

MARCH 1981

THE RECORDING INDUSTRY DIRECTORY

\$1.50

Mix[®]

Mix

Controlled Circulation
POSTAGE Paid
at San Francisco, Ca
USPS-47-870

THE RECORDING INDUSTRY DIRECTORY
2508 NINTH ST. BERKELEY, CA 94710

810000C

RON MEANS

JBL

8500 BALBOA BLVD.

NORTHRIDGE

CA

91324

History of the
Tape Recorder

The
Producers Role

Indian Creek
Recording

Focus: Texas and the Southwest

Pick a number from 9 to 52!

You've just chosen the ideal DC voltage to phantom-power these new ATM electret microphones.

ATM11R

ATM10R

ATM31R

ATM91R

AT8501

Introducing four "universal" phantom-powered electret microphones. Designed to work from external power, internal regulation automatically handles any voltage from 9 to 52 VDC without adapters, switches, or rewiring. Just plug in and enjoy. With current drain a mere 0.3 mA at 9 volts (4 mA at 12-52V) a 9V battery lasts thousands of hours, not just the 60 or 70 hours typical of other mikes.

When your power supply isn't available, or isn't enough, use ours. The new AT8501 Dual Battery Supply holds two 9V batteries. One to use, and one in reserve. Instant switchover and test LED eliminates guesswork. And spares are as near as the closest shopping center. Neat!

But convenience and versatility are just two of the advantages of the new ATM models. All-new electronics provide plenty of headroom inside the microphone with no more than 1% THD even when used in acoustic fields of 141 dB SPL. Which sets new standards for clean sound even close-up to big brass or inside a powerful drum kit.

And the sound you hear is wide-range and *musical*. Presence without peaks. Highs to 20,000 Hz but without a raspy "edge." Yet despite their responsiveness, these new ATM microphones have the "Road Tough" reliability proved so often on stage and in the studio.

Before you add another microphone, compare our sound, our convenience, our reliability, and our cost. Write for literature and list of nearby ATM microphone specialists. Get great sound...right from the start! AUDIO-TECHNICA U.S., INC., 1221 Commerce Drive, Stow, Ohio 44224. (216) 686-2600.

audio-technica®

Mix

VOL. 5, NO. 3

Cover:
Ruff Cedar Recording
Studios,
Austin, TX

Photo: Joseph B.
Englander



INSIDE

The professional audio industry will be closely monitoring consumer response to this month's initial advertising blitz on the videodisk. It has been said that RCA's SelectaVision kickoff will account for the largest single product promotion in advertising history. Whether this muscle power will be sufficient to offset the current consumer spending paranoia remains to be seen. One thing is for sure though, the long awaited videodisk is finally reaching the broadbased consumer level and we will soon have facts and figures to replace the opinions and speculation.

We wish the videodisk much success, in whatever form the consumer prefers. Its success can only bring demand for program material, audio as well as video. A new market for professional audio will be warmly welcomed at this point in time and the impending business will go to those individuals and studios who watch the developments closely and prepare for the new demands and opportunities.

We will do our best to keep you tuned in to the video revolution through Ken Fay's Video Interface column as well as the in-depth examination in our special Video Focus issue of Mix, coming in June.

• • •

This month we raise our Lone Star beer cans in a toast to the Southwest music scene. John Davis has pulled together an entertaining perspective on the Texas recording scene that blends the progressive and nostalgic elements of music from the wide open spaces. We've also singled out Indian Creek Recording for a closeup by Tom Lubin. It's the kind of studio that you might only find in Texas. . . built on a 4000 acre cattle ranch, constructed primarily of rock from the ranch, ample coyotes for background wailers. . .

We get back to the basics, too, in this issue. Part one of John Mullin's "The Start of Something Big" tells the story of the early days of tape recording in this country by the man who introduced America to the first practical working tape machine. Also of broad interest is an excerpt from **Platinum Rainbow**, a new book by producers Bob Monaco and James Riordan, in which they define the job of record producer. The article, like the book, is laid out in no nonsense terms and serves as a guide to musicians wanting to minimize their burn potential in the industry. . .

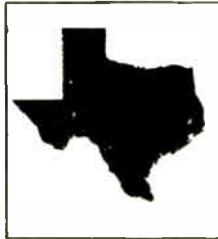
Next month will feature studios of the Northeast and a special closeup on women in audio. ■

TRACKS

MARCH 1981

DEPARTMENTS

- 4 CURRENT
- 6 SESSIONS
- 8 STUDIO NEWS
- 10 COMMITTEE REPORT
- 12 PROGRESSIONS
by Larry Blakely
- 14 SOUND ADVICE
by Ben Harris
- STUDIOSCOPE
by Dennis Buss and
Chris Haseleu
- 17
- 20 VIDEO INTERFACE
by Ken Fay
- OTHER SIDE
OF THE TRACKS
by Mr. Bonzai
- 32



FEATURES

- 20 TEXAS RECORDING
by John T. Davis
- 26 THE JOB OF PRODUCER
by Bob Monaco
and James Riordan

FEATURES (cont.)

- 30 INDIAN CREEK
RECORDING
by Tom Lubin
- 34 THE START OF
SOMETHING BIG
by John T. Mullin

LISTINGS

- STUDIOS OF THE
SOUTHWEST
- 41 LOCATION INDEX
- 42 FOUR AND
EIGHT TRACK
- 44 SIXTEEN TRACK
- 48 TWENTY-FOUR
TRACK
- 57 READER SERVICE
- 60 CLASSIFIED
- 62 FEEDBACK

PUBLISHER / EDITOR

David M. Schwartz • William I. Laski • Penny Riker Jacob

ART/PRODUCTION DIRECTOR
Tim Gleason

CONTRIBUTING EDITORS
Larry Blakely
Richie Moore, Ph. D.
Mr. Bonzai
Sam Borgerson
Dennis Buss
Chris Haseleu
Tom Lubin
Ken Fay

ADVERTISING DIRECTOR
Hillel Resner

SALES REPRESENTATIVE
Phil Maselli

PRODUCTION/TYPESSETTING
Mary Jo Bezat
Susan George
Penelope

CLASSIFIED DEPARTMENT/
STUDIO SERVICES
Gale Rosenberg

RESEARCH/TRAFFIC
Ellen Goldstein

EDITORIAL ASSISTANT
Bruce Dancis

CONTROLLER
Mike Stevens

The Mix is published at 2608 Ninth St. Berkeley CA 94712 and is ©1981 by Mix Publications, Inc. This is Volume 5, No. 3, March 1981.

The Mix (ISSN 0154-9457) is published monthly. Subscriptions are available for \$18 per year. Single or back issue price is \$2.50. Subscriptions outside U.S. are \$22.50.

Please address all correspondence and changes of address to the Mix, P.O. Box 6745, Albany Station, Berkeley, CA 94706, (415) 843-7991.

Controlled circulation postage paid at San Francisco, CA (USPS 473-870) and at Berkeley, CA (USPS 445-070).

The Mix is distributed in recording studios, pro audio stores, music stores and other related businesses. If you have a recording or music related business and would like to distribute the Mix, please give us a call.

Display advertising rates, specs and closing dates are available upon request.

M1 Musicians' Industry Magazine ©1981 Mix Publications, Inc. This publication may not be reproduced or quoted in whole or in part by micrograph or any other printed means without written permission of the publishers.

CURRENT

PRODUCTION SOCIETY CONVENTION: Surviving The 80's

The Professional Entertainment Production Society (P.E.P.S.), founded in January of 1980 as a forum for companies and individuals who provide technical services to the touring entertainment industry, attracted to its first annual convention the largest gathering of production professionals ever assembled.

More than one hundred individuals from the sound, lighting, design, production management, staging, rigging and transportation areas attended the two-day gathering in Santa Monica, January 17 and 18. Major companies represented included Showco, See Factor, Stanal Sound, Sundance Lighting, FM Productions, TFA, Northwest Sound, United Production Services, Tasco, Ego Trips, Clark Transfer, and TRT Transport.

In business sessions the new Society's members adopted a constitution and by-laws, held regular elections to their Board of Trustees, and reaffirmed their commitment to the Society and its goals. Membership in P.E.P.S. has grown to 125 companies and individuals, including seventeen new members who joined at the con-

vention.

Also on hand were experts in insurance and safety, law and accounting, who participated in a series of seminars on the convention theme "Surviving the 80's." After lively exchanges between the membership and invited experts, the Society resolved to take action in a number of



PHOTO: DICK FURMAN

Counting ballots at the Professional Entertainment Production Society convention are (left to right) Board Chairman Jim Moody of Sundance Lighting, Board member Stan Miller of Stanal Sound, and outgoing Board members Larry Hitchcock of FM Productions and Jim Bodenheimer of Ego Trips.

areas. Foremost is research and development of a risk management program to assist the insurance industry in writing realistic policies, with premiums reflecting the actual safety record of P.E.P.S. members, for companies and individuals in the technical production field.

The most provocative convention session was a dialogue with hall managers and promoters, moderated by production manager Patrick Stansfield who pointed out that in the heat of putting up a show, production people, promoters and hall managers seldom get the chance to say what they really feel about their working relationships. All the panelists remarked that technical production has grown more consistent and professional in the past four years, and that the problems which remain can be solved only by increased communications among the parties responsible for producing each show. This is particularly true in cases where production decisions affect show budgets, for disputes over money are always at the root of unexpected confrontations on show day.

TDK Inaugurates Plant

TDK Electronics Corp., the world's largest manufacturer of VHS video tape, has announced the inauguration of cassette assembly operations at its \$50 million video production plant, located on a 50 acre site in Peachtree City, Georgia.

The plant, under construction since September 1979, is fully automated and utilizes state-of-the-art machinery, computers, and a dust-free environment. According to TDK, the new Peachtree City video plant is the most sophisticated plant of its kind in the world.

"TDK is indeed proud to begin operations at the new plant", corporation vice president and general manager Ken Kohda stated in announcing operations. "TDK forecast the phenomenal growth of the quality video market, and the construction of the plant is our investment in its future. We believe that the consumer demand for high quality video tape will only increase throughout the decade. Our new plant will supply the quality product to meet the market need."

According to TDK, total video cassette sales in 1980 will exceed 17 million units. The corporation projects a 40% video sales growth in 1981 while maintaining that the industry will grow by 35%. The TDK plant is expected to meet the bulk of the demand created by this growth.

"In all respects," TDK national video product manager Ed Pessara explained, "this new plant marks the beginning of a new era for TDK in video operations. The plant will significantly increase the supply of video tape and accelerate dealer delivery of orders."

The new Georgia video plant joins its audio counterpart which is located in Irvine, California. The California TDK audio plant, expanded in the spring of 1979, is now producing some four million audio cassettes per-month.

King Instrument Acquires D & D

The King Instrument Corporation of Westboro, Massachusetts, today announced the formalization of an agreement to purchase D & D Engineering, a subsidiary of D & D Design, Inc., of West Chicago, Illinois. King Instrument is a manufacturer and international marketer of tape loading machines for audio and video cassettes. D & D Engineering is a modifier of tape loading machines now in use, incorporating a unique system developed by them for accelerating machine throughput.

Under the agreement, King Instrument will purchase all of the stock of D & D Design, Inc. D

& D operations will be relocated to the King factory in Westboro.

Ochoa Promoted At JBL

Ricardo Ochoa has been promoted to Director of Personnel at James B. Lansing Sound, Inc., it was announced by Jerry Kalov, JBL President.

"JBL has a strong commitment to providing a challenging, safe and open work environment for its entire family of employees," commented Kalov. "I'm very confident that Mr. Ochoa will continue to strengthen this long-standing company tradition through the implementation of new and existing programs and policies."

In his new post, Ochoa directs a wide range of employee services including recruitment, training and development, personnel communications, plant safety, the credit union, compensation and benefits.

Neve Appoints Canadian President

Neve Electronic Holdings Limited of Cambridge, England has announced the appointment of Mr. Clary A. MacDonald as President of Rupert Neve of Canada Ltd. effective January 1,

1981. MacDonald has been employed by Neve since March of 1974, first as Canadian Technical Services Manager, and later Marketing Manager and Vice President and General Manager for Neve's Canadian operations. Prior to joining Neve in 1974, MacDonald was in the service of the Canadian Broadcasting Corporation as Broadcast Engineer.

Ford Audio Seminars

In keeping with the organization's orientation towards professional entertainment, Ford Audio has continued its expansion into video and lighting. With interest in audio and video entertainment ever increasing, the company has responded by organizing educational seminars for their clientele. The Ford Audio Multitrack Recording Seminar held in late 1980 was highly successful and praised by those who attended as being very informative. More recently (Jan. 1981), over 250 clients were registered to attend Ford's first professional video seminar.

Gresham Appointed At Agfa-Gevart Plant

Gary H. Gresham has been appointed Plant General Manager for Agfa Taje Inc.'s plant to be constructed in Huntsville, Alabama, according to an announcement by Robert A.M. Copenrath, President. Mr. Gresham, who will report directly to Mr. Copenrath, will be responsible for the start-up and management of the

company's new magnetic tape facility.

Gresham had been with Sony Magnetic Products of America as process operations manager with direct responsibility for start-up and operation of their magnetic tape production. Prior to joining Sony, he held management positions with Northern Electric Company and DMH, a division of National Gypsum.

Chalfont Plans dbx Release

Chalfont Records plans to release its entire catalog of digital recordings in the dbx Encoded Disc format, according to Chalfont Records President, Thomas A. Britton, Jr.

Mr. Britton, in making the announcement, explained, "As an audiophile record company, we strive to produce the finest recordings from both a technical and artistic point of view. We record exclusively with the Soundstream digital system because we think it's the best system available today. The dbx Encoded Disc is the only software format that can deliver the full dynamic range and emotional impact of our digital recordings, without any record surface noise to distract the listener. This is the reason we want our entire catalog of digital recordings available as dbx Encoded Discs."

AKG Expansion

AKG Acoustics, Inc., has announced a significant expansion in its National Sales and Marketing Divisions.

Marketing Manager, S. Richard Ravich, has appointed Patric Donaghy to the newly created post of Marketing Coordinator. He will be responsible for the artist endorsement program at AKG as well as other public relations activities. In addition, all promotional literature, sales/incentive programs, ad scheduling, and trade shows will be coordinated by Mr. Donaghy.

Peter Wellikoff, Sales Manager for AKG, has appointed Dave Talbot and Toby Sali to the post of Field Sales Representatives. Their duties include working closely with AKG's national network of sales representative firms in various areas.

USC Adds Recording Courses

The University of Southern California's College of Continuing Education has added courses of relevance in the music industry. Dave Pell, producer of more than 400 albums, will be instructing courses in "Recording Production" and "This Business Called Music." Record executives, publishers, songwriters, and producers appear as guest speakers throughout the courses. Another new course, "The Recording Industry," is being taught by veteran recording executive Jack L. Levy. During his 30 years in the industry, Levy has worked for Paramount Records, Liberty Records, Capital Records and has aided the careers of Frank Sinatra, Lou Rawls, Nat "King" Cole, The Jackson Five, and Johnny Cash, among others. For further information, call (213) 743-4343.

AKG

The best digital recordings start here.



The advantages of digital recording can now be realized as never before with the new AKG C414 EB/P48 microphone.

The famous gold plated dual-large diaphragm CK-12 capsule shown here is in use in AKG's total line of professional quad stereo and mono condenser microphones. And these microphones have been used to produce some of today's very best recordings.

The C414 EB/P48 maintains all the features of our highly acclaimed standard model C414 EB—but incorporates new electronics designed to open the door to truly outstanding digital recordings.

Now you can work with an AKG microphone with allowable sound pressure levels of 142 dB (162 dB with selectable attenuation) and the lowest self-noise figure of any microphone we know.

To learn more about this vital link to the best digital recordings, we recommend a visit to your AKG dealer.





AKG

ACOUSTICS

AKG ACOUSTICS INC.
A NORTH AMERICAN PHILIPS COMPANY
77 Selleck Street, Stamford, CT 06902

© AKG Akustische und Kino-Geräte GmbH, Austria © AKG 1981

SESSIONS

NORTHEAST

At **Sound Ideas** in New York City, recent digital activity includes editing sessions for **RCA Red Seal**. Violinist **Dylana Jenson** with the Philadelphia Symphony Orchestra produced by **Jay Saks**, and CBS Masterworks editing sessions of the Verdi Requiem by the N.Y. Philharmonic. **David Motley** and **Richard Einhorn** producing. Currently at **Celebration Recording Studios** in New York City is "BBC" a newly formed band working on their first album with producers **Jonny Mann** and **Tony Conniff**. The project is being engineered by **Piers Plaskitt** and assisted by **Holly Peterson** and **Edward Bowleg**.

Frankford/Wayne Mastering-New York currently cutting lacquers for the new *Baby's "On The Edge"* Lp and followup "Postcard" single under the supervision of LA producer **Keith Olsen** for **Chrysalis**. Cutters **Tom Coyne** and **Herb Powers, Jr.** busy with new Lp and single projects for **Delite's Kool And The Gang** and **Coffee**.

SOUTHEAST

At **Boutwell-Wood Studios** in Birmingham, Alabama, overdubs being done on the "Controllers" for **Juana Records**, **Frederick Knight**, Producer; **Tony Wachter**, Engineer; and **Glen Wood** is producing tracks on himself for an upcoming album; **Tony Wacter** and **Glen Wood**, Engineers.

At **Bee Jay Studios** in Orlando, Florida, **The Outlaws** mixed their King Biscuit Flour Hour concert in Studio B with **Kurt Kinsel** and **Dana Cornock** at the console. **Molly Hatchet** spent time in both A and B studios sweetening some live tracks scheduled to be released soon as a special "airplay only" album.

Strawberry Jamm Studios, West Columbia, South Carolina has just completed an Lp for internationally renowned jazz singer **Maxine Sullivan**. Produced by **Geroge Buck**, the album features pianist **Loonis McGlohon**, Engineering by **Bob Curlee**.

