, "the dungeon", located in the basement of The Brill Building at 1619 Broadway... Valley People, Inc. has entered the multi-media facility design market, having completed designs for a TV studio for the Jimmy Swaggart Evangelistic Association... JBL's International Division is doing well, having promoted Randy Patton to I.D. Sales Manager, and Terry Sorensen has moved up to the Product Applications Engineer spot... A grant from the 3M Corporation to the Memphis Chapter of NARAS (National Academy of Recording Arts and Sciences) helped pave the way for a recent microphone design seminar, part of the chapter's continuing educational activities. 3M Corp. has added Atlanta-

based Roger Harvey as a Digital Audio Sales Representative to serve the Southeastern states... Lion's Gate Films, of Los Angeles, has unveiled the first working prototype of a VARMS (Video/Audio Recording and Mixing Stage) to provide broadcast quality video with digital audio capability for video disk production. The facility was designed by noted studio architect John Storyk, of Metropolis Studios (New York City) who also revealed plans to open two VARMS in New York later this year... The JRF Company, who sells and services magnetic recording heads and supplies, has moved to larger quarters at 17 Byram Bay Rd., Hopatcong, N.J. 07843, phone: (201) 398-7426... Floyd Dillman has formed Floyd Media Services, a Chicago firm to provide complete services for audiovisual production and exhibition for conventions, tradeshows and entertainment gatherings.

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# SESSIONS

## NORTHEAST

At **Eastern Artists Recording Studio** in East Orange, New Jersey, **Dean Friedman** has finished laying tracks for his newest LP release. **Neal Steingart** is the engineer on the project.

At **North Lake Sound**, in North White Plains, New York, recent sessions include: **Headfirst Records' Lesette Wilson**, recording and mixing her first LP for the label, with **Chris Cassone** engineering. The **Average White Band's Alan Gorrie** working with **Ali Thompson** on a new project for **A&M**.

**Northern Lites and Sound Studios** in Georgia, Vermont is presently working on the sound track to the musical play "White Ship" with director **Jerry Mendicino**. **Tracy Lord** is also working on his second album with **Paul Appleget** and the new wave band **The Decentz** are planning to do demo work in December.

The latest activity at **Unique Recording** in New York City includes **John Lee/Darryl Thompson/Billy Scott** recording several new tunes. **John Lee** producing, **Oscar Gerardo** and **Bobby Nathan** engineers.

At the **Record Plant** in New York City, **Greg Thornwood** and **Andy Shernoff** doing additional remixing of an E.P. by **Syntax** for **Valhalla Records**, with **Thom Panunzio** engineering.

Highlighting the sessions at Manhattan's **Unique Recording Studio** are bluesman **Johnny Copeland**, winner of the 1981 Handy Award, recording his second album with **Rounder Records**. **Michael Finlayson** is at the board.

At **Servisound**, New York City, creative head **Mike Shapiro** is completing the score for a 3-hour ABC-TV documentary on **Franklin D. Roosevelt's presidency...** and **Diane Ehrlichman** is doing the music editing for "Hollywood's Children", an independent production scheduled for February showing on public television.

Rock band **R Best** recording tracks for upcoming album at **Rick's and Automated Sound Studios** in New York City, with final mixing at **Automated Sound Studios**. Produced and engineered by **Jay Rifkin**.

Recent activities at **Starr Recording**, Philadelphia, PA include local act **Nu-Este** mixing down tracks recorded in December of last year. **Chas Gerber**, formerly with **Renaissance** and **Bruce Springsteen**, is producing and engineering.

## NORTH CENTRAL

At **Ajax Recording Team**, Fort Wayne, Indiana, local folk-rock artist **Dick Myers** has just completed a 45 project. **Myers** plans on using the finished disc to shop for a label deal. Also at **Ajax...** pre-production sessions have begun for an upcoming album by Cleveland songwriter **F. Ronald O'Keefe**.

Recent projects at **Suma Recording** in Plainville, Ohio include: the 3rd album by **Deadly Earnest and the Honky Tonk Heroes**; individually customized promos for 170 (!) radio stations of **Stevie Carlisle's** "WKRP In Cincinnati" theme song on **MCA Records**.

At **Sound Patterns DXM** in Farmington Hills, MI, gospel pioneers, **Bill and Essie Moss**, have completed recording their next single for their label, **Bilessie Records**. **Martin Scot Kosins** has begun mixing his next album which features the **Ink Spots**. Both sessions were engineered by **Dan Dallas**.

At **RMJ Studios**, Detroit, MI, **Jimmy Ruffin** is producing a followup album to his last year's hit "Hold On To Your Love." **Steve Lucas** is finishing up tracks for a forthcoming album for **Airison Records**.

At **Tantus Studio**, Detroit, MI, recent activity includes the recording of the **National Baptist Convention** at **Joe Louis Arena** for **West Bound Records**, featuring a 1500 voice choir. And **Ruth Busbee** on **Sound of Gospel Records** has just finished work on her LP.

Currently laying tracks for a new album release at **Super-Lyc's** in Warren, MI, is **Alux**, produced and engineered by **Beau Williams** and **John Jaszcz** with **Ken Scribner**.

Recording at **CloudBorn Productions, Inc.** in Grosse Pointe, MI, the European artist **Peter Mars** producing himself. **Mark Wisney** engineering. **The Billy Wimble Band** cutting a single. Managed by **Al Nalle**. **Mike deMartino** engineering.

Detroit group **Retro** recording and producing themselves at **Superdisc Studios** in East Detroit, MI. The project is being engineered by **David Baker** and **Terry Fedak**. Executive producers are **Tri Star Production's Al Ferszt** and **Scott Forman**.

## SOUTHWEST

**Rainbow Sound** in Dallas, Texas has recently completed album projects for **Steve Radke** and

**Daystar**, **Jerre Burden**, and **Doug Hullum**. Engineering was done by **David M. Boothe**. The **Amos Staggs Band** cut a 45, "Sad Affair", with plans to complete an album built around the 45's success. Engineering was handled by **Keith Rust**.

Recent activity with the **Omega Audio** 24 track remote recording truck out of Dallas, Texas: The 27 foot mobile unit was recently hired by **Ron and Gene Weed** of **Weedy One Productions**, Los Angeles, to supply 24 track audio services for a video shoot of a network music special at **Billy Bob's Texas** in Ft. Worth, Texas. The show was recorded 24 track with time code for later remix and featured **Alabama**, **Merle Haggard**, **Donna Fargo**, **David Frizzell** and **Shelly West**, and **George Strait**. Engineering was by **Jim Fox**, **Paul Christensen**, **Russell Hearn**, and **Ken Paul**.

From Austin, Texas, **Reelsound's** remote bus has just completed dates on a live album for **DeGarmo** and **Key Band**. The project was recorded in **Tulsa** and **Oklahoma City** and produced by **Dan Brock**. Engineering was **Malcolm H. Harper, Jr.**, assisted by **Mason Harlow** and **Paul Stutz**.

## NORTHWEST

The **Hyde Street Studios** in San Francisco, CA were recently host to sessions in studio C by **The Blue Ridden** for **Epiphany Records** with **Warren Smith** producing and **Richard Van Dorn** handling the engineering chores. Also in C was **Erik Jacobsen** producing **SilverTones** for **Sweet Reliable Productions**, and in studio D, **The Tazmanian Devils** for **Warners** with **Gary Mankin** on the board.

Recent activity at **Different Fur Recording** in San Francisco includes: The Portland-based group, **Pleasure** recently finished recording basic tracks and overdubs for their upcoming LP on **RCA Records**. **Robert Wright** is co-producing the album with **Nathaniel Phillips** of **Pleasure**; with **Michael Brauer** engineering and **Howard Johnston** and **Dou Mack** assisting.

Action at **The Automatt** in San Francisco, CA includes **Gamma** with **Ronnie Montrose** mixing **Elektra LP** with **Ronnie Montrose** producing, **Jim Gaines** engineering. **Herbie Hancock** mixing **Columbia LP** with **Ken Kessie** engineering and **Dave Frazer** assisting.

At **Las Vegas Recording Studio** (home of the **LEDE** control room) in Las Vegas, Nevada, **Inglebert Humperdink TV Special**, produced by **Danny O'Donovan** for **Dano Productions**, **Rick Pond** engineering. **Count Basie**, **Louie**



# BROADCAST PRECISION

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Look around, no other audio recorder offers you more standard features than the ATR-800. Whether you need rack mount, console or pedestal versions, call your Ampex dealer or write Ampex Corporation, Audio-Video Systems Division, 401 Broadway, Redwood City, CA 94063 (415) 367-2011. Sales, spares and service worldwide.

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# SM85

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Manufacturers of high fidelity components,  
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**Bellson, Joe Pass, Neal Pederson, Willy Cook and Clean Head Vincent** working on a new album for Pablo Records, **Norman Granz** producing.

## SOUTHERN CALIFORNIA

At **Cirkis Audio Group**, Hollywood, CA, **Red Zone** is currently tracking for debut album on Banner Records, **Ottavio Sasso** in charge of production, **William K. Smith**, engineer.

At **Studio Sound Recorders** in North Hollywood, CA, **Smokey Robinson** has started cutting tracks for his new album on Motown Records. **George Tobin** is producing. **Howard Wolen** is behind the board. French artist **Bernard Swell** is cutting additional tracks for his album on WEA International. **Ryan Ulyate** is engineering.

At **K Disc Mastering** in Hollywood, **John Golden** has been keeping busy mastering such projects as **Frizzell & West's** new LP and single with producers **Snuff Garrett** and **Steve Dorff** and engineer **Greg Venable** for Warner/Viva Records, the soundtrack album to **Sharky's Machine** and single sung by **Sarah Vaughan** with producers **Snuff Garrett** and **Dave Pell** for Warner Brothers Records.

At **Monterey Sound Studios** in Glendale, CA, **A Taste Of Honey** are cutting tracks for an upcoming album, **Al McKay** producing, **F. Byron Clark** engineering, **David Goldstein** assisting.

At **Sunset Sound Studios** in Hollywood, CA, **Nicolette Larson** in St. 1 tracking, O/D and mixing her new album for Warner Bros., **Andrew Gold** producing. **Jim Isaacson** engineering with

**Stephen McManus** assisting. Arista recording artist **Melissa Manchester** in St. 2 doing basic tracks for a new LP. **Arif Mardin** producing. **Jeremy Smith** at the console, **Terry Christian** assisting.

Latest activity at **Heritage Studios** in Hollywood, CA, includes Columbia artist **Billy Griffin** working on his album with producer **John Barnes**. **Barney Perkins** is engineering, **Craig Burbidge** assisting.



**Guy Randle**, owner of **Rosewood Recording Company** in Provo, Utah, reports the installation of a new Tangent 24 channel console and a nine foot Baldwin grand piano. The outboard rack has also been updated with the addition of an Orban De-Esser and a Symetrix compressor/limiter.

**Likewise Productions**, Oakland, CA, is now operating as a full 16 track facility, which features a Sound Workshop board, Tascam 85-16, Tannoy monitors, Lexicon DDL, and a large assortment of mics. The studio offers **Jeffry Holt**, **Matt Brady**, and **Greg Spinos** as engineers, and has a fine selection of studio instruments.

**Roar Productions** of Columbia, MD, is pleased to announce the conversion of their in-house studio to 8-track operation. The studio now features a brand new Otari Mark III 8-track recorder (with full remote control), and a new Otari 5050B mixdown machine.

**Pyramid Audio Inc.**, South Holland, IL is pleased to announce their move to a new, larger, full service facility. Included will be a 24 track studio, equipped with an Otari MTR 90, A Neotek 32 x 24 Series III console and a full compliment of microphones and outboard gear. Also, complete rental and leasing of sound systems and studio equipment; rehearsal studios; a large show-case/presentation room with video facilities; sales and service of pro audio gear; and, complete studio and sound system design and installation. Doors will open in mid March. Studio and rehearsal time is being booked now.

**Q.C.A. Recording Studios** in Cincinnati, Ohio has recently upgraded its control room with a Harrison 28 x 24 MR-3 console. The console features Allison automation, transformerless inputs and 28 channels of true parametric equalization.

**Round Sound Studios Inc.** of Toronto, Canada has recently equipped it's 16 track facility with the latest in synthesizer equipment from Roland further fueling their expansion into the audio/visual, film and advertising markets. The system consists of the Roland Jupiter-8 eight-voice polyphonic synthesizer, System 100-M 42-module polyphonic synthesizer with multi-voice programmable MC-4 Microcomposer, and the TR808 programmable rhythm unit.

**Rampart Street Studios** of Houston, Texas has recently completed a major renovation project. The studio design is by **Woody Smith** of ASI Pro Audio in San Antonio. The project includes a major equipment update and the addition of a Soundcraft 1624 16 x 16-24 console purchase from ASI.

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# Video Focus:

Our special issue of Mix devoted to the evolving video/audio recording industry. Besides an update of the latest developments in video music production and technology, we will be presenting articles on:

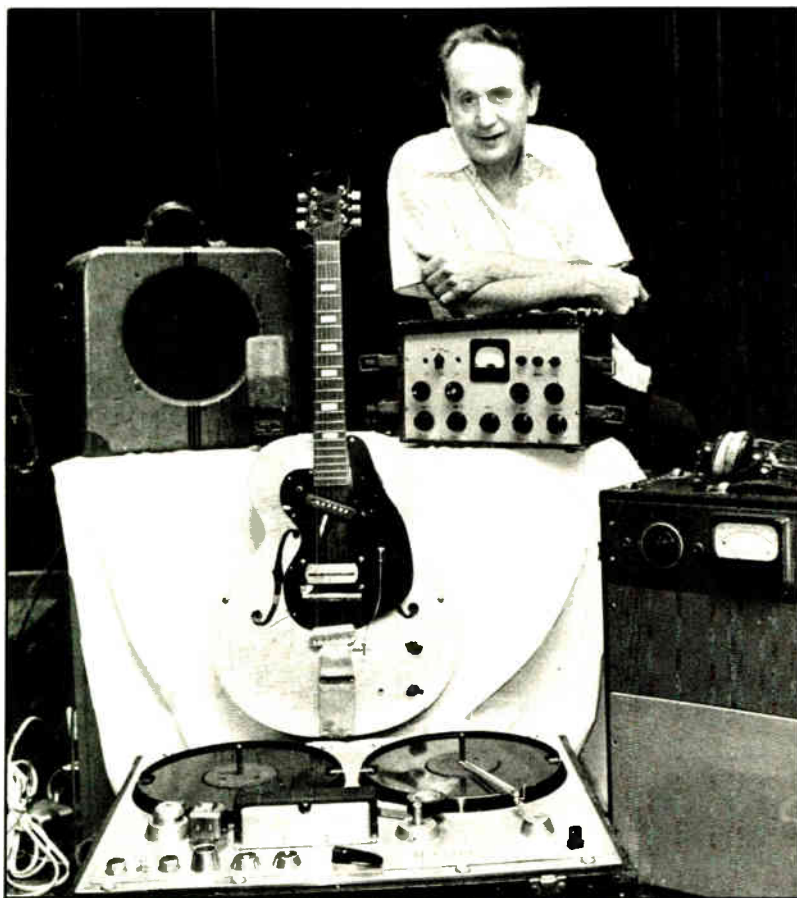
- Live concerts via satellite
- Legal obstacles for video music
- Video editing applications for music
- Video music producer Michael Nesmith
- Video artist updates
- Unitel's audio/video supertruck

PLUS listings of audio recording studios offering video post production services.

*If your company or studio is involved in video sweetening or post production, or if you manufacturer or sell audio/video products, the April issue of Mix is the perfect opportunity to advertise what you have to offer. Call (415) 843-7901 for more information.*

**AD CLOSING: FEBRUARY 22, 1982**

# PROGRESSIONS



*Left: Les with first sound on sound recorder he made from Ampex 300 by adding fourth head. Also shown is the custom remote mixer for use with the recorder.*

## LES PAUL

by Larry Blakely

As I reflect over the many years I have spent in the music and recording fields, Les Paul is one individual that never ceases to amaze me. The more I find out about him, the more I realize what he has contributed to our industry. He was inventing things and creating new concepts many, many years ago that have become standard practice in today's music recording. He is a man who was and is ahead of his time, a true pioneer who was not satisfied with the existing technology and methods of making or recording music. He sought a better way.

I had the opportunity to spend a few hours with this fascinating individual and the things he told me blew my mind. Les Paul is no youngster these days, but he is enthusiastic, vibrant, alive, and while excited about his past accomplishments, talks of new ideas and techniques. I could continue

the praise for the rest of the column, but let me digress with some of the information that he shared with me.

Les claims that his first experience of overdubbing musical parts was on his mother's player piano. This he did by punching extra holes in the player piano rolls. This he says was the very early days of digital recording.

In the 1920's young Les Paul, playing a Sears and Roebuck guitar, found that his audience could not hear him well enough. So he took the electric pickup (cartridge and needles) from a phonograph and jammed it into the top of his guitar and fed the output signal through a wire to his mother's table radio. He then found a carbon microphone and connected that to his father's battery-operated radio. With the use of this new amplified guitar and sound reinforcement system, he found that his tips improved as the audience could better hear him perform.

Later he became interested in re-

recording his music. Since this was in the days before tape recorders, all recordings were made direct to a disk. So about 1938 he built his own disk recording lathe, using such parts as electric washing machine motors, a lead screw and other crude devices. While he was living in Chicago he installed the recording lathe behind the pull-down bed in his apartment. This was perhaps one of the world's first home recording studios.

In 1944, while in California, Les decided to build an improved recording lathe. For \$10.00 an evening he rented a place to work, at night only, in the rear of a hobby shop in Hollywood. He built this new recording lathe using a Cadillac flywheel for the turntable and the motor came from a juke box. He found a man to make him a special cutter head that would record much higher frequencies than the commercially available phonograph records of the time. He claims that his cutter head would go out to 10 kHz while conventional cutter heads would only extend to 5 kHz or 7 kHz. As he progressed, he sought a 'fuller' sound with more 'presence.'

At this time all recordings were monaural, recorded direct to the disk, and the sound was usually picked up by one microphone that was placed some distance from the musicians. Most of the major recording studios in existence were owned by the major record companies. They had their own ways of recording and were not interested in hearing about Les Paul's ideas of getting a different sound. So he decided to build his own recording studio in his garage with an investment of about \$650.00. In this private studio he started using close microphone placement techniques, separate microphones for each instrument and combining the microphone signals through a home made mixer. After a while people became curious about how this crazy man was getting such an incredible sound in his garage. Even Bing Crosby came by and asked if he could record in this garage studio. Les says, "I wanted better sounding records than the accepted recording methods and equipment of the time would allow, so I built my own



studio and became a rebel... I did it because I had to do it!"

For reverberation Les used a long reverberant hall at night when no one was there. He also created "slap back" echo effects. By using a playback head that followed the cutter and playback heads, the rate of the slap back could be controlled. He also was doing phasing and flanging effects with the use of two turntables. Remember, this was about 1945.

Shortly after World War II Colonel Ranger and Jack Mullen brought tape recorders into the United States from Germany. Les found this an exciting new recording tool with even greater potential. He acquired one and soon had installed extra heads for making "sound on sound" recordings.

He devised his own type of compressor, by watching the needle of a very large VU meter and learning to play in a way that made the needle almost stand still. He adjusted the pickups on his guitars so the different notes would be nearly the same level and he taught his singing partner, Mary Ford, to automatically turn her head on loud notes so as to keep the VU meter standing still.

In 1954 Ampex built, at Les Paul's request, an eight-track multi-channel tape recorder with Sel-Sync™\*, allowing multiple tracks to be recorded in synchronization. At the same time Les began building a multi-track recording console. By 1956, the multi-track tape recorder and recording console were in full operation. Even though the recorder was an excellent tool, Les says that the sound-on-sound recording process was much quicker for him. His recording of "How High the Moon" was

*First eight track recorder made for Les by Ampex, with in-line heads and sel-sync per his design.*

**"The Log", the first solid body electric guitar, built by and for Les Paul.**

done with sound-on-sound and was comprised of 24 separate recordings stacked on top of each other. And his lightning fast guitar parts were recorded by running the machine at half speed and playing one octave lower.

The other very important side of Les Paul is the guitar builder. In 1934 he asked August Larson in Chicago to build a semi-hollow body guitar with 1/2" thick solid maple top, so that the guitar would not resonate because of the strings on the bridge. The resulting guitar was excellent for jazz, possessing a mellow sound or what Les calls a "dark sound."

He found that using two pickups on a guitar provided two different types of sounds that could be easily selected by a switch, or a third sound by using both pickups. In 1941 he carved down a 4" x 4" piece of wood, which had two "wings" and two pickups, that became the first solid body guitar. This he referred to as "The Log." Les Paul took his guitar ideas to Gibson and, he said, they kindly showed him the door. Meanwhile, he continued to develop his guitar ideas, conceiving a steel bridge and trapeze tail piece, along with different types of electric pickups. Then, in 1949, the president of Chicago Musical

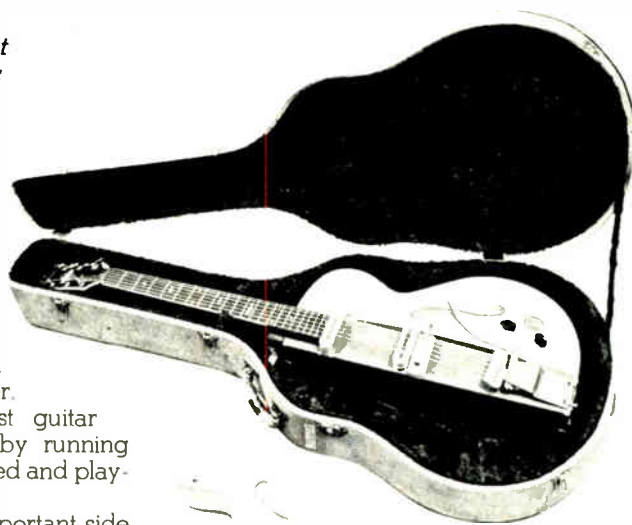


PHOTO BILL ANACKER

Instruments (which owned Gibson) said, "Go find that character with the broomstick with pickups on it." An agreement was signed to make a Les Paul guitar—this was what he describes as a hollow body guitar with a log down the center to allow the guitar to sustain. Les says, "To date there have been no changes made in it. It took my whole life to build that guitar. When I built it I didn't make it for anybody else; I built it for myself." There was also a Les Paul solid body guitar made by Gibson.

Les Paul has covered a lot of ground in his life, not only by inventing recording methods and equipment and musical instruments, but also as an accomplished musician, performer, recording artist and producer.

"Today's musicians know a lot more about the tools of their craft," say Les. "They are more knowledgeable about their instrument, as well as sound and recording procedures. They are more aware! Today's musicians are curious, they are reading, they are in studios and around sound gear, and what they don't know they are finding out. They can go into a music store and find most anything that they like. Today's musicians can see performers on TV and in the movies or they can buy records and study the techniques of other musicians. With all of these aids they can learn much faster. Musicians today also have a wide variety of instruments as well as effects devices to expand their creativity."

"I ask today's musician to keep in mind that it's what you do with what you have. You should be a creator, and should know how to be a performer, producer, engineer, and a writer. Above all if you have a crazy idea, throw it out on the table. They will either laugh or use it, but don't be afraid to express your ideas."

\* Sel-Sync is a registered trademark of Ampex Corporation.



PHOTO H. GARY BEEBOWER

# STUDIOSCOPE

## *Diversification Alternatives for the Small Studio*

by Dennis Buss and Chris Haseleu

Studios of every size are being hurt by the current economic slow-down. The large, multi-room 24-track studios on music row in Nashville, or in downtown LA, react to a softening in studio time sales by laying off part-time employees, cutting-back on 24-hour operation, tightening credit policies—in addition to trying to drum-up new clients. However, the small 8 or 16-track studio that is not located in a major recording market is in more of a marginal situation: a decrease in studio time sales might drop the smaller studio below the financial break-even point. So, what can be done by the owners of these small studios to prepare for the inevitable economic pressures? "Diversification" seems to be a recurring answer among many successful studio owners. The philosophy here is the more services the studio offers, the greater the possibility of the operation to absorb economic fluctuations.

Recently, SPARS (Society of Professional Audio Recording Studios) sponsored a series of "Road Shows"—seminars in various parts of the country. Some of the common comments were that studios need to investigate offering additional services—such as remote recording, possible sound programming for CATV, sound for film, commercial work, etc.—to combat current economic trends. Trade publications have been expounding the benefits of video for

some time. Some studios are becoming pro audio equipment retailers. Others are generating increased income from offering recording classes. There are still those fortunate studios making money at multitrack music recording only, but it's impossible to identify the perfect combination of services each studio should offer. Rather, the purpose of this article is to discuss various diversification alternatives open to the studio owner. It's then the responsibility of the owner to select his/her studio's service mix. A primary resource that we used extensively in the writing of this article is the *1981 Pro Sound News Recording Studio Operations Survey* (August 17, 1981).

**STUDIO PROFILE.** Statistics show that over 70% of all studios nationwide have 16-track capabilities or less. A majority of these operations are one-room studios, with five (or less) employees, and have been in operation less than eight years.

**MUSIC RECORDING.** Most studio owners have had the dream of cutting a "top 10" hit in their studio. However, for each of the last two years, only 58% of the average studio's business has come from music recording.

The recording budgets of local, unknown bands wishing to record demos, as well as National Recording acts, are affected first by an economic slow-down. At the same time, collecting on credit accounts during a tight money period is often next to impossible, also,

to be competitive, studio's wishing to be profitable in this area usually must upgrade to 24-track capabilities (or at least 16-track). Music recording causes other financial demands on the studio: The need for more outboard equipment (although renting this equipment is becoming popular), larger studios, kitchen and lounge areas, etc.

**COMMERCIAL WORK.** Last year 18% of the average studio's business was generated from advertising (jingle production) and/or broadcast program recording. A good relationship with the creative services department at a local ad agency, or radio station, can be a life-saver when things get dim for the studio's profit picture. An interesting phenomenon occurs when there is an overall business-wide economic recession: ad agencies will usually spend **more** money for the studio's services during these times. This is because the agency's clients must spend more on advertising to compete for the decreasing amount of consumer dollars available. Other advantages are obvious: large studios are not needed, sophisticated outboard equipment isn't quite so critical, and a good project can be done at an 8 or 16-track studio. The disadvantages are equally obvious: credit collections are slow, special services might be required (editing, production), and the competition for this market is fierce.

**VIDEO/FILM POST PRODUCTION.** Supplying sound for these types of projects is not for everyone. This is reflected in that only 5% of the average studio's business came from this service last year. Special expertise and equipment is a necessity. In 1981, the studio wishing to compete in this field spent \$19,800 to buy new, or additional, post production A/V or video equipment, on a nation-wide average. Although it appears this is a progressive, dynamic market, at this time it is not large enough for most studios to concentrate on.

**TAPE DUPLICATION.** Most large and small operations offer this service to their clients on some level: Last year it represented 7% of the average studio's business. However, to be a profitable activity, the studio must specialize in tape duplication and job this service out to other studios, or generate enough internal business (jingles, demo tapes, presentations, etc.) to keep the duplica-



tion department busy. After the initial purchase of the machines, this service can be a good alternative for the small 4 or 8 track, one-studio operation.

**REMOTE RECORDING.** This could involve a studio with a complete, well-equipped remote truck with staff, or a small studio that might carry their only console and tape machine in a Datsun pick-up over to the local high school to record the annual Christmas show. If done right, both levels could be profitable. However, the special equipment and extra personnel needed, plus the wear-and-tear on the equipment (and staff!), makes this alternative less desirable. Only 3% of the average studio's business came from this service last year. But, this figure also shows that there might be an unreached market

available to the studio.

**OTHERS.** *Industrial A/V*, like tape duplication, is often available to the smaller studio. If the studio has a creative staff that can produce effective corporate slide presentations, the owner should investigate this potential source of income.

In the same light, if the studio's staff is knowledgeable and capable of teaching others, the studio might want to offer *Recording Classes* (usually during off-hours) to interested musicians and prospective audio engineers. Comprehensive technical books are available as teaching aids. Also, a recording studio can affiliate with the Recording Institute of America (RIA) which will supply teaching aids and advice for conducting these classes.

Some studios find the demand for state-of-the-art audio equipment for the home (or home studios) in their markets is ever increasing. These studios have found that *retailing* this *pro-audio gear* has proven profitable by obtaining a franchise for the equipment and either displaying it at the studio, or hiring an outside salesperson to sell to other studios and businesses.

What will 1982 be like for the small studio? One thing for sure will be the need to diversify—to be able to bring in profits from more than one studio service. Not all of the alternatives mentioned above will be appropriate in every situation. However, new combinations of studio services seem to be a requirement for profitability for the upcoming decade. ■

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# DIGITAL SYNTHESIZER SURVEY

by **David Gans**

## INTRODUCTION

If the musicians who tried out the first synthesizers were intimidated by their vast arrays of knobs, switches, patch points and flashing lights, imagine facing the inverse situation—a panel containing only a LED readout or two, one large silver knob, a video screen, and a typewriter (not piano) keyboard!

Things haven't reached quite such an extreme, but the eighties have brought forth an impressive new generation of computer-controlled electronic musical instruments, taking advantage of tremendous advances in sound and microcomputer technology. Digital control has made it possible to eliminate completely the manual routing of signals and all the practical limitations of that method. Programming and sequencing of virtually unlimited numbers of patches, online and available for instant use in live performance situations; the ability to compose symphonies on the computer and print out entire scores and individual parts—these and much more have been made accessible to more people as their cost has come down.

Research by psychoacousticians, musicians and engineers has yielded a wealth of information about the nature of sound as it is perceived, and the results have led to the cataloging of over a hundred different parameters for the creation of whole sounds. The same technology that has made digital sound recording a reality has made possible the "sound camera" features of instruments such as the E-mu Emulator and the Fairlight CMI, both of which can sample sounds from various sources and record their timbres for replay or modification by the musician.

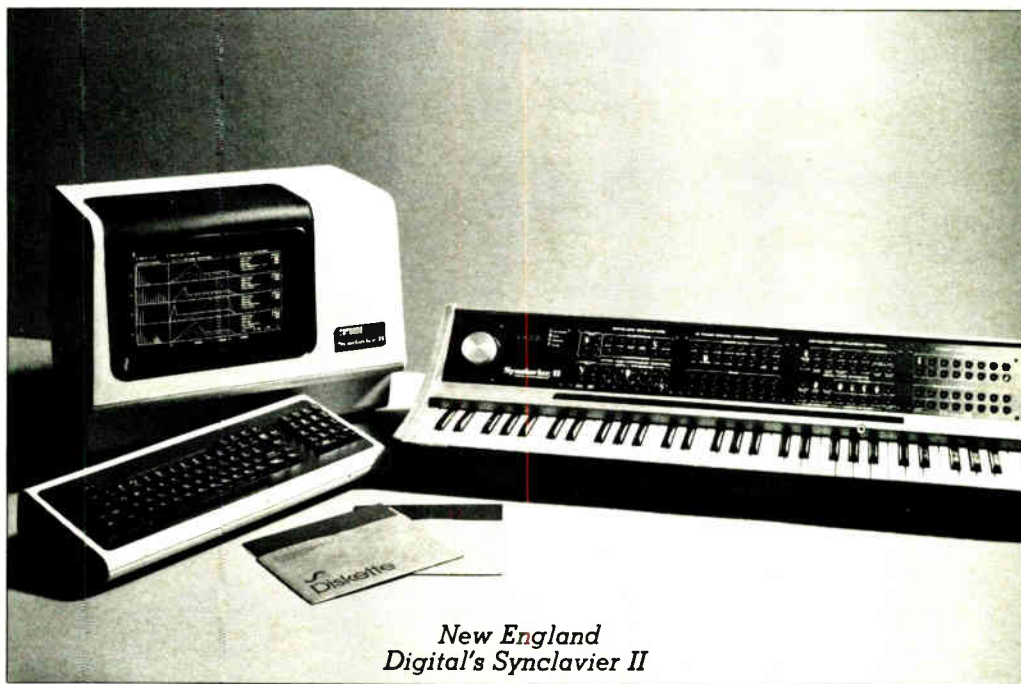
Composers have found that the way the computer handles such tasks as voice assignment can be used as composing tools. Patrick Gleeson observed the pattern of flashing lights on his modular synthesizer and discovered a new way of constructing rhythm patterns for his 1980 composition, "Songs for Petrochemical War".

Most of the new digital and digitally-controlled analog synthesizers have SMPTE or other synchronization interfaces which facilitate their use with automated consoles, video and film systems, thus opening new opportunities for the creation of entirely synthetic records and sound tracks.

Prices and configurations of these systems vary widely. In our survey we have attempted to give an overview of this interesting and promising

ing and programming functions are controllable from the keyboard unit, so the computer need never be accessed during performance. One control knob is used to make all changes, with LED cells to display the value of the register selected. Pushbuttons on the front panel are labeled with their musical—not digital—functions. The 16-track digital memory recorder is expandable from 2,000 to 15,000 notes.

The Synclavier II's "Partial Tim-



*New England  
Digital's Synclavier II*

area of music technology, but for more information you should see your dealer or contact the manufacturers directly. At the end of this section is a list of manufacturers, many of whom have thorough and informative brochures which they will gladly send to interested parties.

## NEW ENGLAND DIGITAL

The Synclavier is available with eight, 16, 24, or 32 voices, and (with expanders) up to 128 voices can be controlled from one keyboard. All play-

bre Method" consists of 24 separately adjustable harmonics, volume and harmonic envelope generators, adjustable vibrato control and portamento rate, and special effects. The eight-voice system had eight partial timbres, the 16-voice 16, etc. Four partial timbres (96 harmonics) are available online for simultaneous use. Options include velocity-sensitive keyboard with assignable effect.

The Digital Analysis/Synthesis Option enables sampling, analysis, modification and editing of sounds, which can then be performed on the

# SPECIAL REPORT: DIGITAL SYNTHESIZER SURVEY

Synclavier. Up to 400 megabytes of disk storage can be put online for sample lengths of up to 54 minutes, with a maximum sampling rate of 50 KHz. The system can perform waveform analysis in frequency and time domains, and spectral analysis on any sampled sound. Suggested applications include speech analysis; music synthesis and timbre analysis; audio editing; processing and synthesis; acoustical and audio engineering research; noise vibration and random transient analysis.