Current studio activity at **Music City Music Hall** in Nashville, TN, includes: **Charley Pride** finishing up an album project for **RCA Records** with producer **Jerry Bradley** and engineer **Bill Harris**, and **MCA** recording artist **Loretta Lynn** working on new sides with veteran record producer **Owen Bradley**. **Bill Vandevort** at the board with assistance from **Dan Dea**.

In "The Room" at **Mark Five Studios** in Greenville, South Carolina, is **David Ingles**. Producer is Dove award winner **Joe Huffman**. **Eddie Howard** engineering. Also in "The Room": Producer **Joe Huffman** and Engineer **Eddie Howard** mixing a singing/comedy album for **Hee Haw's Grady Nutt**.

The **Artisan Mobile Unit** out of Fort Lauderdale, Florida, recorded audio for the **Pointer Sisters'** upcoming HBO cable television special, live at the Attic nightclub in Greenville, North Carolina. **Peter Yianilos** and **Richard Hilton** engineered with **Mega Sound Studio's Richard Royall**.

Renowned producer **George Martin** (of the Beatles' fame) and artist/writer/publisher **Roger Cook** of **Picalic Productions** were recently at **Sound Emporium** in Nashville, TN. The two were working on a soundtrack for the movie "Honky Tonk Freeway", for which **Cook** wrote and sang the theme song. **Jim Williamson**, president of **Sound Emporium**, engineered the sessions.

Art Garfunkel is back after a brief hiatus. **Garfunkel** is now completing overdubs for his upcoming album on **CBS Records**. Producing is veteran **Roy Halee**, who is also at the console. **Halee** is being assisted by **Dennis Hetzendorfer**.

NORTH CENTRAL

At **Solid Sound, Inc.**, in Ann Arbor, Michigan, Vice President and Chief Engineer, **Will Spencer** is finishing up overdubs for **Sammi Abu's** new record to be released on **Warner Brothers European Subsidiary WEA**. Other current album projects include **Word of God's** twenty-first record, and **Shotgun Producer Billy Talbert** doing some tracks for **Cheri Records, Inc.**

Recording activity at **Studio A**, Dearborn Heights, MI. **Curtiss Boone** and the **Boone Brothers** cutting the theme song for **Detroit's "The Scene"** TV program; **Eric Morgeson** engineering, and **Carolyn Walker** remixing her latest single release; **Morgeson** at the board.

Paul David Wilson, president of **Herschel Commercial, Chicago, ILL.**, recently composed music for **RCA's "Instant Savings Spectacular"** promotion. **Wilson** composed original music for two :30 TV spots and :30 and :60 radio spots. The tracks feature the sound of a ringing cash register backed by energetic orchestrations with woodwinds, string quartet and rhythm section.

NORTHWEST

Activity at the **Aspen Recording Studios** in Aspen Colorado, includes: **Giorgio Moroder** producing some demos, **Richie Cicero** at the

board, **John Denver** mixing his live performance with the **Aspen Festival Orchestra** for his upcoming TV Special, **Richie Cicero** at the board.

At **L.A.W. Recording** in Las Vegas, Nevada, **Santa Fe** is putting the finishing tracks on their debut album, produced by **Lee Watters**.

Recent action at **The Automatt** in San Francisco includes **Herbie Hancock** recording an Lp for **Columbia Records** with **David Rubinson** producing and **Fred Catero** and **Leslie Ann Jones** engineering.

Recording sessions in Studio B at **Russian Hill Recording** in San Francisco, CA, included **John Ambrose** working on a new album with **Joe Tarantino** engineering... **John Barsotti** and **Jim Henry** cut basic tracks for a new album by **Mark Weisbarth's** group **Flight**.

At **Fane Studio** in Santa Cruz, CA., bluegrass banjoist **George Stavis** recently finished recording an album of bluegrass "dawg" music. Included among the many guest artists were **David Grisman Quintet** members **Darol Anger** and **Mike Marshall** who played throughout the album. **Bob Force** produced with **Sandy Stone** at the console.

Recent activity at **Different Fur Recording** in San Francisco includes: **Bill Summers** remixing two tunes from his recent **MCA** album *Bill Summers Heat*. Tunes to be released on an EP. **Stacy Baird** engineering and **Howard Johnston** assisting behind the board.

SOUTHERN CALIFORNIA

At **Eldorado Recording Studio** in Hollywood, CA., following recent sessions with **Keith Richards** and **Bobby Keyes**, chief engineer, **Dave Jerden**, at **Ray Manzarek's** side as **Ray** produces the **Zippers**.

At **Circle Sound Studios** in San Diego, CA., **Jerry Raney** and the **Shames** are finishing up their E.P. with Producer **Jim McGinnis**. **Joel Edelstein** from **Precious Stone Productions**, has presently been recording a movie soundtrack with **Steve Penacho** engineering.

At **Sunset Sound Studios** in Hollywood, CA., **Van Halen** in Studio 2 with producer **Ted Templeman** and engineer **Donn Landee** laying tracks for new **WB** release. Assisting is **Gene Meros**, and **Dan Fogelberg** in Studio 3 doing vocal tracks for upcoming **CBS** album. Producer/engineer **Marty Lewis** at the board with assistant **Peggy McCreary**.

Skylight Exchange Studio, recently relocated from San Francisco to **Granada Hills, CA.**, is currently working on **Johnnie Ferraro**, **Tony Butala** of the **Letterman** producing.

Cont'd on next page



Maxell gives you the professional advantage.

If your professional or business requirements call for the regular use of blank audio or video recording tape, you can't afford to lose production time because of inferior products. As a matter of fact, you need the kind of tape that consistently provides you with *all the advantages* of performance and durability you depend on for professional results. We call it *The Professional Advantage*, and at Maxell we are dedicated to giving you *just that*, with every audio and video tape we make.

Our magnetic tape products employ highly sophisticated formulations that reproduce original source material with exceptional accuracy, whatever the application. Our binder system and processing techniques assure that what you record, you keep—without dropouts, shedding, print-through or distortion.

Our superior cassette shell technology provides the precision necessary for smooth and quiet tape transport without slipping or jamming.

We make it our business to manufacture high quality products that give you every advantage. You'll get the professional results you demand, the first time and every time you use a Maxell audio or video tape. To discover more about Maxell's professional advantages, call one of our Regional Sales Offices. Eastern Office, Moonachie, NJ (201) 440-8020 ■ Midwestern Office, Glenellyn, IL (312) 469-3615 ■ Western Office, San Jose, CA (408) 238-2900

maxell
PROFESSIONAL
INDUSTRIAL
PRODUCTS

The Professional Advantage

Maxell Corporation of America
60 Oxford Drive, Moonachie, NJ 07074

At Wally Heider Recording in Hollywood, CA., Rocky Burnette is finishing up his album Bill House and Jim Seiter, Rocky Burnette's manager co-producing. Biff Dawes engineering with Dennis Mays assisting.

Philippe Rault producing Michael Berger for WEA INTL at Salty Dog Recording, in Van Nuys, CA., Warren Dewey engineering the LP with Dean Knight assisting. Also at Salty Dog, Lodgic with Tom Fletcher engineering, Barry Morgan producing.

At Music Grinder Studio in Los Angeles, CA., The Tremblers (featuring Peter Noon) are preparing for their new album on CBS's Johnston, label and Melissa Manchester in recording with David Shire (Academy Award winner for Norma Rae soundtrack) producing, Gary Skardina engineering.

At Studio Sound Recorders in North Hollywood, CA., George Tobin and Mike Piccirillo doing final mixdowns on the new Smokey Robinson album for Tamla/Motown, and, Barry White producing the first duet album featuring himself and wife Glodean (formerly of Love Unlimited) for the CBS-distributed Unlimited Gold label. H. Lee Wolen at the controls.

SOUTHWEST

At Ruff Cedar in Austin, Texas one recent project was the 3-piece band Welcome, a Brighten Road Production. Producer was John Burns of Genesis' "The Lamb Lies Down on Broadway". Engineer was Richard Whaley who has done some of ELO's albums.

STUDIO NEWS

Eastern Artists Recording in East Orange, NJ., is proud to announce the addition to its staff of independent producer David Miles as studio manager. Miles comes to the studio after seven years on the road and a year at Sear Sound, N.Y. as manager. His productions include new wave vocalist China Davis and funk-rock group "Atom".

Circle Sound Studios in San Diego announces the opening of Studio B, it's new 16 track studio. A list of equipment includes: A Custom 16 track console, Stephens 16 track tape machine, Ampex 440 two track, Ampex 350 mono, Otari MX5050 two track, Revox A77, Nakamichi cassette, Crown D150 amps, AKG BX10 Reverb, LA 3A limiters and JBL 4311's. Booking information is available from Richard or Robert Bowen. (714) 280-7310.

Oasis Recording, an eight track facility in San Francisco, CA., has acquired an Ampex MM-1100 16 track recorder and a Soundcraft

Series 800 console. Owner Greg Goodwin also announces the hiring of Mike Joseph as staff engineer.

Sear Sound in New York City, is pleased to announce the recent appointment of Christopher Martinez to the position of Chief Mixer. He brings with him an extensive music background in both the audio and video fields and, in addition to his engineering duties, will be Studio Manager of the Midtown facility.

W.E. Studios (Redondo Beach, CA.,) has just re-designed their control room. The room features Tascam 80-8 with full dbx, Model 5B console, Techniques 1520 (1/2)(1/4) track, DeltaLab digital delay, dbx compressor/limiter, Tapco stereo reverb, Biamp graphic equalizer, and AKG microphones. Chief Engineer is Francis Buckley.

Owner-Engineer Tom Steele has just completed refurbishing Frankford/Wayne Cutting Room "B" (now known as "B-II") with the recent installation of their second "Compudisk" computer tied together with the AMS Digital Delay System. The new room contains two lathes equipped with Neumann-Ortofon cutters driven by a custom electronics package and control console by Ransteele Audio of New York. Room "B-II" boasts to be the most state-of-the-art cutting room in the world according to Steele. Steele also is currently in the planning and pre-construction stages of a new digital editing and transfer room with consultation by digital expert Peter Jensen and the acoustics by engineer Chas Gerber.



Hear your music the way your music sounds.

MCI 24/16 Track Recorder with Auto Locator

Eastlake Monitors

MCI 536 Automated Console with Plasma Metering

Lexicon Digital Reverberation

Block Booking Rates

Wide assortment of outboard equipment and microphones

RUFF CEDAR
SOUND STUDIO

5012 Brighton Road
Austin, Texas 78745
512/444-0183

Ruff Cedar on nine wooded acres has the space and atmosphere to let your music flow and come together better than you've ever heard before.

The Recording Industry Management program at **Middle Tennessee State University** announces a major upgrading of the R.I.M. studio. A Harrison Systems 2824 series console along with a Valley People (Allison) 65K programmer was installed by Studio Supply of Nashville. An Urso Major Space Station was also included in the equipment package. Recording Industry Management is a 4 year degree program covering most aspects of the recording industry. For information, write to MTSU, Box 21, Murfreesboro, TN 37132.

From York, Pennsylvania, **Turtle Beach Recordings'** owner Roy Smith reports the installation of a Tangent model 3216 console, which was supplied by Dimension Five Inc. Other improvements include a vocal booth, an Omnicraft gate rack, and a Vox Continental organ. **Bill Hatfield** and **Dave Long** handle assistant engineer and maintenance engineer jobs, respectively. The studio is managed by **Lauren Hale**.

Strawberry Jamm Studios in West Columbia, South Carolina, has recently taken delivery on a new Neotek Series III console. Other new equipment includes a Scully 280 2 track mastering/mixing recorder, a Neumann U-87 condenser mic, and a Yamaha 5'7" G-2 baby grand piano.

Twilight Recording Studio in Laguna Hills, CA., has announced the opening of their new 16 track facility. Equipped with TEAC/Tascam's new 85-16 deck and modified model 15 with 24 in x 16 out. The 19' x 28' x 13' studio offers a Yamaha

C7 grand piano, Fender jazz bass and Gibson Les Paul guitar. Studio designs were by acoustician/designer **Stephen W. Desper**.

From **Music Mill Recording Studio**, Nashville, **Harold Shedd** reports additions to the engineering staff. **Paul Goldberg** formerly with ATV Music will be working at the Music Mill as house engineer and technician. Also **Joe Mills**, formerly with Bradley's Barn. Joe engineered the sound track for Coal Miners Daughter movie; Loretta Lynn's 1979 album of the year, and won the superpickers engineer of the year award.

Earth Audio Techniques in North Ferrisburg, VT., and **Philo Records** announce completion of their first digital album, recorded and mastered using the Mitsubishi X-80 two channel digital recorder. Extreme quiet and dynamic range were the ideal conditions for the percussive and acoustic performances of **Do'A**, on this, their third album on Philo Records. Engineered by **Chas Eller** with the aid of the Neotek Series III console and ADS BC-8 monitors, the session was done essentially "live" at the University of Vermont recital hall.

L.A.W. Recording in Las Vegas, Nevada, has just expanded the studio room to 1000 sq. feet. The control room is still 16' x 17'. The 24 track studio now has a Lexicon 224 reverb.

Spread the Word

*about your sessions,
personnel changes,
equipment updates,
etc., through
"Sessions/Studio News"
c/o Mix Magazine
2608 Ninth St.
Berkeley, CA 94710*

THE ULTIMATE...



MCI
4007 NE 6th Avenue
FT. LAUDERDALE, FLA 33308
(305) 566-2853

SOUTHWEST PRO AUDIO, INC.
1500 Summit St.
Austin, Texas 78741
(512) 443-4567

COMMITTEE REPORT

National Association of Record Merchandisers 1060 Kings Hwy. North, Cherry Hill, NJ 08034

NARM and RIAA, the Recording Industry Association of America, are encouraging radio stations across the country to dedicate music to the former hostages by playing a retrospective of the great tunes of 1980. Their efforts are in cooperation with a seven-member commission appointed by former First Lady Rosalynn Carter, which recently chose a sampling of 1980's best recordings to present to each of the former hostages. Headed by the noted record producer John Hammond, the commission's selections encompass all categories of music.

The albums are being distributed to the former hostages through the Family Liaison Group in Washington, the main organization for the hostage families. Following are the albums selected by the special commission:

Contemporary Popular • Bob Blumenthal

- "Double Fantasy"—John Lennon & Yoko Ono, Geffen/Warner Bros. GHS 2001
- "Eat To The Beat"—Blondie, Chrysalis CYS 1225
- "Gaucho"—Steely Dan, MCA 6102
- "London Calling"—The Clash, Epic E2-36328
- "The Game"—Queen, Elektra 5E-513
- "The River"—Bruce Springsteen, Columbia PC 2-36854

Children's/Comedy • Paul Kresh

- "In Harmony"—Various Artists & Muppets, Sesame Street, Warner Bros. BSK 3481
- "Mickey Mouse Disco"—Mickey Mouse & Friends, Disneyland 2504
- "The Muppet Movie"—Muppets, Atlantic ATC 16001
- "Comedy Is Not Pretty"—Steve Martin, Warner Bros. HS-3392
- "No Respect!"—Rodney Dangerfield, Casablanca CAS 7229
- "25 Years Of Recorded Comedy"—Various Comedians, Warner Bros 3BX-3131

Classical • David Hall

- "French Flute Concertos"—James Galway, RCA Red Seal, ARL1-3777
- "Mostly Mozart, Vol. 4"—Alicia De Larrocha, London CS 7179
- "Prima Donna, Vol. 5"—Leontyne Price, RCA Red Seal, ARL1-3522
- "Goldmark: Symphony in E Flat Opus 26 ("Rustic Wedding")"—Andre Previn & Pittsburgh Symphony, Angel SZ37662
- "Scandinavian Music"—(Nielsen), Neville Marriner & Academy of St. Martin-In-The-Fields, Argo ZRG877

Country • Frances Preston

- "Full Moon"—Charlie Daniels Band, Epic EPC-FE-36571
- "Honeysuckle Rose"(Soundtrack)—Willie Nelson & Family, Columbia S2-36752
- "Kenny Rogers Greatest Hits"—Kenny Rogers, Liberty, L00-1072
- "Loretta"—Loretta Lynn, MCA 3217
- "The Best Of Strangers"—Barbara Mandrell, MCA 51001

Jazz • John Lewis

- "Bob Brookmeyer Composer/Arranger"—Mel Lewis & The Jazz Orchestra, Gryphon 912
- "An American Concerto with London Symphony"—Patrick Williams (Com-

poser), Columbia JC-36318

"Farewell"—Toshiko Akiyoshi-Lew Tabackin Big Band-Insights, RCA AFL 12678

"Fun And Games"—Chuck Mangione, A&M AAM 3715

"I Remember You"—Hank Jones, Classic Jazz CJ 115

"Sarah Vaughn: Duke Ellington Song Book One"—Pablo, T 2312-111

"We Will Meet Again"—Bill Evans, Warner Bros., HS-3411

Rhythm & Blues/Blues • Ed Bland

"Aretha"—Aretha Franklin, Arista, AR1-9538

"Hotter Than July"—Stevie Wonder, Tamla/Motown T8-373

"Off The Wall"—Michael Jackson, Epic, EPC FE-35745

"Queen Ida and The Zydeco Band In New Orleans"—Queen Ida, GNP Crescendo, GNPS-213

"Ray, Goodman & Brown"—Ray, Goodman & Brown, Polydor, POL 1-6299

"Sweet Sensation"—Stephanie Mills, 20th Century/RCA, TWC 603

"The Wanderer"—Donna Summer, Geffen/Warner Bros. GHS-2000

Association of Professional Recording Studios

23 Chestnut Ave., Charleywood, Hertz WD3 4HA, England

The Association of Professional Recording Studios has compiled an up to date directory of its member studios. The new 74-page guide lists each member in alphabetical order, and provides details of studio dimensions, recording equipment and other facilities. Where appropriate, an indication is also given of the studio's expertise in areas other than conventional music sessions, such as radio commercials, speech recordings and audio-visual presentations.

Copies of the new Guide to **APRS** Studios are available from The Secretary, Edward Masek, 23 Chestnut Ave., Charleywood, Hertz WD3 4HA. Telephone: Rickmansworth 72907

National Association of Broadcasters

1771 N. Street, N.W., Washington, D.C. 20036

The National Association of Broadcasters said the Federal Communications Commission should adopt technical rules for discrete FM quadrasonic broadcasting and not leave it to the marketplace to set standards. In its filing **NAB** also said it supports continuation of the special services available from the use of subsidiary communication authorizations such as foreign language broadcasts and reading services to the blind.

NAB said that once a clear technical standard is chosen the competitive free enterprise system will swing into full operation. **NAB** asserted that if there were no standards, the transmitting equipment, broadcasting and receiving equipment markets would suffer from confusion and the public could be deprived of FM quad broadcasting and receivers. In the absence of a clear FCC standard, **NAB** said, quad service "would be so scarce as to be unable to support the broadcasting or manufacturing of receiving equipment."

The association said the case for a single standard is very strong and noted that many countries wait for the United States to decide on broadcast technical standards before they implement new technologies. It said this provides further economies in receiver marketing. ■



Cherokee Studios, Hollywood, California

JBL 4313 Studio Monitor. It flattens the competition.

Introducing the 4313.

Flat frequency response. It means accuracy. Naturalness. Reality.

JBL gives it to you without the bigger box that you'd expect along with it, since the 4313 only measures about 23" x 14" x 10"!

This new, compact professional monitor produces deep, distortion-free bass. And does it with a newly developed 10" driver. Its massive magnet structure and voice coil are equivalent to most

12" or 15" speakers. Yet it delivers heavy-duty power handling and a smoother transition to the midrange than most larger-cone speakers.

The 4313's edge-wound voice coil midrange accurately reproduces strong, natural vocals and powerful transients.

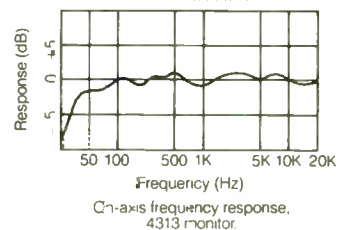
Up top, a dome radiator provides high acoustic output with extreme clarity and wide dispersion. A large 1" voice coil gives it the ruggedness needed in

professional use. Working together, these precision matched speakers offer superb stereo imaging, powerful sound levels and wide dynamic range.

Audition the 4313 soon.

We think you'll agree that its combination of flat response, power and moderate size flattens the competition.

Available in Canada through Gould Marketing, Montréal, Québec.



James B. Lansing Sound, Inc.,
8500 Balboa Blvd.,
Northridge, California 91329.

JBL First with the pros.

MARCH 1981

World Radio History

©1981 James B. Lansing Sound, Inc.

PROGRESSIONS

digital recording —MORE CONSIDERATIONS

by Larry Blakely

Digital tape recording appears to be the answer to many of the problems that we have faced with analog tape recording for so many years.

In dealing with the analog tape recording process we have found noise to be one of the critical problem areas. Kin to this problem is the lack of sufficient dynamic range in analog tape recorders. Close miked music played live can have a dynamic range in the area of 100 dB. Since most analog recorders have more like 60 to 70 dB of dynamic range, for years the dynamic content of music has purposely been squashed (compressed or limited) to keep the loud passages from distorting and prevent the quiet passages from being covered with noise. Noise reduction systems have been used to increase the signal to noise ratio, but many people find these systems to also add coloration. Another noise problem in analog tape recording involves a noise build up (additive noise) as the number of tape generations increase. That is, if you make a copy (2nd generation) of a tape in standard recording practice, the noise on the copy will exceed that of the original by 3 dB. If a copy is made of the copy (3rd generation) the noise will be again increased by 3 dB and so on.

This noise increase due to tape generations is a practical problem as commercially released tapes are usually 2 or 3 generations removed from the master tape (original). In multi-track recording the use of ping-pong or track bouncing will increase audible noise in a similar way.

Yet another noise consideration in analog tape recording involves the width (size) of the actual tape recording track. A "full track" tape head has a track width of approximately $\frac{1}{4}$ ". A recording made on a tape recorder utilizing a "half track" tape head (track width of approx. $\frac{1}{8}$ "") will have more noise than a full track recording. A recording made on a tape recorder utilizing a "quarter track" tape head (track width of approx. $\frac{1}{16}$ "") will have more noise than a half track recording. And the story goes on. In analog tape recording if you want more tracks on a given width of tape, the reduction in track width comes at the cost of "additional noise."

Generation quality loss (in ways other than noise increase) is also a factor in analog tape recording. As the number of tape generations increase, it is most always accompanied by a loss of

transients, minor changes in frequency response, muddiness, etc. An A-B comparison between the original analog tape and the 2nd, 3rd, 4th and 5th generation tape copies will show substantial degradation of audible quality.

Frequency response of quality professional tape recorders is typically within ± 2 or 3 dB from 30 Hz to 15 kHz, far more than adequate for many recordings as the response is often even further reduced in the disc mastering process (sometimes 50 Hz to 12 kHz or less), not to mention additional frequency restrictions brought about in radio broadcasting or when listening on inexpensive equipment.

By contrast, let us look at what digital recording is providing. First of all many digital recorders offer a 96 dB signal to noise ratio (no audible tape noise). It is now possible to make tape recordings with essentially no dynamic restrictions (no limiting compression or gain riding). Noiseless, full dynamic range tape recordings; pretty exciting, isn't it? Digital tape recording claims no additive noise as the number of tape generations increase. It is also claimed that there are no generation quality losses as the number of tape generations increase. In theory this means that a digital tape or disc available to the consumer would be audibly identical to the master tape. It also means that one could do as much ping-ponging (track bouncing) as desired with neither added noise nor audible quality changes.

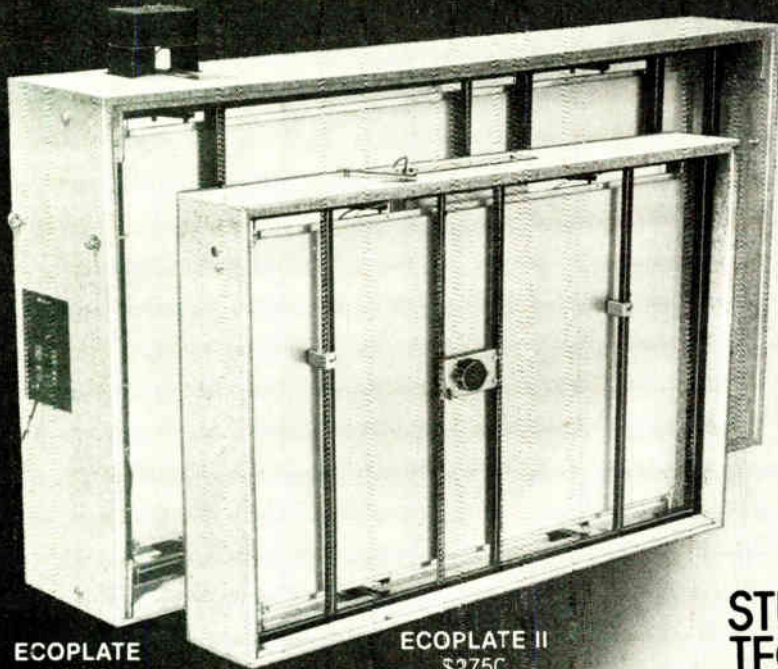
Another claim of digital is that the tape track width can be most any size without an increase in audible noise. Hence, a 30 track digital recorder using 1" tape is a possibility. Frequency response from essentially 0 Hz to near 23 kHz is also a reality. The existence of this extreme low frequency information is awesome!! Finally it is possible to hear and/or feel all of this "low air" that one experiences from live music. One interesting side note: The first *digital master tape* that I heard was Telarc's recording of the Firebird with the Atlanta Symphony and chorus. I was listening on a pair of JBL 4310 loudspeakers (12" woofers). I have never heard low frequencies like that from any tape of recorded material on any type of music system. It immediately proved to me that the lack of this extreme low frequency information all of these years was the fault of the recording medium and not necessarily the equipment on which it is played. With the exception of

audiophile oriented product, what need is there for extremely quiet master tapes when the noise added by most record pressings sounds like waves crashing against a coral reef? Wide dynamic range also poses problems too, as even the best conventional phonograph records will only accommodate some 65 dB of dynamic range. Of course a companded (encoded) phonograph record, like the dbx discs, will handle a dynamic range in the 90 dB range. Extended frequency response is even a problem in that the frequency response on many phonograph records is deliberately restricted to allow more time to be cut on a side and at higher cutting levels.

In looking back at this situation, it appears to me that we are putting new wine in old bottles. There is no way to realize the full benefits of a digital tape when recorded on a conventional disc, even of the best quality. Digital master tape recorders are actually the first part of a two part system that will provide us with the full impact of digitally recorded sound. The missing link is a quality digital audio player for the consumer. It seems that this is some two years away at best. Very soon, though, we will see the dribble of the first consumer digital players, in perhaps a variety of formats. Many are under the impression that the currently available video disc players have digital audio. This is not so! It is currently analog audio! The manufacturers of video disc players talk of a PCM (digital) adaptor for these machines in a year or so at an additional cost of some \$1,000. Anyway, it will likely be some time before the real benefits and impact of digital recording will be upon us.

One last area that I would like to touch on is the subjective audible quality of digital recordings. While many critical listeners think that the audible quality of digital is fantastic, a number of very respected professionals in our industry cannot stand it. Where is the truth? Digital is a radically different technology than analog. Each process will have its own distinguishing characteristics and qualities to the trained ear. After having listened to analog recordings all our lives, have we become so accustomed to the characteristics and shortcomings of analog that we dislike something different because it doesn't sound like what we are used to hearing? An A-B comparison between an analog and a digital recording is meaningless. You would be comparing a familiar format to an unfamiliar one. People would generally tend to prefer the one with which they were most familiar. Such a test can only be made accurately with an A-B-C comparison. Listen to a line signal over the monitor speakers (A), then compare the analog recording (B) to the live signal, then the digital (C) to the live signal. Now you can hear the truth, which one more accurately represents the pure (live) signal. I suggest that you put digital to the acid test and then decide for yourself. ■

"The Best and The Brightest!"




ECOPLATE™

Used by hundreds of studios throughout the world, ECOPLATES are acclaimed as being the best, brightest, most musical reverb available today.

Now you can have the very best at an affordable price.

For Demo Tapes, Users List, and Literature, contact your dealer, or

STUDIO TECHNOLOGIES 

6666 North Lincoln Avenue
Lincolnwood, IL 60645
312/676-9400

an affiliate of **Programming Technologies, Inc.**

ECOPLATE
\$5000

ECOPLATE II
\$275C

Vertical Mounting,
Remote Controls
optional.

DIGITAL: RECORDING, MIXING, ***SERVICES:*** EDITING, MASTERING IN STUDIO, ON LOCATION, ON TOUR

Now the outstanding sonics of digital recording can be yours, when and where you want it. From selected studios to favorite performances we have the equipment and expertise to make it work for you. Get the best there is on a truly cost effective basis. See our listing in this issue, or call us. We'll tell you how to go digital for a song.

Digital Services

Recording

1001 River Oaks Bank Tower • 2001 Kirby Drive • Houston, Texas 77019 • (713) 520-0201

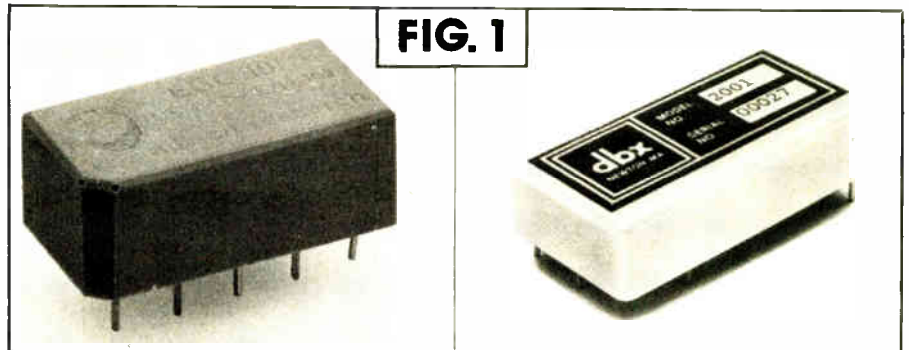
SOUND ADVICE

VCA'S ON SOUND ADVICE

by Ben Harris

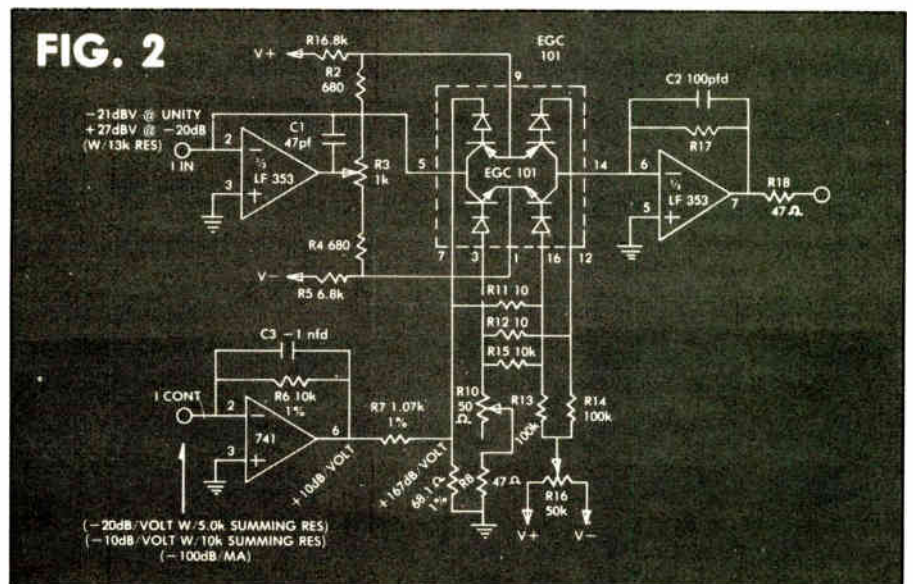
Voltage Controlled Amplifiers (VCA's) have revolutionized the recording console industry, their ability to be DC grouped and still retain audio separation probably being their biggest advantage. Also Analog to Digital and Digital to Analog computers have enabled console manufacturers to utilize VCA's in a wide variety of automated console configurations.

In the early days of console automations, there was much concern, and rightly so, that VCA's degraded the signal path. Early designs by dbx, Inc. and Allison Research were much noisier than their manual fader/booster amplifier counterparts. However, today we see products from both dbx, Inc. and Valley People (formerly Allison Research) that truly give the wired fader a run for its noise spec.



Allison Valley People VCA

dbx Model 2001 VCA



It might be advisable at this time to note a couple of other manufacturers of voltage controlled devices. A VCATT (Voltage Controlled Attenuator by B & B and a VCA by Rupert Neve are also on the market. The latter is available only in Neve consoles and then only for grouping, not as a part of their Necam automation package. The former is a product designed for retro-fit into various consoles.

In the case of the VCATT, the device is not capable of accepting gain. It is an attenuation device only. The pros and cons of VCA versus VCATT have been discussed at length in other publications and I assure everyone concerned this is not the purpose of this article. One may assume that a VCA may be scaled to be at unity gain at -15db on the fader, and that no gain is required post VCA to produce any gain setting from -110db through 15db of gain. (Typically, another 15db of gain is available from the Master VCA fader.) However, the VCATT acts somewhat like a fader, wherein, a fader scale of -15db for a unity transfer of signal must be followed by

15db of gain from an amplifier to reach the unity voltage output. In this method, the noise, no matter how low in the device itself, is always being amplified by 15db of gain per channel.

Let us take a moment to define a VCA. A VCA is an amplifier whose gain and attenuation are controlled by a DC voltage applied to its control port input. The audio portion of the VCA can then be adjusted over a range of as much as 160db. In more practical situations, the gain is limited to about 30db and the attenuation to about -100 to -110db, respectable, to say the least.

There has been much talk of late on cross-over distortion of Class B and Class AB amplifiers. Therefore, new devices were introduced to eliminate this type of distortion, namely, the dbx 2001 series and the Valley People EGC101. Both units are very similar in that they are Class A amplifiers, current in, current out devices. Their distortion figures are trade offs! In this vast, complex era of electronics, nothing comes free. The trade offs are as follows: thermal instability, con-

tol voltage rejection, and even noise. All of these parameters can be trimmed or nulled to acceptable terms, but the process is probably much more critical than in the AB type circuits. Also, there remains the problem of available bias current. At a certain point of level input, the Class A amplifier will go into Class AB operation. This is typically +22dbv with the EGC101 biased at 1ma with a 13k resistor input and a 13k resistor in the feedback loop of the output opamp with \pm VDC power rails. All of these parameters can be adjusted back and forth to suit the manufacturers' design intentions. For instance, the input-output resistors could be lowered in value to say 10k. The noise figure would be somewhat better, however, if the Class AB operation would begin at a point below the +22dbv. As the signal rises above the threshold of the Class AB operation, the distortion will also rise. With levels up to about +26dbv, it would be somewhere in the neighborhood of .1% as compared to .001% for the Class A operation. Even during Class AB operation the distortion is much lower than was acceptable just a few years ago. It's amazing how things change.

Both units are flexible as to input-output levels, considering, of course, that circuit design follows the manufacturers' parameters for their particular VCA. Slew rates are very high for both devices, both being capable of speeds in excess of 30 volts per micro-second. The best opamps available for audio use are in the area of 20 volts or less per micro-second.

Figure 1 shows the Valley People EGC101 on the left side of the photo and the dbx 2001 on the right. Figure 2 & 3 depicts typical circuit design for both units. The design of Figure 2 reflects the EGC101 design. Rin and Rout are not defined because these values depend on the level the circuit is designed to handle. Figure 3 is the dbx 2001 as used in the MCI 500 series consoles. It you will notice, the audio path in both cases does not have a fader to control the level. Instead, the channel fader controls DC voltage only. This is where the VCA secures its ability to be grouped with other VCA faders and still retain audio separation.