The Terminal Support Option provides four additional functions: Graphics, a real-time display of timbres to facilitate analysis of sounds; Script, a musical language which facilitates generation of note lists (useful for film and video as well as composition); Max, a computer programming language; and Music Graphics, automatic transcription of notes in the Synclavier's memory onto paper by means of a line printer.

## PRISM

Kinetic Sound Corporation's entry in the digital-synthesis market is the Prism, which offers six modes of synthesis: waveshaping, wave blending and frequency modulation, each controlled either by volume envelope or device. Dynamic timbre allows definition of sound changes throughout the duration of notes; output can be mono, stereo or quad; keyboard split is flexible.

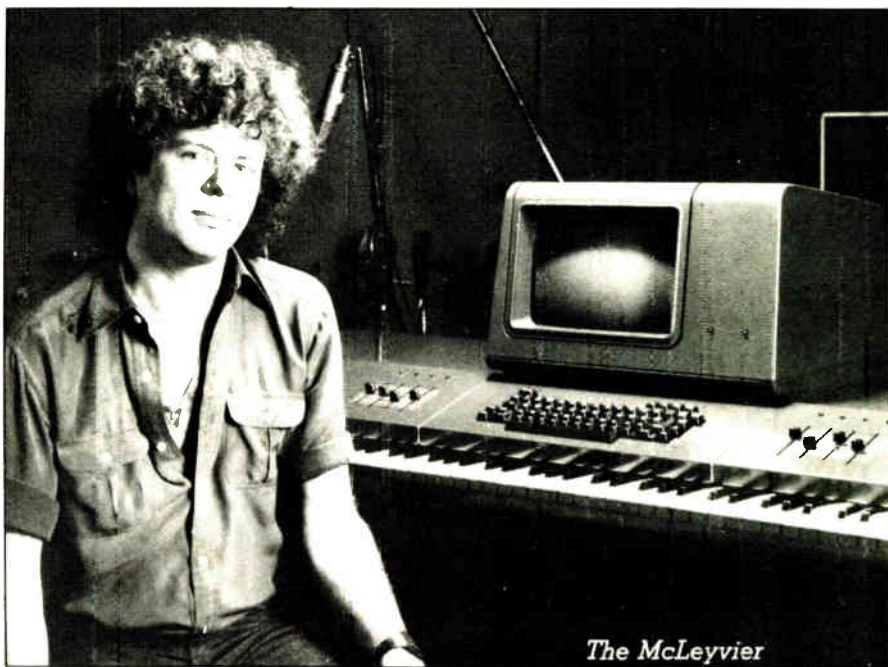
The Prism includes a double-manual keyboard and 24 voices, expandable to 40. Remote 61-note keyboard and 13-note pedalboard are available. All controls—pedals, footswitches, sliders, thumbwheels and joystick—are assignable to different parameters for real-time control.

Two forms of pitch adjustment

are featured: Microtone provides 1/10-note resolution, and Delta-hertz resolves to within 1/10 Hz. Four random-number generators operate similarly to random sample-and-hold circuits. Four digital LFOs provide sine, triangle, ramp and square waves. In Latch mode, sound continues until a new note is played; in Solo mode, a

switch may be used for instant sound cutoff, to kill all sound when needed. The duration factor varies envelope times in frequency-dependent ways to create realistic acoustic effects.

Onboard storage capacity in "up to a hundred waveforms and a hundred devices and as many as several hundred instruments and ensembles".



*The McLeyvier*

new key replaces the previous one without retriggering any envelopes. An Ensemble feature enables grouping of voices into programmed keyboard areas.

"Sonic building blocks" are additive/subtractive synthesis, Plot, and FM; envelopes include volume, timbre, pitch and channel; portamento can be either monophonic or polyphonic; a

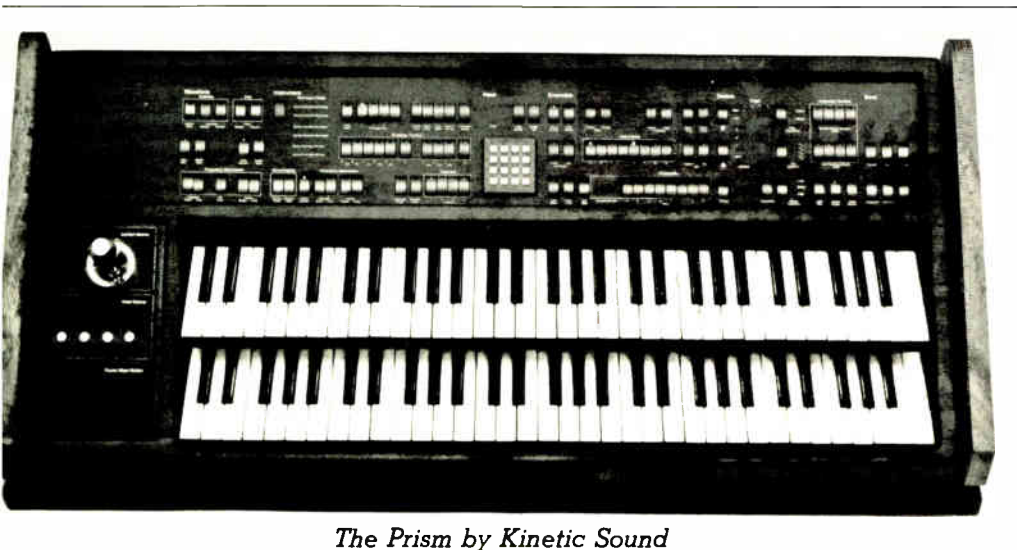
## McLEYVIER

In addition to its capabilities as a composing and performing system, the most notable feature of the McLeyvier is its automatic music scoring pen plotter, which produces a printed score of any or all instrument parts.

The McLeyvier consists of a 61- or 88-key keyboard; magnetic disk drive with six hours (minimum) music storage capacity; multiple analog synthesizers which replay music from memory in real time; video display terminal which shows musical notes and notations as well as English-language commands; an alphanumeric "typewriter" keyboard; and the high-resolution pen plotter, which prints scores complete with staves, bars, beams, title and copyright notice.

All system communication is done in simple English (or in other languages—translations are available from the manufacturer). The "typewriter" keyboard is also available in Braille.

As an example of the simplicity of the McLeyvier's interaction, the system says, "Huh?" when it doesn't understand a command as typed in. The user simply types "Help" when he wants to know what options are available at any



*The Prism by Kinetic Sound*



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# SPECIAL REPORT: DIGITAL SYNTHESIZER SURVEY

junction.

Up to 128 voices are available in the McLeyvier, simultaneously and independently. It is designed as a composer's tool, for visualization during the creation of complex scores. The flexibility of the McLeyvier is enhanced by its ability to produce a printed score at any time during the building of the work.

The McLeyvier is based on an LSI 11/23 processor with 256 K byte RAM, four serial communications ports, Q to S bus interface, keyboard scanner, dual disk controller, and floppy disk drive. Optional additions enable expanded storage, multiple users, and additional graphics terminals. Controller options include 33-note piano keyboard, 61-note organ keyboard, 13- or 32-note organ pedalboard; velocity sensing; footswitches; external control-voltage interface (0-5 volts); and fader controls.

The basic system includes a real-time composition and performance language, with editing, transposition, tempo alteration, orchestration alteration, versatile keyboard split, synchronization, automatic tuning, etc. Each voice card has two digitally-controlled oscillators, one ring modulator, two digitally-controlled state-variable filters, one pink/white noise generator, two digitally-controlled envelope generators, one pair of digitally-controlled echo sends, a digitally-controlled external input, and one external output (1000 ohms). Each voice cabinet (which consists of a power supply and slots for up to 16 voice cards) will also accommodate a mixer/output card with the following modules: stereo output amplifiers; stereo echo returns mixer; audio metronome output; click track/external sync input; frequency counter; and voltmeter.

## E-MU SYSTEMS

The Emulator is an all-digital, computer-based instrument that allows the musician to digitally record any

sound—either live from a microphone or from a line-level source—and then play that sound at any pitch over a four-octave range with up to eight-note polyphony.

With a built-in disk drive, split-keyboard capability and a built-in real-time multitrack sequencer, two different sounds may be played simultaneously—or one can be played while another is loading into memory. E-mu supplies a library of prerecorded sounds, and special function software is also available. For example a Multi-Sample package

ulation wheel for vibrato, and a second wheel for pitch bending in real time. The vibrato is assignable to either half of the keyboard or both.

Channels may be assigned using either fixed allocation of E-mu's "dynamic allocation" mode, where available channels are continuously reassigned to either section of the keyboard as needed. The front panel is uncluttered, designed for convenient operation. Sample length is two seconds per sound, bandwidth 20-10,000 Hz  $\pm$  3dB.



*E-MU Audity*

allows eight independent samples at half-octave intervals across the keyboard. This function would be useful when working with highly resonant sounds such as a violin, where resonant characteristics and timbres vary with pitch. Another application of multiple samples would be to use the eight groups to store drum sounds to simulate an entire trap set.

Standard Emulator features include a loop function which enables any sound to be sustained indefinitely, regardless of its original length; a mod-

In the digitally-controlled analog category, E-mu offers the Audity, with a custom microcomputer and up to 16 voice cards (or 64 on special order). Each voice has a complete analog synthesizer of "moderate" complexity and associated circuitry to allow computer control of over 100 voice-definition parameters. Each card is independently controlled by the computer.

The Audity's operation is rather like that of a multitrack recording system: sections of a composition are performed and edited independently—but

## *E-MU Emulator*







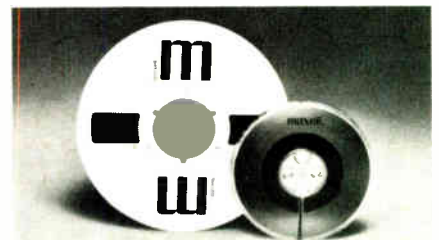
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# SPECIAL REPORT: DIGITAL SYNTHESIZER SURVEY

instrument sounds, of course, can be modified independently of musical lines. The controller is an E-mu 4060 microprocessor keyboard with sequencer. It is also possible to use other polyphonic controllers, or multiple monophonic or polyphonic controllers in combinations.

and transposition, a "safe" buffer for live editing without altering the stored version of a program, software-controlled levers and pedals which can be assigned to different functions, quad outputs, and a variety of arpeggiation modes. An interface is planned to enable use of a Rhodes Piano with the Chroma.

## DIGITAL KEYBOARDS, INC.

There are two all-digital products in the Digital Keyboards line, the Crumar General Development System and the more performance-oriented Synergy. Both systems feature 32 completely programmable digital oscillators, microcomputer control, and velocity-sensitive keyboard.

The GDS consists of a Z-80-based general-purpose computer with 64 K bytes of memory, two double-density floppy disk drives and a video-display terminal with full keyboard. The 32 sliders, 12 rotary pots, two-axis joystick, spring-loaded return-to-center pot, 16 pushbutton switches, two footswitches, and variable footpedal are all software-assignable to perform many different functions in programming and operating the system. The GDS's velocity-sensitive keyboard resolves 256 different velocities and can be used to vary timbre as well as dynamics.

Voices on the GDS consist of two specified timbres, referred to as the "upper-bound" and "lower-bound" envelopes. Depending on key velocity, any of 32 combinations of upper and lower timbres can be sounded. A "sensitivity" control adjusts the degree to which timbre can be altered in response to key velocity, and a "center" control biases the sensitivity range toward one bound or the other. This feature enables the player to imitate the tonal dynamics of many instruments, or to create radical sound combinations by placing very different sounds on the upper and lower bounds.

Subject to the limits of 32 oscillators, up to 16 notes can sound simultaneously. Features include "intelligent" portamento or glissando (which permits the crossing of traveling notes), a variety of keyboard-splitting and voice assignment modes, an 8-track digital sequencer, text editor, and 600-ohm balanced audio output.



*ARP Chroma by Rhodes*

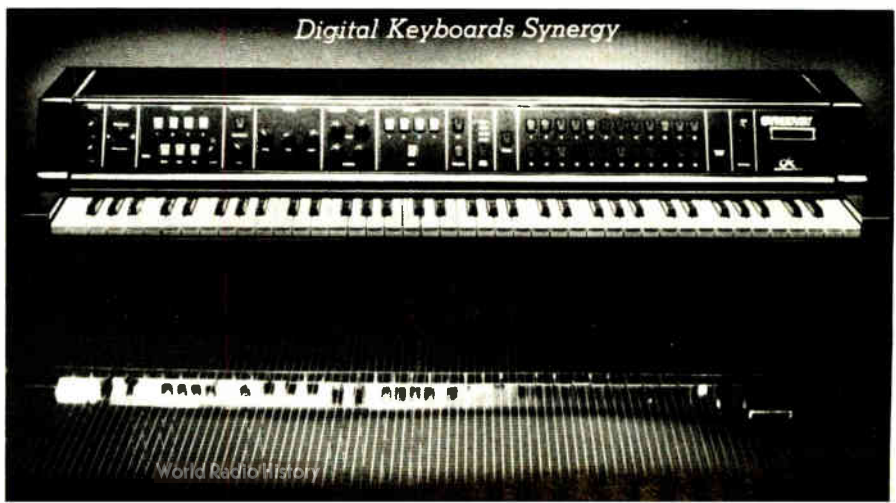
## ARP CHROMA

The ARP Chroma by Rhodes is a digitally-controlled 16-voice synthesizer with a versatile, user-selectable system of real-time and programming controls. The Chroma's voices can be paired or layered in several different ways, including 8-voice mode with two oscillators per voice, 4-voice mode with four oscillators per voice, etc.

Each of the fifty touch-sensitive switches on the right side of the Chroma's front panel has more than one function, an outstanding illustration of the power of digital control. In performance situations, these switches represent the 50 different programs that are available online; in programming mode, they call up various parameters for editing using the two LED displays and an alphanumeric keypad; in diagnostic mode, some of the switches are used to show internal states such as battery wear and to perform infrequent tasks such as disabling an errant voice card.

Features include 63-key velocity-sensing keyboard (pressure sensitivity optional) an 8-channel recording system, a powerful program-linking scheme, programmable keyboard split

Each channel in the Chroma consists of the following sections: oscillator; waveshaper (either pulse or "saws"—a combination of pulse and sawtooth) adjustable in width from 0 to 100%; filter (low- or high-pass) with resonance adjustable from none to self-oscillating; amplifier with two envelope inputs and a third input for special modulations; glide—either smooth portamento or chromatic glissando; sweep, with 16 waveshapes and many other control features; and AR or ADR envelope generator; and another AR or ADR envelope with adjustable delay.



*Digital Keyboards Synergy*



“Any sufficiently advanced technology is indistinguishable from magic.”

—Arthur C. Clarke



**E-mu Systems, Inc.**

417 Broadway, Santa Cruz, CA 95060

(408) 429-9147

# SPECIAL REPORT: DIGITAL SYNTHESIZER SURVEY

The Synergy has eight complete programs online, a four-track sequencer with an 1860-note capacity, stereo outputs, a programmable pitchbend whose range is adjustable, three portamento modes, cartridge input to double the online capacity to 48 voices, and many other features derived from the design of the GDS.

and the DMX Digital Programmable Drum Machine.

The OB-Xa is an eight-voice instrument with 120 programs online. Features include programs to control keyboard split point, transpositions, balance and combinations of timbres.

The OB-SX is a six-voice synthesizer with 56 programs online which

The DMX contains digital recording of actual drum sounds. Storage capacity is 100 different drum sequences of any length or time signature. Like the sequencer, the DMX programs can be edited and stored, and sequences can be combined to form 50 songs. The DMX may be synched to the DSX or other external device, and a cassette interface facilitates permanent storage of an unlimited number of sequences.



## SEQUENTIAL CIRCUITS

This San Jose, California-based company was among the first to use digital controls for analog synthesis, and the Prophet is one of the world's most popular synthesizers. Players have found that the Prophet-5 and Prophet-10 are easy to use both in terms of logical control arrangement and storage/retrieval methods.

In keeping with Sequential Circuits' commitment to continually update and improve their product line, they have introduced a new software feature which expands the storage capacity of the Prophet 5 (Rev 3.3) from 40 to 120 programs. They're arranged in three groups of 40, with decimal points in the program-number LED cells indicating which group is currently selected.

An analog interface for use with all Rev 3 (or later) Prophets enables the Mod and Pitch functions to be controlled by a pedal or other control voltage source. Any Rev 3 Prophet can be retrofitted.

## OBERHEIM

Oberheim's digitally-controlled products include the OB-Xa and the OB-SX Polyphonic synthesizers, the DSX Digital Polyphonic Sequencer,

can be modified in real time during performance.

The DSX sequencer features ten ten-track sequences, interfacing with either the OB-Xa or OB-SX by parallel interface. Each sequence's ten tracks may be recorded and overdubbed with up to 16 musical voices as well as patch and split information. Sequences can be merged and chained; capacities up to 6000 notes are available.

## YAMAHA

The CS70M is a programmable dual-channel synthesizer with 30 voices online, each with 39 parameters. With two banks of 15 presets, it is possible to mix two voices. Magnetic cards, each holding two presets, are the medium of storage.

Four independent sequencer banks store approximately 600 steps, with six-note polyphony; the 61-key keyboard can be split anywhere, and a "2/4-4/2" switch permits you to play two notes over the lower two octaves and four on the upper three, or vice-versa; a balance control lets you adjust the relative volumes of the two keyboard sections. An independent LFO can be used to modulate the VCOs, VCFs, and VCAs independently or in combinations, using either the modulation wheel, an optional foot pedal, or the keyboard's built-in after-touch sensitivity. Other features include chorus effect, tremolo with selectable speeds, independent portamento and glissando, and detune.

The emphasis of Yamaha's GS2 Digital Keyboard is on musical accessibility and simplicity rather than computer complexity. Yamaha's philosophy where this instrument is concerned





# SPECIAL REPORT: DIGITAL SYNTHESIZER SURVEY



Yamaha CS70M

voice, microprocessor-controlled synthesizer with 40 programs and 20 program chains, three oscillators per voice and programmable pedal functions.

## ALPHASYNTAURI

The AlphaSyntauri is designed for use with the Apple II computer. Because it is software-based instead of hardware-based, updates and modifications are easy to install.

The hardware consists of sound generating system, keyboard interface, and the Apple II computer. Performance features include 8-voice polyphony, stereo output, 27.5-13,500 Hz range, 32KHz sampling rate, two independent oscillators per voice (each with its own waveform and envelope), a 61-note velocity-sensitive keyboard, sustain and portamento pedals, vibrato (rate, depth and waveform controlled), tremolo, pitch bend, chorus, and detuning. The keyboard can be transposed in quarter-tone increments, and three scales are built in: even, international, and just.

Sounds may be defined in a variety of ways: additive synthesis (wherein user specifies harmonics and their amp-

seems to be to save musicians from having to become computer operators without compromising the versatility that comes from computer control.

The GS2 uses Frequency Modulation (FM) synthesis for its voices, with 16 memory locations loaded from magnetic cards. Thirty-two voice cards are supplied, and Yamaha plans a continuous program of new voice-card releases.

The velocity-sensitive keyboard offers tactile control of volume and timbre; vibrato *and* tremolo pedals feel just like grand piano pedals, and a damper pedal is provided as well; keyboard range is six octave (73 keys); separate outputs are provided for stereo (either balanced or unbalanced) operation, as well as a mixed unbalanced output; 16 notes may be played at a time.

## MOOG

As reported elsewhere in this issue [Music Notes, page 64], Moog Music has recently introduced the Digital Sequential Controller (DSC) a microprocessor-controlled, monophonic sequencer/controller. Total storage is approximately 800 notes, with the ability to edit single notes in a sequence by use of a "single-step" mode. Key changes can be programmed and a cassette interface is provided.

Moog has also announced plans to introduce the Memorymoog, a six-

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# SPECIAL REPORT: DIGITAL SYNTHESIZER SURVEY



litudes), Hammond B-3 drawbar emulation, pulse wave generation, and free-hand drawing of waveforms. Each diskette can store up to 190 different sounds stored in 10-instrument banks.

Having an Apple II computer means that your synthesizer can be used for other work, including scheduling, billing, inventory and text editing. The system is modular, so it may be enhanced and improved at any time.

## FAIRLIGHT CMI

The Fairlight CMI offers four modes of input for sound definition: sampling by microphone or line input;

drawing a waveform with a light pen on a CRT terminal; computer-assisted waveform definition; and "sound animation"—computation of gradual transformation of one drawing into another.

According to the Fairlight's manufacturer, "A sound is stored in a frame-by-frame fashion similar to the drawings in a cartoonist's flipbook. When you play a note on the keyboard, you flip through each of 128 waveform drawings, stopping only for "loops" (groups of drawings to be repeated). The pitch of a given sound stored in memory relates to the speed that the memory is flipped through."

The Fairlight system consists of

one or more music keyboards, a graphics display with light pen, "typewriter" keyboard, a computer which also may be used for nonmusical applications such as studio operation and accounting.

Output is eight separate channels. A SMPTE time code interface card is available for use with film, video, or console automation. Other features include portamento, glissando, sound reversal, combination of sounds, selective blending of partial sounds (e.g. piano attack and synthesized sustain), a composition language, software control of pedals and switches, music printing, and an analog interface.







Conbrio

## CONBRIO

Five microprocessors run the Conbrio, which features 64 multiwaveform digital oscillators (expendable to 256), each with independent 16-segment amplitude and frequency envelope generators. Output is to two 16-bit channels with 96 dB of dynamic range.

Analog controls are used wherever practical, and buttons light in sequence to aid the user. The two five-octave keyboards can be split anywhere, and elaborate keyboard setups can be grouped on the 8" floppy disk and sequenced for step-through during live performance. An unlimited number of polyphonic tracks may be stored on the disk, with up to four tracks played back

simultaneously.

A video-display terminal and optional line printer may be used in conjunction with a music programmer for composition, editing and printing of scores. Synthesis modes include additive, phase modulation, frequency modulation, nested phase and frequency modulation, and combinations of all. Real-time controls—operated either from the console or foot pedals—include vibrato depth and rate, release rate, and playback tempo. An Interval coupling feature memorizes polyphonic intervals, enabling the playing of chords with a single key. Many arpeggiation modes are offered, as well as programmable keyhold from either the console or a footswitch. ■

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# PRODUCERS DESK



PHOTO: RICK DRAMON

## EDDIE OFFORD

by James Riordan

Eddie Offord is credited with helping to establish the mode of sophisticated rock which evolved from English rockers like Yes and Emerson, Lake & Palmer, both of whom he produced or engineered. As co-producer of seven albums by the supergroup Yes, Offord secured his reputation in the music world as evidenced by the fact that he has been named one of the Top Ten Producers by *Melody Maker* magazine for the past ten years in a row. Offord has produced and engineered albums for John McLaughlin, Levon Helm, Paul Butterfield, Billy Squire, David Sancious, and Andy Pratt. He recently established Eddy Offord Studios in Atlanta in what was formerly the East Point Theatre.

Judging by the variety of acts he has worked with, it is obvious that Offord places originality high on his list of criteria for producing an act.

"I would not produce an act that was a clone of another. I look for acts that have their own sound. It's not that they have to be incredibly amazing musicians, it's just that they have to have their own direction. Right now I'm doing an album with the Dixie Dregs who have always done their own thing. And then after this I'm going to do an album with a Detroit band called Art In America. They have a harpist in the band. He plays an amplified harp and it sounds very different and refreshing. I'm also working with Chris Squire's

new band."

"I was an engineer for five or six years and then I co-produced the first Yes album," says Offord. "After that I became an engineer/producer. I think a lot of engineers who become producers have a tendency in the studio to put the sound first rather than the performance. They might for instance put the bass player and the drummer in opposite places in the studio to get better separation. Or they might want to redo a vocal take because the levels weren't quite right or something but, if the performance is good, then as an engineer you have to really look at that first. Look at the artists first and the sound second."

Like most of his contemporaries Offord believes in pre-production whenever possible. "I think pre-production is real important. The only exception is if the group is so well advanced that they can do their own pre-production or can maybe put it together in the studio because they know their music and each other so well. Usually pre-production is very essential."

Offord's new Atlanta studio is unique in a variety of ways. The console is situated in the orchestra pit area with the musicians on the stage. There is no physical barrier between the musicians and the board as is the case with virtually all "control room" set-ups.

"My studio has no glass between me and the musicians, which is sort of different. I work in a real different kind of way. What I do is put all the musi-

cians on a stage. The guitar head and bass head or whatever are all on stage, but all the speakers are in other rooms around the building. All you hear on the stage when you're doing basic tracks is the drums, so it enables me to not have to mike the drums close if I don't want to. I can mike them from twenty or thirty feet away if I want to. And then I have this really ingenious headphone mixing system where every musician gets his own mixer. If the guitarist wants to hear more guitar he can mix it himself without having to hassle the engineer. It works so well. We can get like perfect separation. We're still able to mike from a distance and get ambient sounds."

The problem many producers who own studios face is having to please other producers. Says Offord, "I rarely let other people use the studio. It's not really a commercial studio. It's just for myself and occasionally I'll let a friend or someone I know use it. Mainly because of the fact that your regular engineer or producer would be shocked coming into a studio where there's no window."

"As far as up-to-date equipment goes I'm not crazy about automation so I've pretty much bypassed all of that. What I'm trying to achieve with my studio is a real good live sound. As long as the mike amplifier on your desk is state-of-the-art and you use the best microphone and you put it on the tape right there's not much else that can go wrong. Automation can be a time saver when you're mixing, especially if you're working on thirty or forty tracks. Because I have my own studio I can afford to take a little more time about what I'm doing in order to do it the way I prefer."

Having a studio built inside a former theater might lead one to think Offord is another of the growing group of sound producers making a serious jump into video, but Offord is still considering. He plans to use the studio for radio broadcasts and video, but that is not the prime purpose.

"Some people think that the problems of the record industry can be saved by video. I think that's a cop out. Video will be a viable medium, but not the savior of the music industry. Most of the videos I see are kind of lame. I think video is a very exciting thing but I think people are looking at it the wrong way. I think the cause and the answer of the music industry's problems are in the music itself." ■





T.M.

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# A Roundup of Southern Studio News

by Sam Borgerson



*New East Wing Studio, Criteria.*

Has the recession brought a chill to recording activity in the sunny South? Apparently not, at least that's what we gather from this sampler of news from the eastern half of the booming Sunbelt.

## SOUTH FLORIDA

"It has at least lived up to our expectations," says Mack Emerman of Criteria, "perhaps even surpassed them."

He's referring to the Miami studio's new East Wing, which opened last summer. The unique studio, designed by John Storyk in conjunction with the Criteria staff, features a nine-sided control room with monitors custom designed by Ed Long. Criteria's new disk cutting room is placed directly above the studio control room, and has the same shape and acous-

tic characteristics. Cutting equipment includes twin Scully lathes with Ortofon heads, plus a custom console with floppy disk memory for storing all the cutting parameters.

Also within the year, Criteria has acquired the Road 80 truck, refurbished it, and then entered into a joint venture with Videotape Associates of nearby Hollywood, Florida to provide complete production facilities for video music. On top of all this, Criteria has expanded its capabilities for film-to-video transfer and post-production sweetening.



Beyond all the expansion and diversification, Emerman sees a sunny future for Criteria—a contrast with some woes of the recent past. "We hope next year will be better than this last year," he remarks, "even though this last year was better than the year before, but then the year before that was a disaster."

Moving north, past Fort Lauderdale and into Pompano Beach, we find this mood of cautious optimism reinforced at Audio Image.

"For us, business is on the increase," says the studio's owner, Rob Henion. "But for others it's on the decrease. We're into a sorting out situation, where there is less business overall, so people are looking around for a place where they can get good quality product and good service. I think the quality studio in the price range between \$50 and \$100 an hour will do well in this market, but the studio above the \$150 range may well see difficult times ahead."

Henion's 16-track facility has expanded the studio space recently, adding a string/horn ensemble room and doing some general redecorating. The studio attracts a variety of clients,

including local and regional bands for album and demo projects, plus—increasingly—a growing number of advertising jingle sessions. Henion admits that a lack of experienced studio musicians has hindered growth in the past, but the situation is improving. "We now have a small number of excellent musicians," he says, "but they don't come cheap."

## ORLANDO

Up in the land of oranges and Mickey Mouse, Eric Schabacker of Bee Jay says he's taken a new angle in promoting his studio. "I say it just makes dollars and sense," he puns shamelessly. "We don't nickel and dime you to death, with a little more here and there for peripheral gear. What I normally do is find a group, ask them what they're looking for, and then come back with a bottom-line proposal showing them how they can save money."

Apparently the strategy is working, since Bee Jay continues to land major label projects, mostly involving up-and-coming groups. This approach is essential because Bee Jay does very little ad work, and single artist projects are still

limited by the relatively shallow pool of local studio musicians.

Schabacker is also eyeing video carefully. "I wouldn't mind marrying the right video partner right now," he confesses. "I'm not ready to plunge in on my own, but if I were to find, say, somebody in video who was tired of the blizzards in Boston and wanted to relocate to the South, then I might 'propose' to that person."

Northeast video readers, take note.

## MUSCLE SHOALS

Here on the soulful back porch of Alabama, the big news is booze! Muscle Shoals and environs have finally gone wet, after countless decades as a dry county. Now you don't have to cross the Tennessee line when it's Miller time.

Terry Woodford of Wishbone Recording credits this change, in part, to the growing clout of the Muscle Shoals Music Association. He hopes the development of a club scene will give musicians another means of support and thereby broaden the musical base of the area.

As for Wishbone itself, the 24-track

## *Southeast Session News*

Recent studio activity at **Doppler Studios/Atlanta** includes chief engineer **Bill Quinn** mixing 'Dancin' To Your Heartbeat' by **Buddy Causey & The Handsome White Boys** for WKLS-FM/96 Rock's "Home Cookin' LP". Engineer **Brad Jones** mixed songs by **Mother's Finest** for an upcoming TV special. And **.38 Special** was in mixing for a video presentation with **Rodney Mills** engineering and producing.

**Pete Shackett**, singer-songwriter from Madiera Beach, Florida, recently completed his first 45 for his own Shagnasty Records. The recording took place at 24-track **Paul Hayes Studios** in Tampa, Florida and was produced by **Harry Dailey** of Jimmy Buffett's Coral Reefer Band, **Gary Rivera** engineering. Current studio activity at **Music City Music Hall** in Nashville, TN, includes: Irish flautist **James Galway** cutting his next album for RCA. **Tom Collins** is the producer and **Bill Harris** the engineer. Arranger **Bill Walker** is cutting new sessions on **Leroy Van Dyke**. **Bill Vandevort** is engineering the sessions.

The **Marshall Tucker Band** has finished mixing a live concert at **Triad Recording Studios** in Ft. Lauderdale, FL, for Warner Amex/MTV. The mixes for the video concert were produced by band member **George McCorkle**, and engineered by

**Kevin Herron** with assistance by **Vincent Oliveri** and **Robert Corti**.

Soul singer **Al Green** was at **Sound Emporium** in Nashville, TN, to continue work on an album for Word Records. Strings and horns were added at this time. The project, a collection of gospel 'classics' in modern settings, was produced by **Tony Brown** and executive producer **Ken Harding**. **Billy Sherrill** is engineering the recording.

**Annette Funicello** is at **Criteria Recording Studios**, Miami, FL, recording a Skippy peanut butter commercial for the **Dancer, Fitzgerald & Sample** agency. **Glen Laredo** is producing, with **Dennis Hetzendorfer** engineering.

From **Woodland Sound Studios**, Nashville, TN, **Rosanne Cash** is cutting tracks for her CBS album with producer **Rodney Crowell**. **Bradley Hartman** is behind the board with **Rick McCollister** assisting. Producer **Ed Penney** is mixing **Terri Gibbs** new MCA single. **David McKinley** is engineering. Producer **Ray Baker** is mixing a **Judy Bailey** single for CBS Records. **Rick McCollister** is engineering.

The **Artisan Recorders' Mobile Unit** out of Pompano Beach, FL, was on location recently, recording Warner Brothers artist **Jaco Pastorius'** 30th birthday party at Mr. Pipp's in Ft. Lauderdale. The party

featured a 24 piece band led by **Jaco** and including **Michael Brecker**, **Bobby Mintzer**, **David Bergeron**, **Don Alias**, **Peter Erskine**, **Bobby Thomas**, **Othello**, **Peter Graves'** horns, and others. Other recent live recordings include the 250 piece **Florida Mass Choir**, and the **Ft. Lauderdale Symphony Orchestra** with **Emerson Buckley** and **Thomas Michalak** conducting, and guest soloists, **Pierre Fournier** and **Jose Ramos-Santana**. All these recordings were engineered by **Peter Yianilos** with assistance from **Stan Johnson** and **John Catalano**.

**MorriSound** Recording of Tampa, FL, recently provided a full range of audio services at a concert being videotaped for a television pilot. Concert sound reinforcement was engineered by **Jim Morris** with assistance from **Fred and Elaine Grunewald**. A separate audio feed for video tape and simultaneous eight track recording were provided via the MorriSound Mobil control room. Engineering for mobil operations was provided by **Tom and Laurel Morris**. Recording at **Columbia Studios**, Nashville, TN, includes **Joe Stampley** for Epic Records, **Ray Baker** producing and **Ron "Snake" Reynolds** engineering; **Johnny Paycheck** for Epic and **Calamity Jane** for Columbia, **Billy Sherrill** producing and **Snake** engineering.

facility is bouncing back from a nearly disastrous fire that broke out in the video division annex last May. Although the fire was contained to the offices, the smoke damage in the studio was so heavy that they were forced to shut down for six months. The studio was torn apart and refurbished top to bottom. When they re-opened in November, the crew immediately went to work on album projects for Mac McAnally (Geffen Records) and English songstress Grace Kennedy.

Like other local studios, Wishbone relies almost totally on music production, since Muscle Shoals is too isolated to attract any significant advertising business. "People come to Muscle Shoals to get a hit record," says Woodford, "but this may not be the place to get a better commercial."

Wishbone's video music division, Flying Colors, is finishing up work on its ¾" video editing suite. Flying Colors approaches video music through "visualization"—utilizing graphics, animation, and stock film footage rather than simply showing the artists mimicking a performance.



PHOTO BETH GWINN

*B.B. King and pickers at Music City Music Hall.*

## MEMPHIS

"A lot of people feel that Memphis is about to come around again and re-

gain its national reputation," says Dave Rasmussen of Ardent Recordings. "We've had a lot more label people coming in here to look at the talent, and although nothing solid has happened in this regard, I wouldn't be surprised if some labels opened offices here."

Rasmussen's optimism was based on a solid spurt of fall activity, including sessions with the Bar Kays, Kwick, and Chocolate Milk—all of whom have now hit the soul charts. Although Black music is the hottest right now, Ardent's booking time is split about evenly among soul, rock, and contemporary Christian/gospel sessions. The studio does practically no advertising work, and, except for a few ventures in conjunction with a local TV station, video is not yet in the picture.

After the decline and fall of the Stax label a few years back, many of the best Memphis musicians packed up and moved to Nashville, something that "hurt Memphis a lot," according to Rasmussen. But now he sees a revival on the banks of the Big Muddy, with several studios expanding and renovating for what they see as a good future.

## NASHVILLE

Nashville still has a solid grip on its position as the recording center of the South, and as it steadily expands its musical horizons beyond the country genre, the Tennessee capital has become a serious challenge to both New York and Los Angeles.

Owen Bradley's Music City Music Hall led the way in 1981, booking in such names as Joe Cocker, the Crusaders, Leon Russell, B.B. King, and classical/pop flutist James Galway. The Music Hall was also the first studio in the U.S. to take delivery on the new transformerless Studer A-80 24-track and the A-80 VU ½" two-track.

Just up the street, the much-heralded Bullet Recording is now open for business. Randy Holland's bold venture into full-blown audio/video kicked off with a 48-track, 6 camera audio/video session for drummer Joe English (formerly with McCartney's *Wings*) and his contemporary Christian rock band. The Solid State Logic console, the twin Studer A-800's, the Crosspoint Latch switcher, and the Sony 1" VTR's all performed flawlessly; and the invited guests from the press and the music business departed suitably impressed.

Bullet's Studio Manager, Piers Plaskitt, reports bookings for album and advertising projects—both audio and video—are gaining momentum, with many clients coming down from New York. A video music variety show, hosted by Rounder Records artists Riders in the Sky, is also in the works.

When Bullet was built, it absorbed a small adjacent studio, Island Recording. Undaunted at the displacement, Island's owners repaired to the suburbs of Berry Hill and began construction, from the ground up, of a new facility. When opened late this winter with the new name of Mariner Recording, it will  
*(continued on page 34)*

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be one of the few large studios built from scratch in Nashville in several years. The concrete block outer walls were laid non-parallel and filled with sand, all according to acoustic specifications. When completed, the facility will boast fireplace, whirlpool bath, sauna, and wet bar. Although the studio will not open with video capabilities, it was designed with a video future in mind.

Recording business at Woodland Sound Studios has been much better than expected for 1981. In fact, it looks as if it will be one of their better years from the stand point of sales, if not profit. Woodland's philosophy has been to hold down pricing and to be ultra-conservative in spending so that the record companies would not feel that studio costs are escalating and that they are getting value for the dollar spent.

Woodland has had no rate increase during 1981 and has actually increased its business over 1980. Unfortunately costs have risen in almost every department and so the profit squeeze is a realistic one. Woodland is hopeful that they can maintain this position of economic conservation throughout 1982 and continue their full service of recording, mastering and audio for video.

Nashville lagged behind the two coasts in digital applications for a

couple years, but that is now changing, thanks largely to a new company called Master Technologies, a branch of the Masterfonics disk mastering studio.

Glenn Meadows, renowned disk mastering engineer and partner in Master Technologies, reports that more than a dozen LP's have been mastered with their JVC digital unit—most of them country or gospel projects done in Nashville. Producer (and Elektra/Asylum V.P.) Jimmy Bowen has been a prime customer; he has a goal of converting his entire catalog to digital masters as soon as possible.

Meadows is very enthusiastic about the results so far. "Disks cut from a digital two-track sound better than the same disk cut off an analog tape," he notes. "There's a symbiotic relationship between a digital recorder and a cutting head, because both systems basically stop at 20 kHz. With that kind of sharply band-limited signal, you're not trying to excite the cutting head up where it can't respond. You end up with a cleaner sounding disk because there's nothing up there creating strange harmonics."

Meadows also reports a significant increase in the number of 1/2-inch two-track tapes coming in for disk mastering. The wider tapes, primarily from Nashville but also from Atlanta and Austin, now make up almost 1/3 of the

business at Masterfonics.

## RICHMOND, VIRGINIA

"We're a member of SPARS and I've attended a few of the meetings where I've talked to people from the 'record' studios," says Eric Johnson of Alpha Audio. "I found that some of them are having a tough time and are looking to diversify. Well, studios like ours have been diversified from the beginning. We never had the big dollars coming down from the record companies, so we diversified our business from the time we opened."

The booking mix in Alpha's four rooms varies from month to month, but it averages out about 50% music production and 50% advertising. Alpha recently installed a Sony 3/4" system with a BTX synchronizer for video sweetening and film post-production. In addition to TV ad work, Alpha also does a good amount of soundtrack work for industrial A-V presentations. Record projects come primarily from regional groups on small labels, a trend Johnson sees on the upswing as major labels cut back on new signings.

"We're up overall from last year and doing quite well," says Johnson. "We're encouraged by the recording business as a whole, though not by the record business."

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*Bill Kovach, visual media coordinator for "Creative Sound Concepts," synchronizes audio and video tracks for an Old Hickory House restaurant spot.*

jingle and spot radio production for local advertisers as the operation's "bread and butter." Creative Sound Concepts, located at 1066 Briar Vista Terrace, NE, Atlanta has already produced spots for Old Hickory House and Atkins Park restaurants, and for U-Pull-It Auto Parts.

Recent backing from private investors has enabled Baxter to renovate his recording facility which had its beginnings, similar to other successes of its kind, in his basement. Full sixteen channel equipment is scheduled to be operational by early January, 1982.

Projecting the future for the working formula of Creative Sound Concepts and for other progressive musical enterprises, Baxter said trends indicate stability and wealth in Atlanta as a music center. "Looking at our regional tastes and our regional markets, which include large rock, black and country audiences, Atlanta can be a center for Alabama, Florida, South Carolina and Georgia markets. And I think local musicians and regional record companies can all make a comfortable living while satisfying these regional tastes." ■

## ATLANTA by Brenda Crayton

Dennis Baxter of Atlanta's Creative Sound Concepts thinks he's found a workable formula which will achieve success through marketing to regional needs in film, video and advertising production.

"There are so many studios in this town that we had to come up with a different concept. We don't want to be just another recording studio that opens its doors and says, 'Here we are. Come and get it,'" explained Baxter, owner and principal financier of the enterprise, and a graduating senior in the Georgia State University College of Business Administration.

"Creative Sound Concepts" operates around a "concerted central marketing effort. Looking at future trends, we identify our market's needs. From there, our account representatives go out to actively obtain orders based on our ability to satisfy those needs," said Baxter of his company philosophy. The CSC staff consists of Daniel Baxter, designer/engineer; Spencer Herzog, creative director; Bill Kovach, visual media coordinator and Jeff Crane, marketing account representative.

In contrast to other new arrivals in Atlanta's growing recording community, Baxter does not intend to concentrate on commercial music clients as his sole source of revenue. He sees custom



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# STUDIO LOCATION INDEX

## THE SOUTHEAST

All studio information listed has been supplied to the Mix by studios responding to questionnaires mailed in October, 1981. People, equipment and locations change, so please verify critical information with the studios directly. The Mix does not take responsibility for the accuracy of the information supplied to us by the studios.

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820 E. Blvd., Charlotte, N.C. 28203  
(704) 376-3818  
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Studio Manager: Frank Rogers, Jay Howard

•• **CARLTON RECORDING CO.**  
also **REMOTE RECORDING**  
4229 Elvis Presley, Memphis, TN 38116  
(901) 358-4255  
Owner: Kelly Walters & Gary Carlton  
Studio Manager: Gary Carlton

•• **CATFISH BAY SOUND STUDIOS**  
also **REMOTE RECORDING**  
133 Franklin St., Clarksville, TN 37040  
(615) 552-2769

Owner: Charles Emery.  
Studio Manager: Chuck Emery  
Engineers: Main studio is 27' x 16' x 12'; isolation booth; amp booths  
Dimensions of Control Room: 17' x 15' x 10'  
Tape Recorders: Otari MX 5050 B SHD 8 track; Otari MX 5050 B 2 track; TEAC X7 1/4 track, Sony TC K158 cassette  
Mixing Consoles: Sound Workshop 1280 B-8EO, 12 in x 8 out, Tascam Model 3, 8 in x 4 out  
Monitor Amplifiers: BGW 250D, Sony TA 3200  
Monitor Speakers: UREI 811, Auratone 5C, Sony SSU-1050, Bolivar 64.  
Echo, Reverb, and Delay Systems: Sound Workshop 262 reverb, DeltaLab Acousticcomputer tape delay.  
Other Outboard Equipment: dbx 163 limiters, dbx 155 noise reduction, Quad Eight noise gates  
Microphones: Sennheiser MD-421, AKG D 1000, C-501; Shure SM-57, SM-58, P2M, Beyer M-500; and Valley Audio direct boxes.  
Instruments Available: Fender Champ, Kimball studio upright piano, Fender Strat, Fender Telecaster, acoustic guitar, resonator guitar, vintage Fender Deluxe, Fender Bandmaster, Fender Bassman, and Fender Super Reverb, Univox Univibe, original Vox "Clyde McCoy" wah-wah pedal, Hammond B-3 organ, in tone cabinet and Music Man amps, Fender Champ.  
Rates: 8 track \$35/hr, 2 track and mono: \$20/hr, tape duplication \$15/hr Remote recording rates on request 8 track block booking rates 5-10 hours \$30/hr, 10 or more hours \$25/hr. Very reasonable single & album packages.

•• **COLEY RECORDING STUDIO**  
10 Harris Street, Carrollton, GA 30117  
(404) 832-0616  
Owner: Phil Coley  
Studio Manager: Phil Coley  
Extras: Coley Recording Studio operates in Laid Back Carrollton Georgia 45 minutes west of Atlanta. We use boys from out here that play sho-nuff in the groove Audrey's Cate and Blackjack Mountain are nearby  
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•• **CREATIVE REDIFFUSIONS AUDIO & VIDEO—PMB PRODUCTIONS**  
7019 Big Daddy Drive, Panama City Beach, FL 32407  
Owner: Paul Bailey  
Studio Manager: Mike Bailey

•• **DAYSTARR RECORDING**  
also **REMOTE RECORDING**  
P.O. Box 2661, Charleston, WV 25330  
(304) 768-3213  
Owner: Marcel Lazare & Stephen Elkins  
Studio Manager: "Ruby Jean"

•• **DISCOVERING SOUNDS**  
1902 Marcella Drive, Nashville, TN 37217  
(615) 367-4432  
Owner: Jim W. Rice.  
Studio Manager: Jim W. Rice.

•• **THE FOSTER HOME**  
20 Music Square West, Nashville, TN 37202  
(615) 242-1152  
Owner: Jerry Foster Enterprises  
Studio Manager: Jay Foster

•• **FXL SOUND STUDIOS, INC.**  
7766 N.W. 44 Street, Sunrise, FL 33321  
(305) 741-7766  
Owner: Frank X Lucontio.  
Studio Manager: Frank X Lucontio.

•• **G.E.M. RECORDINGS**  
also **REMOTE RECORDING**  
307 Southwood Drive, Columbia, S.C. 29205  
(803) 799-8235  
Owner: John V Epps/G R (Dick) Goodwin  
Studio Manager: John Epps.

•• **GOLDDUST PRODUCTIONS**  
7601 Colson Drive, Louisville, KY 40220  
(502) 499-0927  
Owner: Bill Watkins  
Studio Manager: Bill Watkins  
Engineers: Bill Watkins, Mike Franklin, Steve Hostad  
Dimensions of Studio: 270 sq. ft.  
Dimensions of Control Room: 80 sq. ft.  
Tape Recorders: Tascam 80-8 with DX-8 noise reduction 8 track; Tascam 25 2 2 track; Kenwood KX910 cassette  
Mixing Consoles: Sound Workshop Series 30, 16 in x 16 out  
Monitor Amplifiers: Southwest Technical Tigersaurus, Dynaco ST-80  
Monitor Speakers: JBL 4311  
Echo, Reverb, and Delay Systems: MICMIX XL 205  
Other Outboard Equipment: dbx 162 stereo comp/limiter, (2)

dbx 160 mono comp/limiter; Soundcraftsmen RP 2215 octave EQ; Soundcraftsmen TG3044 1/3 octave EQ; 2 channels stereo flanging.

Microphones: Shure, AKG, TEAC, Electro-Voice  
Instruments Available: \$30/hr studio, \$25/hr mixdown. Please call for special rates for block booking and special projects.

•• **GRASSLAND SOUND STUDIOS**  
Route 3, Millboro Rd., Franklin, TN 37064  
(615) 790-9107, 242-1152  
Owner: Clark and Susan Smith  
Studio Manager: Clark and Susan Smith.

•• **HORIZON RECORDING ARTS STUDIO**  
170 Kenner Ave., Nashville, TN 37205  
(615) 297-6210  
Owner: Richard Owens.  
Studio Manager: Richard Owens  
Engineers: Michael Bridges, Richard Owens  
Dimensions of Studios: 20' x 25' main studio, 25' x 25' live studio with piano; 6' x 8' drum booth, 5' x 5' vocal booth  
Dimensions of Control Room: 8' x 20'  
Tape Recorders: Tascam 80-8 8 track, Sony TC-854-4 4 track; Otari 5050B 2 track; TEAC A3300S 2 track; Sony and Nakamichi cassette decks  
Mixing Consoles: Tangent Series 4, 20 in x 8 out, modified for 7 send busses, A and B cue mix, independent monitor mix, and features transformerless mic preamp and hi slew opamps, (13ms).  
Monitor Amplifiers: Phase Linear 700 (350W/ch), Sony TA 3200F (100W/ch), Marantz 1020 (cue amps)  
Monitor Speakers: JBL L100 (room analyzed and EQ'd); Studio: JBL custom 200 design, and Advents, (mixdown: Auratones).  
Echo, Reverb, and Delay Systems: Ursa Major SST 282 Space Station (digital reverb).  
Other Outboard Equipment: 12 channel dbx noise reduction, 4 channels each: Gain Brain II limiters, Maxi-Q parametric EQ's, Kepex II expanders; 2 channels each: TEAC and Soundcraftsmen graphic EQ, Phase Linear autocorrelators  
Microphones: P2M's; Sennheiser 421's; Sony ECM-33P's, ECM-22P's; Shure SM-57's.  
Instruments Available: Fisher grand piano, Camco drum set, Mellotron, Yamaha CS60-8 voice, MiniMoog, Oberheim, Martin, Epiphone and Garcia guitars, Ludwig/Premier tympani, Lyon & Healy harp; orchestral bells; celeste, mandolin  
Rates: Introduction rates: 8 track \$20/hr, 4 track \$15/hr

• **HUMMINGBIRD STUDIO**  
50 Music Square West, Suite 406, Nashville, TN 37203  
(615) 329-2100  
Owner: Bob Farnsworth.  
Studio Manager: Lynn Fuston.

•• **KENTUCKY DEPARTMENT OF THE ARTS AUDIO-VISUAL PRODUCTIONS**  
(formerly KY Dept. of Public Information)  
also **REMOTE RECORDING**  
38 Fountain Place, (formerly RM 39, New Capitol Annex), Frankfort, KY 40601  
(502) 564-8930  
Owner: Kentucky Department of the Arts  
Studio Manager: Ray Bowman (formerly Dick Brown)

• **LOST RIVER RECORDING STUDIO**  
631 N. 9th St., Paducah, KY 42001  
(502) 444-7594  
Owner: Clyde Wood.  
Studio Manager: Andy Wood.  
Engineers: Laddie Wood.  
Dimensions of Studios: Studio A: 14' x 12', Studio B: 12' x 7'.  
Dimensions of Control Room: 9' x 12'.  
Tape Recorders: TEAC 3340S 4 track, TEAC 3300S 2 track; TEAC A-170 cassette; Technics M270X cassette, Panasonic RS-808 8 track cartridge  
Mixing Consoles: Tapco (4 mixers in 6' console) 6000 R series, 24 in x 4 out; TEAC/Tascam Model 1, TEAC meter bridge MB-20  
Monitor Amplifiers: Crown D-60.  
Monitor Speakers: Custom built, also cubes.  
Other Outboard Equipment: dbx 155, (4 track), dbx 152 (2 track); Dolby, (8 track tapes); Tapco 2200 graphic equalizer; TEAC PB-64 patch bay, (6) AKG K-140 headphones.  
Microphones: Audio-Technica AT-813, Shure 585, Electro-Voice DS-35, Barcus-Berry 1355 audio transducer.  
Instruments Available: Baldwin acrosone piano, Fender-Rhodes piano-bass, synthesizer, electric piano, small organ, Leslie tone cabinet, Fender Bandmaster amp, Fender Bassman amp, two Sunn amps, 6 & 12 string Alvarez acoustic guitars, bass guitar, Gibson classic guitar, steel guitar, violin, conga drums, percussion. (All instruments in studio)  
Rates: Call or write for prices.  
Extras: Free Coffee and tea  
Direction: We also sell musical equipment. In business same location 7 years. We plan to continue growing as a studio and to try to make our customers satisfied. We plan to expand soon



•• MAUW-BOGGS LABORATORY  
667-669 Hawthorne St., Memphis, TN 38107  
(901) 278-5003  
Owner: Bobby Davis, Vikki Davis, G T Davis  
Studio Manager: Bobby, Vikki, G T Davis.

•• MCP/DAVISOUND  
also REMOTE RECORDING  
P.O. Box 521, Newberry, S.C. 29108  
(803) 276-0639  
Owner: Mr. Hayne Davis  
Studio Manager: Polly Davis

•• MONTICELLO PRODUCTIONS  
P.O. Box 80, Monticello, FL 32344  
(904) 997-2573  
Owner: Scott S Carswell  
Studio Manager: Ioe Cuda & Mike Garrison.

•• MORNING SUN RECORDING  
also REMOTE RECORDING  
416 N. Orange Ave., Deland, FL 32720  
Mailing: P.O. Box 935, Deland, FL 32720  
(904) 736-0300  
Owner: Greg and Nancy Rike  
Studio Manager: Greg and Nancy Rike

•• OCEAN OPRY RECORDING STUDIO  
8400 W. Hwy 98, Panama City Beach, FL 32407  
(904) 234-5464  
Owner: Wayne Rader  
Studio Manager: Dennis Rader

•• PROGRESSIVE MUSIC STUDIOS  
also REMOTE RECORDING  
124 Adalia Ave., Tampa, FL 33606  
(813) 251-8093  
Owner: Ken Veenstra II  
Studio Manager: Ken Veenstra II

•• RAGDOLL RECORDING STUDIO  
205A Television Circle, Savannah, GA 31406  
(912) 927-1761  
Owner: Rocky Evans  
Studio Manager: Rocky Evans

•• REAL TO REEL  
4911 N. Henry Blvd., Stockbridge, (Atlanta), GA 30281  
(404) 474-4776  
Owner: Harold Turpin, Bill Turpin  
Studio Manager: Scott Long, Asst Mgr Mark Robinson

•• RECORDING ASSOCIATES STUDIOS  
also REMOTE RECORDING  
St. Andrews Center, 1045 Savannah Highway,  
Charleston, S.C. 29407  
(803) 556-5770  
Owner: Michael J Harbin, Ronald E Clifton  
Studio Manager: Ronald E Clifton

•• RON SOUND CO.  
RTI Box 357A, Oviedo, FL 32765  
(305) 349-5832  
Owner: Ron Schrader  
Studio Manager: Ron Schrader

•• SHOESTRING PRODUCTIONS  
Box 32, Rice Road, Antioch, TN 37013  
(615) 361-4322  
Owner: Bruce Bossert  
Studio Manager: Bruce Bossert

•• SOUND TECHNICAL SERVICE  
also REMOTE RECORDING  
De Kalb/Peachtree Airport, Bldg. 34A,  
Chamblee, GA 30341  
(404) 458-1679  
Owner: Lou Frisch, Hamilton Underwood  
Studio Manager: Lou Frisch, Hamilton Underwood

•• SOUNDS OF WINCHESTER  
also REMOTE RECORDING  
P.O. Box 574, 314 Lanny Dr., Winchester, VA 22601  
(703) 667-9379  
Owner: Sounds of Winchester  
Studio Manager: Jim McCoy

# 4&8 TRACK The Southeast

•• SOUNDSHINE PRODUCTIONS INC.  
723 West Sunrise Blvd., Ft. Lauderdale, FL 33311  
(305) 463-9882  
Owner: Tom Graefe  
Studio Manager: Tom Palopoli  
Engineers: Tom Palopoli, Tom Graefe, Cary Altschuler  
Dimensions of Studios: 32 x 15' 6" x 14' 8"  
Dimensions of Control Room: 15' 6" x 14' x 14' 8"  
Tape Recorders: Scully 284-8 8 track, Crown SX 722 2 track,  
Ampex AG 440B 2 track, TEAC 3340S 4 track, TEAC &  
Optonica cassette decks  
Mixing Consoles: Phillips & Graefe custom, 20 in x 16 out  
Monitor Amplifiers: Crown DC 300A, Crown D 60 AB-410,  
Interracial Systems headphone cue  
Monitor Speakers: Custom design IBL, JBL 4311B, Tiny Red  
Echo, Reverb, and Delay Systems: DellaLab Acousticcomputer  
DL 2, Quad 8 RV 10 (reverb), custom design reverb  
Other Outboard Equipment: dbx noise reduction (12 channels),  
dbx 160 compressors, Pye limiters, Dynamite's by Valley People,  
Audioarts parametres, Spectro Acoustic graphic EQ, Della  
Graph EQ  
Microphones: Neumann U 87, KM 88, Sennheiser 441 421's,  
Shure SM 81, SM-57, SM 76, AKG 451's, EV DS .35, shotgun  
Beyer M-500's  
Instruments Available: Yamaha baby grand, MiniMooq  
clavinet, Fender Sutraser Rhodes Slingerland drums w/zildjian  
cymbals, various vintage Fender amps, Ludwig timpani, Roto  
toms, noisemakers, LP congas  
Rates: 1 10 hour session \$40/hr over 10 hours \$35/hr, 2 track  
time \$25 hr

•• SOUTHWIND RECORDING STUDIO  
Route 9, Box 239, Statesboro, GA 30458  
Owner: Joiner Audio Video Corp  
Studio Manager: David W Joiner

•• THE STICK® SHOWROOM STUDIO  
1014-17th Ave. S., Nashville, TN 37212  
(615) 327-4981  
Owner: SYNAPSE!  
Studio Manager: Andy Widders Ellis

•• STONEBRIDGE RECORDING  
Rt. 15, Box 54, Maryville, TN 37801  
(615) 983-7448  
Owner: Michael Ishibashi  
Studio Manager: Michael Ishibashi

•• STRINGS & THINGS IN MEMPHIS, INC.  
1492 Union Ave., Memphis, TN 38104  
(901) 278-0500  
Owner: Charlie Lawing, Chris Lovell  
Studio Manager: Jon Hornyak

•• SUNSHINE SOUND RECORDING STUDIO  
also REMOTE RECORDING  
2826 Whitlock St., Louisville, KY 40213  
(502) 968-8757  
Owner: Carl & Debbie Sandler  
Studio Manager: Carl Sandler

•• SWEETSONG RECORDING  
also REMOTE RECORDING  
P.O. Box 2041, Parkersburg, WV 26102  
(304) 489-2911  
Owner: Roger Hoover  
Studio Manager: Randy Moellindick

•• TRIPLE TREE MUSIC (Demo Studio)  
345 North Court Street, Georgetown, KY 40324  
(502) 863-1533  
Owner: Elmer L Jones  
Studio Manager: Norman Mays

•• TRUSTY TUNESHOP  
Route 1, Box 100, Nebo, KY 42441  
(502) 249-3194  
Owner: Elsie Trusty Childers  
Studio Manager: Elsie Trusty Childers

•• USC SOUND ENTERPRISES  
also REMOTE RECORDING  
190 Waynoka Lane, P.O. Box 11211, Memphis, TN 38111  
(901) 458-0275  
Owner: Rodney Peppenhorst  
Studio Manager: Rodney Peppenhorst

•• VILLAGE MEDIA SERVICES  
156 Drakes Lane, Summertown, TN 38483  
(615) 964-2286 day, (615) 964-3574 night.  
Owner: The Farm  
Studio Manager: Philip Schweitzer

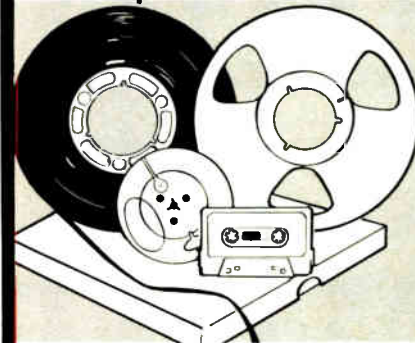
•• WHOLETRACK SOUND RECORDING STUDIO  
also REMOTE RECORDING  
514-1st Ave. S.W., Largo, FL 33540  
(813) 584-7648  
Owner: Mick Thompson & Bill Friday

•• WOODRICH RECORDING STUDIO  
P.O. Box 38, Geo. Wallace Park Dr., Lexington, AL 35648  
(205) 247-3983  
Owner: Woody Richardson  
Studio Manager: Woody Richardson

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# 16 TRACK The Southeast

••• **ALIVE RECORDINGS**  
*also REMOTE RECORDING*  
1251 Edom Rd., Harrisonburg, VA 22801  
(703) 434-6703  
Owner: Mennonite Board of Missions.  
Studio Manager: Abe Rittenhouse.

••• **AUDIO IMAGE**  
3685 N. Federal Hwy, Pompano Beach, FL 33064  
(305) 943-5590  
Owner: Rob Henion.  
Studio Manager: Rob Henion.  
Engineers: Mike Hoffmann, Rob Henion.  
Dimensions of Studio: 24' x 20' plus string/horn ensemble room and drum room.  
Dimensions of Control Room: 20' x 16'.  
Tape Recorders: Tascam 85-16 Autolocated 16 track, Tascam 80-8 8 track; (4) 2 track mastering decks.  
Mixing Consoles: Tascam Model 16, 24 outputs.  
Monitor Amplifiers: Stacked SAE's.  
Monitor Speakers: JBL 4311's, Auratones, EAW MS-200's.  
Echo, Reverb, and Delay Systems: Ursa Major Space Station, DeltaLab Acoustcomputer, DeltaLab DL-1, MICMIX.  
Other Outboard Equipment: Loft analog delay, MXR flangers, pitch transposers, numerous digital delays, parametric and graphic equalizers, Symetrx compressor/limiters, Technics turntable.  
Microphones: Sennheiser (all models); AKG; Audio-Technica (all models).

Instruments Available: Rhodes 88, Baldwin studio piano, Orchestral, organ, synthesizer, full drum set-up, acoustic piano.  
Rates: 8 track: \$40/hr; 16 track: \$65/hr.

••• **BRIGADIER SOUND STUDIOS**  
*also REMOTE RECORDING*  
1119 Bell Street, Montgomery, AL 36104  
(205) 834-6881 or 269-5957  
Owner: Harold and Jayonn Bearden.  
Studio Manager: Jayonn Bearden

••• **CEDARWOOD SOUND STUDIO**  
39 Music Sq. East, Nashville, TN 37203  
(615) 255-6535  
Owner: Cedarwood Publishing Company, Inc.  
Studio Manager: Clarke Schleicher.

••• **DERBYTOWN SOUND STUDIOS**  
5900 Outer Loop, Louisville, KY 40219  
(502) 968-2320  
Owner: John Wesley  
Studio Manager: John Wesley

••• **FANTASY SOUND STUDIOS**  
*also REMOTE RECORDING*  
14 Woods Dr., Granite Falls, N.C. 28630  
(704) 396-1188  
Owner: Glen F. Hefner.  
Studio Manager: Glen F. Hefner

••• **GOLDBAND RECORDING STUDIO**  
313 Church St., Lake Charles, LA 70601  
(318) 439-8839  
Owner: Eddie Shuler  
Studio Manager: Jeff Le June.

••• **HOT TRACKS, INC.**  
A.I.A. South, St. Augustine, FL 32084  
Mailing address: P.O. Box 1281, St. Augustine, FL 32084  
(904) 471-0506  
Owner: Jim DeVito  
Studio Manager: Jim DeVito  
Extras: Hot Tracks studio is a fully equipped MCI & Neotek studio. Located in the oldest city in the U.S., directly across from the Atlantic ocean, Hot Tracks limits its studio time to a few select projects in order to achieve perfection.  
Direction: Our professional engineers, Jim DeVito & Bill Parker are dedicated to developing a perfect product the way the client sees fit. By the time of this printing, we plan to be 24 track. Rates & session appointments, call (904) 471-0506.

••• **HOUSE OF GOLD MUSIC, INC.**  
1614-16th Ave. S., Nashville, TN 37212  
(615) 383-4667  
Owner: House of Gold Music, Inc.

••• **JALEX RECORDINGS**  
*also REMOTE RECORDING*  
319 Clematis St., West Palm Beach, FL 33401  
(305) 832-1538  
Owner: Jon A. Lind  
Studio Manager: Susan Elliott.  
Engineers: Bill Harris, Jon A. Lind.  
Dimensions of Studio: 38' x 17' plus vocal booth  
Dimensions of Control Room: 17' x 14'.  
Tape Recorders: Ampex MM1100 16 track; Ampex AG 440B 8 track; Ampex AG 440 4 track; Ampex AG440 2 track; MCI JH 110B 2 track; Ampex 351-2 2 track; Nagra SD 2 track; Nagra 4.2 mono, several other 1/4" machines.  
Mixing Consoles: MCI 416 w/5534's, 24 in x 24 out.  
Monitor Amplifiers: AB Systems, Peavey, Crown.  
Monitor Speakers: JBL, Auratones.  
Echo, Reverb, and Delay Systems: MICMIX XL 305.  
Other Outboard Equipment: Graphics, limiters, noise reduction, DDL, var-speed, etc.  
Microphones: Neumann U-47's (tube), U-87's, KM-84's; Sony C-500, C-37P's, ECM-22P's, ECM 50P; Shure SM-57's, SM-76's; Sennheiser MKH-405, MD-421's, MD-21; AKG C-412, D-224E, D-119ES; E-V 649B, 635A, RE-55; Beyers M-500, PZM's; The Co. direct boxes.  
Instruments Available: Steinway grand, Hammond B-3, Rhodes piano, drums, congas, manimba.  
Rates: \$20 to \$100 per hour. Block time available. Call: (305) 832-1538.

••• **LAKE BRADFORD STUDIOS**  
2195 Lake Bradford Road, Tallahassee, FL 32303  
(904) 576-4741  
Owner: Charles Roberts, Dennis Roberts.  
Studio Manager: Roger Salandi.

••• **LAMON SOUND STUDIO**  
*also REMOTE RECORDING*  
6870 A Newell Hickory Grove Rd., Charlotte, N.C. 28212  
(704) 537-0133  
Owner: Dwight L. Moody.  
Studio Manager: David B. Moody.  
Engineers: David Floyd, David Moody, Jame Hoover.  
Dimensions of Studios: A: 20' x 30' (also a fully sealed, 8' x 10', comfortable isolation booth, and a special, very live, percussion annex); B: 10' x 8'.  
Dimensions of Control Room: 18' x 20'.  
Tape Recorders: MCI JH 100 w/Autolocator 16 track; Ampex AG-440B 2 track; Technics SL-1500LIS 2 track; TEAC X-7 2 track; Kenwood KX-1030 cassette.  
Mixing Consoles: MCI JH 400 (light meters), 24 in x 24 out; console has been extensively modified with reciprocal mid-band EQ, channel mutes, mike padding, individual buss/tape return solos, large producer's desk, stop clock.  
Monitor Amplifiers: Yamaha P.200.  
Monitor Speakers: Electro-Voice Sentry V, Auratone 5C, also Electro-Voice Sentry V in studio.  
Echo, Reverb, and Delay Systems: AKG BX10, Eventide Harmonizer & keyboard.  
Other Outboard Equipment: (2) UREI 1176LN, Orban 622B.  
Microphones: (4) AKG C-414, (2) C-451 w/accessories; (2) E-V RE-20's, (4) 635-A's; (2) Shure SM-81's, 5B (1928).  
Instruments Available: Yamaha 6' conservatory grand, Leedy/Ludwig drum kit, many other instruments available on loan or rent from related company.  
Rates: \$60/hr base, with special record packages and block time packages always available. 2" tape may be rented or purchased.  
Direction: Lamon Sound Studios was opened by professional musicians for use by professional musicians. Experienced engineering, competent production assistance, truly top grade equipment, and a comfortable environment are available at about half the price of competitive studios in Charlotte. Our clients are our only sales people.

••• **LITTLE WOODS RECORDING**  
Rt. 2, Box 356, Denham Springs, LA 70726  
(504) 664-3746  
Owner: Lyle W. Simms.  
Studio Manager: Will Simms.

••• **MASTERCRAFT RECORDING CORP.**  
*also REMOTE RECORDING*  
437 N. Cleveland St., Memphis, TN 38104  
(901) 274-2100  
Owner: James Howard Craft, Sr.  
Studio Manager: James Craft, Jr.

••• **MERIT RECORDING CO.**  
3475 Buena Vista Rd., Columbus, GA 31906  
(404) 689-9629  
Owner: Thomas W. Merritt.  
Studio Manager: Bruce Eddings

••• **METAMORPHOSIS RECORDING STUDIO**  
7120 N. Florida Ave., Tampa, FL 33604  
(813) 238-6257  
Owner: Mary Ellen Erbaugh, Martha Gillmore, Gail Smith.  
Studio Manager: Mary Ellen Erbaugh.