This is over simplified, but true in operation; when a VCA is used as the heart of an automated console gain structure, the VCA is being controlled by its associated DC fader and by any group or master VCA fader with which it may also be associated. While the control voltage is being sent to the VCA, it is also being "remembered" by the automation computer in real time. These fader voltage levels are translated into digital words for addressing and storage. When the automation is asked to play back the stored fader movements, the channel fader is, for all practical purposes, bypassed.

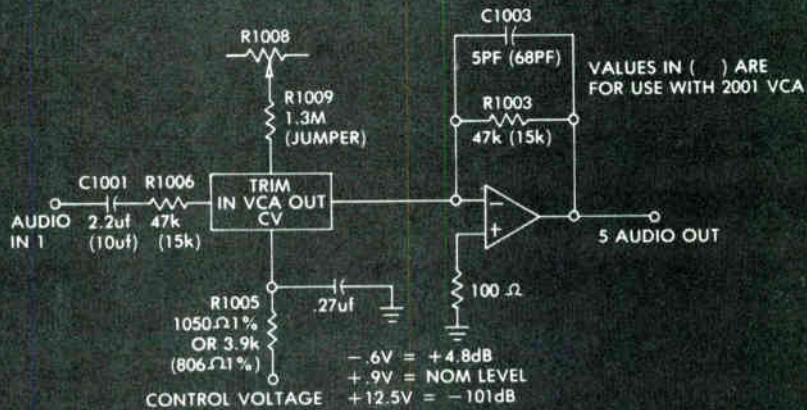
This type of automation, in general scope, is like that of the MCI JH 50 and the Valley People 65k and many others too numerous to mention.

It seems that console manufacturers, for the most part, are divided equally between the two major manufacturers of VCA's. Those using the dbx VCA are Quad Eight, Sphere, MCI and Solid State Logic. Those under the Valley People VCA are Harrison, Audiotronics, Sound Workshop and AMEK.

Those listed are not hard fast rules, and

FIG. 3

**SIMPLIFIED SCHEMATIC DIAGRAM
(CHANNEL VCA MODULE BOARD #IC1000 AND #IC1001)**



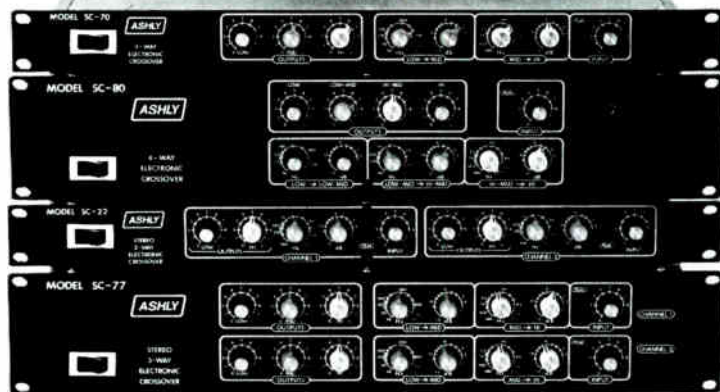
some manufacturer may build a string of consoles with one type of VCA and then convert to another type for the next few boards manufactured. Also, I have not listed nearly all of the consoles available with VCA's, nor all of the uses for VCA's. The other uses are indeed varied. There are noise reduction units such as the dbx 208 and 216 units, compressors such as the Valley People Gain Brain II, and gates such as the 900 series dbx and the ever present Kepex from Valley People, to name but a few. The list goes on.

Wrapping up, VCA's in years past have hurt the reputation of VCA's in general. How-

ever, the state-of-the-art units being produced in today's market place have a definite place in music recording and processing. The differences between the EGC101 and the dbx 2001 are small indeed. The choices are yours, the benefits are endless. ■

Ben W. Harris
Chief Engineer
Ground Star Laboratory
Ronnie Milsap Enterprises
12 Music Circle South
Nashville, Tennessee 37203

ASHLY HAS A CROSSOVER FOR YOU



- SC-70**
249 List
- SC-80**
349 List
- SC-22**
290 List
- SC-77**
429 List

Ashly provides the widest selection of electronic crossovers in the industry. Your choice of stereo two-way, stereo three-way, mono three-way, and mono four-way. All with balanced inputs, input level controls, individual output level controls, tunable crossover points, adjustable rolloff controls, and peak overload lites. Add Ashly's rugged 16 gauge steel box and two year warranty and you have an unbeatable package. Ashly Electronic Crossovers — designed and built by people who still care about quality and reliability.

For more information see your Ashly dealer or
Call or write:

ASHLY Ashly Audio Inc.
Customer Service
100 Fernwood Ave. • Rochester, N.Y. 14621
(716) 544-5191 • Toll Free (800) 828-6308 (except N.Y.S.)

Two delays, one price.

Since flanging and doubling are important effects derived from time delay, we put them both in a single, cost-effective unit and called it the Flanger/Doubler.

As a flanger, the MXR Flanger/Doubler can add a variety of tonal colors and vibratos, from the subtle to the bizarre. As a doubler, it can thicken textures, broaden stereo images, make a single instrument or voice sound like many, and create spatial illusions.

Many time delay devices offer a time delay range that is enormous but impractical for certain applications. You end up paying for effects that are either inaudible, distorted, or extremely difficult to manage in performance.

By incorporating a concentrated time delay range of .25 to 5 milliseconds in its flanging mode and 17.5 to 70 milliseconds in its doubling mode, and by providing a variable sweep speed of .03 to 20 Hz, we've enabled the Flanger/Doubler to offer, without unnecessary expense, a tremendous range of time delay effects that are clean, musical, and expressive.

With the MXR Flanger/Doubler, you can create everything from fast frenetic quivers to slow pulsating throbs, including hard reverb and numerous chorus sounds, *without sacrificing sonic integrity.*

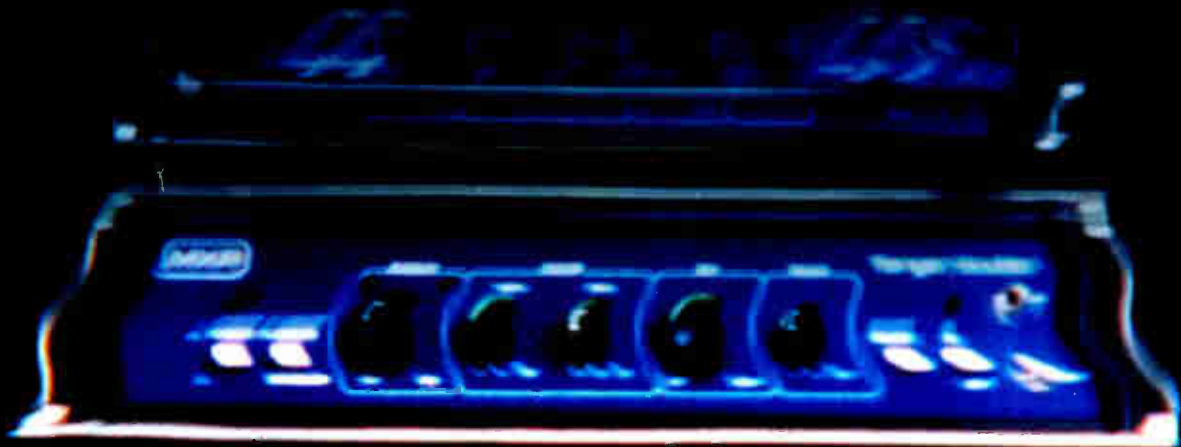
The Flanger/Doubler switches easily between flanging and doubling modes and provides pre-setting and LED monitoring of sweep speed and range, so musicians no longer have to hunt for correct flanging and doubling settings during performance. And the MXR Flanger/Doubler is an economical and effective way for engineers to free other delay devices (such as a Digital Delay) for longer time delay functions.

The Flanger/Doubler is designed for use in the studio and on stage, with line or instrument levels. Rugged construction and an optional road case enable it to readily handle the punishments of the road.

Like all MXR products, the Flanger/Doubler has been designed as a practical tool for both musicians and engineers. It has been built with the highest-quality materials and the most advanced American musical technology in order to provide creative artists with the freedom to make original and imaginative statements in today's electronic music. See your MXR dealer.

MXR Innovations, Inc., 740 Driving Park Ave.,
Rochester, New York 14613, (716) 254-2910

MXR Professional
Products Group



STUDIOSCOPE

by Dennis Buss and Chris Haseleu

A few years ago, Dun & Bradstreet did a study on why businesses fail. Overwhelmingly, a majority of the failures were due to bad business management practices: lack of managerial experience (14.1%), unbalanced experience (22.3%), and incompetence (40.7%). Our consulting experience suggests that business management problems extensively affect the operation of numerous small to medium-size recording studios.

Accordingly, we thought it would be helpful to cover sources of basic management assistance open to the studio owner/manager. Generally, the following are readily available:

1. Books
2. Classes
3. Trade Assistance
4. Private Consultants
5. Small Business Administration

Obviously, some are more appropriate to the operation of a recording studio than others. We'll analyze each type with that in mind.

BOOKS

Every moderate-size bookstore (B. Dalton, Walden Books, etc.) has a "Business Books" section with a variety of texts that claim to be able to cure all of the operational ills of every struggling business. Quite often in application these claims usually turn out to be only academic rhetoric. However, there are some books that seem to be straight forward and based on solid practical experience.

Successful Small Business Management, by Tate, Megginson, Scott, and Trueblood is capable of suggesting practical answers to business management questions that face the studio manager. Although the cases that are included in the text are not written specifically for recording studios, the principles that they cover certainly apply to the operation of studios. If the local bookstore doesn't carry this book, contact the publisher: Business Publications, Inc., Dallas, TX 75243.

William Stanton's *Fundamentals of Marketing* (McGraw-Hill) takes an academic approach to the area of marketing management—it is used in hundreds of classrooms across the nation. However, it is written in a way that competently covers many areas that usually concern the studio: everything from pricing to advertising techniques.

It almost goes without saying that the studio owner must be able to deal with very creative people: producers, musicians, engineers, etc. It takes a special skill to develop a harmonious, productive work atmosphere in which everyone is happy. We found a text that discusses the motivation of the creative individual, as well as general organizational principles. It's called *Organizations*, written by Gibson, Ivancevich, and Don-

nelly, and published by Business Publications, Inc.

CLASSES

Every university that has a business school or management department usually offers general management courses. We prefer the classes that involve a small business approach because the principles are more appropriate to the recording studio. If you are fortunate enough to be located in one of the recording centers (L.A., Nashville,

Management Assistance for the STUDIO

TRADE ASSISTANCE

There are numerous resources available—unfortunately we are only able to cover a few of them. Certain trade publications—*MIX*, *Pro-Sound News*, etc.—have regular features designed to share information with the recording industry about successful business management techniques.

Trade organizations, such as the AES, and SPARS, quite often offer workshops and seminars on a regional/local level that specifically cover this topic. These associations's regular management assistance.

New York, etc.), certain institutions offer management classes specifically designed for the studio. For example, Middle Tennessee State University, just outside of Nashville, offers a class entitled "Recording Studio Administration" as part of the Recording Industry Management program.

PRIVATE CONSULTANTS

Every city's yellow pages has a list of independent professionals that specialize in business consultation and advice. They are usually listed under "Management Consultants" or "Busi-

ness Consultants." It is often difficult to find the right consultant who has a background appropriate to the studio owner's unique problems. However, phone calls to other studio owners will usually generate a list of recommendations.

The other item that needs to be discussed is the cost of these private consultants. Although their services are needed, their fees might be prohibitive to the small studio. A consultant's fees usually will range from \$40.00 to \$80.00 per hour. In deciding to hire a consultant, each situation should be analyzed to see if the cost is warranted.

SMALL BUSINESS ADMINISTRATION

The cost problem listed above can be overcome by investigating what services the SBA has to offer—which are free of charge to the business owner. Under most circumstances, a majority of the recording studios in the United States can qualify as being a "small" business and are thus able to use the SBA's services.

The agency is best known for its loan activities. It is recommended that the studio owner look into this area for financing assistance. The SBA has a Management Assistance Division to help the small business owner.

Two consulting programs are open to the studio owner: The Service Corps of Retired Executives (SCORE), and the Active Corps of Executives (ACE). The SCORE or ACE representative will visit the studio and help the owner with specific management problems, or will offer suggestions on improving the overall operations of the studio.

Small Business Institutes (SBI's) have been organized through the SBA on nearly 500 university and college campuses. At each SBI, seniors, graduate students and their faculty advisors at schools of business administration provide on-site management counseling.

The SBA also offers business management courses in planning, organization and control of a business. They are usually co-sponsored with educational institutions, Chambers of Commerce and trade associations.

Management, marketing and technical publications issued by the SBA on hundreds of topics are available to established and prospective small business owners.

The SBA has offices in most medium to major-size cities. Contact the Management Assistance Division for additional information.

We have attempted to identify some of the resources that are available to the studio owner as an aid towards improving their business management practices. Not all of them are appropriate for every studio. However, an attempt should be made to investigate as many as possible. The result will be a smoother running, more profitable recording studio. ■

In previous installments of Video/Interface we have examined the television industry with an eye toward the future, and have discussed ways in which weak links in the television system have been eliminated or improved.

The excessively noisy early VTR's are being replaced with 1" units equipped with high quality audio channels. All network audio is now being distributed using a technique called diplexing. This technique allows two 15 kHz, 68 dB audio channels to be sent with picture.

So now that the networks are able to transmit high quality sound, what do we have to do to get that sound into our homes? Presently there is a committee chaired by the Electronic Industry Association (E.I.A.) that is addressing this problem. This committee is called the Broadcast Television Systems (B.T.S.) Committee and its subdivision, the Multichannel Sound Committee is concerned with a stereo and multilingual broadcasting.

This subdivision is testing three systems that will allow compatible stereo broadcasting. The first system is from N.H.K. of Japan, a firm proposing a method which operates similarly to the existing Japanese stereo television system. This system has been in operation for over two years and is finally coming into stride, in relation to programming. Although the initial large scale employment of stereo television in the Japanese market has been in the broadcast of baseball games, recent programming has sought variety with music taking the lead.

Zenith is proposing the second system, which operates much like the present stereo multiplex system on FM radio. The third system, by Telesonics, also operates like standard FM, but with a few subtle differences. In a test scheduled to end in June of 1981, the Telesonics system is currently being employed by Chicago's WTTW Television with more than satisfactory results.

Knowledgeable industry sources offer the opinion that we should have a working and broadcasting stereo television system within three years. But since everything around us is currently capable of stereo, how can we receive stereo programming today? The cable industry provides us with the answer.

Cable television, because of its unique method of transmission (a wire to your receiver), has the ability to send nearly anything down that wire that it wants... in this case, stereo television sound.

By now we are all familiar with PBS simulcasts, where we tune our hi-fi to the appropriate FM station and —bingo— stereo television. Well, the cable system does the same thing except that it chooses a deadspot in the FM band and broadcasts down that wire into our FM receiver (provided we have the re\$\$\$quired hookup) allowing our premium entertainment channel to come out in stereo. Unfortunately cable has not yet offered a second spot on the FM band for occasional simulcast by PBS or anyone else with the wherewithall.

The cable system receives its program via satellite. The transponders, as they are called, receive a signal from earth and run it through a



by Ken Fay

A Time For Visionaries

Coming
in
June

**VIDEO
FOCUS**

A special issue devoted to the hardware, software, people and places that are making this new industry a bright spot on the audio horizon.

small amplifier before sending it out its antenna and back to earth. These satellite transponders are capable of transmitting a signal of exceptional quality that covers the entire continental United States.

Initially, a television picture and its corresponding sound were all that were being transmitted. But before long some enterprising cable suppliers noticed that there was a lot of leftover space within that transponder's bandwidth. So they began to look for ways that a stereo FM signal could be included in the package and, after a considerable amount of engineering, they found themselves capable of sending four 15 kHz stereo audio channels plus low bit rate data and a 7.5 kHz mono audio channel. All of this was done while retaining picture and standard mono television audio.

This brings us to Bravo, a premium entertainment network that offers classical music, ballet and opera to cable systems across the country. Bravo is available for a set rate per subscriber (as cable systems work on a per subscriber basis for everything) and is using one of

these multichannel transmission systems to provide stereo audio and the FM hookup to the hi-fi.

The way your bill for this service reads is very similar to the payout by the cable system to the program supplier. This supplier has developed the ability to provide the esthetic quality, as well as the valuable marketing aspect of stereo.

So, if we have gotten this close to stereo programming why don't we go the rest of the way? We can look at the somewhat parallel situation we experienced with color television. When color was first proposed, filmmakers were obviously shooting on black and white film stock. Color stock was considerably more expensive and those forward thinking producers who switched to color were considered by many to be unrealistic, if not completely insane. The detractors reasoned that color broadcast was obviously a long way off and that any move toward it until all of the kinks were worked out was a waste of money.

Two years later when color broadcast became a reality those visionaries began cashing in their chips. Class dismissed. ■

"Cut It Out" SEND IT IN

• Album Covers Vol. 4 #2 • Tape To Disc

• Listing of
Mastering &
Pressing

• Motown
Studios



Vol. 4 #3

- Southern California Studios
- The Grammys
- Scott/Sunstorm
- English Sound

Vol. 4 #4

- Northeast Studios
- Soundstream
- Echo & Reverb
- Soundmixers

Vol. 3 #7 • Basic Digital

• Lacquer Discs

• Arif Mardin

• Rocky Mtn.
Recording

Vol. 3 #8 • Nashville & Memphis Studios

• Muscle Shoals

• Jack Clement

• Music
Publishing



This is It

Vol. 4 #1

- Northwest Studios
- Phil Ramone
- George Martin
- Different Fur

Vol. 4 #5

- New Products For May '80
- Val Garay
- Studio Musicians
- Tom Waits

Send \$2.50 per back issue to the Mix, P.O. Box 6395, Albany, California 94706

Vol. 4 #2 Vol. 4 #3 Vol. 4 #4 Vol. 4 #1 Vol. 3 #8 Vol. 3 #7 Vol. 4 #5

Name _____

Address _____

City _____

State _____ Zip _____

The Land of Musical Opportunities

by John Davis

To those with a predilection for things musical, mere mention of the Lone Star State conjures up images of Willie and Waylon, of course. And Buddy and Janis and Bob Wills and Ernest Tubb and Sir Doug and Jerry Jeff and Lefty Frizzell. And the Light Crust Doughboys and Lightnin' Hopkins and ZZ Top and Bobby "Blue" Bland and one-shot midnight wonders like the 13th Floor Elevators and the Mysterious Stardust Cowboy. Good ole boys. Playing five sets a night behind a chicken wire barricade in some Ft. Worth bucket of blood beer joint.

Today, the recording industry in Texas is thriving. The music and commercial product it is generating is the legacy, as we shall see, of a checkered history of wild-hare inspiration, large and small failures of nerve, feisty Southern stubbornness, cold-eyed calculation and a certain naivete. A recording industry sprang up in Texas because the people responsible for it didn't know any better.

A leisurely fingertip stroll through the Yellow Pages reveals at least 182 recording studios scattered the length and breadth of Texas, and that is a conservative estimate. What with recording facilities housed in radio and television stations, home studios, self-contained mobile recording trucks and fly-by-night jingle and demo mills, the total number could easily be twice or even three times that.

These establishments run the gamut from breathtaking state-of-the-art 24 plus track establishments (like Dallas' sumptuous Sumet-Bernet Sound Studios and Austin's Pecan Street Studio) to hole-in-the-wall two, four and eight-track establishments that cater more to the hopes and dreams of the potential customer ("International Record Deals!" "Sound Like the Pros!" "Specializing In the Hit Sounds!") than to his or her appreciation of real-world audio specifics and requirements. There is every imaginable facility to be found from Austin's Onion Audio which, when it was located within Armadillo World

Headquarters, could record every sound within the enormous concert hall (Onion Audio has relocated since AWHQ succumbed to the wrecker's ball) to another Austin Studio, Hound Sound, which had a tiled bathroom with sufficiently pristine acoustics to justify running a line in beside the commode.

Most of the locations take whatever business comes in the door, naturally enough, but there are a few who prefer to specialize. Ludwig Sound, Inc., of Houston, for instance, with its 2-to-16 track capability and Rainbow Sound, Inc. of Dallas (8, 16 and 24 tracks) prefer to specialize in gospel recording. Dallas' Announcer Booth and Audio Alley both specialize in voice and sound effect recording. The Grapevine Opera House in Grapevine, Texas boasts the Grapevine Opry Recording Studio, which can effortlessly document any performance from Aida to that establishment's famous amateur shows. Then there are organizations like Audio Omega (16 and 24 track) of Dallas and Houston, whose self-contained vans are utilized for recording on location.

Most of the studios are concentrated in and around the major metropolitan areas. There are 21 studios in Austin, more than 50 in Dallas alone, over 35 in Houston and at least a dozen locations in Ft. Worth.

That most Texas studios are clustered around the big cities is not what you call your major-league scoop. What is interesting, however, is the number of small cities, towns and veritable wide-spots-in-the-road which boast adequate, and in some cases, superlative recording facilities. There are two studios in Wichita Falls, for instance. In the Texas Panhandle alone, 400 miles from wood, water or liberal Democrats, the pilgrim may be amazed to discover three studios in Amarillo, two in Midland, two in Abilene, one in San Angelo, three in Odessa and no less than seven in Lubbock.

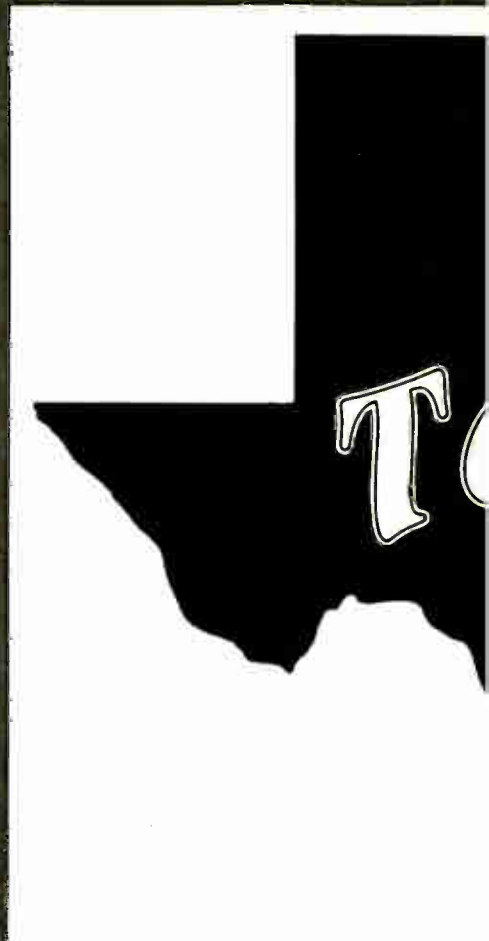
Tyler, a small East Texas town which has previously been noted more for its roses and high-kicking Apache Belles than anything else,

boasts an excellent recording studio, which is run by a man with the provocative name of Robin Hood Brian. Austin's bands mostly record in their home town, but D Day, a River City new wave group, went as far afield as Uvalde, in far West Texas, to record a single. Had they chosen to do so, they might have travelled to Edinburg, Denton, Longview, Denison or Fredricksburg to lay down their tracks; each of these small towns lays claim to a recording facility (and, in some cases, little else).

This unusual dispersion of recording locations and facilities across the state owes more to history and the diverse musical cauldron that has simmered in Texas for years than to traditional commercial considerations. Texas proper began its life as an independent nation in 1836, and when people came flocking, they brought their native culture and, more to the point, their native musics with them.

The Mexican nationals who stayed to work the great South Texas ranches had a rich tradition of Spanish and rancharo music that would, in time, spawn the contagious strains of conjunto and norteno music. Anglo immigrants brought their Appalachian ballads and European musical heritage. Blacks moved west after the Civil War to work as cowhands and sharecroppers and brought the blues and the progenitors of ragtime, jazz and (later) rhythm and blues. French Acadians from Louisiana. German, Czech and Irish immigrants all helped contribute to a musical tradition that is as delightful as it is eclectic.

The recording industry in Texas had its embryonic beginnings in the radio stations that



xas

sprang up around the state. Radio played a more pivotal role in Texas, perhaps, than in other areas, because in a day when paved roads were the exception and not the rule, the sheer physical distances and travail involved in travelling around the country were genuine barriers to communication. In addition, radio stations were the initial repositories of electronic broadcasting and recording equipment and the people trained to use it. It wasn't until the late 1930's that a Texas recording artist had a hit record (Vernon Dalhart's "The Prisoner's Song") and he had to go out of state to record it.

That state of affairs continued for many years. Record companies like Arhoolie might record the music of seminal Texas artists like Mance Lipscomb and Lightnin' Hopkins, but the work was done outside of Texas. Similarly, Buddy Holly and his bass-playing friend Waylon Jennings were happy fooling around in 1956, making acetates at KILL in Lubbock where Buddy had a Saturday morning radio show. But when their producer, Norman Petty, wanted to cut some tracks that he wouldn't be ashamed to press and ship out around the country, he had to hustle Holly and the Crickets across the state line to his own studio in Clovis, New Mexico.

Not too much later, a wildman named Huey P. Meaux was ratcheting around between stations in Houston, Louisiana and the Golden Triangle around Beaumont and Port Arthur. Meaux was a jock's jock, a raver in the tradition of Cousin Brucie, Alan Freed and Wolfman Jack. His broadcasting strategy was a thing of beauty: simplicity itself, you might say.

ACA's Bill Holford

Bill Holford is the owner and senior engineer of ACA Recording Studios in Houston, Texas. The company was formed in 1948 when Bill moved to Houston from Chicago. In 35 years of recording, the studio has seen such artists as Kenny Rogers, Mickey Gilley, B.B. King, Lightnin' Hopkins, Willie Dixon, Gatmouth Brown, Jerry Lee Lewis, Johnny and Edgar Winter, Roy Rogers, Bob Newhart, the Kingston Trio, Justin Wilson, and the Smothers Brothers. One of ACA's specialties is the location recording of symphonic music. Bill Holford's knowledge and experience in this field is unparalleled in this region, if not nationally.

Bill Holford has a firm background in electronics and acoustics. He has been a consultant to a number of architectural firms and has designed the acoustics in many churches, auditoriums, halls and other large rooms in Houston.



Mix: What recording mediums were you using when you first started out in the business?

Bill: We did everything directly to disk. We did the disk master and we cut a duplicate on a transcription turntable at the same time. We'd play the duplicate to check the balances but never the master.

Mix: When did you move to tape recorders and get into tape as the primary recording medium?

Bill: I bought a Magnacord in late '49 and we did a bit of recording on it but never used it for the master. It only had

Before every show, Huey would take a six-pack of 7-Up and carefully pour half the soda out of each bottle. Then he would proceed to top them each off with Jack Daniels' whiskey. When the six-pack was gone, the show was over.

Huey also moonlighted as president of his own record label, Crazy Cajun, and producer at his own fledgling recording studio, Sugar Hill in Houston. He had his finger on the pulse, like any good jock in the early Sixties, and he had some considerable regional success with local guys like Freddy Fender, B.J. Thomas and Roy Head. But then the Beatles hit America like a thunderbolt and Meaux' pop records were archaic overnight. Never one to despair for long, Huey bought every Beatles record he could get his hands on, locked himself in a motel room with a record player and a supply of whiskey and vowed not to emerge until he had found out what made those Limeys tick.

Well, something must have occurred to him, because Huey no sooner hit good daylight

two heads: an erase and a record/playback. We started doing master work to tape in 1950 when I bought my first Ampex 300 with three heads. We mastered to tape and then cut the disk. At about this time, through experimentation we discovered editing and slap back echo.

Mix: What sort of recording consoles and outboard gear did you use in the 50's and 60's?

Bill: In the 50's I used a Raytheon 4 in and 1 out mixer. I also had another one, also 4 in and 1 out; I tied the two together to get eight inputs. In 1960 I designed and then built a 12 in and 3 out console. We used almost exclusively, Universal Audio electronics, Bayer sliders and Switchcraft switches. We used that console until we moved to name brands in the 70's. We had three Langevin compressors that we used in the 60's and early 70's. Those compressors and echo were about our only outboard gear outside of filter sets and some early equalizers. In the 70's we got some UREI Levelling Amplifiers. Now we are using dbx and Allison besides the UREI's. Outboard gear is an advent of the seventies and high technology.

Mix: What are your views on computer mixdown?

Bill: I've always been one to look at new inventions and advancements in technology with an open mind and I go along with nearly everything that has been developed so far. I think that computer mixdown will be a great aid to engineers especially when digital recording becomes the state-of-the-art. With 32 tracks of information, one pair of hands is not enough; even with sixteen track work we got a couple of pairs of hands on the board and we're bumping into each other. Computer mixdown will stop that kind of thing and it will also enable you to return to the exact same mix.

Mix: You mentioned digital recording. What are your thoughts on that medium?

Bill: The only major problem that I can see with digital recording is price. They are, at the moment, too expensive to compete with analog machinery. However, like all new things, once the research and development costs are realized the price will come down. I look forward to buying digital when the price is reasonable, and I look forward to using digital because it is a cleaner medium to work in.

Andrew Bradley

than he was on the road to San Antonio, where he collared a skinny West Side musician named Doug Sahn. "Come on," Huey is reputed to have told him, "Get a band, y'all grow your hair, and let's cut some of this shit." It may have been Meaux' finest hour. The band that resulted from his flash of inspiration, the Sir Douglas Quintet had two huge hits with "She's About A Mover" (1965) and "Mendocino" (1966). It not only put Huey Meaux on the map, it also served notice that Lone Star recording studios and hit records

were not mutually exclusive concepts.

Petty and Meaux were not the only musical entrepreneurs to set up shop with their own studios and labels: South Texas studios flooded the Spanish-music market with locally-produced singles and albums by Chicano bands like Little Joe and the Latinaires, Flaco Jimenez and Sunny and the Sunliners. Up in Ft. Worth, Cowtown rockers Bruce Channel and Delbert McClinton got their first recorded exposure on Major Bill Smith's independent label.

And while the independents were testing the waters, so to speak, of Texas-based recording one man in Dallas was ruling an empire that had indirectly turned Big D into the undisputed recording capital of Texas.

Gordon McClendon was a former radio sportscaster who bought a languishing Dallas AM station named KLIF in 1947, an era when re-creating baseball games in the studio from teletyped reports (McClendon's old stock-in-trade), Fibber McGee and Molly and Jack Benny were the fare that (sometimes barely) paid the bills. Then, in 1954, McClendon was inspired to change the format, standardize the playlist, dump the serials and give his deejays the freedom to improvise. In short, Gordon McClendon invented Top 40 radio (a distinction he shares, some say, with programmer Todd Storz in Omaha, Neb.)

In a year, KLIF was the number one station in Dallas and commanded a 40% share of the audience. And that wasn't all; the idea caught on with a vengeance. Between 1957 and 1965, McClendon's stations in Texas—KLIF in Dallas, KILT in Houston, KTSA in San Antonio—could be tuned into by 75% of the state's population.

One reason the audience (mostly teenagers) were so loyal over the years was that McClendon turned his stations into more than just background noise punctuated by occasional weather reports and ballgame scores. He and his disc jockeys gave the stations a tangible personality. Disc jockeys became celebrities, confidantes and allies to the kids who tuned in.

When McClendon sought to give his station a palpable identity, he turned to a former music director of the house band at KLIF, a man named Bill Meeks. Meeks had formed the Production, Advertising and Merchandising Service (PAMS) in 1953. McClendon commissioned Meeks to turn out a series of spots, promotional jingles to texture the station's call letters, some catchy lyrics and upbeat music. Meeks began syndicating station jingles to stations around the state and in Louisiana. All the ratings jumped dramatically. PAMS got more revenues, the jingles got more complex and the recording business in Dallas specifically and Texas in general grew exponentially.

By the time I became cognizant of KLIF in the mid-1960's, growing up as a teenager in Dallas, the station's PAMS spots had turned into 15-second mini-operas, masterpieces of music, sound effects, massed choruses and speed-freak jive that rivaled the best work of Phil Spector and (later) Peter Townshend.

One PAMS spot that has survived (on Increase Records' superb *Cruisin'* series) stands as some sort of monument to the genre: a Mennen Skin Bracer spot combining a studio band and the SMU Glee Club in an epic production that sounded like the theme to "High Noon" per-

formed by the Memphis Horns and the Allman Brothers Band.

By the time PAMS was sold to a Nebraska broadcasting holding concern in February of 1977, the company was in its forty-ninth series of station jingles for Top 40 stations across the country and had also developed formats for C&W, MCR, AOR, "beautiful music" and disco stations. In the process, PAMS had also bankrolled dozens of Dallas studios, given work to hundreds of musicians, performers, producers and technicians and most importantly, the company had given Dallas (and, by extension, Texas as a whole) an invaluable cachet as a recording center. Dallas' new importance as a center for jingle and commercial production might not register on the Billboard charts, but it caught the eye of people in

earing program, and they sent her to Dallas to TM Productions for her field placement. TM kept her for a year or so, then we heard about her. We were looking for an entry-level engineer and so we went over there and got her from TM. They have become sort of like the IBM of the Dallas music market."

The history of Pecan Street Studio in Austin is, in some ways, the archetype of many recording studios in Texas. "It started as a bunch of little things in 1968," said Lars Lundahl, a seven-year veteran of the studio. "I think it started as Ignite Music and then it was General Audio and then it became Odyssey Sound when Jay Podolnick came in as a partner with Steve Shields. I think that was in 1969 or '70.

"What is now the office used to be the main

HARPER'S REELSOUND

—Mobile Recording—

Did you know Ted Nugent's *Double Live Gonzo* album, which went double platinum, was recorded from a bus? Within this black metallic 1948 Flexible six-wheeler of a road machine sits two MCI 24-track recorders, two Ampex 2-track recorders, an MCI 428 LM console, an AKG reverb, dbx, UREI and Gainbrain limiters, UREI equalizers, Kepex noise gates, a color TV monitor system, and JBL and Auratone monitors with Crown amps.

The bus is one half of The Reelsound Recording Company. The other half is 32-year-old Malcolm Harper who created Reelsound in 1969 after branching away from a remote recording company he worked with for a while in college.

In 1971 Reelsound performed its first work for a major record label with the taping of Hank Williams Jr. and Sammy Smith.

Harper has enjoyed the privilege of recording Earth, Wind & Fire, Peter Dinklage, Frank Zappa, ZZ Top, Christopher Cross and many others, but another facet of Reelsound is also worthy of mention. It lies not

in the technology of the company but in the content of material recorded. Harper records Christian music. In the summer of 1978, Harper took the Reelsound bus up to Kansas City, Missouri, to take part in Operation Push, which Harper considers "the most enjoyable Christian project I've done yet" including such artists as Andrea Crouch, Danniebelle, The Hawkins Brothers, and Reverend Jesse Jackson. "I'm a Christian and really enjoy recording Christian music," said Harper. "Plus the quality of Christian music has really improved within the last few years."

Various Christian record labels have utilized Harper's talents. Word Records in Waco, Texas has recruited him to record such artists as Mike Warrke, Danniebell, Walter & Edwin Hawkins, Bibi Theford, and Harper's latest project—a live album featuring Amy Grant. Harper recorded B.J. Thomas' live album for the MCA Songbird label, and Paragon Records has used him for the recording of Truth and the 1979 Dove Award winner, Don Francisco.

"I foresee an increase in video projects," says Harper. "The development of better audio for video is a rapidly growing field, and I think a lot of our future work lies there." —Lee Rimmer

the industry and provided an influx of money and technology into the area.

PAMS was no longer preeminent in the Dallas-Ft. Worth market by the time it was sold; a lot of the work was being parceled out by smaller companies which had sprung up in its shadow, which meant that a lot of smaller, beginning studios could compete successfully with the larger, established studios in the city for work. To some extent, PAMS' old role in the marketplace has been inherited by TM Productions, the brainchild of Tom Merriman, a former protégé of Bill Meeks. Like its predecessor, TM serves as something of a farm team for aspiring engineers and recording technicians.