••• **MIAMI SOUND STUDIO**  
2819 N.W. 7 Ave., Miami, FL 33127  
(305) 635-4890, 4891  
Owner: Carlos D. Granados, Jr.  
Studio Manager: Carlos D. Granados, Jr.  
Engineers: Carlos D. Granados, Jr., Juan G. Covas, Clide Pender, Paul Khoun.  
Dimensions of Studio: 17' 6" x 13' 8" x 28'.  
Dimensions of Control Rooms: 17' x 10' x 15'.  
Tape Recorders: MCI JH16 16 track; Ampex 440-B 2 track; Studer/Revox 2 track; Scully 2-4 track.  
Mixing Consoles: NEVE 8028 24 in x 16-24 out.  
Monitor Amplifiers: McIntosh 2300, 2105, 255.  
Monitor Speakers: JBL 4343 (Gauss), JBL 4311, Auratone, SC-Tannoy.  
Monitor Amplifiers: McIntosh 2300, 2105, 255.  
Monitor Speakers: JBL 4343 (Gauss), JBL 4311, Auratone, SC-Tannoy.  
Echo, Reverb, and Delay Systems: Echo delay tape, 2 EMT 140 echo chambers.  
Other Outboard Equipment: Eventide Harmonizer, Scamp Rack, UREI Teletronix, LA2A limiters, LA3A limiters, Pultec equalizers, compressors, NEVE limiters, vocal doubler, all effects possible, any outboard equipment upon request.  
Microphones: Neumann U-87's, U-67's, KM-84's; AKG 451; E-V RE-20; Sennheiser; Shure 57; Sony C-37P; RCA 77-DX.  
Instruments Available: Yamaha grand piano, Fender Rhodes, Roland synthesizer, chimes, vibes, congas, timbales, Synare, Rhythm Box, Harmonizer, Slingerland drums, Hammond B3.  
Rates: Rates upon request, including block time.  
Extras: Complete Scully mastering room, stampers, record pressing and shipping; complete art dept for jacket, label and logo.



design. In-house producers, arrangers and musicians. Colombian coffee, Latin food and lounge, with color TV. Also drum booth. Totally newly furnished lobby w/relaxation room and stereo system.

**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. Logo: "We've got the sound you want"

**Miami Sound Studios  
Miami, FL**



**••• THE MISSISSIPPI RECORDING COMPANY**

107 N. State St., Jackson, MS 39205  
(601) 354-0857  
Owner: Jerry Puckett.  
Studio Manager: Lane Dinkins.

**••• MONARCH SOUND INC.**

7 Roswell St., P.O. Box 228, Alpharetta, GA 30201-0228  
(404) 475-4533  
Owner: Phil Benton.  
Studio Manager: Larry Turner.  
Direction: Monarch Sound Inc. is a 16 track facility 15 minutes north of Atlanta, GA, in Alpharetta, which caters primarily to record oriented clientele, and in-house production. The studio features Ampex 1100, 440B 4/2 track machines, Electro-dyne console, video monitoring/recording (1/2") and a wide variety of monitors, outboard equipment and microphones. The environment at Monarch is unconventional acoustically with emphasis towards live and natural sound. Rates are \$60/hr, \$35/hr for 4 or 2 track. Special rates for special situations. For additional information and booking contact Phil Benton, c/o Monarch Sound Inc., 7 Roswell St., P.O. Box 228, Alpharetta, GA 30201-0228. Phone: (404) 475-4533.

**••• POLYMUSIC RECORDING STUDIOS INC.**

also REMOTE RECORDING  
225 Oxmoor Circle, #812, Birmingham, AL 35209  
(205) 942-3222  
Owner: Daniel E. Whiteside.  
Studio Manager: Michael Panepento, Daniel Whiteside.

**••• QL STUDIOS**

also REMOTE RECORDING  
3080 SW 38th Court, Miami, FL 33146  
Owner: Rob Burr.  
Studio Manager: Rod Ball.  
Engineers: Rob Burr, Chief Engineer; Gary Davids.  
Dimensions of Studio: A: 13' x 28' x 10'; B: 15' x 32' x 10'; C: 33' x 34' x 20'.  
Dimensions of Control Rooms: Mobile truck.  
Tape Recorders: New Generation Tascam 85-16 1" 16 track; Otari 5050 1/2 track; Technics M-85 MKII metal cassette deck.  
Mixing Consoles: Soundcraft (customized) Series II 16 in x 16.  
Monitor Speakers: BGW 250  
Monitor Speakers: JBL 4313, Auratones Super C, ADS 800, others available.  
Other Outboard Equipment: Compressor/limiters, Gain Brain, Kepex, etc. Any outboard equipment is available.  
Microphones: Neumann; Sennheiser, Sony, AKG, Shure, E-V, any add'l mics on request. Phantom powered active direct boxes.  
Instruments Available: Yamaha electric grand, Rhodes, clavinet, B-3 Leslie, Prophet 5, Moogs, ARP's, steel drums, marimbas (bamboo), assorted percussives, guitar amps and pedals, drums, etc.  
Rates: On location \$750 per day; \$100/hr over 8 hrs; in studio \$75/hr 4 hr min.  
Extras: Complete rehearsal/recording complex. Award winning

# 16 TRACK

## The Southeast

rhythm section available, 3/4 and 1" video tape production with 16 track SMPTE lock-up in house or on location. Comfortable lounge with TV, phone, mini-kitchen. We can arrange lodging and travel accommodations for out-of-town clients.

**••• SEABIRD**

also REMOTE RECORDING  
509 N. Ridgewood, Edgewater, FL 32032  
1-800-521-3546  
Owner: Conti Organization.  
Studio Manager: Dick Conti.

**••• SIGNAL SOUND STUDIO**

2310 Marietta Blvd., STE. D, Atlanta, GA 30318  
(404) 355-0909  
Studio Manager: Dick Roberts.  
Engineers: Dick Roberts—staff, Maintenance Engineering, Trackside Engineering, Les Duncan.  
Dimensions of Studio: 25' x 40' x 14'.  
Dimensions of Control Room: 18' x 18' x 14'.  
Tape Recorders: MCI JH-10 16 track; TEAC 3340 4 track; Ampex ATR-700 2 track  
Mixing Consoles: Trackside Engineering Proto, 16 in x 8 out  
Monitor Amplifiers: AB Systems 205, Dynaco ST-80  
Monitor Speakers: E.V Sentry III's; ROR's  
Echo, Reverb, and Delay Systems: Lexicon 224 and automated mixdown, Eventide Harmonizer H-910.  
Other Outboard Equipment: Orban parametric equalizers (2); dbx 160 comp/limiter (2); Kepex; 16 tracks dbx; Echoplex; asst. flangers & phasers; TRS-80K computer handles track logging and information storage interfaced with Eventide's 1/2 octave frequency analyzer.  
Microphones: Beyer M-500; AKG 414-EB, 451's, 505's, 707; Shure SM-57's, SM-58's; Sennheiser 421; Wright SR-1.  
Instruments Available: Studio upright piano, Mini Moog, string-synthesizer, steel guitar, Martin D-35 acoustic & Gibson 150 guitars, asst. percussion.  
Rates: Upon request.

**••• SINGLETON SOUND STUDIO**

3106 Belmont Blvd., Nashville, TN 37212  
(615) 385-1960  
Owner: Shelby Singleton.  
Studio Manager: John Singleton.

**••• SOUND OF BIRMINGHAM**

also REMOTE RECORDING  
3625 5th Ave. So., Birmingham, AL 35222  
(205) 595-8497  
Owner: Don Mosley  
Studio Manager: Don Mosley.

**••• SOUNDTRAX, INC.**

also REMOTE RECORDING  
1626 Glenwood Ave., Raleigh, N.C. 27608  
(919) 832-9953  
Owner: SoundTrax, Inc.  
Studio Manager: Don Stone

**••• SPECTRUM RECORDING STUDIOS, INC.**

also REMOTE RECORDING  
999 S. Federal Hwy., Deerfield Beach, FL 33444  
(305) 428-0119  
Owner: Spectrum Recording Studios, Inc.  
Studio Manager: Ray Lyon.  
Direction: In just 3 short years, we've grown from a small 8 track operation to one of South Florida's finest 16 track recording facilities. Our philosophy is to provide a quality recording service at the best possible price to you. Flexibility is a key to our operation, both in our pricing and in the control room. We also specialize in recording contemporary Christian and gospel music. Our affiliate, Paragon Productions produces top notch jingles and broadcast products for radio and T.V. Look for us to go 2" in mid-1982. This studio is putting out! Call or write for more information.

**••• STRAWBERRY JAMM STUDIOS INC.**

also REMOTE RECORDING  
3964 Apian Way, West Columbia, S.C. 29169  
(803) 356-4540  
Owner: Bob & Mary Curlee.  
Studio Manager: Bob Curlee.  
Extras: State-of-the-art technology in a private, creative environment: Open percussion pit, three isolation booths, lounge with playback system, color TV and fireplace adjacent to control room: Neotek Series III console, MCI recorders, Lexicon digital reverb & delay systems, Yamaha grand piano, Hammond B-3.  
Direction: We are dedicated to producing the finest quality recording while making you feel "at home" in our's. The atmosphere is relaxed and intimate, and our clients love the "vibes". We are all experienced musicians and our basic philosophy is that we sincerely care about every project that we get involved with. (TLC) We are an affiliate member of SPARS, and repeat business is phenomenal so reservations are recommended. Ask around! Then call us.

**••• "A SUMMER PLACE" (Formerly Studio by the Pond)**

also REMOTE RECORDING  
204 Shoreline Drive, Rt. 2, Hendersonville, TN 37075  
(615) 824-2311  
Owner: Lee Hazen.  
Studio Manager: Lee Hazen.

**••• SWEETBAY RECORDING STUDIOS**

also REMOTE RECORDING  
1317 Jackson Bluff Rd., Tallahassee, FL  
(904) 576-8868  
Owner: Burt Norton.  
Studio Manager: Fred Chester

**••• TANDEM RECORDING STUDIO**

13 Moore St., Bristol, VA 24201  
(703) 466-8675  
Owner: Tandem Records, Inc.  
Studio Manager: Joe Deaton.

**••• TELSTAR RECORDING STUDIO**

2074-17th St., Sarasota, FL 33580  
(813) 365-0337  
Owner: Rick's C. Moulton.  
Studio Manager: Rick's C. Moulton.  
Engineers: Rick's C. Moulton, Bud Snyder.  
Dimensions of Studio: 850 square ft.  
Dimensions of Control Room: 300 square ft.  
Tape Recorders: MCI JH 114 16 track; MCI JH 110 2 track; MCI JH 110 2 track.  
Mixing Consoles: MCI JH 428, 20 in x 20 out  
Monitor Amplifiers: JBL, SAE, BGW, Phase Linear  
Monitor Speakers: JBL 4343, JBL 1100, Auratones  
Echo, Reverb, and Delay Systems: MasterRoom, Lexicon, Lexicon 224, Eventide  
Other Outboard Equipment: dbx limiter, UREI limiters, Kepex Gain Brain, Audioarts parametric EQ, EXR, Orban De-Esser, White 1/6 octave EQ.  
Microphones: PZM's; Neumann U-87's; AKG 414's; SM-56's, 57's; Sennheiser 421's; Sony and E-V  
Instruments Available: Yamaha electric grand, ARP, Hammond B-3 w/Leslie, Tama drum kit, B and K test equipment.  
Rates: Call for quotation.  
Extras: Studio design by John Storyk

**••• TRACK-16 RECORDING STUDIOS**

also REMOTE RECORDING  
118 Constitution Ave., Lexington, KY 40508  
(606) 253-0588  
Owner: Track-16, Inc.  
Studio Manager: Thomas D Tandy

**••• TRACK PRODUCTIONS**

207 Mulberry Dr., Summerville, S.C. 29483  
(803) 871-1830  
Owner: Tommy Flack.  
Studio Manager: Tommy Flack.

**••• TWELVE OAKS RECORDING STUDIO**

3830 South Cobb Dr., Ste. 100-A, Atlanta, GA 30080  
(404) 435-2220, 435-2221  
Owner: Sonny Lallerstedt, Randy Bugg.  
Studio Manager: R. Bugg.

**••• WILLOW CREEK STUDIOS**

also REMOTE RECORDING  
2228 Redmond Circle, Rome, GA 30161  
(404) 232-6954  
Owner: Morgan Ayers.  
Studio Manager: Morgan Ayers

# 24 TRACK The Southeast

\*\*\*\* A&B SOUND STUDIO  
1314 Ellsworth Ind. Dr. N.W., Atlanta, GA 30318  
(404) 355-8680  
Owner: International Music Marketing, Inc.  
Studio Manager: George Pappas

\*\*\*\* ALLEN-MARTIN AUDIO  
also REMOTE RECORDING  
9701 Taylorsville Rd., Louisville, KY 40299  
(502) 267-9658  
Owner: J.R.F. Inc.  
Studio Manager: Hob Ernsperker

\*\*\*\* ALPHA AUDIO  
2049 W. Broad St., Richmond, VA 23220  
(804) 358-3852  
Owner: Alpha Recording Corp.  
Studio Manager: Mary Ann Turner

\*\*\*\* ARDENT RECORDINGS, INC.  
also REMOTE RECORDING  
2000 Madison Ave., Memphis, TN 38104  
(901) 725-0855  
Owner: John Fry  
Studio Manager: Dave Rasmussen  
Engineers: William C. Brown, Robert Jackson, John Hampton, Eddie Degarmo, Dana Key, Joe Hardy, Larry Nix, Jack Holder, Tim Farmer, Henry Bush  
Dimensions of Studios: Studio A 25'W x 40'L x 16'H, Studio B 25'W x 20'L x 16'H, Studio C 25'W x 35'L x 14'H, Mastering: 15'W x 20'L x 10'H, Each studio with two isolation booths.  
Dimensions of Control Rooms: Studio A 16'W x 25'L x 10'H, Studio B 16'W x 25'L x 10'H, Studio C 18'W x 25'L x 10'H  
Tape Recorders: (3) MCI JH 1624 24 track, 3M M56 16 track, (3) MCI JH-110 2 track, 3M M79 2 track; (2) 3M M64 2 track, (3) Scully 280 2 track  
Mixing Consoles: MCI 542, 42 in x 32 out, Spectra Sonics 24-16 28 in x 24 out; Spectra Sonics 22-16, 24 in x 24 out. Mastering room equipped with Neumann VMS-70 lathe.  
Monitor Amplifiers: BGW, Crown  
Monitor Speakers: JBL 4350, Audicon, JBL 4311, JBL 4340, Auratones, Advent, Braun  
Echo, Reverb, and Delay Systems: 3 EMT 140, 3 acoustic chamber, (2) H949 Harmonizer, Lexicon, Allison, Eventide, Marshall ADR  
Other Outboard Equipment: Limiters and compressors: Neve, dbx, ADR, Fairchild, UA, EMT; Equalizers: Neve, Orban, ADR, Pultec, Noise gates: Kexex, ADR. All multi-tracks and two tracks equipped with Dolby A; (dbx optional for two tracks). All rooms tuned with UREI filters and B&K spectrum analyzer. Studio equipped with MCI automation.  
Microphones: Neumann U87, U67, U64, M249, KM86, KM84, AKG C-414, C-451, D224, D12, D-200, Sennheiser MD-421, MD-441, Electro-Voice RE-20, RE-16; Shure SM-53; Beyer M201  
Instruments Available: Steinway grand, Yamaha grand, Chickering grand, ARP 2500, Hohner clavinet, Hammond organ, Fender Rhodes 88; Gretsch drums, Fender, HiWatt, Acoustic, Ampeg amplifiers

Extras: MCI SMPTE synchronizer, cable television, kitchen, two lounges  
Rates: Upon request  
Direction: Clients: ZZ Top, Bar-Kays, Parliament/Funkadelic, Point Blank, Robin Trower, Led Zeppelin, Con-Funk-Tion, Anita Ward, Emerson Lake & Palmer, Bootsy's Rubber Band, Cheap Trick, Memphis Horns, Commodores, Leon Russell, Isaac Hayes, Black Oak, Roy Clark, Charlie Rich, Amazing Rhythm Aces, De Garmo & Key, Mylon LeFevre, Too Tall Jones, Shaun Cassidy, Ebonee Webb, Chocolate Milk, Kwick

**Ardent Studios**  
Memphis, TN



\*\*\*\* ARTISAN RECORDERS, INC.  
ONLY REMOTE RECORDING  
1421 S.W. 12 Avenue, Pompano Beach, FL 33060  
(305) 786-0660

Owner: Peter J. Yianilos  
Studio Manager: Scott Strawbridge  
Direction: Some clients AC/DC, Atlanta Rhythm Section, Blackklot, Pat Benatar, Roy Clark, The Commodores, Crosby, Stills & Nash, Heart, Al Jarreau, George Martin, Willie Nelson, Jaco Pastorius, The Police, Kenny Rogers, Linda Ronstadt, Spyro Gyra, Weather Report. We have been providing complete on-location multi-track recording & soundmixing services to the record, television, radio, and film industries for 6 years. In that time, we have earned a reputation as one of the finest mobile recording companies in the business. We are very grateful to our many clients for putting their faith in us and putting us on the map.

\*\*\*\* AUDIO MEDIA RECORDERS  
808 19th Ave. South, Nashville, TN 37203  
(615) 327-9301  
Owner: C.E. Jackson, Paul Whitehead, Doug Yoder, R.C. Patrick  
Studio Manager: Paul Whitehead  
Dimensions of Studios: #1 30' x 28', #2 14' x 13'  
Dimensions of Control Rooms: #1 22' x 16', #2 13' x 16'

Tape Recorders: #1 Studer A-80 24 track, Studer B-67 2 track, #2 Studer A-80 24 track, Studer B-67 2 track  
Mixing Consoles: #1 Harrison 3232C, 28 in x 28 out, #2 Harrison MR-2-28.  
Monitor Amplifiers: BGW, Phase Linear.  
Monitor Speakers: Westlake TM 1, JBL 4310, and Auratone in both studios  
Echo, Reverb, and Delay Systems: (3) EMT stereo units, Lexicon 102  
Other Outboard Equipment: Eventide Harmonizer; (6) dbx 160's, dbx 165; Dolby noise reduction, UREI 1176LN's (2), (2) LA3A's, stereo Orban EQ, Pultec EQ, Accu Punch, Accu Sync  
Microphones: Shure SM-57's; Sennheiser 421, Neumann B7 FET, 47 FET, 67's, 249's, 84's; AKG 414's, 451's, 202E, C-60; E-V RE-20's, RE-15's, 635's; Studer Schoeps SKM5s  
Instruments Available: Yamaha 9' grand, B-3 organ, Fender Rhodes, Hohner clavinet, Wurliizer electric piano, ARP Axse and Omni, Pearl drum set, 50 percussion instruments  
Rates: Supplied on request and based on volume

\*\*\*\* BAYSHORE RECORDING  
2665 S. Bayshore Dr. Suite 100, Coconut Grove, FL 33133  
(305) 856-5942  
Owner: Bill Szymczyk  
Studio Manager: Harnet DellaCasa

\*\*\*\* BEE JAY RECORDING STUDIOS  
5000 Eggleston Avenue, Orlando, FL 32810  
(305) 293-1781  
Owner: Eric T. Schabacker, President  
Studio Manager: Jim Katt  
Engineers: Bill Vermillion, Andy deGanahl, Dana Cornock  
Dimensions of Studios: A 35' x 45', B Irregular 25' x 12' and 12' x 12'  
Tape Recorders: Stephens 821B 16/24/32 track; MCI JH 115-24 8/16/24 track; Ampex ATR-100-2 2 track; Studer B-67 2 track (2), ElectroSound ES-500 2 track, Ampex MR-70 4 track, Ampex MR-70 2 track.

Mixing Consoles: Studio A: Sphere Super Eclipse 'C', 34 in x 24/32 out, Studio B: Audiotronics 501, 26 in x 16/24 out  
Monitor Amplifiers: Studio A: Crown DC-300's (mids, lows), BGW 100 (highs), Studio B: BGW 750  
Monitor Speakers: Studio A: Westlake TM-1 (modified ported, Gauss drivers, woofers, tramped), Studio B: UREI 81; Time Align, Auratone 5C and JBL 4311 also available  
Echo, Reverb, and Delay Systems: (2) EMT ST-140, MICMIX Model III (Super C), MICMIX Master-Room; Lexicon 224  
Other Outboard Equipment: ADR Vocal Stresser, ADR Scamp Rack dbx 160, dbx 162, dbx 165, Marshall Time Modulator, Eventide 1745 DDL, Harmonizer 949, Harmonizer 910, Eventide Instant Flanger, Lexicon Pnme Time, UREI LA4A, UREI 1176, Orban stereo synthesizer, Orban dual parametric, Pultec EQP-1A3  
Microphones: Neumann U-87, U-47, KM-84, KM-86, AKG C-414, C-451E, C-24, D-12, D-200, Sony C-37P, Schoeps CM-54, Sennheiser 421, 441, Shure SM-5, SM-7, SM-53, SM-57, SM-58; Beyer MD-160, RCA 77DX, Electro-Voice CS-15, RE-20, RE-16, RE-15, 635A, Wahrenbrock PZM-A  
Instruments Available: Kawai 74" grand piano, Steinway 6' grand piano, Hammond C-3 w/Leslie, Hohner clavinet, Rhodes 73 Mini Moog Model D, EML 100 200, "Poly Box" synthesizers, Pearl drum set, Rogers drum set, Music Man amps, Mu-Tron B/Phase, Mu-Tron III  
Extras: dbx noise reduction (56 channels), Dolby (24 channels), Allison 65K automation (Studio A), lounge areas, guest cottage, apartment

Rates: Studio A \$145/hr (16, 24 or 32 track), weekly rates available, Studio B \$95/hr 24 track, \$75/hr 16 track, \$60/hr 8 track, weekly rates available. All instruments, signal processing included at no extra charge  
Direction: As our advertising denotes, we believe "The difference is How You're Handled" Groups like Molly Hatchett, Blackfoot, Pat Travers, Doc Holliday, Cameo, Nantucket, Long John Baldry, Axe and others have proven that it's true. Credits include 6 gold, 2 platinum LP's

\*\*\*\* THE BENNETT HOUSE  
134-4th Avenue N., Franklin, TN 37064  
(615) 790-6896  
Owner: Norbert Putnam  
Studio Manager: Ann Keener  
Engineers: Call for list of independents, studio provides tape assistant  
Dimensions of Studios: 44' x 18', two isolation booths  
Dimensions of Control Room: 20' x 26'  
Tape Recorders: (2) MCI transformerless w/SMPTE lock-up, BTX sync 24/46 track, (2) Studer B62 2 tracks, Ampex ATR 100 1/2" 2 track, (2) Technic cassettes  
Mixing Consoles: Trident A, 28 in x 24 out.  
Monitor Amplifiers: Yamaha's  
Monitor Speakers: Tn Amp Klein & Hummel; JBL 4313, 4315 & 4310's, Technics F-2's, Yamaha NS10's, Braun 3-wav, Auratones  
Echo, Reverb, and Delay Systems: EMT 250 Digital, Lawson Plate, AMS DDL, Eventide 949  
Other Outboard Equipment: Scamp Rack with 10 noise gates, (2) EQ's, (2) limiter-compressors, time shape module, auto pan, vocal stresser



Microphones: Tube M-249, 87's, 414's, 421's, 224's, etc  
Instruments Available: Baldwin 7' and Eddie Reynolds Rhodes  
Rates: \$125/hr

•••• **BIAS RECORDING CO., INC.**  
also **REMOTE RECORDING**  
5400 Carolina Place, Springfield, VA 22151  
(703) 941-3333

Owner: Bill McElroy, Bob Dawson  
Studio Manager: Gloria Daniels  
Engineers: Bill McElroy, Bob Dawson, Norm Rowland, Jim Robeson, Chuck Rohrer  
Dimensions of Studios: A 16' x 28' and 15' x 20' (sweetening and rhythm), B 15' x 20', C 12' x 14'  
Dimensions of Control Room: A 20' x 20', B 20' x 20', C 12' x 14'

Tape Recorders: Ampex 1200 24/16/8 track, Ampex 110 16/8 track, (6) Studer B-67 2 track, Studer A-67 2 track, (2) TEAC PC-10 cassette

Mixing Consoles: API Modified 2488, 24 in x 24 out, API Modified 1604, 16 in x 16 out

Monitor Amplifiers: Crown DC 300A (White) octave voicing in A + B

Monitor Speakers: Hidy (Sierra Audio) monitors, JBL 4320, JBL 4301, JBL 4333

Echo, Reverb, and Delay Systems: EMT plate reverbs, AKG BX 20

Other Outboard Equipment: dbx compressor/limiters, Dolby NR, UREI limiters, Teletronix leveling amps, Lexicon Prime Time digital delay, Eventide Harmonizers

Microphones: Neumann U-47's, U-67's, U-87's, KM 84's, AKG C-451's, Shure SM-57's, SM-53's

Instruments Available: (2) Yamaha conservatory grand pianos, Hammond B-3 organ, Fender Rhodes, Hohner clavinet, Fender Precision bass, Slingerland drum kit

Rates: \$40 to \$95/hr, depending on studio and tracks used. Bulk rates available

Extras: Fender Deluxe, Pro, Twin Reverb, Music Man 410 amps. Listening and dubbing room, lounge and t.v. area, close to hotels and restaurants

Direction: Knowledgeable and creative professionals provide the Washington, D.C. area with a World Class facility in a comfortable, friendly manner

•••• **BROKEN DOOR STUDIO**  
also **REMOTE RECORDING**  
5405 Stanford Dr., Nashville, TN 37215  
(615) 269-0727

Owner: Keeble Media Group  
Studio Manager: Peter Keeble  
Engineers: Richard Achor, Peter Keeble, various

Dimensions of Studio: 17' x 25'

Dimensions of Control Room: 10' x 19'

Tape Recorders: MCI JH-114 24/16 track, Studer B-67 2 track, Ampex 440 4/2/mono, Revox A-700 2 track, Scully 280 2 track, TEAC 3300S 2 track; Technics cassettes

Mixing Consoles: Tangent 3216, 24 in x 24 out, highly modified w/4 additional effects sends; 12 additional returns

Monitor Amplifiers: Bryston 4B, McIntosh 2200, GAS, BGW, Crown

Monitor Speakers: ADS 730, ADS 810, JBL 4313's, JBL 4311, MDM-4, Auratone, Celestion

Echo, Reverb, and Delay Systems: Digitrak plate, Lexicon 224, AKG BX-10, Eventide Harmonizer H-910, DeltaLab DL 1, DL 2, Lexicon 91

Other Outboard Equipment: dbx 165, 160, 167, UREI LA3A, Orban Stereo Parametric EQ, ADR Stereo Sweep EQ, Kepex 500's, EXR exciter, Orban sibilance controller, high pass filters, 30 channels dbx 411, Dolby 361 (2), White octave EQ, Mr Coffee

Microphones: Neumann, AKG, Beyer, PZM, Sennheiser, Electro-Voice, Sony, Shure

Instruments Available: 1923 Steinway M grand piano, Hammond organ, Rhodes piano, Wurlitzer electric piano, Music Man and Fender amps, Pearl drums, Slingerland drums, Gon Bops congas

Rates: Supplied upon request, very reasonable

Extras: Convenient, private, nice view, good feel

Direction: Primarily a private production facility utilizing an integrated media approach with emphasis on audio production, music publishing, artist management, creative career development, and associated film/video production. The studio is available independently or in conjunction with the other services. We are continuing cost effective growth. Providing a relaxed environment while maintaining quality and creativity throughout every involvement

•••• **BULL RUN STUDIO OF NASHVILLE**  
also **REMOTE RECORDING**  
Route 3, Box 120, Ashland City, TN 37015  
(615) 254-6538

Owner: Sanborn Productions  
Studio Manager: Carl Frost

•••• **BULLET RECORDING**  
also **REMOTE RECORDING**  
49 Music Square West, Nashville, TN 37203  
(615) 327-4621  
Owner: Randy Holland  
Studio Manager: Piers Plaskott

# 24 TRACK The Southeast

•••• **CAPRICORN STUDIOS**  
561 Cotton Ave., Macon, GA 31201  
(912) 745-8518

Owner: Capricorn Records  
Studio Manager: Tad Bush  
Engineers: Tad Bush

Dimensions of Studio: 42' x 26', 42' x 20' (rehearsal studio)

Dimensions of Control Room: 26' x 20'

Tape Recorders: Studer A80 24/4/2 tracks (2), B67 (2), Revox A 700, A-77 (4)

Mixing Consoles: API Custom w/ Allison Fader Automation

Monitor Amplifiers: Studer A-68 (2), Crown DC300 (7), D150, D60

Monitor Speakers: Westlake TM-1 (4), JBL 4320 (4), JBL 4311 (4), MDM, Alterc 604 (4), KLH #6, KLH #17, B&O #S60, Auratones

Echo, Reverb, and Delay Systems: EMT 250, EMT 140 (2), (2) live chambers, Lexicon 1745 (2), Cooper Time Cube, Echoplex, tape slap

Other Outboard Equipment: 30 channels Dolby, Eventide Flanger and Phaser, Audio Design, EMT, UREI, Universal Audio (tube), and Spectra Sonics limiters, API, Sontec, and UREI EQ, dbx Boom Box, Kepex (6)

Microphones: Neumann, Sony, RCA, AKG, Beyer, E-V, Studer, Sennheiser, Shure

Instruments Available: 9' Steinway, 6' Kawai, Rhodes, Wurlitzer, and Schultz upright pianos, clavinet, MiniMoog, Ham-

mond B-3, Deagan vibes, Gretsch drums, Zildjian cymbals, Ovation 6 & 12 string, Fender and MESA amps, various percussion instruments

Rates: On request

•••• **COLUMBIA RECORDING STUDIOS**  
34 Music Square E., Nashville, TN 37203  
(615) 259-4321  
Owner: CBS, Inc.  
Studio Manager: Norm Anderson

•••• **THE CASTLE RECORDING STUDIO**  
Old Hillsboro Road, Route 7, Franklin, TN 37064  
(615) 794-0189

Studio Manager: Neil Wilburn

Engineers: Supplied by clients or The Castle can supply

Dimensions of Studios: Size of a castle!

Dimensions of Control Room: Size of a castle!

Tape Recorders: Studer A-80 24 track, Studer A-80 2 track  
Mixing Consoles: Harrison modified computer board, 36 in x 24 out

Equipment: All equipment is state-of-the-art

Rates: Please call for rates!

•••• **CHESHIRE SOUND STUDIOS**  
also **REMOTE RECORDING**  
2093 Faulkner Rd. N.E., Atlanta, GA 30324  
(404) 633-6626

Owner: T.G. Wright, Jr.

Studio Manager: Terry Rosner

Engineers: Director of Engineering, Tom Race, Engineers Tom Wright, Will Eggleston, and Ted Kallman

Dimensions of Studios: A 32' x 44' x 16'H, B 18' x 15'

Dimensions of Control Room: A 18' x 24', B 14' x 10'

Tape Recorders: Ampex MM1100 24 track, Ampex (4) 440B 2/4 track

Mixing Consoles: MCI 428B automated, 28 in x 24 out

Monitor Amplifiers: SAE, Yamaha, Crown

Monitor Speakers: JBL, Eastern Acoustic Works, Auratone

Echo, Reverb, and Delay Systems: Live echo chambers, Lexicon 224, Model 93, Model 92, DeltaLab DL 1, DL 2, Eventide Harmonizer, MXR transposer

Everything  
you'd expect in a  
Great American  
Studio ...

is now in  
Memphis.