When Dallas studios go looking for personnel, they often turn to TM. "We've got a young lady," said Les Studdard, the head of Dallas' January Sound, "that was actually reared in Pennsylvania, who went to Indiana University, which is one of the few schools to have an audio engi-

studio. And while that was being used as a studio what is now the main studio was being constructed. Then in 1972, John Ingle and I rejuvenated the office side and that's when we did Last Minute Productions. We were just doing jingles and radio spots and demos, mainly."

It was around that time that Austin began to bloom as the capital of progressive country, or "redneck rock," a heady mixture of country sensibility and rock 'n' roll backbeat that embraced the hedonistic local ambience and turned up its collective nose at the staid Nashville and Los Angeles recording centers. Artists like Willie Nelson, Michael Murphey, Asleep at the Wheel and Doug Sahm moved to town to join literally scores of local bands. It was like Moses coming out of the wilderness, and it did not take long for word to spread.

One of the first immigrants was country-rocker Jerry Jeff Walker, the author of "Mr. Bojangles," a drifting, iconoclastic singer who had

WESTBROOK'S LAW:

No one can be everything to everybody—not in the audio field or anywhere else. But if you're a serious professional in the recording business, and you're looking for the company that can meet all your needs for design, equipment, installation and service, Westbrook Audio can do everything for you.

MTR-10-2 Professional 1/4" Two-Channel Recorder



In the Southwest, Westbrook Audio is the source for the finest names in audio, including the incredible Otari MTR Series recorders. Westbrook's dedicated sales and engineering staff will work with you to understand your special needs, and back up any

sale with the finest service available. And you can road-test anything Westbrook sells in its own totally equipped 24-track audio/video facility.

Don't hesitate,
Call Don Kruse
or Paul Westbrook
today.



westbrook audio, inc.

11836 Judd Court • Suite 336 • Dallas, Texas 75243 • (214) 699-1203

been working folk music clubs in Central Texas for years. He liked what he saw beginning to happen in Austin and moved to town for keeps. Then he called his manager and producer, Michael Brovsky, in New York and told him he wanted to record his next album in Austin at Odyssey Sound.

Brovsky, being from the big city and all, was used to civilized amenities like electricity and mixing boards and graphic equalizers and stuff. So he was properly aghast and horrified when he walked into Odyssey for the first time and realized that his client was proposing to make an LP in a studio that had only lately housed a dry cleaners', and whose major piece of equipment was an antiquated eight-track tape machine that looked like it was built about two weeks after Thomas Edison recorded "Mary Had A Little Lamb." There was no board. None. The musicians plugged their instruments directly into the back of the tape machine, which sometimes had to be souncly kicked to get it started.

But the album became Jerry Jeff's most successful to date. Brovsky also liked what he saw, moved his business down to Austin, bought into Odyssey, and with his partners began renovating it into what is now Pecan Street.

From those humble beginnings, Pecan Street has expanded to include not only the MCI 36-track console, but also MCI 24 and 2-track recorders, Gain Brain, UREI and Quad Eight Compressors, Teletronix levelers and Kepex limiters, Dolby for 24 and 2 tracks, DeltaLab Digital Delay and Acousticcomputer and Ashley Audio SC-66 Parametric EQ, along with a long list of other rack gear, JBL studio monitors, a Yamaha C7 grand piano, Hammond B-3, Fender Rhodes, guitar and bass amps and a pool table whose bumpers and pockets are utterly merciless.

Besides recording albums by the Gonzos, Shake Russell, Joe Ely, Steve Fromholz, Alvin Crow, Asleep At the Wheel, Eric Johnson and dozens of other local acts (including five more albums by Jerry Jeff), Pecan Street also began attracting national-caliber talent. Carole King slipped into town to record two albums. So did Christopher Cross, Willie Nelson, Guy Clark and B.W. Stevenson.

I have written about Pecan Street at some length, because I know it best, but the same things were beginning to happen at the other superlative studios springing up around the state. For the first time, Texas had become technologically competitive with New York, Nashville and L.A.

"Oh yeah," said Gordon Perry, of Goodnight Audio in Dallas, "I think studios in Texas have been competitive with West Coast studios for, oh, three years or so. Of course, that's kind of a vague term, 'being competitive.' There are not any studios in Texas that are as well-equipped as the very best-equipped studios in Los Angeles. For obvious reasons, they can charge higher rates, or whatever. But the studios that have the very best equipment in Los Angeles are not necessarily the studios that are putting out the hit records. So after you become state-of-the-art, the difference between being the Cadillac of studios or the Rolls Royce of studios doesn't have a whole lot to do with whether you're going to have a hit record or not.

Les Studdard, of Dallas' January Sound,

concur. "No question about it. We're using the same equipment, we've got some really well-qualified technical people. Our chief engineer is named Bob Pickering and he went to school at North Texas (State University in Denton) where he was a real fine trumpet player and he just gravitated over to the other side of the window. Most of our technical people have spent their recording careers right here in Texas.

"The only thing we're a little bit behind in is that we're not out on the leading edge. We're not spending thousands of dollars to have digital equipment and everything. But I don't mind not being the missionary for that kind of work.

"Now, our work is still about two-thirds jingle and commercial music and film work and

time and effort to go someplace else when they can just as easily do it in a more convenient location?"

Jerry Jeff addressed the issue in his own inimitable style in the liner notes of his first MCA album, that raggedy-assed effort he recorded so lovingly at Odyssey Sound in Austin: "Once a year I'm supposed to go to one of the record factories in Nashville-New York-L.A.-metel-hamburg-red light-pick sessions. They call it 'cutting tunes' (sounds like surgery). (You gentlemen are going to stay here till you do it right, you hear?) Probably the more bubblegummy the music, the harder and more seriously they approach it (I don't really want to know). So whenever someone mentioned 'studio,' I hid I bought another

Neighbors to the West

320 days of sunshine a year in Arizona have resulted in a major exodus from all over the U.S. This rapid population shift has brought a special diversity to Arizona's industries, and the audio industry is no exception. From corporate communications to recording and film production, Arizona embraces a broad spectrum of active professionals. Many recording, disc mastering, film, and video production facilities, both established and independent, have been gaining national visibility.

Recently, the Phoenix chapter of the Audio Engineering Society sponsored a special seminar, the first of its kind for any local AES chapter. The Recording Console Seminar presented representatives from Harrison, MCI, NEVE, Quad Eight, and Spectrosonics. The highlighted topics of the seminar included digital audio and audio for video. Bill Windsor of Quad Eight noted a strong trend toward the merger of film, video, and disks. "Each of these areas has grown up independently of one another. There is going to be a major change, however, in the near future."

"Production centers will change

about a third of it is record work. We have 24-track and 16-track equipment and we're in the process of completing our second studio next door, and it will be 16 and 24-track also. We have an MCI automated console.

"We have not set up for digital recording. For us, it is still a little premature because the cost of the equipment is still so high that it's real hard to justify with our market rate being what it is down here. We went up to \$120 an hour last March, up from \$95 an hour, and that is near the top of the line for this market.

"I think the quality of the work that is done here is as good as it is in Nashville or L.A. I think after somebody has 'arrived' and is through playing the game of going to the big recording centers just so they can say they've made it, that other things become more important to them. Convenience, staying close to home and just being someplace where it's comfortable becomes important to them. The ambiance is important. I mean, why should they spend the money and

drastically in the next five years," noted John Gibson of E.A.R. Professional Audio. "We've already seen these changes in Arizona, since some of our customers are combining studio-quality audio with video production. If this trend continues, we foresee Arizona as an ideal location for this merger."

According to Mike Reinhard of Marsound Recording, Tucson's rapid growth in population is also adding to the talent pool in their recording scene. A new IBM plant has brought in digital experts with an interest in recording who are beginning to work with producers and sound operators to design studio equipment. In the long run Reinhard, and his associate Sue Peitrzyk, feel that Arizona is establishing lines of communication to the outside world to bring about a dialogue regarding creativity and methods.

Although not in the mainstream of music happenings, the New Mexico area is alive and well.

Blakely Pro Audio in Albuquerque, will soon be expanding to prepare for implementation of a new independent record label for production of lower budget regional releases of singles and albums.

round and I looked for a hole to disappear into."

Another man with a finely-honed sense of ambiance is Don Caldwell. Since 1971, Caldwell has run Caldwell Studio at 1214 Ave. Q in Lubbock. In that time, he has hosted recording sessions for some of the finest of the remarkable contingent of Panhandle musicians that have emerged from that and little community. In working with the likes of Joe Ely, the Flatlanders, Butch Hancock, Terry Allen and the Maines Brothers—all musical heirs to the legend of Buddy Holly—Caldwell has discovered a secret. He has learned that the difference between great and mediocre music may lie in forsaking Los Angeles with its earthquakes, mudslides, smog and sour-cream-slathered Mexican food for the basic amenities of Lubbock, Mr. B.B.'s double cheeseburgers, the Cotton Club, Stubb's Bar-B-Que picking sessions, and hanging around between cutting tracks at Caldwell's across the street under the seven-foot bronze statue of Buddy Holly.

"The main thing we try and get," says

Caldwell, "is a real relaxed atmosphere for the artist, so they can use the studio as a tool instead of a hindrance, to really let their music happen." And he does, and—most of the time—it does.

But despite the indisputable technical competence of Texas studios and personnel and despite the enviable ambiance and sense of place that so often attends Texas recording sessions, many people in the industry have demonstrated a marked reticence to let their acts—even those from Texas originally—come to the Lone Star State to make records.

It is something on the order of a failure of nerve. "There's a lot of money riding on a project," said Les Studdard, "and they figure Los Angeles is safe. But you know, really, I'd put our product up against any of those people out there."

Gordon Perry: "I think that's always been the case in music. It's not even so much the record company executives as it is producers and musicians. They get a mystique, they think, 'well, I cut a hit record here on this tape recorder, in this room, and I wanna come back and do that again.' They think there's some kind of magic or something going on, which I don't totally agree with, but some people feel more comfortable in certain rooms than others, and they might attribute that to some kind of magical force."

"I think that's more the problem; they want to go to a studio that either they've had hits at, or somebody else had hits at, thinking there is something happening there that can't possible happen anywhere else."

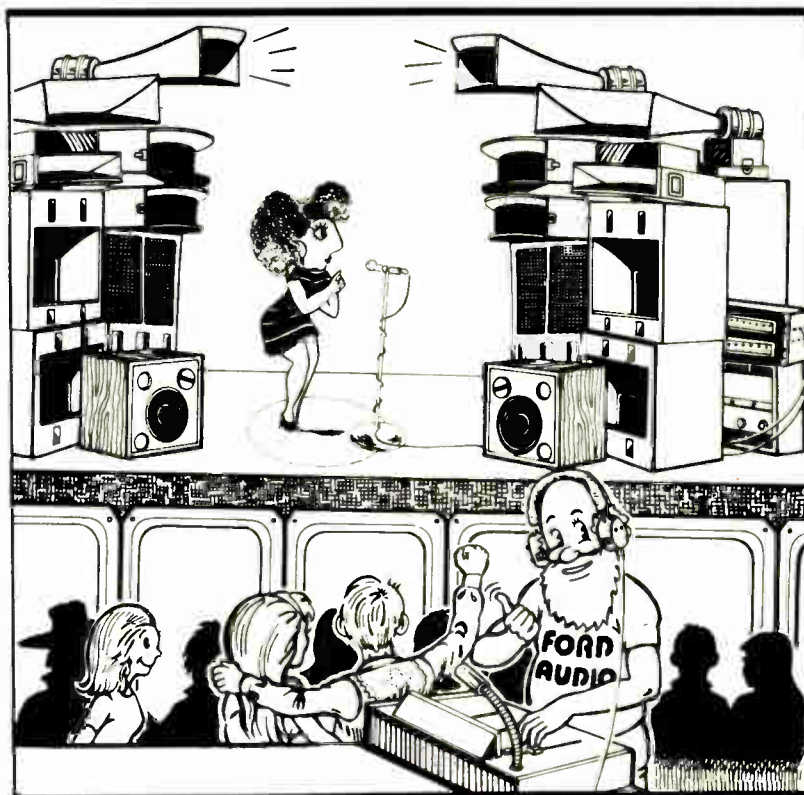
"The record companies don't attribute the right makeup (to Texas studios), whatever that makeup would be—equipment or personnel or whatever—to really make it happen, so they're a little leery of the situation down here."

Perry also sees another factor involved. "Obviously," he said, "proximity to the record labels themselves has been a bigger problem for Texas studios than all this mysterious magical stuff. The record companies became rooted in Los Angeles because the film companies went there. And the film companies owned the big record labels when they started out, because they were the guys who already had the money and the distribution outlets and all that. So the record companies officed in the same buildings with the film companies, rather than ending up in Texas, or even being fragmented very much, and they ended up where their parent companies could make films."

"And actually, I think that rationale may work in Dallas' favor over the next four or five years, because more and more film business is coming to Dallas, so the local studios are getting more soundtrack work, and as a result, some of the film companies are going to open branch offices here. And when they do that, there will be branch offices of the record companies coming in as well."

Perry's enthusiasm may ultimately be no more unbounded than that of the Los Angeles city fathers when they initially set out to lure the film business away from the East Coast in the 1920's. And if he and other studio owners around the state truly have their finger on the pulse, Texas may yet become to recording what Hollywood is to the movies—the land of seductive opportunity and promise.

THAT'S ENTERTAINMENT!



FORD AUDIO

- Recording studios
- P.A. systems
- Video systems
- Lighting systems

FORD AUDIO & ACOUSTICS, INC.

1-800-654-6744

4800 W. I-40
Okla. City, OK 73108
405/946-9966

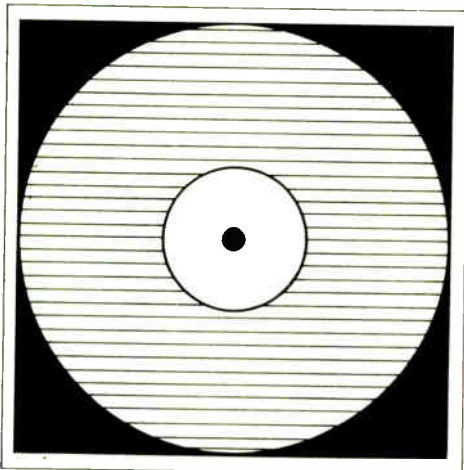
4715 E. 41st St.
Tulsa, OK 74135
918/663-4730

Sales • Service • Rental

CROWN • JBL • TASCAM • OTARI • UREI • SOUNDCRAFT • TANGENT
NEOTEK • AMPEX • TAPCO • NEUMANN • LEXICON • DBX
AND MANY, MANY MORE...

The Job of Producer

by Bob Monaco and James Riordan



Ed. note:

*The following is excerpted from the new book **The Platinum Rainbow** by Bob Monaco and James Riordan, ©1980, Published by Swordsman Press. The book is subtitled "How to Succeed in the Music Business Without Selling Your Soul." We have included the following section on producers and production in that we feel that the time has never been better to understand the value of a good music producer.*

The producer is responsible for your recorded sound. His primary function is to take the best of what you do and get it on tape in its most creative and accessible form. He helps you locate and select material, he picks the studio, chooses the engineer, directs the session, and mixes the final product.

In the movie business, the producer is the man with the money who either pays for everything or finds people to put up the cash. He oversees all the business operations of the film. In the record business this person is called the executive producer of the album, not the producer. The producer of an album is analogous to the director of a film. The director of a movie is the guy who coordinates all the creative elements and makes the film happen. In music the producer is the man who makes the record happen.

In the beginning, he helps you locate your tunes through publishers and writers, or he can work with songs you've written and help you decide which ones to record. If he thinks some of your material needs to be rewritten, he may advise you or even help you do it. It is the producer's responsibility to narrow down your material to the absolute best songs. He provides you with the objective voice that every artist (especially a new one) needs. Obviously, you must have confidence in him to trust him with this responsibility.

The producer puts the various elements of a recording session together. He probably has favorite studios and engineers that he likes to work with, but he should also listen to your suggestions in these areas. It is his responsibility to line up the right studio musicians if you need them, and determine what rates to pay them. He should know where to get the best deals on instrument rentals, what arrangers to use for string and horn charts, what background singers to hire, and all the other components necessary to make great records.

The producer is the captain of the ship. When you walk inside the studio, he calls the shots. Part of his job is to keep things flowing throughout the session, and that means balancing egos, tempers, and artistic sensitivity in a way that is both harmonious and productive. If things aren't going well in a particular session, the producer must know when to call it a night. He's got to know when he's not going to get anymore and not be afraid to hit the off switch. That ability, in itself, can be very important to bring the album in within the allowed budget and not suffering to do it.

The producer's goal is to bring the project to a finished piece of work on vinyl. He lives with the record from meeting the artist and working with his material, to the final responsibilities of mixing and mastering. In some cases, the producer is also the executive producer, in that he finances the record and hustles the deal. He is the quarterback of the whole show. The name of the game is to get it on tape, and the producer must do whatever it takes to make that happen.

Where to Find Him & Picking The Right One

Most producers are easily reachable through the studios or record labels where they have worked. If you see a producer's name on the back of the album, call the studio where the record was made, or the label which released it, and they should be able to put you on to him. If the producer has his own production company, it will usually be listed in the yellow pages under production or record companies. The directory at the back of this book lists several top producers, but if the one you want is not there, track him down through the companies with which he had been associated.

The best way to decide what producers you like is to listen to a lot of records. Go by the general sound. If you like the records, you probably like the production. If you like three or four things by the same producer, you can almost be sure of it.

After you locate a producer you want to work with, you have to set up a meeting with him. Most producers won't get involved with someone who is unsigned. If they do, they will probably want to sign the band to their production company and then lease them to a label. Most producers, however, won't want to take the chance that they might wind up working for

**When You're Ready
to Make a Record...
2nd Best won't cut it**

**P
R
I
.
R
E
C
O
R
D
P
R
E
S
S
I
N
G**

BUT P.R.I. WILL

(IT'S LESS THAN YOU THINK)

**SEND FOR FREE PICTURE RECORD THAT INCLUDES RATES,
TECH. INFO & THE REASONS WHY: P.R.I. IS THE ONLY
COMPLETE RECORD PRESSING PLANT.**

(516) 643-3353



CLIP & SAVE

SEND FOR MORE INFO & FREE PICTURE RECORD

Your Name _____ Specify area of interest _____
Company Name _____
Address _____

**SEND TO P.R.I. RECORD PRESSING 410 LONG ISLAND AVE.
WYANDANCH, L.I., N.Y. 11798**

nothing, or even losing money on the project. From their point of view, why should they risk working with an unsigned act, when they can be guaranteed good money for other projects.

If you are already signed and looking for a producer, you'll want to set up a meeting to listen to his latest efforts and play him some of your tunes. Some guys play hard to get ("If I get a chance, I'll come out and see your act," etc). Usually the best way to know if a producer is genuinely interested in working with you is by his reaction when he saw you perform. If, during your show, he spilled fourteen drinks down the front of his chest because he was too drunk to realize that you were doing a good job, then he is not your man. The same is true if he spent more time hitting on the waitresses at the club than hearing your set. If a producer is genuinely interested in your sound, he'll talk to you about it. He'll have some constructive criticism, and you should be able to recognize his enthusiasm. Things like "It's nice, but I'm really busy right now . . . after I get through with the 73 projects I've got on the line, however, maybe we can give it a shot" are not signs of genuine enthusiasm. Like everything else, it is a matter of priority. If he really likes it, he will want to do it.

Most likely you will be going after a producer with an impressive track record. A brand new producer may do just as good a job, but you probably won't want to take a chance on him. (Would you get into a 747 with a pilot who just got out of Cessna Training School?) It is important that you do not get overenthralled with a name, however. Sometimes bands go after a name, even when the producer has had no experience with their type of music. If the guy has produced nothing but folk hits all of his life and you want to sound like Led Zeppelin, I think you're in the wrong place, no matter how big a name he has. Another bad thing about going after a "name" producer is that they are going to want your left lung, arm, and big toe thrown in with the deal. And even then you might have to wait for a year until he has time to do the project.

You want a guy who produces music that is similar to what you want to do. You also want someone whom you can get along with and feel comfortable around. You don't want somebody who intimidates you. No one can work well when they're intimidated, particularly if they are trying to be creative. You have to feel good about your producer and respect his word. He should inspire confidence in you and be sensitive to your music. You should feel that you can trust him with your future because that is exactly what you are doing. More than anything else, it's the rapport. You'll know when it's right.

Building Rapport

After you've agreed on a producer, you want to spend some time building your rapport with him before you go into the studio. A lot of building rapport is picking the producer's brain and letting him pick yours. You know, the fine art of conversation. Talk to him about your music. Ask him what he really thinks of your songs. Now that you've agreed to work together, you can be more honest and direct with each other. How does he like your lyrics, your sound, what are his suggestions for improving them? How should you arrange things in the studio, should you use a three part harmony or two part on this one song, should you use a piano or a clavinet? Tell him your ambitions, what artists you respect, and where you see your music going. Get to know each other.

Fees

Like all areas in the music business, a producer's fee can vary and is negotiable. If he's coming off of a big hit record, he may demand thirty, forty, or even fifty grand from the label and four or five points on the album. (The bigger you become in this business, the more you will hear about points. Everybody wants more points. It's kind of like a basketball game, except you're the ball. Points are percentages of profit. If your producer has four points on the record, then he will get 4% of the gross earnings after all production costs have been paid back to the label.)

Most producers charge by the side, which means they do it on a per song basis. There are no standards here in the absolute sense, but the average ranges from a thousand to fifteen hundred per side. That means you can't expect to get an experienced, first-rate producer to do your album for less than ten to fifteen thousand dollars. He will probably want at least three points as well. You must understand that you're asking for three or four months of his life in many cases. It isn't just the time in the studio.

There are all kinds of meetings with the label and the artist, pre-production work, post-production work, and the responsibility of worrying about the record from the day he agrees to do it to the day it hits the streets. He earns his money.

Changing Producers

Never change producers in the middle of a project unless you are prepared to start over completely. You can't expect one man to pick up where another left off, because every producer works in a little different way. One of the most important steps in producing is the selection of material, and that occurs first. Nobody can produce a good record if he doesn't like some of the material on it, so you have to start over from the top.

After you've done a few albums, changing to another producer can be very healthy. Once you know your way around the studio and have a few projects under your belt, it might be good to get a different perspective. If you haven't achieved what you've been looking for in the studio, then you should make a change.

If you have a good thing going, however, don't get picky and mess it up. If you've had a couple of successful albums with the same guy behind the board, don't tamper with that combination. Keep the team together. The greatest way to blow something is to break up a team once it starts rolling. Sometimes popular artists change producers for selfish reasons. They have a big enough name now that they can bring in someone else under a new agreement that is more profitable to them. If you've been successful with the guy you're replacing, that is letting greed get in the way of your career. If you haven't been successful with him, it is good business to change.

The size of the artist has a lot to do with it. Neil Diamond worked with Tom Catalano on something like ten albums. That's a long time to work with anybody. After ten albums, Neil decided to produce himself and he is still very successful. You can't say that Tom Catalano didn't help Neil Diamond, and you can't say that Neil didn't help Tom. It was just time for a change.

Artists often change producers to expand their creative influence over the album. This can be a mistake, because an artist needs that objective voice. You want someone in there with you who isn't afraid to tell you when you are getting out of line. The difference between creativity and excess is knowing when to stop.

Being A Producer

It takes experience. Trial and error is what makes a good producer, but there are certain things that you need to know. You need to know a little about studio technique. You don't have to be an engineer and know all the knobs and dials backwards and forwards, but you should be familiar with the board. Producers usually come from engineering or musical backgrounds. If you have been an engineer, you'll have no problems in this area, but if you haven't, you will have to learn the technical things behind getting certain sounds on the board. If you can't explain what you want to your engineer, you can't expect him to get it for you.

You also have to know about music, especially what makes music sound the way it does. That means being familiar with the sounds of many musical instruments and the impact that certain sounds have upon a given part in a song. The producer doesn't necessarily have to play a musical instrument or read music, but he must have an affinity to musical sound and know that it takes a little bit more than hiring a studio and an engineer to get that sound on tape.

It would also behoove a producer to know a little about promotion, marketing, management, accounting, image, and everything else that affects the sales of records. Besides his work in the studio, the producer usually has to function as an independent businessman, so he must know a little about business. Some producers learn this the hard way. The best way to invest your money is not into a Porsche, a Jaguar, and a houseboat, but it is best not to give it all to Uncle Sam either. In the beginning, therefore, at least learn some simple bookkeeping and expand your business knowledge as your income increases.

A producer has to have a strong personality without being overbearing. He must encourage the artist's suggestions and use some of them, while passing on others. The best producers are the ones who are able to say "no." They won't go along with anything that can happen in the studio. If they don't like it, they say no, because they know that their name is going on that record, and the more junk that comes out with their name on it, the less income they will earn. At the same time, they never intimidate the artist

They want to know the artist's ideas, because it is his music they are capturing on tape, and even if he is inexperienced, his ideas may be instinctively good. A good producer is like a father to the artist. He lets him do his thing and he also tells him where to get off.

In The Studio

The producer usually will not run the controls on the board unless he wants to get a specific sound. Sometimes handling the knobs can make you more *aware* of the sound, but the board is usually the engineer's responsibility. In the studio, the producer's job is to listen. The guy has got to have the ears of a hawk. If he hears an unbalanced vocal blend, he has to tell one of the singers to back off the mic a few inches. If one of the singers is out of tune, it is the responsibility of the producer to tell him so. Sometimes a singer can't hear when he's out of tune and he might argue about it. The best thing to do in that case is to play the tape for him. If he still can't hear it, tell him you'll put him down for the Beltone Award and move on.

The engineer is very important to the producer. A good engineer makes his job a lot easier. Ted Templeman, producer of the Doobie Brothers, Van Morrison, Carly Simon, Little Feat, Nicolette Larson, and Van Halen, describes his relationship: "My engineer, Donn Landee, helps me greatly in the studio. We've worked so long together that now we instinctively know what each other wants before anything is said. This is a tremendous help in getting the session done the way it should be done. I rely on Donn a great deal."

It takes a lot off the producer's shoulders to know that the engineer has his end together. The producer is dealing with the song, the performance, and all the other aspects of the session, so it's important to know that things like microphone placements are going to be right. A good engineer is a producer's right arm. If the producer has to play with the drum sound for a couple of hours because it sounds like the kick drum is made out of cardboard, he's got problems. If you're producing at a studio that you haven't worked in before, and working with an engineer who has a pair of bricks for ears, it's all over but the crying.

The producer must define whatever it was that he first liked about the act and then capture it on tape. He must translate and emphasize that subtle quality throughout the record. Ron Nevison, producer and engineer, who has worked with the Rolling Stones, the Who, Bad Company, Barbra Streisand, Dave Mason, Jefferson Starship, the Babys, and Led Zeppelin, comments on what he tries to achieve in the studio: "I use the record to paint as interesting a picture of the artist as I can. I try to pick up the slack in the studio and make the adjustments to round it out and make it as complete as possible."

Getting the most out of an artist can sometimes be very difficult. Some artists start to freak out two weeks before going into the studio. No matter how much they've rehearsed, they still feel unprepared. A lot of great performing artists can't cut it in the studio. When you get an artist like that, you do whatever it takes to simulate the

rush he gets from the stage. If he gets high or drinks before he goes on stage, let him do it before he sings in the studio. If he needs people to play to, load the studio up with folks. It's the producer's responsibility to get a great vocal performance out of that artist and he must do whatever it takes. If you've got an artist who knocks you out live, but in the studio he sings like he belongs at "Bob & Dotty's Lounge," you have to do something about it. If he needs to sing on the balcony facing the ocean, call up the Wally Heider mobile sound truck and arrange it.

If there is nothing a producer can do to get the kind of performance he wants out of an artist, he has to recognize that. In other words, there is a time to punt. You can only do a song so many times, and then it gets crazy. It's the producer's responsibility to get the best performance he can from the artist *without going over budget*. You can blow an entire budget on one song if you get carried away with perfection. The producer has to be conscious of the time and money he is spending in the studio. He should never pressure the artist in this respect, but at the same time, he must keep things moving.

The more you are in a studio, the better you will get. A producer, even more than an artist or an engineer, needs to work with different artists because he will learn something new with each one. Ted Templeman elaborates: "Van Morrison is hard to produce because he is highly creative and changes his mind a lot. Lowell George was also a creative genius, but he had definite ideas about what he wanted. The Doobie Brothers are difficult in another way. They're all different personalities, but they all have equal input, so their difficulties are usually deciding amongst themselves rather than disagreeing with me. Each act is different."

Some producers only relate to hard rock, others only to MOR (hip slang for "middle of the road" which is unhip slang for easy listening music), others only to disco, and still others only to country. But there are some producers who relate to hard rock, MOR, disco, country, and Dick Contino on the accordion. Some guys can produce anything. It's good not to let yourself be typecast into a particular bag of music if you have the ability to produce other types as well. A lot of producers hate to accept work that is not necessarily their bag, but they're professional enough to pull it off. It all depends on his musical tastes and how badly he wants to work. If he can afford to wait around for the next Led Zeppelin, more power to him, but if he needs to eat once in a while, he might have to take on some other work.

Starting Out

To be a producer, you have to have something to produce. So look for an act that excites you, and realize that you are going to make a lot of mistakes the first few times out. Everybody does. Producing is trial and error and learning from the experience. Being around people in the business, especially other producers, can really shortcut your learning time. The more time you spend around a studio, the better. Other than having that innate ability to hear sound quality, and the love of music to want to capture it on tape, there isn't any real magic to it. ■

PROFESSIONAL RECORDING TAPE AT BELOW WHOLESALE PRICES!

(100% GUARANTEED)
ALL ITEMS IN STOCK

AMPEX REEL TO REEL

1. 406 1/4" x 2500	10 1/2" P/HUB BULK	List \$ 15.89	Our Price .. \$ 7.81
2. 406 1/4" x 2500	10 1/2" WITH BOX	List 17.00	Our Price .. 8.60
3. 456 1/4" x 2500	10 1/2" PH BULK	List 19.89	Our Price .. 9.70
4. 456 1/4" x 2500	10 1/2" WITH BOX	List 21.00	Our Price .. 10.50
5. 456 1/4" x 2500	10 1/2" NAB	List 34.09	Our Price .. 16.44
6. 406 1/2" x 2500	10 1/2" MH	List 35.69	Our Price .. 18.11
7. 456 1/2" x 2500	10 1/2" MH	List 45.59	Our Price .. 22.25
8. 456 1/2" x 2500	10 1/2" NAB	List 55.79	Our Price .. 27.29
9. 456 1" x 2500	10 1/2" NAB	List 96.59	Our Price .. 47.74
10. 456 2" x 2500	10 1/2" PREC	List 150.00	Our Price .. 101.60

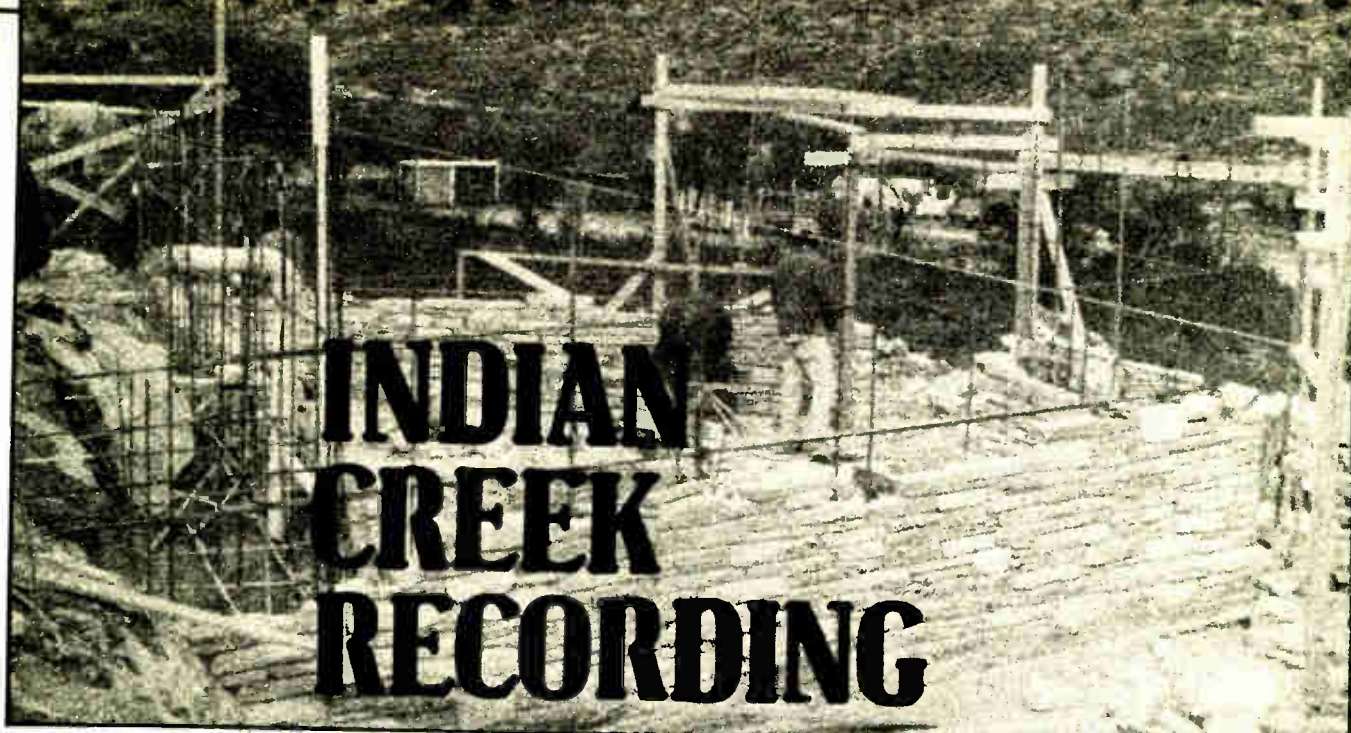
CASSETTES ALL LOW NOISE/HI OUTPUT

11. AGFA C-30 WHITE SCREW TYPE	List \$2.00	Our Price ... \$.56
12. AGFA C-60 WHITE SCREW TYPE	List 3.00	Our Price79
13. TDK SA C-60 CHROMIUM	List 5.00	Our Price 2.40
14. TDK SA C-90 CHROMIUM	List 6.00	Our Price 3.40
15. MAXELL UDXLII C-60 CHROMIUM	List 6.00	Our Price 2.80
16. AMPEX GRANDMASTER II C-60	List 7.00	Our Price 3.24
17. PLASTIC CASSETTE CASES	List35	Our Price10

PLUS MUCH MORE!

PLEASE ADD 5% FOR SHIPPING COSTS.
NO SHIPPING CHARGE ON ORDERS
OVER \$4 00
ILLINOIS RESIDENTS INCLUDE 6%
SALES TAX.

**Deplant
Enterprises**
3416 1/2 W. 79th St. Dept. M
Chicago, Illinois 60652
(312) 436-1626



INDIAN CREEK RECORDING

by Tom Lubin

Indian Creek Recording
Uvaldi, Texas

(Actually 20 miles west of there, 80 miles west of San Antonio)

The Southwest has millions of acres of sparsely populated range land. Ranches in this part of the country often consist of several thousand acres. There are few trees, though in some places there is enough rain to support the scrub brush that provides forage for roaming herds of range cattle. The hillsides are austere, and the only thing to break the peacefulness is the distant sound of a cow or horse or circling hawk.