Recordings **ARDENT** Mastering

2000 Madison Avenue, Memphis, TN 38104

**Other Outboard Equipment:** Parametric equalizers; UREI 1176N, dbx 160, Orban 245E, 111B; 24 channels dbx and Dolby  
**Microphones:** Wright microphones SR-1 and TSR-2, Neumann, AKG, Sony, etc  
**Instruments Available:** Send for brochure  
**Rates:** Send for brochure

\*\*\*\* CINDERELLA SOUND  
 1108 Cinderella St., Madison, TN 37115  
 (615) 865-0891  
**Owner:** Wayne Moss  
**Studio Manager:** Paul Moss

\*\*\*\* COCONUTS RECORDING CO, INC.  
 1830 N.E. 153rd St., N. Miami Beach, FL 33162  
 (305) 940-4656  
**Owner:** Shirley P. Kaye  
**Studio Manager:** Shirley P. Kaye

\*\*\*\* CREATIVE ARTS STUDIO  
 P.O. Box 2764, Spartanburg, S.C. 29304  
 (803) 576-9081  
**Owner:** Jerry Eubanks, Doug Gray, George McCorkle  
**Studio Manager:** Doug Gray  
**Engineers:** Randy Neuyman, Kevin Herron  
**Tape Recorders:** MCI 24 track  
**Mixing Consoles:** MCI, 24 outputs  
**Monitor Amplifiers:** McIntosh, Crown  
**Monitor Speakers:** UREI 813A's  
**Echo, Reverb, and Delay Systems:** Lexicon 224, plates  
**Other Outboard Equipment:** Prime Time, Eventide  
**Microphones:** Neumann's  
**Instruments Available:** Pianos, organs  
**Rates:** Call for rates



*Criteria Recording Co.  
 Miami, FL*

\*\*\*\* CRITERIA RECORDING CO., INC.  
 also REMOTE RECORDING  
 1755 N.E. 149th St., Miami, FL 33181(305) 947-5611  
**Owner:** Mack Emerman  
**Studio Manager:** Rick Allison (operations), Jack Davis (General), Marcia Latta (Traffic), Marjorie Curry (Studio Manager), Steve Beverly (Technical), Joe Foglia (Remote)  
**Engineers:** Steve Klein (Senior), Bruce Hensal, Dennis Hetzendorfer, Chuck Kirkpatrick, Al Stegmeyer, Steve Kumball, Bob Castle, Patrice Carroll, Alex Clarke, Mastering Mike Fuller, Technical: Chrs Joyce (Chief), Scott Phillips, Oliver Masciarotte, Bob Kosiba, Stan Lambert, Remote: Jim Sesody, Eddie Garcia  
**Dimensions of Studios:** A 50' x 75' x 20' High, B 30' x 40' x 16' High, C: 25' x 32' x 16' High, D 15' x 22' x 10' High, E: 40' x 50' x 28' High  
**Dimensions of Control Room:** A 13' x 16', B 12' x 24', C 15' x 16' (modified LEDE); D 17' x 19', E 24' x 25' (modified LEDE)  
**Tape Recorders:** (6) MCI JH 114-24 (transformerless) 24 track, (5) MCI JH 110B (transformerless) 2 track, (2) MCI JH 110B (transformerless) 2/4 track; EM/MCI JH 220 (digital) 2 track  
**Mixing Consoles:** (3) MCI JH 532, 32 in x 32 out, MCI JH 548, 48 in x 32 out; MCI JH 528, 28 in x 28 out, MCI JH 636 (custom remote) 48 in x 32 out  
**Monitor Amplifiers:** McIntosh, Crown, Crest and UREI  
**Monitor Speakers:** Custom designed, 3-way, bi-amped EM Long Time Aligned TM System, also custom designed tri-amped systems using Cetec, JBL and TAD components, UREI TA-813's, JBL 4311's; Acoustats, Visicon David 100's, Auratones  
**Echo, Reverb, and Delay Systems:** (4) Stereo Ekoklates; Stereo EMT plate; (3) Stereo "live" chambers, (2) Master-Rooms, (2) Lexicon 224; EMT 250; EMT 251, UREI Time Cube

# 24 TRACK The Southeast

**Other Outboard Equipment:** Eventide H949 Harmonizers, Teletronics LA-2A limiters, UREI 1176 and LA-4 limiters, dbx 160 and 165 limiters, dbx 900 Series gates, de-essers and compressors, Pultec equalizers, Trident equalizers, Eventide 1745M's, Lexicon Prime Time's, Kepex Gain Brains, MXR flangers, ADR Vocal Stressor, (3) MCI JH-45 SMPTE synchronizers  
**Microphones:** Neumann U-47, U-67, U-87, KM 84, KM 86, U-47FET; Sony ECM-22, 50, 51, 377, C-37P, C 55P, C-500, Beyer M-88, 101, 160, 260, AKG C-12, 414, 414EB, 452EB, 224E, D-12, Schoeps M-221B (tube), CMT 54, 55, 501, CML 03, Collette Series, Shure 984 Stereo, PML DC 73 ST B/48, Altec 633  
**Instruments Available:** 9' grand piano available in studios A, C and E, Baldwin, Mason Hamlin and Baldwin SDIOX. Complete inventory of rental instruments available through associated company, Rent-a-Sound  
**Rates:** Our rates are very flexible depending on the individual situation. Please call Macia Latta, Traffic Manager, for information  
**Extras:** Separate living rooms available for relaxation, sun deck, pinball, TV's, pool table, video games, coffee, tea, hot chocolate. Miami Beach mansions with pool and docks available through Home At Last with meals and maid service  
**Direction:** Criteria is a full service studio. Over 100 gold and platinum awards from the major recording artists around the world. Our belief in having state-of-the-art equipment has kept us continually updating since our inception 27 years ago. Criteria is unique in that it offers an award winning staff of engineers as part of our service and are included in our rates. Our east wing is now open representing many technological and acoustical developments new to our industry thus pointing the way for the new sound of the 80's

\*\*\*\* DOPPLER STUDIOS, INC.  
 1922 Piedmont Circle, N.E., Atlanta, GA 30324  
 (404) 873-6941  
**Owner:** Pete Caldwell  
**Studio Manager:** Pete Caldwell  
**Engineers:** Bill Quinn, Chief Engineer, Brad Jones, Steve Davis, Michael Bennett, Jeff Brugger, Todd Plewacki  
**Dimensions of Studios:** A 35' x 50' (with 2 isolation booths and live end dead end), B 25' x 35' (with 1 isolation booth and live end dead end), C 15' x 20', D 12' x 15'  
**Dimensions of Control Room:** A 15' x 25', B 15' x 17', C 10' x 15', D 10' x 13'  
**Tape Recorders:** Otari MTR-90 24 track, 3M 79 24/16 track Ampex ATR-100 2/mono, Scully 280 4/2/mono  
**Mixing Consoles:** Sphere Eclipse C, 40 in x 40 out, Sphere A, 28 in x 24 out, Audiotronics 110-A, 12 in x 4 out, custom, 8 in x 8 out  
**Monitor Amplifiers:** Crest, Yamaha  
**Monitor Speakers:** UREI 813, JBL 4311, Auratones  
**Echo, Reverb, and Delay Systems:** Lexicon 224, Lexicon Prime Time, EMT 140 plates, Eventide 1745M, Marshall Time Modulator  
**Other Outboard Equipment:** ADR Vocal Stressor, dbx 160, 163, 165 and UREI 1176 compressor/limiters, Kepex, Gain Brain, dbx noise reduction, Orban Parametric equalizers and de-essers  
**Microphones:** Neumann, AKG, Studer, Sennheiser, Shure, and Electro-Voice  
**Instruments Available:** Steinway grand and Baldwin baby grand pianos, Ludwig and Rodgers drum sets, Hammond B-3 w/Leslie cabinet, Fender amps  
**Rates:** Upon request

\*\*\*\* FANTA PROFESSIONAL SERVICES  
 also REMOTE RECORDING  
 1213 16th Avenue South, Nashville, TN 37212  
 (615) 327-1731  
**Owner:** Johnny Rosen  
**Engineers:** Johnny Rosen, Mervin Louque  
**Dimensions of Studios:** 40' x 20'  
**Dimensions of Control Rooms:** 35' x 8', built into a tractor-trailer truck  
**Tape Recorders:** (2) Ampex MMI200s, locked together, 24/46 track, Ampex 440-B 4 track, (2) Ampex 440-B 2 track, Nagra 4 2L, Sony TCK71 cassette, Nakamichi cassette  
**Mixing Consoles:** Sphere Eclipse A, 32 in x 32 out  
**Monitor Amplifiers:** McIntosh

**Monitor Speakers:** Electro Voice Sentry III, Klipsch, JBL 4311's, Auratones  
**Echo, Reverb, and Delay Systems:** Master-Room, Lexicon metal plate echo, Marshall 5402  
**Other Outboard Equipment:** dbx 160 (6), UREI-1176 LN (2), (4) Dynamites by Valley People, flangers and time-distribution devices  
**Microphones:** Eighty assorted microphones, including Sennheiser, Schoeps, Calrec, Electro-Voice, and Sony  
**Instruments Available:** Grand piano, organ, drums, many guitar amps and synthesizers  
**Extras:** A 3400 square foot apartment on the premises is available for our customers' use with the studio. All food and accommodations are included  
**Rates:** \$3,000 per day for mobile recording. Studio rates are negotiable  
**Direction:** Credits: New York Philharmonic, The Rolling Stones, Kansas, Journey, Crystal Gayle, REO Speedwagon, Lou Rawls, The Charlie Daniels Band, "Blues Brothers" movie, Robert Altman's "Nashville", "Coal Miner's Daughter". Our aspiration is to provide sophisticated, transparent mobile recordings. The audio needs of our clients in the television, record, and film industries are all different. From mono Nagra recordings through a 46 track lock up system, we try to meet those needs without interfering with the artistic feel of the project

\*\*\*\* FANTASY WORKSHOP  
 1975 N.E. 149th St., No. Miami, FL 33181  
 (305) 940-3999  
**Studio Manager:** Jim Rudd

\*\*\*\* GLASER SOUND STUDIOS  
 916-19th Ave. S., Nashville, TN 37212  
 (615) 327-0005  
**Owner:** Thomas P., Charles V., James W. Glaser  
**Studio Manager:** June Glaser for bookings

\*\*\*\* GREAT CIRCLE SOUND  
 365 Great Circle Rd., Nashville, TN 37228  
 (615) 259-9111  
**Owner:** Teh Benson Co  
**Studio Manager:** Kym Harrison  
**Engineers:** Bob Clark, Chrs McCollum  
**Dimensions of Studios:** 40' x 60'  
**Dimensions of Control Room:** 12' x 18'  
**Tape Recorders:** MCI JH-114 24 track, MCI JH-110 2 track, TEAC 601 cassette  
**Mixing Consoles:** MCI JH-528, 28 in x 28 out  
**Monitor Amplifiers:** Crown D150, AB410  
**Monitor Speakers:** UREI Time Aligned 813's, JBL 4311's, Auratones 5C  
**Echo, Reverb, and Delay Systems:** Lexicon digital delay 102 Delta, EMT 240 Gold Foil, AKG BX-20, Spring echo  
**Other Outboard Equipment:** Eventide Flanger, (4) UREI 1176 limiters, (2) UREI LA3A limiters, (2) dbx 160 limiters, Orban parametric EQ, Orban De-Esser, harmonizer, Kepex, Dolby  
**Microphones:** Neumann U-87, U-47, KM-84, Sennheiser 421, 441, AKG 414, 224E, D202, Shure SM-56, 57, Electro-Voice RE-16, Beyer 160  
**Instruments Available:** Yamaha 7'4" grand piano, ARP String Ensemble, Hammond C3 organ & Leslie, Wurliizer electric piano, clavinet, Music Man bass & guitar amps, UREI bandpass filter  
**Rates:** \$130/hr with engineer, \$115/hr, no engineer.

\*\*\*\* GROUNDSTAR LABORATORY  
 (Division of Ronnie Milsap Enterprises)  
 12 Music Circle So., Nashville, TN 37203  
 (615) 244-4861  
**Owner:** Ronnie Milsap  
**Studio Manager:** Don Refues, Ben Harris

\*\*\*\* HAYES RECORDING STUDIO  
 2406 South MacDill Ave., Tampa, FL 33609  
 (813) 837-6384  
**Owner:** Paul Hayes  
**Studio Manager:** Paul Hayes  
**Engineers:** Paul Hayes, Jim Cottle, Gary Rivera (freelance engineers welcome)  
**Dimensions of Studios:** 20' x 24' x 12', 8' x 9' drum booth  
**Dimensions of Control Room:** 20' x 15' x 9'  
**Tape Recorders:** Ampex MM 1200 24 track, Ampex 440 B track, Ampex 440B 2 track, Scully 280B 2 track, Tascam 404 4 track  
**Mixing Consoles:** Sphere A custom, 24 in x 16 out  
**Monitor Amplifiers:** Crest P3500, Yamaha P2050 (phones)  
**Monitor Speakers:** UREI 813, Sentry III, Auratone 5C  
**Echo, Reverb, and Delay Systems:** MICMIX Master Room III, MICMIX XL305, Eventide Harmonizer H910, DL2 Acoustic computer  
**Other Outboard Equipment:** dbx 160 compressor/limiters, Orban 516EC De-esser, Audiotacs 4200A parametric, ADR Vocal Stressor, dbx 208 noise reduction, UREI room equalizers 539  
**Microphones:** Neumann U-87, RCA 77DX, 44DX, Beyer M160N (C), P2M, Electro-Voice RE-15, 666, Sony C-37, Shure SM-53, 54, 57, 58, 81, 545, AKG D-200E, 707-E, D-202, D 12,





Nakamichi Dual Tracer 500 cassette  
**Mixing Consoles:** Neve 8038, 32 in x 24 out w/Allison Research  
 Faxed Automation.

**Monitor Amplifiers:** McIntosh 2100's  
**Monitor Speakers:** UREI 813's, JBL 4313-B, Auratones.  
**Echo, Reverb, and Delay Systems:** (3) EMT plates, Gotham  
 Audio digital delay, Eventide Harmonizer, Cooper Time Cube.  
**Other Outboard Equipment:** Two ADR Vocal Stressors, Scamp  
 rack, Teletronix compressors, LA-2A, LA-3A limiters, BTX syn-  
 chronizer & generator (32 tracks to 40 tracks possible, EXR Ex-  
 citer, Dolby noise reduction, Eventide Phaser  
**Microphones:** Neumann U-87s, U-67s, U-47s, U-48s, M-49s,  
 KM-84s, KM-56s, Electro-Voice RE-15s, RE-16s, RE-20s; Sony  
 ECM-50s, C-500s, C-55s; RCA 44s, 77s; ELA-251's; AKG 414,  
 105 mikes total.

**Instruments Available:** Steinway baby grand, Baldwin 9' grand,  
 Steinway 5' G 1240, Hohner D-6 clavinet, stereo Fender Rhodes,  
 Wuritzer electric piano, Celeste, Zucker electric harpsichord,  
 Deagan vibes, manimba, Hammond organ w/B-3 Leslie.  
**Rates:** Available upon request

\*\*\*\* THE MUSIC PLACE  
 1817 Oxmoor Rd., Birmingham, AL 35209  
 (205) 871-4221, 879-5060

**Owner:** Center Corp  
**Studio Manager:** Randy Richards  
**Engineers:** Jerry Masters, Mike Guerra  
**Dimensions of Studios:** 27' x 57' x 16', also live room 11' x  
 23' x 9' 10', drum room: 10' x 10' x 9'  
**Tape Recorders:** Studer A800 24 track, Studer A-80 RC 2 track,  
 ATR 100 2 track Ampex  
**Mixing Consoles:** Neve w/class A electronics, 32 in x 32 out.  
**Monitor Amplifiers:** Yamaha P2200, ADS 200's  
**Monitor Speakers:** UREI 813, JBL 4311, Auratone  
**Echo, Reverb, and Delay Systems:** EMT stereo plate, Lexicon  
 224

**Other Outboard Equipment:** Harmonizer, Prime Time, API  
 EQs, Kepex, ADR Vocal Stressors, 1176 limiters, LA 2A limiters,  
 dbx, Dolby on 2 tracks

**Microphones:** AKG's, Neumann, Sennheiser, Sony, Shure,  
 PZMs, Studer SKM-520, E-V RE-20, RCA 77 DX, 44  
**Instruments Available:** 2 complete drum sets, concert toms, 7'  
 8" Yamaha grand, 6' 9" Kawai grand, Hammond B-3 organ  
 w/Leslie, clavinet, Rhodes 88, Jenco vibes, congas, MiniMoog  
 and Prophet available, guitars and amps  
**Rates:** On request

**Extras:** We have extensive acoustical control in our main room  
 and a totally LEDF designed control room

\*\*\*\* OAK VALLEY RECORDING STUDIO  
 105 Oak Valley Dr., Nashville, TN 37207  
 (615) 227-9404

**Owner:** Henry Slaughter  
**Studio Manager:** Henry Slaughter

\*\*\*\* EDDY OFFORD STUDIOS  
 also REMOTE RECORDING  
 P.O. Box 90903 (1493 Jefferson St.), Atlanta, GA 30364  
 (404) 766-5143

**Owner:** Eddy Offord.  
**Studio Manager:** Valma Valle.  
**Engineers:** Eddy Offord, Chuck Allen.  
**Dimensions of Studios:** 10,000 sq. ft.  
**Tape Recorders:** MCI JH-100 24 track, MCI JH-110 2 track,  
 Stellamaster 2 track.  
**Mixing Consoles:** Neotek Series III, 28 in x 24 out; Neotek Series  
 III-C, 36 in x 24 out.  
**Monitor Amplifiers:** Crown DC 300A, D-75's (phones).  
**Monitor Speakers:** JBL 4350's, JBL 4311's, MDM TA3's.  
**Echo, Reverb, and Delay Systems:** Lexicon 224 digital reverb;  
 Klark-Teknik DN34; AKG BX20 delay, survival projects.  
**Other Outboard Equipment:** Dolby noise reduction; NTP  
 limiters; Barth EQ, UREI limiters and compressors; Eventide  
 Digital Delay, Flanger Harmonizer, and Phaser  
**Microphones:** Schoeps, Neumann, Shure, Beyer, Electro-Voice,  
 PZM, and transformerless active direct boxes. We also have a unique  
 headphone system (patent pending) that allows each musician  
 to mix their own phones.

**Instruments Available:** Steinway B piano, Moeller pipe organ.  
**Rates:** Available upon request.  
**Extras:** Kitchen services available, game and video rooms planned,  
 guest passes available for American Fitness Center. With 200  
 theater seats inside, studios are video and radio broadcast  
 capable. Accommodations can be arranged for out of town  
 visitors.

**Direction:** Eddy Offord produced 7 albums by Yes and  
 engineered 4 albums by Emerson, Lake & Palmer. Melody Maker  
 Top Ten Producers list ten years in a row. We are unlike any other  
 studio in the business in that there is no physical barrier separating  
 the musicians and the board. Located in 40-year old East Point  
 Theatre, Eddy Offord Studios has an ambience that must be seen  
 to be appreciated. We are totally musician oriented and dedicated  
 to technical excellence and comfort.

# 24 TRACK The Southeast

\*\*\*\* POLLYFOX 24 TRACK RECORDING STUDIO  
 also REMOTE RECORDING

38 Music Square East, Rm. 212, Nashville, TN 37203  
 (615) 244-5539  
**Owner:** Glen Fox  
**Studio Manager:** Glen Fox

\*\*\*\* QUADRADIAL CINEMA CORP.

14203 N.E. 18th Ave., No. Miami, FL 33181  
 (305) 940-7971, 940-7972, 940-7978, 940-7994  
**Owner:** Robert M. Ingna, Mary A. Shahan, Keith W. Shahan  
**Studio Manager:** Mary A. Shahan  
**Extras:** Creative art director & advertising dept., photography  
 lab & photographer, kitchen, dining and recreational areas, 19"  
 Sony Trinitron color television & Betamax.  
**Direction:** Sex, drugs, rock 'n' roll. "Fix It In The Mix," "It's A  
 Crazy Business," "More Bass!"

\*\*\*\* QUADRAFONIC SOUND STUDIO

1802 Grand Ave., Nashville, TN 37212  
 (615) 327-4568  
**Owner:** Renken Inc  
**Studio Manager:** Joe Gayden & Betty Sanford  
**Engineers:** Steve Gostree, Craig Claigurner, Kevin Nemo,  
 Jimmy Stroud, Willie Pevear  
**Tape Recorders:** Studer A-800 24 track, Studer A-80 1/2" 2  
 track, Ampex ATR 100 2 track; Ampex 440 2 track; Revox 1/4  
 track; Revox 1/2 track; Sony digital 2 track  
**Mixing Consoles:** MCI 500 (modified to board), 32 in x 32 out.  
**Monitor Amplifiers:** McIntosh 2300, MDM 4's  
**Monitor Speakers:** Big Reds, JBL 4310's, Technics SBX 30,  
 Advents, Auratones  
**Echo, Reverb, and Delay Systems:** (2) EMT plates, (2) Time  
 Lines, Sony digital reverb.  
**Other Outboard Equipment:** Eventide Harmonizer; (2) dbx  
 160s; Teletronix LA2As; (2) Quad/Eight limiters; (2) LA4s;  
 Orban/Parasound De-Esser; (4) Audio Design sweep equalizers;  
 (4) ADR F-300s; (2) ADR compressors; (2) parametric equalizers;  
 (2) dual gates; Prime Time; (2) ADR Vocal Stressors; Marshall  
 Time Modulator; Kepex; Gain Brain; (4) Sphere equalizers.  
**Microphones:** Shure, AKG, Neumann, Beyer, Electro-Voice,  
 Sony. A range of tube mics.  
**Instruments Available:** Hammond B-3, Hohner clavinet,  
 Hohner pianet, Steinway grand, Wuritzer electric piano, Fender  
 Rhodes, tack piano, Allen harpsichord, Hohner hip piano, Leslie  
 organ  
**Rates:** \$125/hr, negotiable.

\*\*\*\* REFLECTION SOUND STUDIOS

also REMOTE RECORDING  
 1018 Central Ave., Charlotte, N.C. 28204  
 (704) 377-4596  
**Owner:** Wayne Jernigan.  
**Studio Manager:** Jane Stowe  
**Engineers:** Steve Hagler, Mark Williams, Wayne Jernigan,  
 Chip Garrett—Maintenance engineer  
**Dimensions of Studios:** Studio A: 32' x 45' x 16' ceiling,  
 Studio B: 10' x 8', Studio C: 28' x 24' x 12' ceiling.  
**Dimensions of Control Rooms:** Control A: 16' x 18', Control  
 B: 12' x 15', Control C: 14' x 18'.  
**Tape Recorders:** (2) MCI JH-24 w/Autolocator III 24 tracks; (2)  
 Ampex ATR-102 2 tracks; (2) Ampex 440; Otari MX5050 B  
 track; (2) Otari MX5050 1/4 tracks  
**Mixing Consoles:** Studio A: MCI JH-636 automated, 36 in x 36  
 out, Studio B: Sound Workshop 1280, 12 in x 8 out; Studio C:  
 Trident Series 80, 32 in x 32 out  
**Monitor Amplifiers:** BGW, AB Systems  
**Monitor Speakers:** 1-A1 monitors w/TAD components, Altec 604  
 w/Mastering Lab Crossover, JBL, KEF, ROR.  
**Echo, Reverb, and Delay Systems:** EMT, Lexicon 224, AKG  
 BX-20, DeltaLab DL-1, DeltaLab DL-2.  
**Other Outboard Equipment:** UREI 1176 limiters; dbx 900  
 frame w/noise gates; de-essers & limiters; dbx 160, 162, 165;  
 EXR Ex-citer; Loft Analog Delay; White 1/3 octave EQ, Dolby noise  
 reduction  
**Microphones:** Neumann U-67, U-87, U-64, U-47; AKG 414,  
 452, 224, 202, Shure SM-7, SM-57, SM-54, SM-56; Sennheiser  
 421, 441; E-V RE-20, RE-15, RE-16; RCA DX-44.  
**Instruments Available:** Yamaha piano, Kawai piano, Sonor

drums, stereo Fender Rhodes, Wuritzer, ARP Omni, clavinet,  
 Tack piano, Fender guitar amps, Musser vibes, concert toms,  
 congas, Hammond B-3 w/Leslie.  
**Rates:** Available upon request.

*Reflection Sound Studios  
 Charlotte, N.C.*



\*\*\*\* ROXY RECORDING THEATER

827 Meridian St., Nashville, TN 37207  
 (615) 227-0920  
**Owner:** RRT, Inc.  
**Studio Manager:** Brenda Bridges, Booking—Donna Bridges.  
**Engineers:** Fred Hill, Chief Mixer—Bruce Albertine.  
**Dimensions of Studios:** A: 30' x 85' includes 280 seat theater  
 w/25' x 40' stage, AA: 35' x 40'  
**Dimensions of Control Rooms:** A: 30' x 35', AA: 20' x 28'  
**Tape Recorders:** A: Ampex 300 Series mono/2/4/8 track, MCI  
 JH-114 24 track; AA: MCI JH-114 24 track  
**Mixing Consoles:** A: Neumann Solid State, 24 in x 24 out; AA:  
 MCI 428, 28 in x 24 out  
**Monitor Amplifiers:** McIntosh  
**Monitor Speakers:** Altec, Electro-Voice, JBL  
**Echo, Reverb, and Delay Systems:** AKG BX-20, EMT 140ST  
 plates, Prime Time.  
**Other Outboard Equipment:** Collection of vintage tube and  
 passive equalizers and limiters  
**Microphones:** Neumann, AKG, RCA, Electro-Voice, Shure,  
 Altec, Western Electric; tube mics available  
**Instruments Available:** Yamaha G-1 grand piano, Hammond  
 'M' w/Leslie, Gulbransen theater organ, Baldwin upright piano,  
 Ludwig standard drums  
**Rates:** \$100/hr. Call for block booking

\*\*\*\* SCRUGGS SOUND STUDIO

2828 Azalea Place, Nashville, TN 37204  
 (615) 383-7994  
**Owner:** Randy Scruggs and Steve Scruggs  
**Studio Manager:** Tricia Johnson  
**Engineers:** Tom Brown, Steve Scruggs, Randy Scruggs  
**Dimensions of Studios:** 26' x 35' w/cathedral ceiling.  
**Dimensions of Control Rooms:** 12' x 16'  
**Tape Recorders:** MCI JH-24 transformerless 24 track, MCI  
 JH-110 1/2" transformerless 2 track, MCI JH-110 1/4"  
 transformerless 2 track; Sony cassette deck.  
**Mixing Consoles:** MCI JH-636 w/full automation & VCA group-  
 ing, 28 in x 24 out.  
**Monitor Amplifiers:** McIntosh 2300, Crown DC-300, Crown  
 DC-150, BGW  
**Monitor Speakers:** Altec 604E Big Reds w/Mastering Lab  
 Crossovers, JBL 4311's, MDM: 4 mixdown monitors, Auratones,  
 Bolvers  
**Echo, Reverb, and Delay Systems:** EMT 250 digital reverb,  
 Custom plate reverb, Lexicon Prime Time  
**Other Outboard Equipment:** Vocal Stressor, Audioarts stereo  
 parametrics, dbx compressor/limiters, MXR Phaser, Eventide  
 Harmonizer, API 550-A EQ; 24 tracks dbx noise reduction, Or-  
 ban Sibilance Controller.  
**Microphones:** Neumann U-87, KM-84, U-47, AKG 414's, 451's,  
 452's; Sennheiser 421's; Sony condensers; Calrec condensers;  
 Shure SM-57's, SM-58's; Electro-Voice RE-20's  
**Instruments Available:** Yamaha 7 1/2" grand piano, stereo  
 Rhodes 88 electric piano, AEP synthesizer, Ludwig wood-shell  
 drums, various assortment of amplifiers, musical instruments,  
 Hammond A-100 organ w/Leslie, other equipment available on  
 rental basis.  
**Rates:** \$130/hr including engineer.

\*\*\*\* SONGBIRD STUDIO

also REMOTE RECORDING  
 1715 DeFoot Ave., Atlanta, GA 30318  
 (404) 351-5955  
**Owner:** Richard Head  
**Studio Manager:** Richard Head



**Engineers:** Richard Head, Lou Frish  
**Dimensions of Studios:** 30' x 24'  
**Dimensions of Control Rooms:** 15' x 12'  
**Tape Recorders:** Ampex MM 1100 w/1200 electronics 16/24 track, Techniques 1520 2 track, Ampex 440B 2 track; Techniques 1506 2 track, Tascam 80-8 8 track; Tascam 25-2 2 track  
**Mixing Consoles:** Sound Workshop 1600, 28 in x 24 out w/full "Arms" automation—noise gates on all channels, Tapco C-12 for remote recording  
**Monitor Amplifiers:** Crown DC 300, Tapco CP120  
**Monitor Speakers:** JBL 4311, Auratones  
**Echo, Reverb, and Delay Systems:** Ursa Major digital reverb, Lexicon Prime Time delay, Ibanez AD 220 analog delay  
**Other Outboard Equipment:** UREI LA-4 compressor/limiters, LT Sound Arc II compressor/limiter/expander, dbx 163 compressor limiters, ICP pre-amp, SAE parametric, 26 channels dbx  
**Microphones:** Neumann (2) KM-84, (2) U 64 (tubes), Sony C-4R's, ECM-22's, Electro-Voice RE-20's; Sennheiser 421's, 441's, Crown PZM's, Shure SM-57's  
**Instruments Available:** ARP Omni, ARP Axse, ARP Avator, Fender Rhodes with Satellite speakers, Hohner clavinet, Univox organizer (for Hammond B-3 sound), Wurrlitzer acoustic piano  
**Rates:** Call for rates

**Extras:** Studio has a great atmosphere with 20 foot cathedral type ceiling main room drum booth and vocal booth. It has a great acoustical balance between live and dead surfaces utilizing both hand wood surfaces along with the newly developed sonex material.  
**Direction:** Songbird has been recently upgraded to a full 24-track facility with automated mixdown. For the last 5 years we have been competing with the "big studios" with semi-pro gear and standing our ground. We have placed cuts for two years in a row on the local 96 rock Homecooking Album which last year sold 20,000 copies—both done on "semi-pro" gear. We plan to go onto even bigger accomplishments now that we are a full 24 track facility.

•••• **SOUND EMPORIUM RECORDING STUDIOS, INC.**  
 3102 Belmont Blvd., Nashville, TN 37212  
 (615) 383-1982  
**Owner:** Larry Butler, Roy Clark, Jim Williamson  
**Studio Manager:** Jim Williamson  
**Engineers:** Jim Williamson, Gary Laney, John Abbott, Cathy Potts, Bo Stewart (staff), Harold Lee, Billy Sherrill, Charlie Tallent, Garth Fundis (independents)  
**Dimensions of Studios:** Studio A 33'W x 39'D x 22'H, with

# 24 TRACK The Southeast

string alcove 15' x 20', Studio B: 14'W x 23'D x 9'H, with 11' x 21' dog-leg and 10' x 7' drum booth, Studio C: 35'W x 35'D x 18'H, including drum booth  
**Dimensions of Control Rooms:** Studio A 19'W x 19½'D, Studio B: 15'W x 17'D, Studio C: 15'W x 17'D  
**Tape Recorders:** Studer A-80 VU II 24 track (16 track capability), Studer A-80 RC 2 track, Studer B-67 2 track, Ampex AG-440B 4 track  
**Mixing Consoles:** Harrison 3232AB (Studio A), Harrison 3232C (Studio B), Harrison MR2 (Studio C)  
**Monitor Amplifiers:** Altec, BGW, Crown, McIntosh, Sony  
**Monitor Speakers:** The ONES cabinets by John Gardner with Gauss woofers and TAD drivers  
**Echo, Reverb, and Delay Systems:** EMT 140 stereo plates (two per studio), Quad/Eight spring reverb, acoustic echo chambers (two 8' x 10' x 35' chambers with nonparallel walls).  
**Other Outboard Equipment:** Dolby (24 tracks in all studios), DDL, noise gate harmonizer, phaser, flanger, Vocal Stressor limiter/compressors, digital metronome, bass and guitar amplifiers, Prime Time  
**Microphones:** AKG, Electro-Voice, Neumann, PZM, RCA, Sennheiser, Sony Studer, Superscope, PML, Wright, Shure  
**Instruments Available:** Fender Rhodes electric pianos (3), Wurrlitzer electric pianos (3), Hammond B-3 and C-3 organs, clavinet Celeste, Chickering grand piano (Studio A), Steinway grand pianos (Studios B & C), Tack pianos (Studio C), tympani, congas, vibes, manimba, orchestra bells, MiniMoog, harpsichord  
**Rates:** Upon request  
**Extras:** Pre set string alcove (Studio A), 15 and 30 ips capabilities

in all studios. Other instruments and equipment available upon request—ask us!  
**Direction:** Paul Anka, Julie Andrews, Moe Bandy, Debby Boone, Sammy Davis Jr., John Denver, Terri Gibbs, Marshall Tucker Band, Little River Band, Don McLean, Jerry Reed, Kenny Rogers, Joe Stampley, Don Williams. During 1981, Sound Emporium averaged 11% of the singles and 15% of the albums on the country charts.

•••• **THE SOUND LAB**  
 1708 Grand Ave., Nashville, TN 37212  
 (615) 327-4744  
**Owner:** David Kent  
**Studio Manager:** Jim Cotton; Jean Roberson, General Mgr  
**Engineers:** Jim Cotton, chief engineer, Joe Scate, Pat Holt, Chuck Amley  
**Dimensions of Studios:** 24' x 32' x 25'  
**Dimensions of Control Rooms:** 12' x 24' x 8'  
**Tape Recorders:** Studer A 80 MK III 24 track, Studer 2 track, ATR 2 track  
**Mixing Consoles:** Fleckenger custom, 32 in x 32 out, MCI 416, 24 in x 24 out  
**Monitor Amplifiers:** BGW Bi-Amp  
**Monitor Speakers:** JBL 4320, Altec 605 ES (Big Reds) Auratones (White EQ), MDM 4  
**Echo, Reverb, and Delay Systems:** (2) Live acoustic silos, EMT 240 stereo  
**Other Outboard Equipment:** Dolby harmonizer (2) Time Cubes (4) UREI limiters (3) dbx 160 limiters Teletronix LA2A Gain Brains; octave EQ, Lexicon Prime Time, DL 2, all name brand outboard equipment available on request  
**Microphones:** Neumann U-87's, U 48, U-47, Sennheiser 421's, KM 86's, KM-84's; AKG 451, 224's, RC-A 77-DX, 44 DX, Beyers, Shure 57's, E-V RE 20's, RE-16's  
**Instruments Available:** 7 Steinway, Hammond B 3 Allen harpsichord, Fender amps, Ludwig drums, Fender Rhodes, Wurrlitzer, various Latin percussion instruments, Peavey bass amp, Honky  
**Rates:** Available on request  
**Extras:** Funk  
**Direction:** Ron Hafkine, Dr. Hook, Helen Reddy, Mick Fuhrman, Manhattan Transfer, Emmy Lou Harris, Brian Ahern, Billy Joe Shaver, Ray Stevens, Eddie Rabbit, Wood Newton, Dillard & Boyce, Nantucket, Christy Lane

## “Engineers Who Listen To Both You And The Music...”

AUDIO IMAGE Recording Studio knows that engineering is both an art and a business. That's why our engineers listen to our clients, and do their best to get what you want on tape.

Along with professional engineering, here's what you'll get at the new AUDIO IMAGE:

- 8- and 16-track recording (Soon to be 30-track).
- Completely re-designed control room with ear-level monitoring.
- New string and horn ensemble room.
- Fully-enclosed drum room.
- Complete selection of outboard equipment.
- Piano, electronic keyboards, and drums available at no extra cost.

### AUDIO IMAGE RECORDING STUDIO

3685 N. Federal Highway, Pompano Beach, Florida 33064 (305) 943-5590

•••• THE SOUND ROOM, INC.  
325 Patterson Ave., Fort Oglethorpe, GA 30742  
(404) 866-2432

Owner: Steve Mullinix  
Studio Manager: Steve Mullinix  
Direction: Our studio wants to be a source of creativity. Each musician and singer has something unique and special to offer and we work to develop that individuality. We hope to be a part of developing trends instead of following them. Our production effort is really an attempt to bring out the absolute best in each performer. In guiding, advising, and helping each person who comes our way—our clients become our friends. No one knows who will be tomorrow's star, so we professionally treat everyone as having that potential. We consult with our clients about every aspect of the business, helping them to develop their career with the right steps in a specific direction. In addition to having the newest concepts in acoustic design (giving the term "live" recording a new meaning), we educate the music community about the reasons for our concept. We let the client get hands-on experience in their own mixdown. We also offer a 10 week course in recording/engineering. Other services include complete songwriter services (custom sheet music, lead sheets, etc.) sound equipment sales and jingles. Our equipment list is growing ever so rapidly—for our object is to offer the absolute best in new technology.

•••• SOUNDSHOP, INC.  
1307 Division St., Nashville, TN 37203  
(615) 244-4149  
Owner: Soundshop, Inc.  
Studio Manager: Craig Deitchmann

•••• SOUND STAGE  
10 Music Circle South, Nashville, TN 37203  
(615) 256-2676

Owner: 8 owners—Incorporated  
Studio Manager: Pat Meyer  
Engineers: Chief Engineer Brent King, Maintenance Supervisor: Gordon Evans, Engineers: Steve Fralick, Ron Treat, Steve Tillisch, Warren Peterson  
Dimensions of Studios: Studio A (front stage): 48' x 30'; Studio B (back stage): 30' x 20'  
Dimensions of Control Rooms: Front stage 15' x 30', Back stage: 24' x 24'  
Tape Recorders: Studer A-800 24/16 track, Studer A-80 1/2" and 2" 24/2 track, Studer A-80 1/4" 2 track, Studer B-67 1/4" 2 track; upon request JVC Digital System 2 track  
Mixing Consoles: Neve w/Necam 8068, 32 in x 16 out, Trident w/65k automation TSM, 32 in x 24 out  
Monitor Amplifiers: AB Systems, McIntosh, BGW, Crown  
Monitor Speakers: George Auggsperger Custom Monitors, JBL 1176s, Auratone, Bolivar, JBL 4311, Yamaha NS10.  
Echo, Reverb, and Delay Systems: EMT 251 digital reverb, (4) EMT's, EMT Gold Foil, Lexicon Delta T, Lexicon Prime Time, Eventide Digital Delay, Cooper Time Cube  
Other Outboard Equipment: Eventide Harmonizer, UREI, Teletronix, dbx, Neve limiters, ADR Vocal Stressors; ADR Scamp rack, Kepex, Gain Brain, Pultec tube EQ, Orban De-Esser, UREI; Soundcraft Parametrics, etc.  
Microphones: Neumann U-47, U-87, KM-86, KM-84, KM-54, AKG 414, 451, 452, D-12, D-224, Sennheiser 421, 441, Sony 33-P, 22; Beyer M-69; Studer SKM5U, SK-S501; PZM plates, E-V RE-16, RE-20  
Instruments Available: 9' C. Bechstein, 7' Steinway, Hammond B-3, Rhodes stereo 88, 73. Hohner clavinet, Wurliizer Star Tack piano.  
Rates: \$130/hr w/engineer, \$160/hr mixdown w/Necam.

•••• SOUND TRACK  
2830 Dogwood Place, Nashville, TN 37204  
(615) 297-2293 or 269-0694  
Owner: Wayne Edmondson  
Studio Manager: Ken Laxton

•••• SOUTHERN TRACKS RECORDING  
1224 Fernwood Cir. N.E., Atlanta, GA 30319  
(404) 231-9319, 231-9489  
Owner: Bill Lowery  
Studio Manager: Mike Clark  
Engineers: Doug Johnson, Mike Clark, Janet Synder  
Dimensions of Studios: 22' x 58'  
Dimensions of Control Rooms: 20' x 16'  
Tape Recorders: Ampex 1200 24 track, Studer A-80 2 track; Ampex 440 2 track, Aiwa cassette 6700  
Mixing Consoles: Harrison 2824, 28 in x 24 out  
Monitor Amplifiers: Crest, BGW, AB, Crown  
Monitor Speakers: JBL 4320, 4313; Auratones  
Echo, Reverb, and Delay Systems: Lexicon 224 digital, EMT, Lexicon Prime Time  
Other Outboard Equipment: Orban parametric, Vocal Stressor, Eventide Harmonizer, dbx 165s and 160s limiters, White and UREI EQs, Kepex's, flange, Godwin exciter  
Microphones: Neumann U-87s, U-47s, U-84s, U-88s; AKG 414s, 452s, Sennheiser 441s, 421s, Shure 57s, 53s  
Instruments Available: Ludwig drums, Rhodes Mark II, clavinet, Wurliizer, Yamaha grand, Prophet 5, MiniMoog, percussion instruments.  
Rates: \$135/hr, block booking rates on request.

# 24 TRACK The Southeast

•••• S.R.S. (SOLID ROCK SOUND RECORDING STUDIO)  
also REMOTE RECORDING  
536 Huffman Rd., Birmingham, AL 35215  
(205) 833-6906  
Owner: Noah L. White  
Studio Manager: Noah L. White

•••• STUDIO ONE  
3684 Oakcliff Industrial Ct., Doraville, GA 30340  
(404) 449-5147  
Owner: Buddy Blue, Bill Lowery, Jr. Cobb  
Studio Manager: Rick Maxwell

•••• STUDIO FOUR  
also REMOTE RECORDING  
1918 Wise Dr., Dothan, AL 36303  
(205) 794-9067  
Owner: Jerry Wise  
Studio Manager: Steve Clayton  
Engineers: Jerry Wise, Steve Clayton  
Dimensions of Studios: 30' x 22' x 15' w/10' x 10' x 10' drum room  
Dimensions of Control Rooms: 20' x 15' x 10'  
Tape Recorders: MCI JH-24 24 track; MCI JH-110B 2 track, Technics 1500 2 track, Sony TC-353D 2 track, Tascam 80-8 B track  
Mixing Consoles: Tangent 3216, 24 in x 24 out  
Monitor Amplifiers: Phase Linear 700, Tapco CP120  
Monitor Speakers: JBL 4333, Auratone 5C, Klipsch La Scala  
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Lexicon Prime Time, Eventide Harmonizer 910, EMT 140 plate  
Other Outboard Equipment: dbx limiter/compressors, dbx noise gates, Mutron B-Phase  
Microphones: Neumann U-87s, RCA 77-DX, E-V RE-20, PL-77, PL-80, PL-91, RE-16; Shure SM-57, SM-58; Sony ECM-22P, Sennheiser 421U  
Instruments Available: Yamaha grand piano, Rhodes electric piano, Wurliizer electric piano, Hohner clavinet; Roland synthesizers, Ludwig drums, Peavey, Fender, Ampeg guitar amps, Fender and Guild guitars; ARP String Ensemble; Orchestron.  
Rates: 24 track: \$75/hr, 2 track & mix: \$35/hr, block rates available. Stereo cassette duplication (prices on request)

•••• STUDIO "7" RECORDING CO.  
also REMOTE RECORDING  
P.O. Box 57, Smith Station, AL 36877  
Owner: Frank B. Gowan  
Studio Manager: Arnold Massey

•••• THRESHOLD RECORDING  
also REMOTE RECORDING  
410 Elm Ave. S.W., Roanoke, VA 24016  
(703) 325-2539  
Owner: J. Harold Thompson, F. Howard Beasley  
Studio Manager: F. Howard Beasley  
Engineers: J. Harold Thompson  
Dimensions of Studios: 30' x 25'  
Dimensions of Control Rooms: 20' x 12'  
Tape Recorders: Ampex 1100 16 track; Ampex 440B 8 track, also (2) 440B 2 track and mono machines.  
Mixing Consoles: Loft Modular Devices 440, 24 in x 16 out  
Monitor Amplifiers: AB Systems  
Monitor Speakers: Electro-Voice Sentry III, Altec 9845, Auratones  
Echo, Reverb, and Delay Systems: AKG BX-20 reverb, Loft Modular Devices analog delay (2), Eventide Digital Delay 1745A  
Other Outboard Equipment: UREI 1176 limiters, Ashly SC-50 limiters, Gain Brains, Ashly SC66 parametric EQ, Allison Kepex, Orban/Parasound stereo synthesizer, Orban/Parasound D-Esser.  
Microphones: Neumann U-87; AKG 451; Shure SM-58, 57; E-V RE-15, PZM 130, Studer SKM 5U  
Instruments Available: Steinway grand piano, Hammond B-3 organ, Fender P bass, Ludwig drums, clavinet, Rhodes 88.  
Rates: \$50/hr 8 track; \$35/hr 2 track and mono

•••• TRAKS, INC.  
1943 N.E. 148th St., North Miami, FL 33181  
(305) 940-4848  
Owner: Traks, Inc.  
Studio Manager: Robert Kutchera

•••• TRI STATE RECORDING CO.  
2006 E. Center St., P.O. Box 3860,  
Kingsport, TN 37664  
(615) 246-9701  
Owner: Tilford Salyer  
Studio Manager: Rick Salyer

•••• TRIAD RECORDING STUDIOS, INC.  
also REMOTE RECORDING  
5075 N.E. 13th Ave., Ft. Lauderdale, FL 33334  
(305) 771-1431  
Owner: Brandon Productions  
Studio Manager: Michael Laskow, General Mgr., Douglas Weynck  
Engineers: Michael Lakow, Vincent Oliveri, Robert Corti  
Dimensions of Studios: 45' x 23' x 20' Pyramided ceiling sound diffusion system.  
Dimensions of Control Rooms: 21' x 14' x 13', diffused to 9' at console  
Tape Recorders: (2) MCI JH-110B 2 track, MCI JH-110B-14-4 track; (2) MCI JH-114-24 track; Technics 1506 1/4 track/1/2 track, (5) JVC DD-5J cassette decks  
Mixing Consoles: MCI JH-556-56L/M, 56 in x 56 out w/8 echo returns, 64 automated channels w/Plasma Display and Spectra Vue  
Monitor Amplifiers: JBL 6233 "Ice Cubes", McIntosh 2100's; Crown D-60's.  
Monitor Speakers: UREI 813 time Aligns, JBL 4311's, JBL 4333's, Auratone 5-C cubes, Mini Reds  
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Lexicon 93 Prime Time, (2) live echo chambers 11' x 13' x 15' x 9' sloped to 20'  
Other Outboard Equipment: dbx 160 compressor/limiters, dbx 165 over easy, UREI LA-4 compressor/limiters, UREI LA-2 tube limiter, Eventide 910 and 949 Harmonizers, Eventide Omnipressor, dbx 900 Series noise gates and de-esser, Dolby noise reduction, Orban parametric EQ, UREI 527-A graphic EQ's.  
Microphones: Neumann U-87s, U-47s, AKG 414-EB, Sennheiser 441, 421; Sony ECM-56P, ECM-50, ECM-50, ECM-33P; Electro-Voice 635A, RE-20; Shure SM-57, SM-546; JVC Binaural  
Instruments Available: Yamaha 7'4" grand piano, Ludwig drum kit, Hammond C-3 w/Leslie, amplifiers, guitars, etc., upon availability. Any instruments through rental.  
Rates: Upon request  
Extras: Total privacy, raquet ball courts with jacuzzis etc., nearby beaches, restaurants, hotels, fishing, boating, Jai Lai  
Direction: Neil Young, Marshall Tucker Band, Cheap Trick, Melanie, Pat Travers, Bob Marley, Dr. Hook, Pat Benatar, Eddie Money, Helen Reddy, Smokey Robinson, Ronnie Montrose, and many more. Complete creative environment total privacy with all the leisure accoutrements and "state-of-the-art" technology to give the artist the atmosphere and capability for expression. Members of SPARS. Recent updates include the MCI 556 console (48 tracks) and video capability to maintain Triads world class standards

•••• WEBB IV RECORDING STUDIO  
2107 Faulkner Road, N.E., Atlanta, GA 30324  
(404) 321-5993

Owner: Ilene Berns  
Chief Engineer: Ed Seay  
Engineers: Richard Wells, Asst. Engineer Tommy Cooper  
Dimensions of Studios: 2,450 sq ft with and 18 ft ceiling  
Two isolation booths: Large booth 102 sq ft., small booth, 21 sq ft.  
Dimensions of Control Rooms: 19 1/2' x 19 1/2'  
Tape Recorders: Studer A-80 VU 24 track w/dbx and Dolby noise reduction, Studer A-80 VU 2 track 15/30 ips w/Dolby A; Studer A-80 RC 2 track 7 1/2/15 ips; Ampex AG440B 2 track, 7 1/2/15 ips w/dbx; Revox B77 1/4 track  
Mixing Consoles: Sphere Eclipse Type C, 32 in x 24 out w/Allison automation  
Monitors: JBL 4350, biamped with Studer A68 and Crest 3500; JBL L-100, 4313, driven by Yamaha P-2200 or AB410, Auratones, ROR, driven by AB 205  
Echo, Reverb, and Delay Systems: EMT 250 digital reverb, EMT 140 plate reverb, 2 live chambers  
Other Outboard Equipment: (3) UREI 1176 limiters, (2) UREI LA-3A limiters, ADR Vocal Stressor, Orange Country Vocal Stressor, (4) dbx 160, 162, 165 limiters, Allison Gain Brains, Allison Kepexes, (2) Pandora limiters, Eventide Harmonizer 949, Marshal Time Modulator, Lexicon Prime Time, Lexicon Delta T, Eventide Instant Phaser, Audioarts parametric EQ, Orban Parametric parametric EQ, 3 channel Orban De-Esser, Pultec EQ, UREI 527-A graphic EQ, EMT 250 digital reverb, EMT 140 plate reverb  
Microphones: Neumann U-87s, U-89s, U 47 FET's, MN-84's, KM-86's, KM-88, AKG 414's, 451/452's, C-24 stereo tube, D-224's, D-1000, Sennheiser 421's, 441's, Schoeps (Studer) SKH-54's, Shure SM-56, 57, 58; Electro-Voice, RE-20, RE-15, RE-10, 635



# 24 TRACK The Southeast

**Instruments Available:** Baldwin 9' grand piano, Chickering 9' grand piano, Fender Rhodes electric piano, Wurlitzer electric piano, RMI electric piano, Hammond B3 organ w/Leslie, Hohner D6 clavinet, Hohner Pianet, Oberheim OB-X polyphonic synthesizer, ARP Odyssey synthesizer, ARP Pro Soloist synthesizer, MiniMoog synthesizer, Univox Strinman, Crumar string synthesizer, Synclairs, xylophone vibes, drums, miscellaneous percussion, Music amps Marshall, Fender Twin, Fender Super Reverb, Fender Deluxe Acoustic, Peavey Ampex

**Rates:** 24 track recording and mix \$330/hr. 2 track editing, sequencing and playback \$50/hr. Please call for special project rates.

•••• WISHBONE RECORDING STUDIO  
P.O. Box 2631, Muscle Shoals, AL 35660  
(205) 381-1455

**Owner:** Terry Woodford, Clayton Ivey  
**Studio Manager:** Lee Daley  
**Engineers:** Lee Daley (Chief), Terry Woodford. Freelance engineers on call.

**Dimensions of Studios:** 1,360 sq ft  
**Dimensions of Control Rooms:** 576 sq ft  
**Tape Recorders:** MCI JH-24 w/Autolocator III 24 track, Ampex ATR 100 w/remote 2 track, MCI JH 110 w/remote 2 track, Scully 280 2 track, Hitachi D-E95 w/remote cassette

**Mixing Consoles:** MCI JH-636 w/automation and parametric EQ modules, 28 in x 24 out

**Monitor Amplifiers:** BGW, Bi-Amp, Crown, SAF

**Monitor Speakers:** Westlake JBL, Auratones, Altec

**Echo, Reverb, and Delay Systems:** EMT stereo plate, stereo acoustic chamber

**Other Outboard Equipment:** UREI 1176 (2), UREI LA 3A (2), ADR Vocal Stressor, Allison Gain Brain (4), Allison Kepex (4), UREI 565 filter set, Orban 622 parametric, Eventide Harmonizer, Eventide Instant Flanger, Lexicon Prime Time; devices by Roland, MXR and more.

**Microphones:** Neumann U-47, U-87, KM-86, KM-84, KM-88, Shure SM 57, SM-81, SM 7, 545, AKG C-414, C-412, C-452, Electro-Voice RE-20, RE 15, RE-10, CS-15P, Sennheiser MD-42i, Studer SKM-5-U

**Instruments Available:** Hammond A-105 organ w/Leslie, Yamaha conservatory grand piano, Rhodes piano, Wurlitzer electric piano, Hohner D-6 clavinet, Oberheim OB-1 synthesizer, ARP 2600 synthesizer, Musser vibes, Rogers drums w/Pearl rotoms, amps by Fender, MESA/Boogie, Music Man, Gon Bops congas, misc. percussion equipment, quad syndrums

**Rates:** Block rates are available, please call studio manager

**Extras:** Affiliates: Song Tailors Music Company (BMI), I've Got The Music Company (ASCAP), Washbone Production Company, Flying Colors Video Production Company, Flight Log Cabins resort motel adjacent to studio with tennis court, horseshoe pit, playground. Washbone branch offices in Nashville and Los Angeles

**Direction:** Artist who have recorded at Washbone include: Mac McAnally, Hank Williams Jr., Wayne Newton, Muscle Shoals Horns, Thelma Houston, Millie Jackson, Hot, Brenda Lee, Ruth Buzzi, John Prine, Cherry Sisters, Robert Byrne, Charlie Daniels, Gary Stewart, Dickie Lee, various other R&B, country, bluegrass, rock and gospel acts

•••• WOODLAND SOUND STUDIOS  
also REMOTE RECORDING  
1011 Woodland Street, Nashville, TN 37206  
(615) 227-5027

**Owner:** Ernie's Record Mart Nashville, TN

**Studio Manager:** Glenn Snoddy

**Engineers:** David McKinley, studio supervisor, Russ Martin, Rick McCollister, Steve Ham, Ken Corlew, Ken Cribble, recording engineers Denny Purcell, mastering supervisor Hank Williams, mastering engineer Mike Porter, technical supervisor, Kerry Kopp, technical engineer, Carol Sullivan, mastering secretary Sunny Smith, receptionist & secretary, Ema Jean Bean, traffic manager

**Dimensions of Studios:** A 45' x 35' x 22'; B 36' x 24' x 16'

**Dimensions of Control Rooms:** A 22½' x 17½' x 7'9"; B same as A

**Tape Recorders:** (2) Studer A80 16 and 24 track, (2) Studer A80 B 2 track, (2) Studer A80-RC 2 track, Studer A 67 14 track, Studer B 67 2 track, Studer A 80 pre-listen (2) Ampex 440 4

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track, Ampex 440 8 track, Ampex mono, Studer mastering 1/2" 2 track, Studer mixdown 1/2" 2 track

**Mixing Consoles:** Neve 8058, 24 in x 24 out, Neve 8078 36 in x 24 out

**Monitor Amplifiers:** AB systems 410, McIntosh MC2200, MI75, Crown DC300, Altec 128B

**Monitor Speakers:** THE-1, MDM 4, Westlake TM1, Auratones Altec 9845

**Echo, Reverb, and Delay Systems:** Echo EM™, AKG Delay Prime Time, DDL

**Other Outboard Equipment:** UREI digital, metronome, Eventide Harmonizers, Pandora digital time line, UREI 1176 (5 A, 4 B), Eventide Clockworks Instant Phaser, Orban D'Esser 150 or 60, crystal syn. pulse generator, 14KC Signal generator or sync. (for ltr use), Nakamichi 700 III cassette deck, Nakamichi 1000 II cassette decks, 66 channels-Dolby 56 channels-cbx (4 UREI LA4As ADR Vocal Stressor, (2) Lexicon Prime Times

**Microphones:** AKG C414 EB, C452 E3, D224 E, Altec M 49 Electro-Voice RE 11, RE 15, RE 16, RE-20, RE-50, 635 A, 668, 1751 & 649, Neumann U 87, U 47, U-67, KM 86, M 249RE RM-84, Sennheiser MD 421U, Shure SM-56, SM 53, SM 54 SM-7, Sony ECM-50, ECM-22P, C-55; Studer SKM5 U

**Instruments Available:** Steinway grand pianos, Hammond organs (B3, C3), Wurlitzer electric pianos, Fender Rhodes pianos, Hohner clavinet, Allen electronic harpsichord, Celeste electronic chimes 1S, vibes, tack piano, latin percussion congas, ARP String Ensemble, set of orchestra bells, studio drums, Fender guitar amps

**Rates:** On request

**Extras:** Editing room, editing, tape copies, album assembly, speed change, cassette copies, disc to tape transfer, etc. 2 disc mastering studios with Neumann lathes SX74 cutting head, tunel Westlake monitor systems, Studer playback & copy machines

**Direction:** Current records: Eddie Rabbit, Brenda Lee, Charlie Daniels, Barbara Mandrell, The Oak Ridge Boys, John Corlie, Billy "Crash" Craddock, Conway Twitty, Paul Williams, Slim Whitman, Tanya Tucker, Carl Perkins, Con Hunley, Barry Goudreau, Robert Gordoni, Donna Fargo, Gail Davies, Terry Bradshaw, Rosanne Cash, Carroll Baker, Tommy Wynette, LaCosta, Mel Tillis, Helen Cornelius, Christy Lane. Gold records on Slim Whitman, Kansas, Bonnie Milsap, Neil Young, Nitty Gritty Dirt Band, Charlie Daniels, Barbara Mandrell, Murry McLauchlan, Carroll Baker, Eddie Rabbit, Oak Ridge Boys (single & album), Platinum records on Charlie Daniels Band, Kansas, Oak Ridge Boys, Eddie Rabbit (2), Triple Platinum on Kansas. Woodland stresses quality of equipment, mixers and maintenance. Two full time maintenance engineers available to complement the highest quality consoles and tape recorders. Fair dealings with our clients over 14 years has established Woodland as a professional facility with a home like atmosphere.

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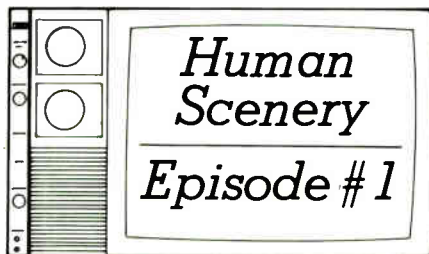
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# THE BONZAI



by Mr. Bonzai

*For the past two years Mr. Bonzai has shared with us his memoirs as a recording studio manager. He has revealed his success and his excesses, shown us the unexpected thrills and the unpaid bills, and given us a special insight into the recording industry. After hundreds of sessions recording music for others, he has now embarked on a new life as an independent rock video producer.*

*His first production with a band called The Incredible Shrinking Heads demanded his entire life savings of six hundred dollars, a loan against his VW and the cancellation of his dental insurance. He risked his money and his molars and the gamble paid off with a modest success on Zeta Cable TV in Los Angeles. The project generated sufficient income to finance Mr. Bonzai's move to Hollywood and the launching of his new career. Join us now as we find our inspired and wide-eyed hero on the threshold of reality.*

"OK, let's hustle!" I barked into my megaphone as I cracked my riding crop down on an Anvil case. "We've only got the crew for four hours."

Sarah Bellum, Brian Tumor, and Mickey Libido—"The Incredible Shrinking Heads"—strolled as calm as cucumbers into my living room as I briefed my student video team on the production of their new song, "Human Scenery." We were recording audio with a 24-track remote truck parked in the driveway and shooting a complete video rockumentary from basic tracks to final vocals. I had just moved to Hollywood and my very partially furnished apartment/production studio had perfect concert hall acoustics. The stark urban setting would give me the rock reality I was hoping to capture. I directed my cameramen to follow members of the band around as Brian began to tune his bagpipes and Sarah slipped into her fishnet bodystocking.

The house was a mighty old mansion just a few blocks from Hollywood Boulevard in what was once a posh neighborhood. Built by Zane Grey in the Twenties, its tenants had included CoCo LaVerne, the world famous bubble dancer, Otto Kohlfisch, the German movie director, Monty Schwartz, head writer for "My Little Margie", and most recently, Signory Wicks before she had recorded her first big hit, "Man's Best Friend", and moved on to Bel-Air. I was still receiving fan mail for Signory and in the garage I had found some abandoned life-size cardboard cut-outs of her dressed as an Afghan from her first national tour. The old stucco palace was haunted with showbizz spirit.

In the apartment above me lived Ellenie, an aspiring actress/stuntwoman. You may remember her hair raising performance as the island maiden being eaten in "Kiss of the Giant

Clam." On the top floor lived Madame Sapphola, an astrologer who never left her apartment. We hadn't met yet, but I would occasionally see her standing nude in her picture window overlooking the palm tree-lined avenues below. Our absentee landlord was a stony, mellow guy named Josh who would occasionally drop by to pick up the rent and give us complimentary samples of the gadgets he manufactured for head shops. Josh had made his fortune inventing the popular "Moustache Roachclip", which not only acted as a disguise for the user, but was rarely recognized as paraphernalia.

For the basic tracks we put Sarah and her dulcimer in the living room in front of a giant picture window with a panoramic view of the Capital Records tower and other Hollywood landmarks. Brian was set up in the kitchen with his bass, Mickey and his bagpipes were in the highly reflective bathroom, our session guitarist Zig Worthington and our drummer Chris Heidelberg were in the dining room, and we were using the bedroom as a live echo chamber. We did a quick sound check and laid down the basics in two hours. The video crew roamed around as we proceeded through the beefy synthesizer overdubs and added some incidental glockenspiel riffs. There was still plenty of time for the vocals before the band's departure that night for a gig in Tarzana.

While we were taping some candid footage of Brian and Mickey eating cornflakes with beer and Sarah taking a luxurious bubblebath, my neighbor Ellenie came to the living room window.

"Hi, Mr. Bonzai, what's happening?"

"We're doing a little production for cable TV with this band I'm managing. How's your career going?" I asked.

"A little slow right now—there are *some* stunts I just won't do. I thought



# ZONE

I'd build a patio out here in the yard. Can you help me dig out a stump?"

"Sure, I'll be out in a minute. Stay away from the window, though, would you? We're just about to start taping."

Smilin' Deaf Eddie, my old engineer pal, was stringing cables into the living room and setting up mikes while I discussed a few essential shots with Garf, my video director.

"Get Sarah singing with a view of the city behind her." Garf called a huddle and sent his crew scurrying. "Tape this run-through," I added, "We might be able to use some of it."

I went outside where Ellenie handed me a spade and pointed out the stump. "You better duck down. I think you're in the shot," I suggested. I hunched over and put my foot down hard on the shovel and hit a root that turned out to be an ancient water pipe. A ten foot geyser shot up and covered both of us with mud. I grabbed a nearby board and tried to slow down the flow. Ellenie sat on the board and rode like an urban cowgirl.

"Where's the main valve?" I yelled.

"I don't know. Maybe it's in the basement. The door is outside by the garage."

I stood up, realized I was in the shot, ducked down and slipped. I hit the stump with my shin and knocked Ellenie off the board. As I was hopping away I could hear the band singing and laughing. Ellenie was wrestling with the gusner and the mud continued to rain.

I found the old basement door and pried it open. Inside I discovered a dozen bums who had made the room into a cozy little clubhouse. The light from the doorway startled them and their bloodshot eyes pinched shut as they scrambled to their feet. When they saw the mud covered apparition that greeted them, they panicked and scattered like cockroaches, shoving past me in their terrified exit. One

lone duffer remained cross-legged in bliss beneath a large iron valve wheel. "Does this mean the meeting's over?" he mumbled.

I pulled on the rusted wheel, turned it off, and ran back upstairs to see what had happened. The hoboes were slippin' and slidin' as they ran across the yard. The spout had subsided and Ellenie was sitting and giggling in the mud. I ran into the house and found the band relaxing with a six pack.

"This mud's for you," toasted Sarah as they raised their bottles.

I attempted an authoritative tone as muck dribbled off my face. "How'd it go?" I asked.

Garf gave me the details: "Everything went perfectly. The performance was great! No clams or flams and you and Ellenie and the bums running through the background really added another dimension."

"Oh, I'm sure," I said, "but we're going to need a lot more..."

Eddie interrupted me. "The water shorted out all the power in the house. It's a take."

As I was contemplating how we could fix everything in post-production, the phone rang.

"Hello... yes, this is Mr. Bonzai. Yes... uh-huh... really?... you would?... great!... when?... now!... of course, we'll be right over." I informed the band of the news. "You won't believe it. Andy Kaufman just called. He saw our first production of "Small Minds" on the cable and he wants us to be in his mud wrestling special for the network."

"How can you be sure it isn't a hoax?" quizzed Sarah.

"There's one way to find out. Garf, grab your portable VTR—this could be the break of a lifetime—let's jet!" (to be continued) ■

The situations and characterizations in this column are purely fictional and do not reflect anything relating even vaguely to reality, living or dead.

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# TRIUMPH'S METAL WORKS

## Artist Studios

by David Gans

"If you're working in a studio and your session is over at 2:00—not 2:05 or 2:10, no matter whether your guitar player is just getting hot on a solo—that's it, guys! Everybody gets up and walks out, and you're standing there saying, 'Oh, dear.' That's no way for artists to make records."

Mike Levine, bassist and spokesman for Canadian metal rockers Triumph, is explaining why the band built their own recording studio, Metalworks, in Mississauga, Ontario. "We didn't want to have to worry about the clock stopping," he says. Though the accountants and lawyers advised against it—and Levine and company are well aware of the unlikelihood of making a profit as a commercial venture—they decided to do it for primarily creative reasons.

"A deciding factor, though, was knowing that we're going to spend \$50,000 a year making records in someone else's studio; that's approximately what we're going to pay the bank in interest for our expenditures on Metalworks, so why not? We only need one or two other albums a year to break even," Levine adds, "so we really only *have* to be up four months a year."

As the name "Metalworks" might indicate, the studio was designed for rock and roll. "The whole back half of the room is paneled with pine," Levine notes. "It's *very* live, to give the drums a nice brightness. We do have an isolation booth for drums, though, if someone doesn't want that particular sound.

"The front half of the room has got soft acoustical tile, and on the wall we blow the guitar into, we've got about four feet of hanging bats to keep the sound from getting bad all over the place," Levine adds. "The bass guitar has a wall to blow into that takes the sound through a bunch of fiberglass into another room. You can get a really big sound out of it."

Metalworks' equipment consists



of a 52-input MCI 600 Series console with full automation, two of the newest MCI 24-tracks with the MCI Interlock system, and an MCI two-track. "We also have 16-track headblocks for one of the machines so you can do your bed tracks on the 16 and bounce them over to the 24 for your overdubs," notes Levine. "That way your bed tracks are fresh, played only once before mixdown."

Triumph is "philosophically opposed to noise reduction," though there is a pair of Dolbys for any outside client who wishes to master with it. If a client wants to record with noise reduction, Levine says, "I'll tell them, 'Go rent it—it's your business.' But I won't rent it for them.

It takes out the inherent noise of rock and roll. You need a little distortion, you need it breaking up a little."

Though Triumph uses a minimum of outboard equipment, Metalworks does have a few devices available. "I love the old Pultec tube equalizers, and I've managed to find four of them so far," says Levine.

"Tube gear gives you a whole different sound from solid-state stuff, and to my ears it's a better sound for rock and roll." There are also UREI LA-4 limiters, Gain Brains, Trident

equalizers, a Space Station, Lexicon DDL, and a pair of EMT plates.

"We're not looking to compete with everybody as a commercial studio, so there's no pressure to be on to the new stuff," notes Levine. "What's functional is functional, and everything else is a waste. You can rent anything else you need, anyway."

Monitors include JBL 4350's, Auratones, a pair of little Radio Shack black speakers, and JBL 4311's. All are on-line and instantly switchable for comparisons.

AKG is the principal microphone brand at Metalworks. "They supply us with all their new stuff," says Levine. "We have all the standard mics—Neumann, Shure, Sony, Sennheiser—in all the standard models."

Levine describes Triumph's philosophy of recording by saying, "I think the sound you get coming off the floor is the sound you should try to get to your record." For example, he says the only microphone he'll use in front of a Marshall amp is a Shure SM-57.

Metalworks was originally conceived as a demo studio/rehearsal facility. "We had offices and warehousing, and when we decided



to be like everyone else and contract our sound and lights to other suppliers, we ended up with a lot of empty warehouse space," says Levine. "We figured we'd put in a little studio, but then we decided, 'What the hell?' It's not much more money to go all the way."

They contacted all the major manufacturers, then decided MCI was the way to go. "We got a good deal on the gear, because MCI is not as big in Canada as it is in the States," says Levine. "We weren't 100% sure we were making the right move, though, because we had recorded all our previous albums on Neve boards and Studer recorders—that's all any studio in Canada has."

The location of Metalworks is just far enough from Toronto to discourage hangers-on from coming by. "It's really a big factor," Levine notes. "Nobody comes in to say hello—no publisher, manager, wife, nor anybody else." The location puts Metalworks out of contention for Toronto's jingle and film business—"They all like to be downtown where they can go for four-hour lunches," Levine says wryly—but Metalworks is specifically meant to be a rock and roll studio, so nobody's complaining.

"Quite honestly, I've told some people *not* to come to the studio," admits Levine. "A producer will come to me with a singer-songwriter, and I'll tell him to go elsewhere. The last thing you want is to have someone running around saying he couldn't get the sound he wanted in your studio. You'll get a bad reputation that way."

Triumph consulted with the other studio owners around Toronto before they went to work on Metalworks. When it was finished, a band called Doug and the Slugs, from Vancouver, went in to do an album. When Triumph started their own project, Levine says, "we weren't happy with the sounds we were getting, so we took a month off to write and sent a construction crew in to remodel the whole place. There were too many standing waves, so they put some more angles in.

"We had a guy who's the new wizard in Toronto come in with his meters. He put rugs on the wall, moved the console, flipped the monitors over, all this stuff—and totally destroyed it. It was a joke!

"We put the console back where it was and made it sound good again," Levine says. "The guy said it looked great on the meters, but all the meters in the world don't mean a thing if it doesn't *sound* any good. We're in the business of pleasing ears, not eyes!"

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# SOUND ON STAGE

*This month we begin Sound on Stage, a column devoted to the topic of concert sound reinforcement. In the coming months we will use the Sound on Stage podium to discuss many different aspects of this quickly evolving part of the professional audio industry. Some columns will deal with significant new products or venues; others will present "reports from the field." We invite those of you involved in sound reinforcement to stay in touch and let us know about any special experiences you may be having on the concert trail. Drop us a line at Sound on Stage, c/o Mix Magazine, 2608 9th St., Berkeley, CA 94710.*

For our first installment we thought it would be interesting to speak with John Meyer, a name that in the past few years has become virtually synonymous with top quality audio, whether on stage or in the studio. The MSL-3 loudspeaker system, produced at the San Leandro, California—based Meyer Sound Labs, is becoming a classic sound reproducer. In a very short time it has penetrated to applications from the San Francisco Opera House, to the technically advanced concert tours of Frank Zappa and the Grateful Dead.

The MSL-3 is the embodiment of John's design goal for sound reinforcement: loud, clean and compact. His development of the system goes back to the late sixties and his sound system design work for San Francisco's McCune Sound Service, a group that packages and rents sound reinforcement systems for a wide variety of users. John's experience with McCune's clients convinced him that sound reinforcement required more of an engineering systems approach to increase reliability and to decrease the problems that operators were finding in the field. So he developed a design that incorporated his best perceptions of what was universally needed: a modularly expandable, high powered, 3-way horn loaded system, capable of assembling and breaking down quickly, with a minimum of complexity. That system, the JM-3, rapidly became the mainstay of McCune's rental business.

In the ensuing years Meyer continued his research into sound reproduction at the Institute for Advanced Musical Studies in Montreux, Switzerland. Later he became involved as a designer of special audio and electronic equipment for cutting the direct to disk records of Crystal Clear Records, Mobile Fidelity and Delos Records.

When combined with their M-3 electronic control unit and 525 watts of total amplifier power, the system is guaranteed to meet these criteria: Frequency Response: 75 to 20,000 Hz plus or minus 4 dB measured with 1/3 octave pink noise; 130 dB SPL of continuous pink noise output at one meter and peaks of 135 dB SPL; distribution pattern, 40 degrees



He founded Meyer Sound Labs in 1979 for "the purpose of bringing audio equipment innovations, especially loudspeakers, to the professional marketplace."

The aforementioned MSL-3 speaker system is a refinement of the system designed for McCune. It is described as "a high-power, arrayable loudspeaker designed to perform in a wide range of large-scale sound reinforcement applications. It is a bi-amplified system consisting of two proprietary 12-inch low frequency cone drivers in a unique horn-loaded vented enclosure, a single high-frequency driver with a 70 degree horn, and an ultra high-frequency tweeter array." vertical by 70 degrees horizontal;

dimensions are 21 1/2"W by 56 3/4"H by 30"D, weight 275 lbs.

John's design goals on the MSL-3, as well as other products in their line, reflect a major emphasis on reducing distortion through the use of very high tolerances and matching components to the maximum degree so that there are no sonic differences from one unit to the next. According to him, "There is no 'Meyer' sound. There isn't any special 'sound' to a speaker if it is any good. It is just a reproducing device. What we want to make the speaker do is to be consistent... and that requires tight tolerances."

Though Meyer Sound Labs operates at the leading edge of speaker technology, they deal

*(continued on page 56)*





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(continued from page 54)

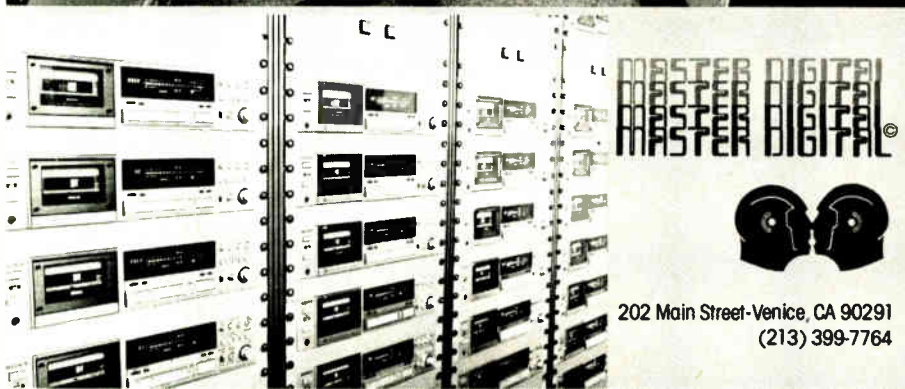
conservatively with the proliferation of new loudspeaker materials. Says Meyer, "We are trying to accomplish the job of good sound in the best way possible. We look at it very objectively and don't get awed by the technology or excited because something is made by this manufacturer or that manufacturer. We look at what we are trying to get the thing to do. Right now we're looking at the difference between silver and copper wire. The advantage of silver is very small. Costwise it is a big difference. But I wouldn't want to be in a position where I had to go to silver wire because some people thought that would make the system sound better. There hasn't been enough difference in the experiments we've done to warrant the cost. And we aren't going to do it unless we know that the advantages outweigh the cost."

Meyer sees his company as being "heavily instrument oriented. And we encourage our users, who for us are the professional dealers, to have enough test equipment to verify the operations: to make sure they don't have mixing consoles that are clipping, to be able to trace down where problems occur... just a systems approach like any engineering field that would look for the kind of problems that interfere with doing good sound."

As far as the user in the field, "What we recommend to operators is to use a 1/3 octave analyzer in the near field to verify the system—two feet from the speaker to make sure that it is working and flat—but after that we just tell them to listen and fine tune the room sound with their ears. We don't recommend doing a fancy analysis for the room because, unless they have a very sophisticated and expensive fast fourier analyzer, they might create more problems than they would solve."

With regards to loudspeaker advancements in the near future, Meyer says, "I doubt if cones will be obsolete in five years, unless we can find efficient ways of ionizing the air. We'll go to new materials, but it takes time to find out how they will fatigue and hold up. We've been doing research on some new materials but we aren't in any hurry to get them on the market. We don't want to have problems with them a year later."

"Advancement will be in refinements, as opposed to breakthroughs—more power handling ability, smaller size. The real breakthroughs will come more in conceptual applications of the systems."



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## DAVE EDMUNDS

**“I** was about twelve years of age,” Dave Edmunds recalls. “I heard it, loved it, and I’ve been stuck with it ever since.”

“Stuck” may be how the noted Welsh guitarist/singer/producer, (tongue firmly in cheek), describes his early (1956) and continual attraction to classic American rock & roll, rockabilly and R&B. But for his many admirers on both sides of the Atlantic, Edmunds’ dedication to preserving the purity and excitement of that music makes him a figure of almost noble stature. Perhaps even more importantly, by juxtaposing his interpretations of older songs with new material written by himself and such modern heavyweights as Graham Parker and Elvis Costello, Edmunds personally embodies the links in rock history.

Dave Edmunds was born about forty years ago in Wales, and began playing in local bands in the early 1960s. His first wider exposure came in 1968, when his band, Love Sculpture, carved out a Top Ten hit in Great Britain with “Sabre Dance” and released two albums before breaking up.

Nothing in Edmunds’ career prepared him for the instant worldwide fame he achieved in 1970 with the song “I Hear You Knocking,” a reworking of an old Smiley Lewis tune. Recorded at the newly constructed Rockfield Studios in Cardiff, Wales, Dave’s song quickly became the Number One single in Britain and reached Number Four in the United States. Edmunds explains that he had no inkling beforehand that “I Hear You Knocking” would catch on like it did: “Usually to get a record going like that—it did four million or something—it needs quite a marketing plan with the record company. Everyone has to be involved in really working on it. But it was just one of those records that happens. It had been released with nothing going for it. I had no manager, no agent, no band—nothing. It was released without any promotion, no adverts, and it just took off all around the world.”

To this day, Dave has no real explanation for why “I Hear You Knocking” was such a success, except that its immediate, hard-driving style set it apart from much of the music that was popular then. “Yeah,” he says, “there were no rock & roll records out at that time.”

Although the song proved to be no

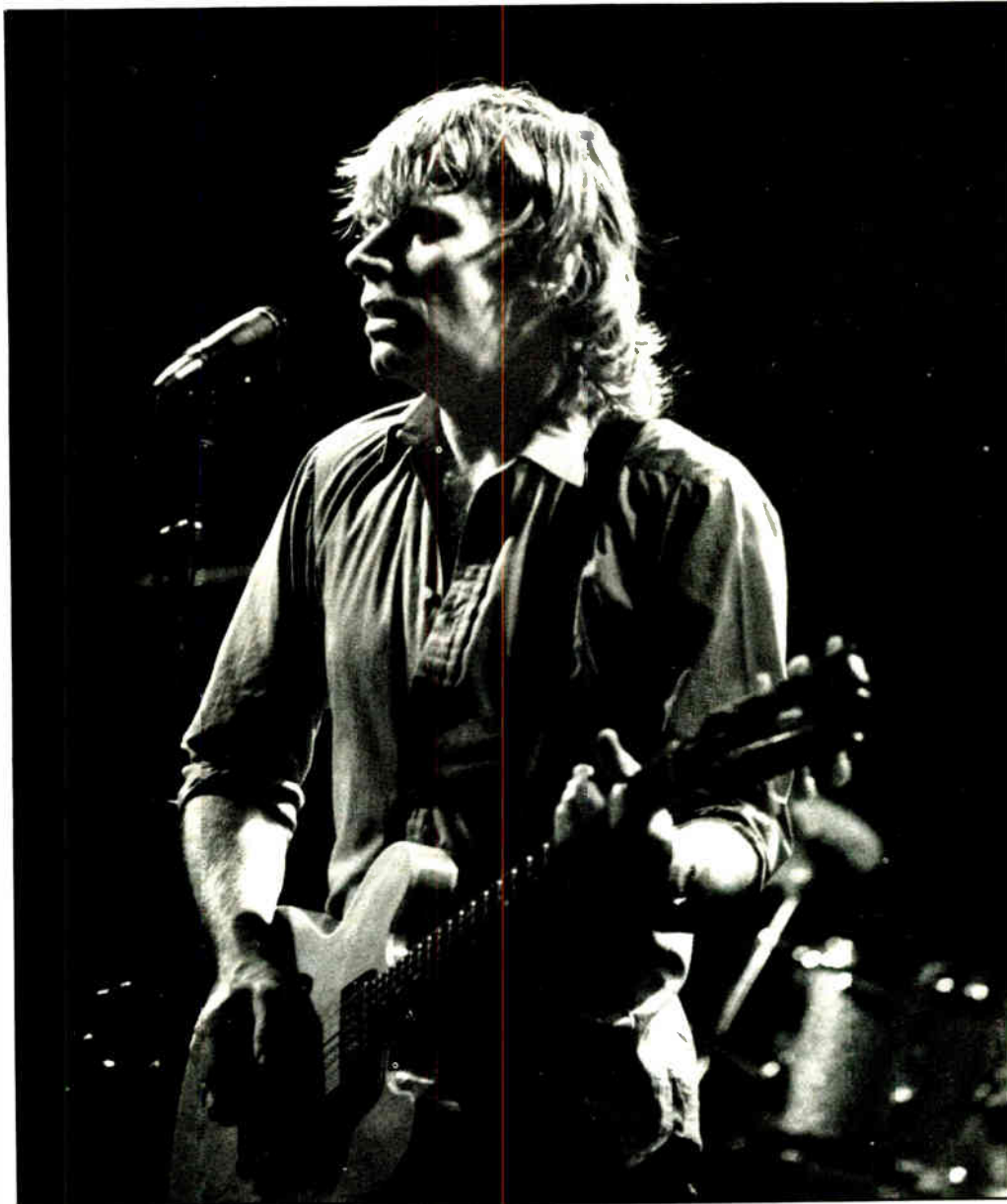


PHOTO © 1982 by Clayton Call

fluke as far as Edmunds’ talent was concerned, he wasn’t able to immediately follow up its success. As a result, he turned to producing at the Rockfield Studio. “I started producing when things were a bit slow after ‘I Hear You Knocking,’” he remembers. “I wanted simply to learn to engineer, how to handle a recording studio—for myself, really. The I found I was doing it for other people, especially people who were friends of mine.”

In the early to mid-Seventies, Ed-

munds produced albums by such groups as Brinsley Schwarz, Foghat, Man, the Flamin’ Groovies, and Del Shannon. He continued to record solo efforts, achieving some success in Europe, but it wasn’t until 1976, when he signed with Led Zeppelin’s Swan Song label (part of Atlantic Records), that his performing career took off again.

In quick succession, Edmunds released a series of albums—*Get It, Tracks On Wax 4, Repeat When*



*Necessary*, and, in 1981, *Twangin'*— that revealed both an uncanny knack for rediscovering neglected chestnuts from the past and finding vibrant new material. (Selections from these albums have recently been compiled in a collection, *The Best of Dave Edmunds*.) As for his archivist's ear, Edmunds says that when he chooses old songs he looks for "things that I think are very obscure that could be worked on, and that a lot of people haven't heard." The new songs, such as his 1980 hit with Hank DeVito's "Queen Of Hearts," in Edmunds' view, "just seemed perfect to record. It seemed as if Hank had written it for me."

The band that played on these albums became known as Rockpile. The quartet of Edmunds and Billy Bremmer on guitars, Nick Lowe on bass, and Terry Williams on drums stood out in the world of Anglo-American rock for their tight and economical structure and

their impeccable musicianship. They also had a rather unique relationship within the music industry. Since Lowe, whose solo career was also flourishing at this time, was under contract to a different record company than Edmunds, Rockpile would record and tour under both Lowe and Edmunds' names—depending on which one had an album out (and which label was footing the bill).

Successful as that arrangement was, the group decided eventually to make records and tour under the name Rockpile. But, particularly sad for those who thought that their LP, *Seconds Of Pleasure*, was one of the vinyl delights of 1980, the group prematurely disbanded. From the outside, it looked like a case where a couple had lived together happily for many years and then decided to get married, whereupon the whole relationship fell apart.

"You're not the first one to [make

that analogy]," Dave says in response, "and that's very good. When we were going along, doing the solo stuff for Nick and myself, everything seemed to work perfectly. We knew what we were doing and what we had to do. As soon as we were put in that situation where it was Rockpile, we seemed to lose direction immediately."

"We had a problem as soon as we walked into the studio," Edmunds continues. "We didn't quite know what to do. It ended up with Nick producing the songs that he was singing, and me producing the songs that I was singing, and neither one of us needed to be in the studio for the other. It seemed silly—changing everything and calling it Rockpile, while really nothing had changed at all."

Edmunds didn't feel that *Seconds Of Pleasure* "fit very comfortably." As  
(continued on page 60)

*Rockpile (L to R: Nick Lowe, Dave Edmunds, Terry Williams, Billy Bremmer).*





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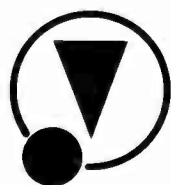
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(continued from page 58)

for the group's tour, Edmunds says, "I don't think any of us enjoyed the tour that we did as Rockpile. It seemed a bit strained—now it's Nick's turn to sing, now it's Billy's, then it's mine. I don't know, it just didn't fall into place like it used to."

With Rockpile buried, Edmunds returned to his solo work. *Twangin'*, his latest album, was actually recorded before the Rockpile LP, but released a year later to avoid clashing with *Seconds Of Pleasure*. As the producer, Dave recreated something reminiscent of the old Sun Records sound of the 1950s, emphasizing the top end, putting a lot of echo on his voice, etc. Describing his technique, Edmunds says, "I like effects, but I'm of the old school, really. I don't like too much of the Harmonizers, flangers, and things like that. I find they take away and don't add to rock & roll, though they may be good for other styles of music." Dave tends to use "quite a few" overdubs: "I like to get the bass and drums down as quickly as possible and then work from there."

The one exception on *Twangin'* was the inclusion of Edmunds' 1968 recording of "Baby Let's Play House," a song made famous by Elvis Presley. Dave explains why he decided to use the old take: "I'd lost the record. We did four tracks of that Presley/Sun stuff back in 1968, and I lost the tapes. And they just turned up from certain people in London who collect things. I listened to them and they sounded pretty good. I just wanted to put it out as sort of a sign of affection for the great man—my own little tribute."

As for his equipment, Dave calls a 1958 blonde Gibson 335 his "main guitar." Edmunds bought it second-hand—"an original that hasn't been touched"—back in 1962 and has used it ever since. He also brings a black 335 on tours as a spare. In the studio, he uses a Gibson Switchmaster. "It's a lot richer" in tone than the 335, he feels. "If you listen to stuff like the sound Scotty Moore used to get on the Presley stuff, it's more like that. You can get a nice rich sound without having to use a lot of volume or fuzz or distortion."

Edmunds has a fairly extensive guitar collection. In addition to the Switchmaster and three 335s, he owns a Fender Broadcaster, a Martin D45, a Gibson J200, a Gibson Everly Brothers, a Gibson L6S, a Gibson Les Paul Junior, and a few others as well.

Although he clearly loves guitars, Dave says that "I don't get along with amplifiers very well. I can't get a nice clean but full sound with an amplifier. If

I turn it up to get the volume I want, it just distorts. So I plug straight into the deck and get the sound I want that way." For touring, in the past he used Music Man amps, but recently switched to a Roland that was "slightly better."

About the time Rockpile was breaking up, Edmunds returned behind the boards to produce two British rockabilly bands—the debut album by the Stray Cats, and a single by the Polecats, "John I'm Only Dancing." Although both reached the British charts,

PHOTO © 1982 by Clayton Call



Edmunds does not expect to return to full-time producing. "Producing records isn't what I really want to do," he explains. "In fact, I had given it up altogether, but with the Stray Cats I just had to do that. That area of rock & roll is my favorite. But I don't think I'll be doing a helluva lot more of it. I've got a lot on my plate at the moment just with my own career."

That includes a recently completed European tour and recording a new studio album, due to come out in 1982. An American tour will follow shortly thereafter. Dave promises that his next album will be "90 percent" original material, "not necessarily written by myself, but by my friends." But fans of Edmunds' treatments of classic Chuck Berry, Everly Brothers, and Buddy Holly songs should not fear—the new tunes still have, according to Edmunds, "the same vibe to it, all that old stuff."

It's a vibe that, in the hands and voice of a master craftsman like Dave Edmunds, will live as long as rock & roll is played. ■




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# MUSIC NOTES

by David Gans

## DIGITAL SEQUENCER/CONTROLLER FROM MOOG

Last month, we told you about The Source, a new programmable monophonic synthesizer from Moog. Now Moog Music has introduced a companion for The Source: the Digital Sequential Controller.

The DSC has three recording modes: normal, metronomic, and

expanded. In normal mode, triggers and control voltages are recorded concurrently but separately—that is, each trigger may have several associated CVs. The metronomic mode assigns the same time value to each event, disregarding timing information. In expanded mode, all

CV information—including vibrato and pitch bending—is stored.

Four sequences of any length can be stored, up to an aggregate total of 800 notes. Sequences may be "chained" for playback in any order. Playback can be stopped and then continued, or run in "single-step" mode. Notes within a sequence may be edited.

A "transpose chain" of keyboard intervals may be stored to produce automatic key changes. Output pulses can be programmed on any note or notes to initiate external action. Glide may be added to any recorded sequence, and a recorded glide can be converted to quantized glissando. The DSC also generates a SMPTE-compatible sync signal for interfacing with tape or additional controllers, and all DSC information can be dumped to standard cassette for permanent storage. Moog Music, 2500 Walden Avenue, Buffalo, NY 14225.

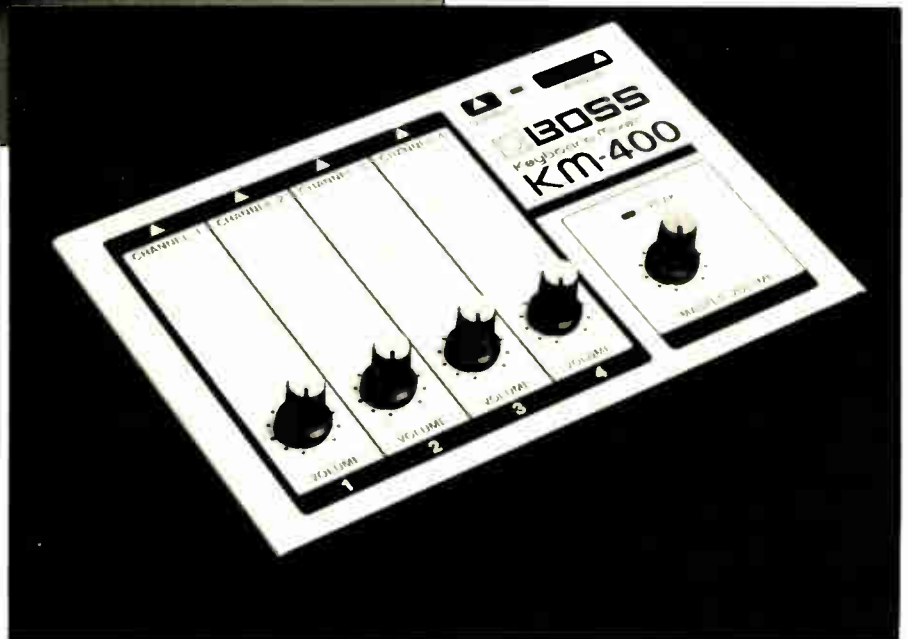


individual channel panning and level controls, dual master output level controls, stereo headphone output, and sufficient output levels to drive power amps efficiently. List price is \$240.00

Both units feature LED peak output level indicators. For further information, write: Roland Corp. U.S., 2401 Saybrook Avenue, Los Angeles, CA 90040.

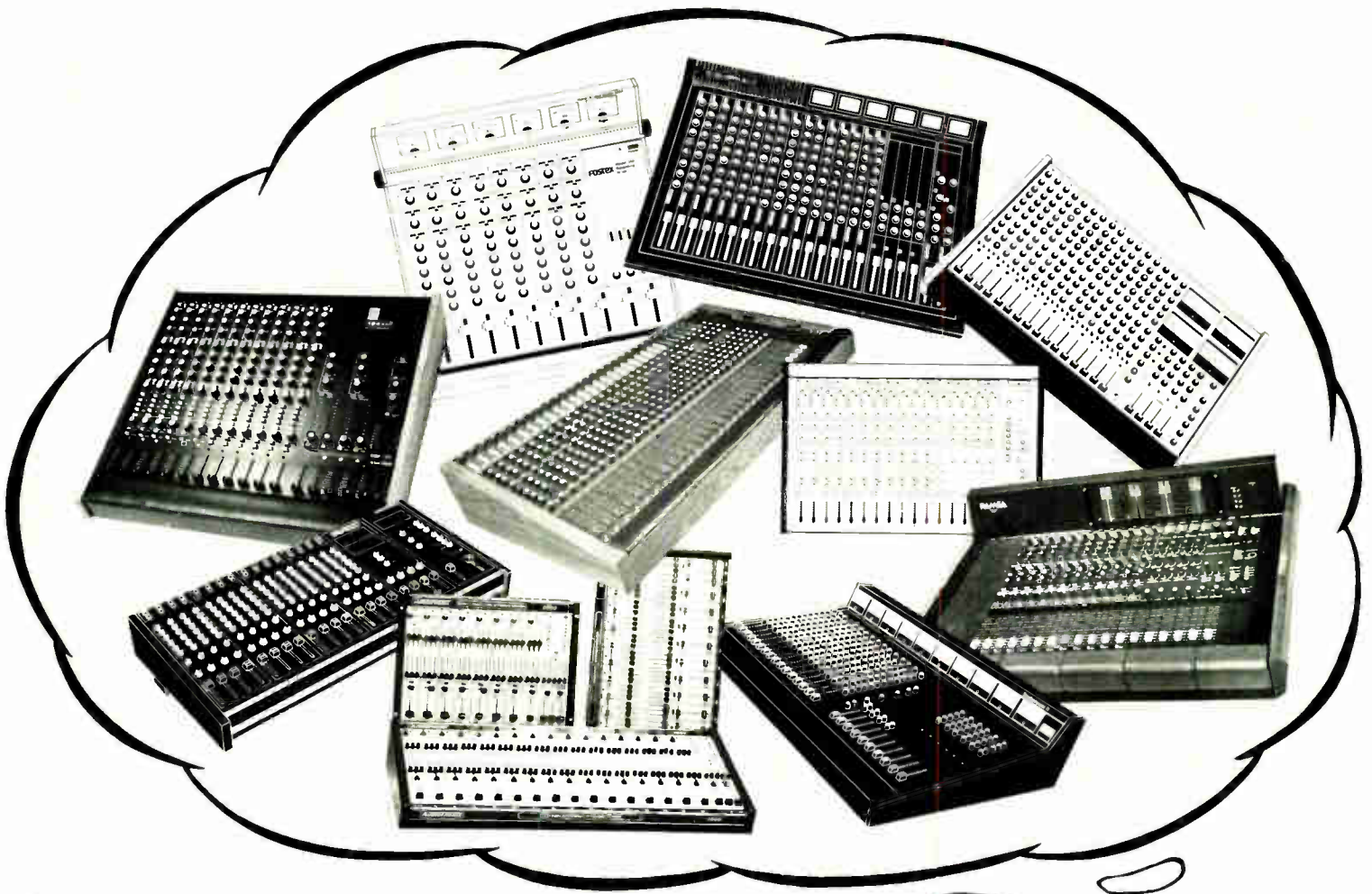
## TWO NEW KEYBOARD MIXERS FROM ROLAND

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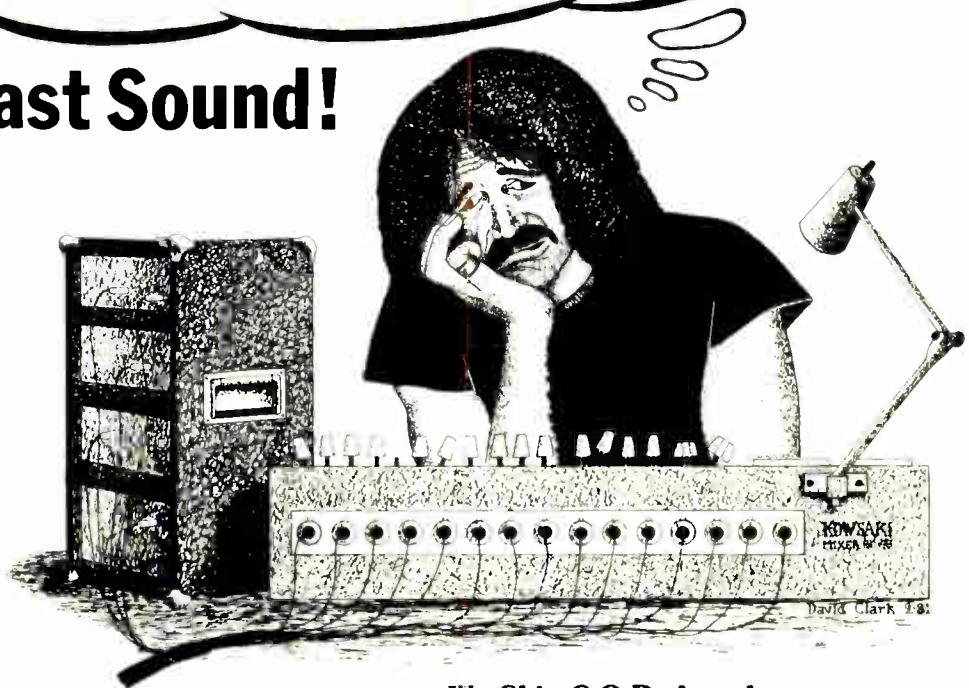
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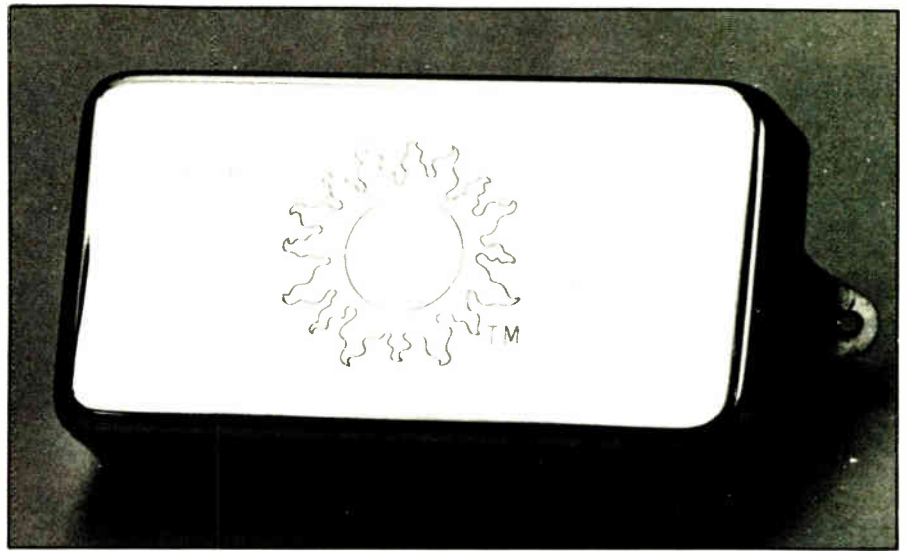
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MUSIC NOTES

CELESTION UPS WARRANTY

All Celestion replacement drivers retailed in the United States are now warranted for five years, a result of new developments in Celestion's technology. Voice coils are now made from fiberglass, which offers increased rigidity, better thermal characteristics and longer wear.

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SWEET, CLEAN HUMBUCKER FROM DiMARZIO

Clarity and string balance are the advertised features of DiMarzio's SCHB humbucking pickup. In its single coil mode, it is sonically identical to the VS-1 "Vintage Strat" replacement pickup. It is completely contained in a chrome-plated cover

for shielding, and comes with DiMarzio's five-year warranty. Specifications: Inductance: 6.50 Henries; Impedance @ 100 Hz = 12.18K; Impedance @ 1 KHz = 42.70K; Impedance @ 2500 KHz = 101.65K; DC ohms = 12.00K.



LITTLE TINY ELECTRIC GUITARS

D'Mini Guitars from Phased Systems include copies of Les Paul, Stratocaster and Flying V guitars, plus an original design of their own. The body is made of ash, necks of either maple or ebony. Included in the

\$209.00 list price are a pair of "Bare-Touch" gloves (to keep the hands warm without restricting movement), three "Sharkfin" picks, and a "Fragile" decal, which puts the user in touch with an international lost-and-found network. For more information, write: Phased Systems, 6226 Santa Monica Blvd., Hollywood, CA 90038.

RANDY NEWMAN ON RAGTIME

Randy Newman seems a sure bet for an Oscar nomination—he has already won the L.A. Film Critics' Award—for his original score for *Ragtime*. Though his three uncles—Alfred, Lionel and Emil Newman—have been responsible for scores of scores and soundtracks over the years, Randy says he had no idea how hard the job would be. "I got an indication from how tortured they were when I saw them at an early age," says Randy, "but I didn't know that it would take so many hours a day just to get what seemed like not too big an amount of music done. It's better than threading pipe, but it took much longer than I could spend writing songs."

Randy is pleased with the resulting soundtrack album on Elektra, and only slightly less so with the music in the film itself. "It's a big art form, but it's too small a factor in the ultimate product," he says with a slight laugh. "It's *someone else's* final product."

Nevertheless, Randy hopes to have more screen assignments in the future. "You have to do it a lot to get proficient. If I did it for three or four years, three or four pictures a year, it might get easier eventually," he says. "But I've talked to guys who've done it for years, and they say it *never* gets easier." ■



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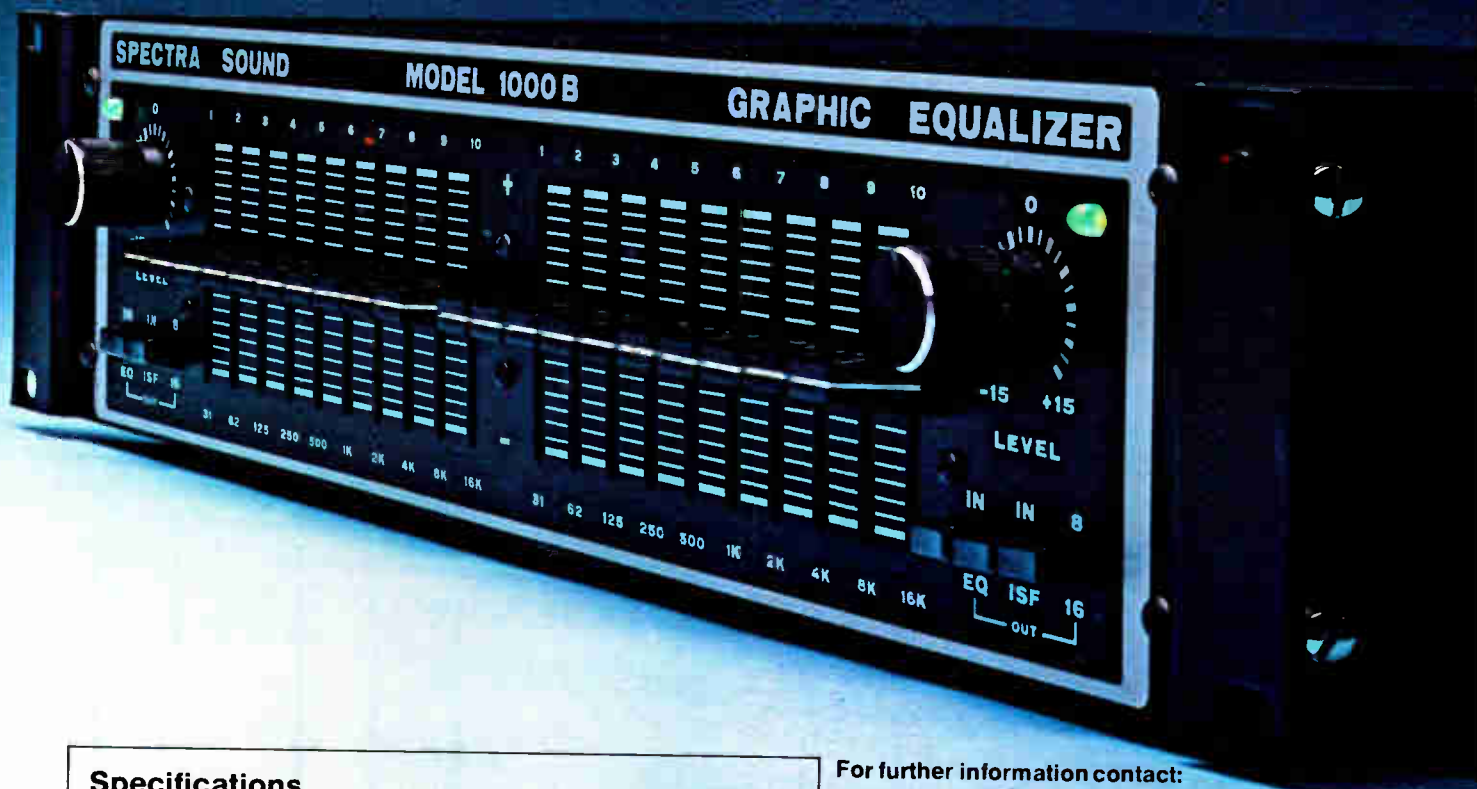
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Frequency Response	20 Hz to 20kHz, $\pm .5$ dB, +18dBv
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Output Impedance	Less than 1 ohm, typically .3 ohm
*Specification unweighted, 20 Hz to 20kHz.	

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**T**he ever-increasing demands for better quality sound in the television industry has put considerable pressure on producers to deliver a clean sound product. Dolby Laboratories, a leader in audio noise reduction and motion picture sound processing devices, has entered the video age with Dolby-encoded, pre-recorded VHS tapes, and a consumer stereo surround decoder device.

### DOLBY NOISE REDUCTION IN VIDEO PRODUCTION

Just as noise reduction systems have become standard equipment in professional recording studios throughout the world, video production facilities are also turning to Dolby systems to improve television sound. The audio quality of both quadruplex and helical-scan video recorders is inherently inferior to that of a professional audio tape machine. This disparity is due to a combination of factors: narrow track width, thin oxide coatings, an orientation of magnetic particles disadvantageous for audio, and crosstalk and spurious signal effects due to the control track, video tracks, and capstan drive motor. The use of Dolby A-type noise reduction can substantially improve VTR audio quality, thus eliminating a major stumbling block in the quest for better television sound. Single or multiple-track Dolby NR units are compatible with almost any VTR. In addition, Dolby Laboratories make modules designed specifically to plug into Ampex VPR-2 and Sony BVH-1000/1100 1" format machines, with modules for other recorders currently under development.

The Dolby A-type characteristic provides 10 dB of noise reduction from 30 Hz to 5 kHz, rising to 15 dB @ 15 kHz. Tape noise, DC noise, low-level hum, and amplifier noise are all reduced. In addition, harmonic distortion over the entire frequency range can be reduced, because satisfactory signal-to-noise ratios are achieved at lower recording levels. The noise reduction can be used, in part, to increase headroom.

### DOLBY NR IN VIDEO POST- PRODUCTION AND DUPLICATION

Among the many reasons for the widespread use of A-type Dolby noise reduction is that it introduces no audible side effects with virtually any kind of program material. The system can be used with any audio recording or transmission chain wherein the signal is available before and after the noisy segment of the channel. Thus the A-type Dolby lends itself readily to use in film-to-master tape transfers, post-production sound work, and in videotape duplication.



# Dolby Enters the Video Age

The A-type noise reduction is a special and sophisticated form of compression and expansion, which differs from conventional companding systems in two major respects. First, it is a dual-path system, whereby louder signals (which inherently mask noise) pass thru without processing, while companding occurs in a side-chain affecting only lower level signals. This has a number of advantages: minimizing encode-decode errors and permitting the use of effective overshoot suppression. Secondly, A-type NR is a multi-band system, and the low-level companding takes place in four independent frequency bands. As a result, the presence of signals in one part of the spectrum cannot inhibit noise reduction in other bands, eliminating the swishing and pumping side effects of conventional companders.

A further benefit of Dolby A-type noise reduction is a long-term 10 dB lessening of print-through. Recordings made originally without NR can be shielded from further deterioration by rerecording the material with Dolby.

A number of videocassette duplication facilities are now equipped with Dolby A-type noise reduction to take advantage of program material originally recorded with it. Producers can supply encoded masters and specify noise reduction for the tape releases. In addition, some VHS cassette duplica-

tors are releasing tapes with consumer B-type Dolby Stereo sound for playback on both conventional mono and the newer stereo VHS models.

### DOLBY NOISE REDUCTION IN CABLE TELEVISION

Cable television programs are now being transmitted with stereo sound over the operators' cable FM channels simultaneously with the picture on the TV channels. Thus for the first time in the U.S., stereo television sound can be readily available to the home viewer. A number of cable outlets are also using the Dolby FM system, whereby B-type encoding is combined with a pre-emphasis change from 75  $\mu$ s to 25  $\mu$ s, for even higher quality sound.

Since 1975, nearly 200 feature films have been released with Dolby encoded soundtracks. Taking advantage of this high fidelity stereo format for cable TV requires little more than a film chain equipped with a stereo sound head, and two channels of Dolby A-type noise reduction to deliver superb sound reproduction to subscribers' homes.

### THE DOLBY CONSUMER SURROUND DECODER

Standard 35mm stereo film sound has four separate tracks—three channels behind the screen (left, center, and right), and a surround channel with speakers around the auditorium carrying ambient and special effects sounds. When Dolby stereo movies are transferred to VHS cassettes, the film's three screen channels are re-mixed to left and right channels only. However, the resulting two tracks still contain the matrix-encoded signals which trigger the surround channel, and can be decoded by the home viewer using the Dolby Consumer Surround Decoder.

This low-cost device consists of input buffers, a switchable calibration meter, a simple left and right decoder, and a modified B-type processor which matches the circuit used to encode the surround information.

Listening tests have shown that the surround information derived with the consumer surround decoder is in most cases similar to that of sound decoded by Dolby professional cinema processors. One difference when comparing the consumer surround system with the professional system is that no center channel is provided. In a large movie theatre this channel is essential, to provide a balance for patrons in the side sections. However, this center channel proves unnecessary in home viewing, where the audience is smaller and the loudspeakers are fairly close together. Therefore, the economy of a two-channel-plus-surround system can be accomplished without loss of sound quality. ■

# VIDEO NEWS

by Mia Amato

## SOMETHING IN THE AIR?

"Live by satellite!" fever has struck the video music business, and both location audio facilities and fans are benefiting from this winter's frenzied activity. It's been particularly fascinating to observe the innovations on the downlink side of the transmissions in the creation of new forms of video venue. Some notable cases:

...**Oak Media's** pay-per-view telecast of the **Rolling Stones'** concert tour in Hampton, VA. Oak had had considerable success with championship boxing on pay-per-view, which allows pay tv subscribers to purchase a special viewing event individually; subscribers who do not pay for the event get neither sound nor picture during the show's duration. Average price for the Stones' show was \$10.00, and about 100,000 homes subscribed.

Oak only purchased the pay television rights to the concert; all video production was controlled by the band's organization. A spokesperson said Jagger "personally picked" Neil Marshall as producer. Marshall produced the satellite-transmitted Ali fight and is a veteran of tv's "Rock Concert" series. "Mick was very concerned about the picture quality, and he and the band had last say on everything," said our source. The Stones apparently were also concerned about piracy, so the signals sent up to the satellite from the concert uplink were "scrambled" on Oak's proprietary encoding system to prevent unlicensed reception.

...The series of concerts produced for the MTV 24-hour stereo music channel by **Boggs/Baker Productions**. Boggs is a daytime talkshow host; Richard Baker won his satellite stripes in association with "Live From Lincoln Center." Live performances such as **Ian Hunter**, **Frank Zappa** and **Mink DeVille** were transmitted live from a number of New York City's smaller clubs for MTV's network reaching 300 cable tv systems. **Unitel** supplied the video, **Record Plant** supplied the audio, and David Santee is series director.

...**Rod Stewart's** live simulcast from the LA Forum, aired in broadcast television markets through **Wold Entertainment's** syndication efforts. Several national sponsors carried the show, which included commercial breaks as well as appearances by Tina Turner and Kim Carnes. LA promo mogul **Bruce Gowers** directed.

The Wold Group is no stranger to this type of telecast, with its daily satellite feed of the "Merv Griffin Show." Wold has its own transponder space as well as its own earth stations strategically located in various major markets, although in this particular telecast some cities were linked by telephone line. FM radio stations in the cities supplied the stereo simulcast. Video facilities were supplied by **Continental Color Recording**; audio by the **Record Plant**.

Live simulcast technology has been around for years (ask any opera buff) so why is it that so many rockers are now "getting on the bird?"

All of this season's satellite rock shows were videorecorded for future distribution in cable, home video, or foreign television. The music industry has discovered a quick and cost-efficient way to get videomusic in the can, using money gained from the sale of one-time televised concert rights to finance the production of a show that can then be released in a variety of ancillary markets.

## CASSETTE, DISK, CABLE: THE CONNECTION

At least two record companies have discovered a lucrative link between cable and cassette/disk sales. **Chrysalis**, having spent six months touting British-made music programming to the cable television industry, is now turning most of the same titles to the home videomarket on cassette. First two titles to be released are "Best of Blondie" and Jethro Tull's "Slipstream." Terry Ellis of the firm says Chrysalis will rely on independent distributors such as Pickwick and Video Station.

**Thorne-EMI** recently announced it would be entering the U.S. cassette market with two

programs: Queen's "Greatest Flicks," a compilation of their promo and concert footage, and a Paul McCartney special. The company will also be releasing some of its movie product, such as "One Flew Over the Cuckoo's Nest." **Thorne-EMI** has also been discretely advertising in the cable tv trade press with an eye towards releasing the same programs to pay-tv.

Both these firms and you future cassette/disk marketers might take a tip from **Pacific Arts'** marketing strategy. Mike Nesmith's promotion scheme for "Elephant Parts" now includes sending a free half-minute tv commercial to dealers who carry the program in their stores. Retailers purchase the local tv time; Nesmith provides the standard two-inch quad reel which has 25 seconds promoting the cassette and five seconds to carry the name and address of the dealer's store.

## COMPANIES: CALIFORNIA SPOTLIGHT

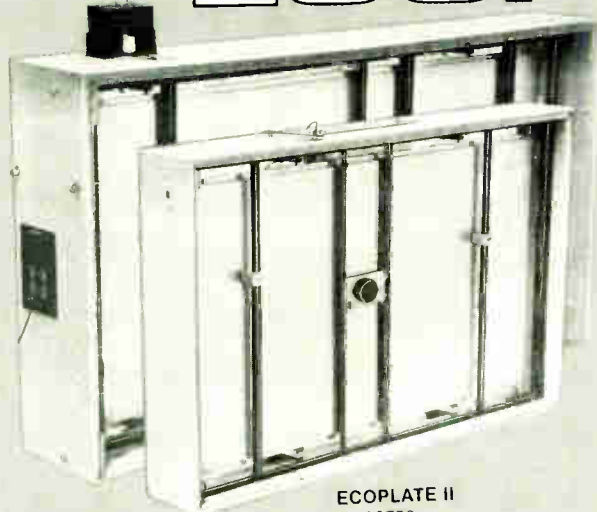
Gary Rocklen of **Kramer/Rocklen Studios** in LA has completed an hour-long **Doobie Brothers** special for **Doobro Management's** Bruce Cohn. The videotape is a concert held at the University of California in Santa Barbara last year. **Video-Pac Systems** provided the portable facilities.

Rocklen's partner Jerry Kramer has also been busy, directing the videotaping of the San Francisco International **KJAZ Jazz Festival**. Shot over three nights, the performances include The Dave Brubeck Quartet, Cal Tjader and Chick Corea. That show is now in post-production, as is Kramer's production of the **Go-Go's'** taped filmstyle in the Palos Verdes High School gym for **IRS Records**.

Kazuko Ishida of **Teresa Records** in Berkeley says the label has begun a video project with several of its jazz artists, and is exploring both cable and home video distribution. Up in Orinda, Jim Lautz announced the opening of **Positive Video**, a multi-format post-production studio with 16-track MCI audio capability. ■



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# SIX SIMULTANEOUS DELAYS



The A/DA Stereo Tapped Delay (STD-1) is the only voltage controlled analog delay capable of producing six different delays simultaneously, making it the most powerful time processor available for "stereo" flanging, doubling, and multi-voice chorus effects.

Conventional delays take one input signal and produce one output signal at one delay length. When a signal enters the STD-1, it is delayed, then tapped at six different non-harmonically related points ranging from 1.3 to 55.5 ms. This produces six variations of the signal, each capable of being assigned and mixed into two output channels. The non-harmonically related taps create a natural sounding time delay, while other units at best, are multiples of some fixed delay time, creating predictable sounding effects.

The extensive delay section produces a 1-5x continuously variable delay range from each tap. The delay time can be swept at rates varying from .1 to 25 seconds. As the Sweep rate is increased, the Sweep range automatically tapers so you perceive a change in rate only, without an accompanying change in

range as is common with other units. (You're not forced to compensate by backing off the C.V. Mix when you increase the Sweep speed). Further, the Sweep Modulation control superimposes a higher frequency sweep pattern over the regular sweep. This allows effects like a vibrato sweep to sweeps which appear to move randomly like sample and hold on synthesizers.

The regeneration section has been carefully tailored to achieve mechanical to natural sounding ambiances by providing separate Level, High Cut equalization, and Tap select controls that can be switched in or out from the front panel or remotely via the rear panel jack. The Level control determines the decay time at long delays (up to 15 seconds), and the amount of resonance at short delays (up to -12 dB). Since a reverberant signal primarily consists of bass and lower midrange frequencies, the High Cut feature in the STD-1 reduces the high-frequency content in the program material as it recirculates through the system for a more natural sounding echo. At longer delay

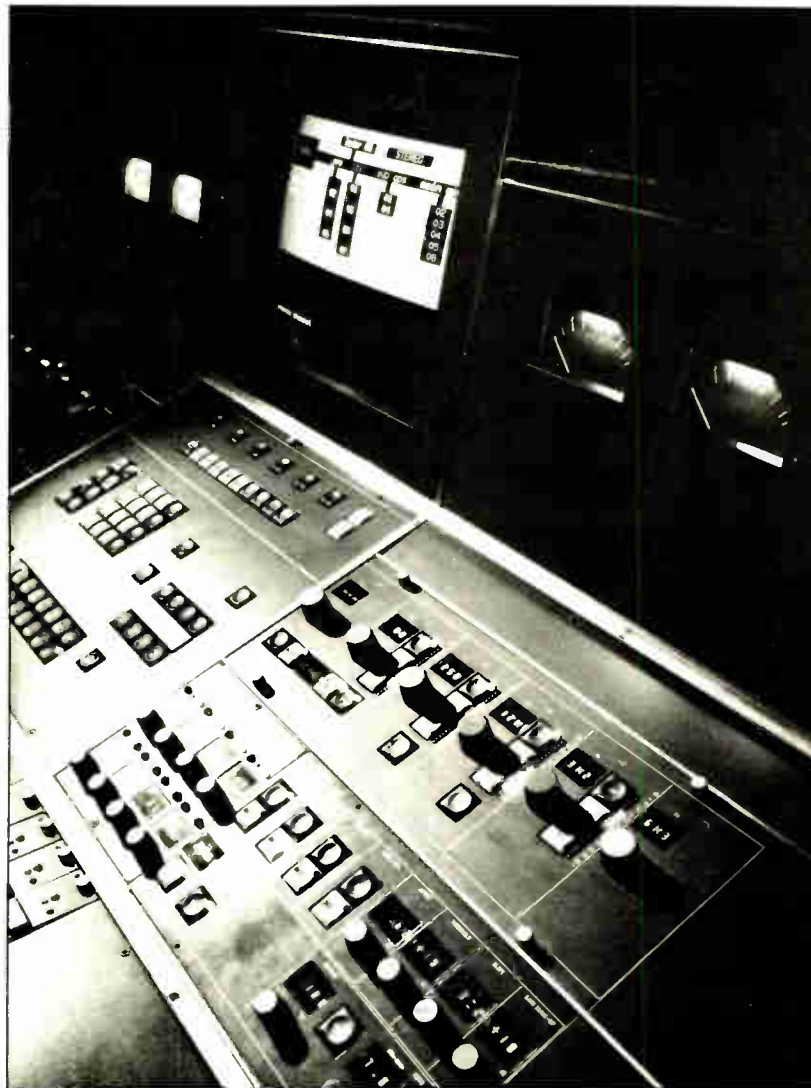
times, echoes can be textured from a hard reverb to a soft spacious drone. At short delay times, the resonance can be shaped from a sharp "metallic ringing" sound to "boomy" bass peaking.

All these features working independently and in conjunction, allow such effects as high flanging, low flanging, voice doubling, multi-voice chorusing, echo, reverberation, machine gun reverb, singular to multiple "doppler" effects, vibrato, and highly resonant flanging. Never before has such an unlimited number of delay combinations been available to the musician, engineer, or concert sound technician.

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# PREVIEW



## Neve Digital Audio Console

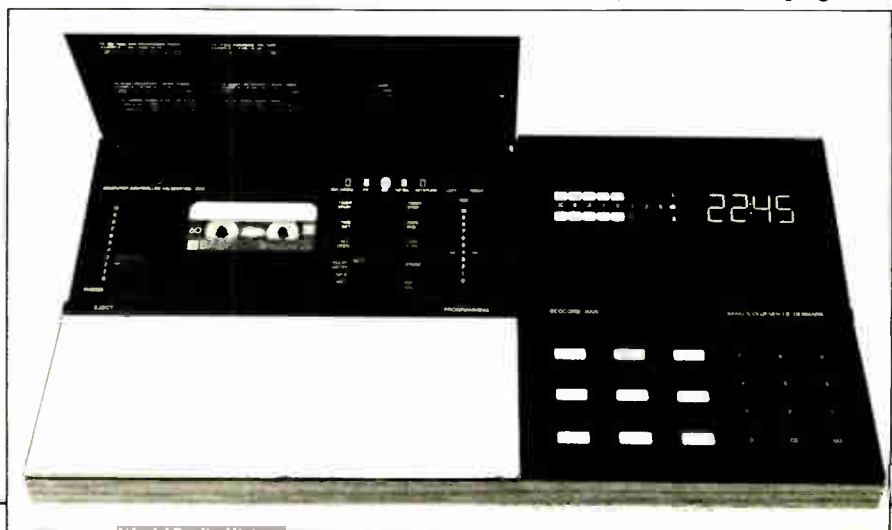
Rupert Neve Inc. has announced the introduction of a full-facility, full-scale digital audio console. The DSP (Digital Signal Processing) control console is totally remote from the signal processing equipment and offers CCR—complete control reset, full control assignability and the automation involving memory of all control functions.

All signal processing is carried out entirely digitally. The system can receive and output analogue signals and the studio need not know operationally that the signal processing is carried out in the digital domain. (In the same way that many analogue studios today use digital delay lines, echo devices etc.) These mixers will operate analogue in and digital out to feed digital multitrack machines and operate digital-to-digital for mix-down between multitrack and digital master tape recorders. Following technical discussions between Neve E.I.

## Neve Digital Audio Console



## Beocord 9000



and Studer International it has been agreed that signal interfaces between the DSP system and Studer digital tape machines will be guaranteed.

Versions of this mixer are also available for disk mastering applications using digital delay to achieve the advance signal required for analog cutting lathes. DSP console systems are available for delivery in late 1982.

For more information, contact:  
Tore B. Nordahl  
Rupert Neve Inc.  
Berkshire Industrial Park  
Bethel, CT 06801  
203/744-6230

## Computer Controlled Cassette Deck

Bang & Olufsen has introduced a computer controlled cassette recorder, the Beocord 9000, which features a calibration system that automatically measures distortion—an industry first. The computer controlled calibration system also enables the deck's electronics to be adjusted in accordance with crucial tape parameters, allowing the use of virtually any brand and type of cassette tape. The deck incorporated B&O's new HX Professional system for increasing high frequency headroom, and both Dolby B and Dolby C noise reduction.

Other innovative user convenience features include: four memories for calibrated settings of all four tape categories; automatic tape alignment; automatic bias setting for each channel; newly developed, user-adjustable, dual section head for recording and playback; built-in azimuth alignment system; automatic tape head demagnetization, and an automated real time measurement system which indicates both time elapsed and remaining time on the tape during recording. Suggested retail price is \$1800.

For more information, contact:  
Bang & Olufson of America, Inc.  
515 Busse Road  
Elk Grove Village, IL 60007

(continued on page 77)



Like father,  
like son.

For roughly \$10,000, you can own the ultimate analog mastering deck—the Studer A80RC half-inch two-track recorder.

Beyond your budget? Well, for about 1/5 the price you can own a Revox PR99 compact professional recorder. It's made by the same company, it draws on the same wealth of engineering expertise, and it reflects the same philosophy of design and construction—a philosophy established by Willi Studer over three decades ago.

The PR99's bloodlines are evident in every detail...in the precision-machined headblock, the rugged die-cast chassis, the servo-controlled capstan motor, and the Studer-made heads. Professional design features include a flat faceplate for easy head access; edit switch to defeat tape lifters and fast wind latching; tape dump button; balanced XLR inputs and outputs switchable for calibrated or uncalibrated mode; and two-way self-sync with auto input switching. The PR99 may be ordered with 3¾-7½ or 7½-15 ips tape speeds. Vari-speed, full remote control, and monitor panel available as options.

The PR99 now comes in console, rack mount and transportation case versions. Check it out. Call or write today for the location of your nearest dealer.

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The Series 800 is a compact 8 buss console available in 18, 26 or 32 input mainframes and can be configured for recording, sound reinforcement or stage monitoring... with no compromises in performance or quality. In fact, the Series 800 is built using the same quality components that go into the Series 2400... like Soundcraft's famous 41 detent EQ pots.

Compact usually means a little board with no features. But, the Series 800 with 18 inputs and 8 outputs, 4 band EQ on all inputs, and a host of other features you want, can fit in the smallest 16-track studio or production van, because it takes just 3½ feet of space. The 32 in/8 out frame takes less than 6 feet!

Naturally, the compact size of the Series 800 makes it ideal for sound reinforcement or stage monitoring, too. You don't need a Summo wrestler to haul them around like some of the Oriental brands. Besides saving roadies' backs, they save stage or audience space, too.

For the name of your nearest authorized Soundcraft dealer call Mr. Wayne Freeman at (213) 328-2595 or send in the coupon below.

- Please send me more information on the Series 800.  
 Please send me the name of my nearest Series 800 dealer.

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Mix, February 1982

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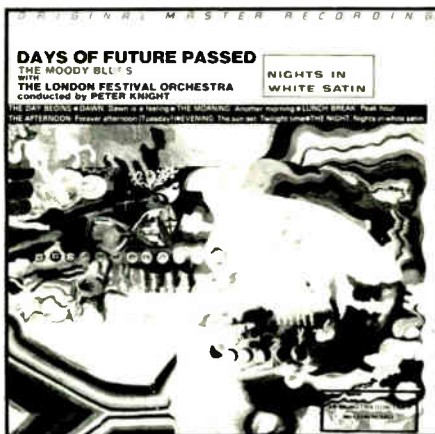
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# Off the Record



**Days of Future Passed**  
**The Moody Blues with**  
**the London Festival Orchestra**  
*Mobile Fidelity MFSL 1-042*  
*Conducted by Peter Knight; executive producer: Hugh Mendil; realisation: Dacre-Barclay, Tony Clarke; recording engineer: Derek Varnals; half-speed production and mastering by the Original Masteringworks.*

This 1967 recording was a breakthrough in rock music contemporary with *Sgt. Pepper's Lonely Hearts Club Band*. It was the first installment in the Moody Blues' series of orchestral-rock albums that began ambitiously and sank into saccharin pretentiousness a few years later. (But what do I know? The Moodies were chart-toppers again in 1981, and their live show proves that these geezers can still rock and roll pretty well).

The hits, "Tuesday Afternoon" and "Nights In White Satin," still hold up beautifully, and except for the poetry-reading passages—which sound a bit silly now that flower-power is a thing of the distant past—the rest of the record works quite well, too. The orchestral passages are beautifully recorded, with no noise, great stereo imaging, a natural-sounding mix—all the things our teenage stereos didn't reveal in the '60s.

For everyone who wore out several copies of *Days of Future Passed*, Mobile Fidelity has pressed up a version that will last the rest of your days—assuming that you're not still playing it hourly. Now if we could get them to do the same for *Surrealistic Pillow*, *Live Dead*, *Let It Bleed*...

—David Gans



**T.C.**  
**Tom Coster**  
*Fantasy Records*  
*Produced by: Tom Coster and Phil Kaffel; recorded, mixed and mastered at: Fantasy Studios; mixed by: Phil Kaffel with Tom Coster and Danny Kopelson; mastered by: George Horn.*



**Untold Passion**  
**Neal Schon/Jan Hammer**  
*Columbia*  
*Recorded and mixed at: Red Gate Studio; engineered by: Jan Hammer.*

These two albums represent some of the best in the recent practice of that much-maligned genre, fusion music, with the accent in each case definitely on the rock rather than

the jazz side of the fusion: specifically, with Schon/Hammer curving away into intense, semi-metal territory and Coster curving the other way down the Latin/romantic boulevard.

The albums also have in common the fact that both of the main men, Coster and Schon, are alumni of Santana, Schon having left in 1973 (in reaction to Carlos' turn to spiritual jazz) to found Journey, Coster having left (after six years of service) in 1978 when he got tired of playing commercial material that did not press him, he says, anywhere near the limits of his capabilities. "We were having hits with things like 'She's Not There,'" recalls Coster. "It's nice to have hits but any twelve year old can play that keyboard part."

So he went off to Montreux with Billy Cobham to play briefly in the company of some longtime idols, took a year off to go fishing, play with the kids and tinker around the house, and then, restless again, put together a band for this album. Namely: bassist Randy Jackson, whom we met through Cobham; guitarist

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# Off the Record

Joaquin Lievano, who had worked with Jean-Luc Ponty, and who is most assuredly a man to watch, as one listens to the passionate, Santana-like "I Give My Heart To You" (my favorite selection and the one getting the most radio attention) will tell you; and drummer Steve Smith. Since Smith's main occupation is drumming for Journey, this provides another link between the records; and a final, and more ironic one, is that Hammer once played one of Carlos Santana's principal spiritual/jazz sessions with John McLaughlin, as well as having teamed up previously with one of Schon's principal predecessors in the brash young guitarist's club, Jeff Beck.

Coster's album, done in the new Fantasy studio D, with production assistance from Phil Kaffel ("he added some beautiful things," notes Coster) could be the ultimate fusion album, exhibiting both a catholic sensibility and a readiness to pour on the power where appropriate. And while it generally is not kosher to let a player review his own album, Coster's own comments are as enlightening as anything I might point out:

"I'm curious as hell to see which bin they'll put the record in. I wanted a fusion thing but I also wanted a rock element to the rhythm

section. I also wanted it to sound like a band album and not like a bunch of sidemen. So overall its sounds more contemporary than just a weak jazz group trying to play rock fusion.

Unless you really know it, some of my synthesizers sound exactly like guitars because they're played through Marshall bottoms and Hi-watt tops. I didn't want to have that clean synthesizer sound on some tunes. I wanted it to burn and have that distortion. Some of it sounds just like a guitar player going up and down the strings. This wasn't because I wanted to copy a guitar but because I like that sound and to be able to get it on a keyboard and to bend notes is like a dream come true for me. And I was able to try other things. On the final tune, for instance, "Ciao"—the only one written in the studio—I'm playing one synthesizer, an OBX-A, with two hands. Everyone thinks I overdubbed but it's one person playing it one time."

Needless to say, it is also the guitar/synthesizer matchups that dominate "Untold Passion," which was done at Hammer's own Red Gate Studio in Kent, New York, with Colin Hodgkinson assisting on bass. Schon does lead vocals on about half the tunes, and while Journey lead vocalist Steve Perry is in no danger, Schon acquires himself quite well, particularly for this genre. Best tune is the leadoff, "Wasting Time," which has the sort of power, presence, and thoughtful construction that so many of those crapsnot heavy British teamups like Robin Trower/Jack Bruce never get halfway close to.

—Jack McDonough

Consequently, the freshness and sparkle of Shannon's new album is a most pleasant surprise.

At the age of 41, Shannon's voice still sounds great, his tenor having lost little of its distinctive twang. There are some excellent cover tunes on *Drop Down And Get Me*, in particular a breezy, rolling "Sea Of Love" and a slowed-down treatment of Jagger/Richards' "Out Of Time," but most compelling are Shannon's six originals. He switches easily between fast rockers ("Sucker For Your Love" and the title cut), gorgeous ballads ("To Love Someone"), and mid-tempo numbers that build and swell with irresistible intensity ("Life Without You").

Just as they have shown repeatedly on their own albums and on Stevie Nicks' *Bella Donna*, the Heartbreakers provide consistently tasteful and restrained instrumental support for Shannon, who also chips in some rhythm guitar playing of his own. Considering the respect the band has always accorded to Sixties rock, it would be hard to find a better group to assist Shannon's renewed efforts.

Tom Petty's clutter-free production rightly highlights Shannon's usually double-tracked vocals. Like his own albums, Petty favors a clanging guitar sound that jangles excitedly through the mix. And although *Drop Down And Get Me* was recorded over a span from October, 1979 to February, 1981 (due to Petty's legal hassles and touring commitments), the album holds together with remarkable consistency.

Del Shannon deserved nothing less.

—Bruce Dancis

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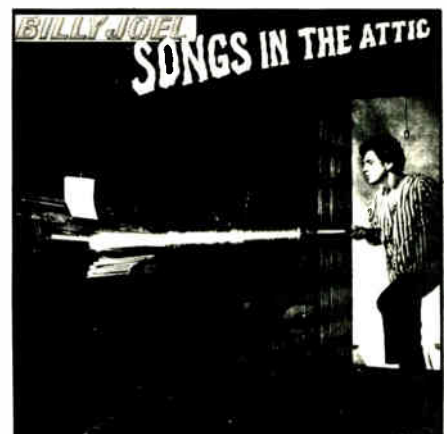


## Drop Down And Get Me Del Shannon

*Elektra, 5E-568*

*Produced by Tom Petty; engineered by Rod O'Brien, Dave Thoener, Brad Gilderma, and Roger Linn; recorded at Cherokee and Paradise Studios, Hollywood.*

Just as Bruce Springsteen rescued Gary U.S. Bonds from endless Holiday Inn lounges, Tom Petty & the Heartbreakers have revived the flagging career of Del Shannon. Although Shannon has never stopped performing, his biggest hits—"Runaway" and "Hats Off To Larry"—were twenty years behind him.



## Songs In The Attic Billy Joel

*Columbia TC 37461*

*Produced by: Phil Ramone; concert recording produced by: Brian Ruggles; engineered in concert by: Elliot Scheiner and Jim Boyer; record by: The Tom Jung/Road-80 Recording Truck/3-M Digital.*

Billy Joel's latest album, *Songs In The Attic*, has an unusual concept behind it. First a little background. Joel's first four albums had little commercial success with the only popular



cut being "Piano Man". Despite this, Joel has traditionally included many of these older tunes in his live concert repertoire. By the time of his most recent tour (summer of '80), these 'pre-Stranger album' songs had improved their quality to the extent that producer and friend Phil Ramone suggested to Billy that he consider redoing some of the best of these oldies in a live format with his current touring band.

Eleven of the best of these were selected from the live recordings that were done in the summer '80 tour. Ramone took the live tapes recorded by longtime Joel associate Brian Ruggles, and remixed them in several studios in New York. The result elicited these comments on the liner notes from producer Phil Ramone, "Some songs transcend the fickle tides of time. They hold up, retaining their impact and beauty and significance."

Having digested all the verbiage in the album package I sat down for a close listen. I should preface this by saying I am generally not a great fan of most live album attempts due mostly to the sound degradation and the often objectional audience noise. In this respect the album production gets top grades for sounding totally professional without losing any of the intensity of the concert hall. You forget that you are listening to live music until the audience roar reminds you that not only is it live, fella, but this wasn't recorded in anyone's living room either.

There are several things which make this such a good live album. First there is Billy Joel the singer and piano player. None of the subtlety of his vocal style or piano playing are sacrificed in the live setting. So many artists in the face of a sea of expectant fans abandon the subtle nuances of melody and the intricacies of their studio playing ability. They end up pounding away and wailing loudly to try and compete with the exuberant backup band and the noise of the fans. Not so with these songs and much of the credit for this should go to the band as a unit. The playing is carefully arranged to alternate between a driving full tilt rock sound and quiet uncluttered accompaniment to Joel's acoustic piano. The piano records very well here without hints of distortion or loss of transients.

The second thing which contributes to the quality of this live album are the songs themselves. With the possible exception of one or two cuts these songs could have been on any of Joel's most recent albums. The same talent for melody and lyric was there then as it is now.

Billy Joel manages to get a message across without sounding banal in the best tradition of Jackson Browne or even Bob Dylan. The Billy Joel motif of curled lip and defiant stance are in full view in these songs reminding the audience that the young BJ was as much of a rebel and a street fighter as he is now. (Who else would design an album cover, Glass Houses, with the artist throwing a rock at a picture window in his own house?). This defiant stance in his music makes for excellent live material and I heartily recommend this album. It's vintage live Billy Joel at his best.

—Steven Michaels

# PREVIEW

(continued from page 70)

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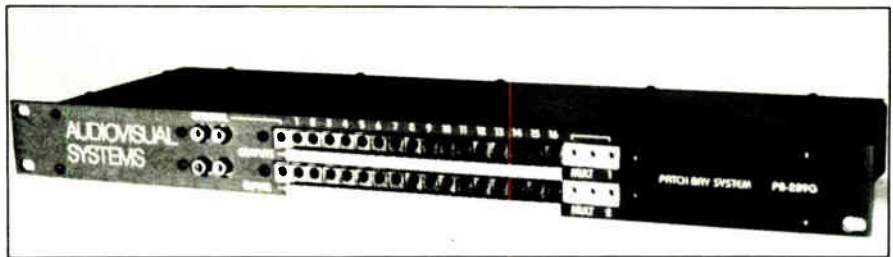
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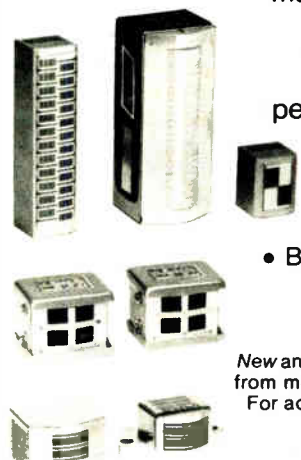
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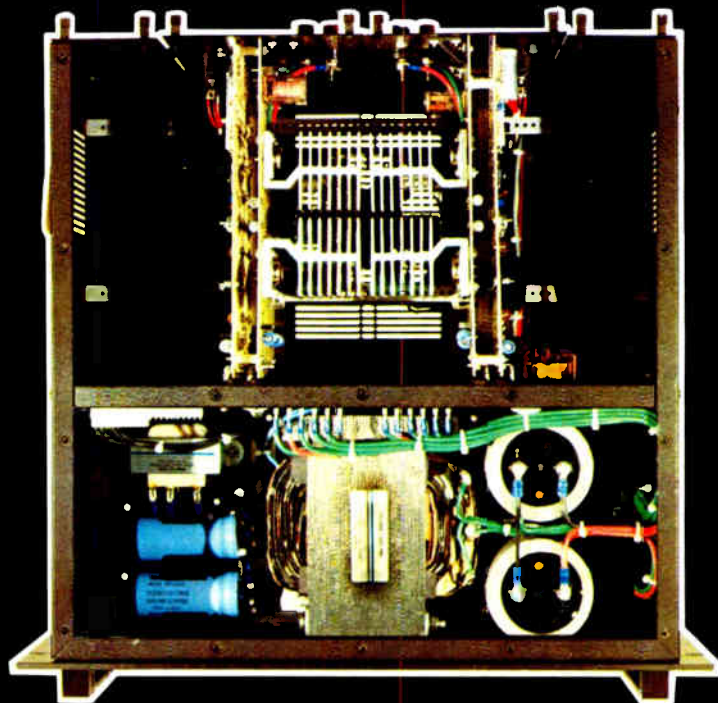
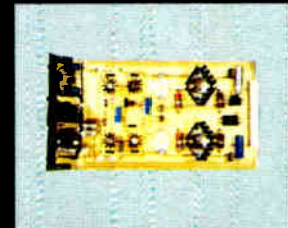
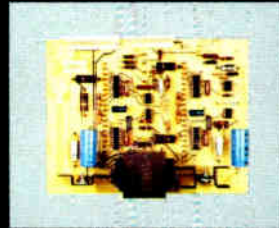
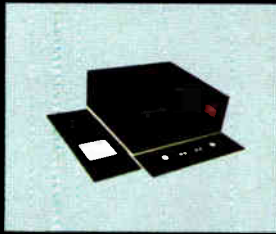
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