Indian Creek is situated in the center of such a ranch. The property stretches over 4000 acres and is a working cattle ranch. The studio is located on the west side of a small valley on a sloping limestone ledge that overlooks the ranches other buildings. Design work on the studio began four years ago when Marty Manry, the studio's owner, approached Woody Smith of ASI in San Antonio. At first Marty wanted only a demo studio that would be used for his own musical endeavors. As time progressed and the design developed, the decision was made to make the studio a world class master recording facility for major acts that might want to surround themselves with the west Texas hill country.

From its inception Marty wanted a studio that would fit in with the countryside, so it was decided to build the studio almost entirely out of rock found on the ranch. As discussion and planning continued on the acoustic design Woody became increasingly confident that he could design the interior with a maximum of stone surface. Though stone is both extremely hard and reflective, he felt that if all the walls were angled just right, and by taking into account the irregular surfaces of the stone, troublesome reflections could be minimized, while ensuring a "solid sound." This is the story of building a studio not only for but of rock.

Decoupling and Isolation

Since the studio was built in such a remote

area, there is little problem from external sound sources. The nearest airport is some 20 miles away, the closest major highway is just as far, and stampeding cattle are seldom an occurrence. ASI's unique approach departs from conventional studio design, using primarily sheet rock and wood frame construction that relies on floating floors and dead air space to achieve isolation. Indian Creek, because of its unique stone construction and extremely dense bed rock foundation, utilizes mass to achieve the necessary transmission loss between the various areas of the studio. The studio's 10" concrete floor was essentially bonded to a solid limestone ledge that had been blasted out of the hillside with dynamite. The control room floor rests on back fill that was packed on top of the same limestone ledge, and the lounge and reception areas are supported by concrete beams with the office below.

Woody's unique design called for multiple floor heights of a few inches above or below adjacent isolated areas. It was his view that floor bound low frequencies will not significantly transmit through the various right angle turns that connect the adjacent levels. There are two different levels in the control room and four in the studio. The reception area and the fireplace areas are also at separate elevations. All of the wall footings are at least 18" wide and sunk into the bed rock to a depth of two feet at the back of the building and six feet at the front.

The entire floor area was made as a single pour, but it took more than one attempt. On two occasions the cement trucks made the twenty mile journey from Uvaldi to find that their arrival coincided with a thunder storm and rain from the normally cloudless sky. The pour had to be scratched and the trucks turned back, to return a few days later. All of the cement and mortar were used in the stone and concrete walls were hand mixed as they were layed. Copious amounts of various diameter rebar were used in the floors and walls.

The extreme mass of this building eliminates any tendency for the walls or floors to act

diaphragmatic at low frequencies. Since the depth of the limestone ledge is unmeasurable the floor density cannot be accurately determined, but the 18" thick walls have an estimated weight of 75 to 100 pounds per square foot surface area.

The Wall and The Rock

The arroyos around the site were scoured for interesting formations and outcroppings. When suitable strata were found, rocks were dug and carried to the site where they were shaped. The primary objective was to break loose the largest possible pieces (and worry about carrying them afterwards.) Thicknesses varied between 1/2" and 6" with many of the rocks weighing as much as 500 pounds. The farthest quarry was 3/4 of a mile from the studio.

Other types of sedimentary rock besides limestone were used including some with traces of coral and flint. Except for a few weather worn smooth stones that were found in the arroyos, all of the stone was hand cut using chisels, wedges, hammers, and shovels.

Obviously, the art of stone masonry is not the sort of thing that you can easily learn from a book; nor is it that easy to find a person who can



teach it. Marty ended up going to Mexico here he found an old stone cutter who agreed to return with him. The mason spent three weeks showing the five man crew the fundamentals of stone working. After he left, the guys pretty much had to learn as they went, with more than one stone formation having to be torn out and rebuilt.

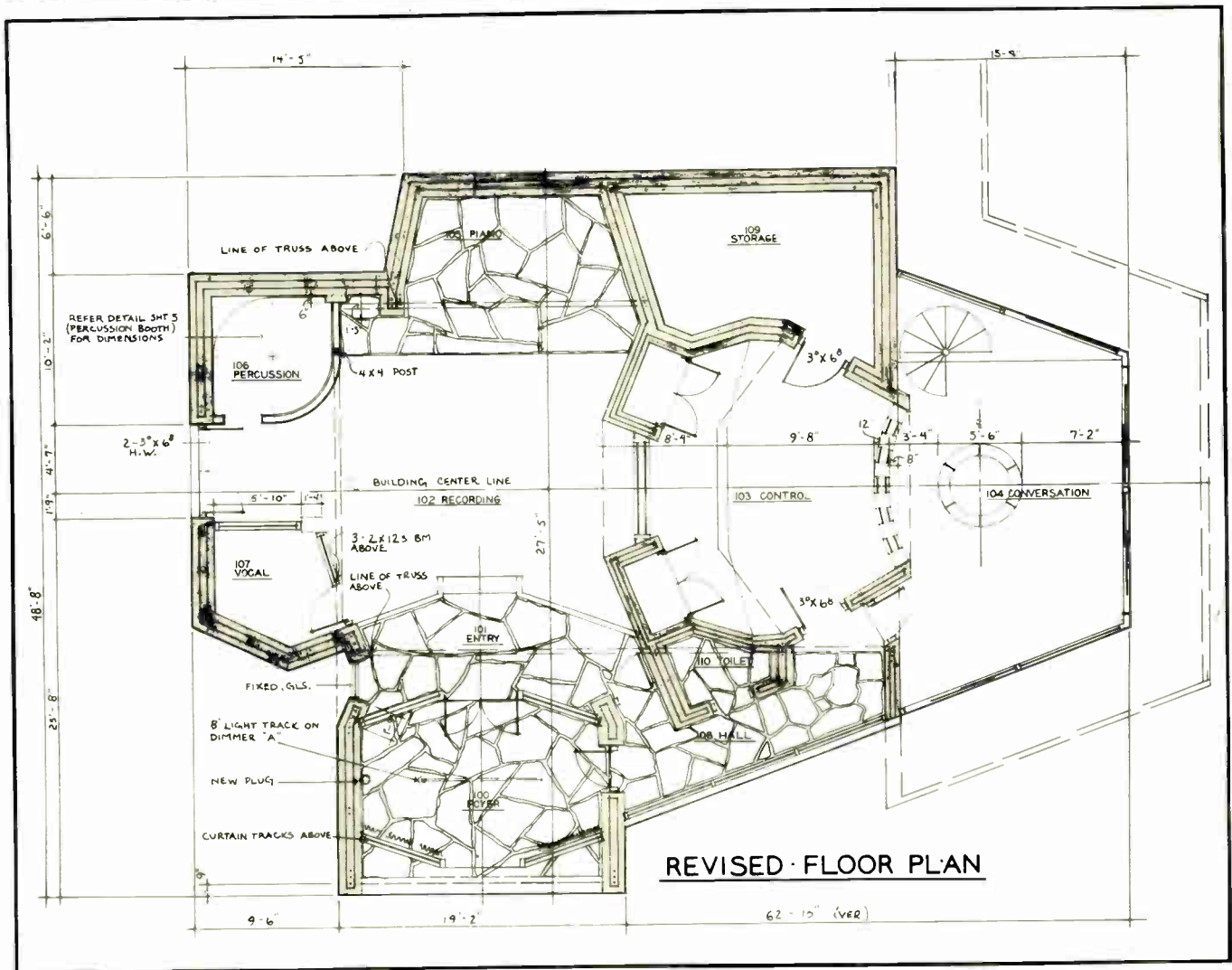
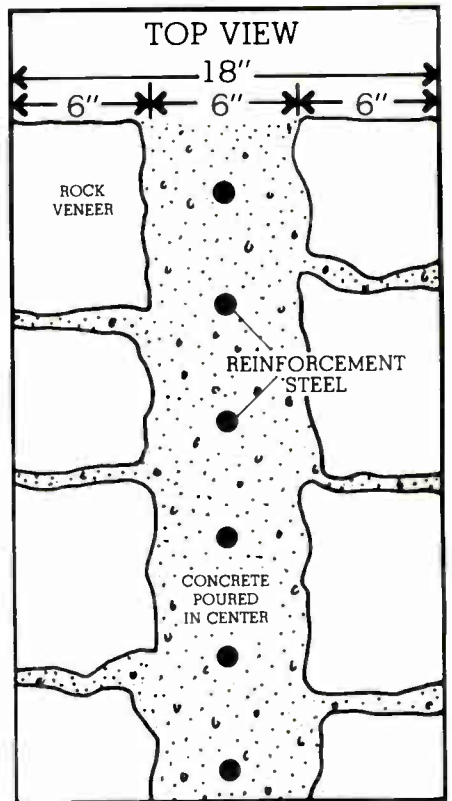
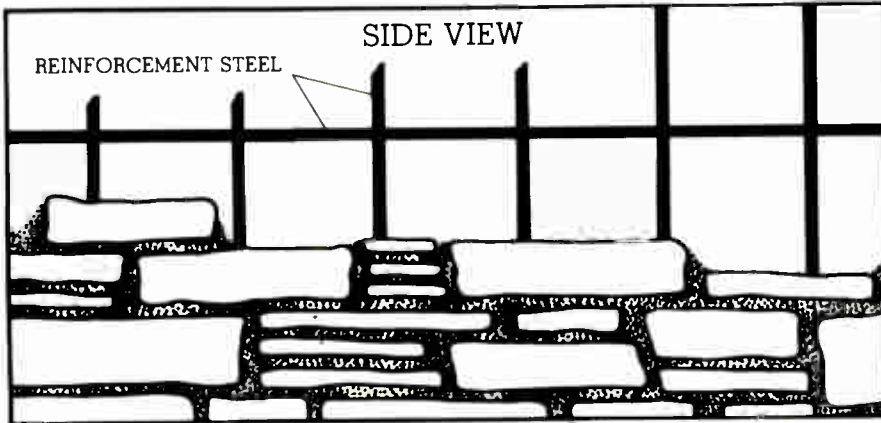
It took eighteen months for the construction to be completed with about six months of that being spent on building the stone walls. As the rock work progressed they learned more about how particular strata formations would react to shaping, breaking, cutting and stacking. All of the wall designs were partially sketched out, with the

final execution left up to the particular builder and the availability of the rocks that had been gathered.

All of the rock walls were built in segments three to four feet high. It was a slow process, but on a good day a four foot high, twenty foot long segment could be completed.

Once the interior and exterior veneers were mortared and staked a couple of feet high the cement filler was poured between them. After the concrete was sufficiently hard, more rock would be staked, followed by more concrete—thus the walls went up.

All of the concrete filled rock walls support



In contrast to the very hard and diffusing walls the central studio floor is carpeted and the ceiling is heavily trapped. The trap cavities above each of the isolated areas are enclosed and separated by conventional 2" x 6" framing. A sandwich of one-half inch of celotex followed by two layers of overlapping sheet rock was nailed to both sides of the studs.

The one exception to this construction was the wall area above the control room window. To add density, 1/4" of lead sheeting, similar to that found in x-ray rooms, was nailed to the wall. Only the studio side of the double wall was treated, since the 2000 pounds of mass that the one layer

Inside The Studio

4" x 12" laminated beams. All of the walls are load bearing since none of the isolated areas have common ceiling trusses

added to the wall seemed sufficient

The live iso area has a trapped ceiling and a slate floor as does the piano area. These two hard floors rise above the central studio area by 16" and 8", respectively. Some of the flat stone used for these floors are as large as six square feet

The height from the middle of the studio to the ceiling is about 16 feet with the suspended ceiling of cloth-covered two by four frame situated at eleven feet. Hung from the ceiling are batons of aeroflex. Woody feels this material is a better choice for this application than conventional fiberglass in that it is a more dense material and has a heavy coating on one side. It seems to be as effective for low frequency energy absorption as fiberglass batons with plywood backings, and is much easier to fabricate.

The baton arrangement breaks the ceiling area into four by four foot segments with adjacent squares having their batons running at right angles to one another. The spacing between the batons was kept between four to six inches. This irregular spacing prevents the ceiling from exhibiting any kind of comb filtering effect at a particular frequency.

The studio ceiling also has three frames of cedar that support six adjustable panels for control of acoustics within the room. The frames are hung from chains and the acoustic panels extend the full length of the frame and pivot at the centers. The panels are two and a half feet wide with oak hardwood on one side and four inches of cloth covered Aeroflex on the other. The system provides a variety of reflection characteristics. By setting panels vertical to the floor, sound has complete access to the trapping or they can be positioned at other angles for a liver sound.

Piano Area

One inch by six inch mahogany tongue and groove paneling covers the ceiling and most of the three walls of the piano area. The ceiling is sloped upward approximately 35 degrees into the center of the room. Its lowest height is nine feet, and its highest point of twelve feet marks the demarcation line of the studio ceiling trap. The wall paneling is continued from the ceiling and ends three feet above the floor, with stone providing the balance of the wall surface. There are also draperies which can be pulled over the wood and rock walls if a deader sound is desired.

Across the room from the piano iso area is the "live" iso booth. This room is separated from the rest of the studio by two glass walls that flank glass doors opening into the central area.

The rear of this live area is a continuous floor to ceiling window that overlooks the rest of the ranch. All of the angles for the various panes of glass are calculated for maximum random reflection. Here, too, are curtains that can be drawn across the glass to deaden the hard surface. To prevent these large panes from flexing, a horizontal railing, three feet off the floor, was used to add rigidity.

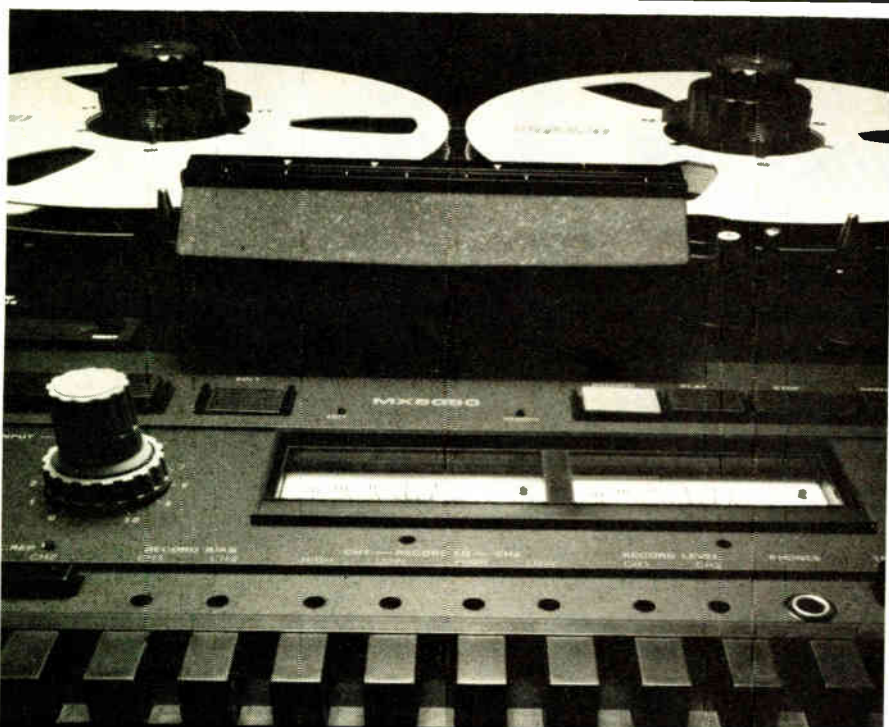
The Drum Booth

The somewhat circular drum booth is situated in one corner of the room and is about ten feet in diameter. In the center of the six and a half foot high ceiling is an illuminated stained glass panel. A ribbon trap around the circumference of the glass provides acoustic access to the ceiling cavity.

Low frequencies are absorbed into the trap while a certain amount of high frequencies are reflected. Woody feels this design, with its ceiling gabling inward, minimizes floor to ceiling frequency standing waves in the drum booth.

The curved rear of the booth is a laminated surface of cloth-covered one inch Aeroflex attached to formed plywood. Running along the entire bottom of the panel is an 18" opening, creating a ribbon trap to the fiberglass packed area behind the plywood. The plywood also provides a certain amount of low frequency diaphragmatic absorption. On both sides of this trap are four feet of stone surface.

The front of the booth is closed in with curved removable panels of metal framed plexiglass. The drums can be set up and miked before



**Dollars For dB's,
It's The Best You Can Own.**

The MX-5050B

Because of quality that delivers unmatched reliability. Because it offers the performance and features of machines which cost more than twice as much. Because of ingenious production technology and intelligent design decisions from the manufacturer of the most comprehensive line of professional tape machines in the world.

All this comes for less than \$2500.

The Otari 5050B. The New Workhorse. It will ease your production burdens while assuring your banker its return on investment. Check out the dollars 'n' sense machines at your professional audio dealer today.

The New Workhorse

OTARI

Otari Corporation, 1559 Industrial Road
San Carlos, California 94070 (415) 592-8311 Telex: (910-376-4890)

the booth is enclosed and the modular panels are free standing so the booth can be closed to whatever degree is desired. If it is necessary to get a tight seal, all the panels can be latched together.

The stud wall between the piano and percussion area is 1/2" plate from the ceiling to three feet off the floor. Three inches of cloth-covered Aeroflex comprise the balance of the wall in the percussion booth side, while a hardwood surface covers the piano area surface.

The Vocal Booth

The vocal booth wall angles were calculated for maximum random reflection. The two windows that make up the front of the vocal booth are resting on a one foot thick 18" high rock wall. From these stone sills to the booth's suspended ceiling, 4" x 4" framing holds the 1/2" single panes of plate glass. The booth's two windows converge at a support pillar.

At first Woody felt that the hard surfaces in the smaller booth would be too reflective and a problem, but everyone concerned has been very happy with it.

Control Room

Three UREI 813 speakers are used in the control room. The left and right monitors are six feet off the floor above the tape machine soffits. From the mixer's position the operation of the recorder can be easily observed through the glass doors that enclose the two stone machine recesses.

The third UREI speaker is mounted above the window and receives a mono feed for a cen-

ter fill. Woody feels this three source system results in a smoother wave front coming from the monitors. The system was designed with sixth octave White monitor EQ's, but the room's fine performance has made them optional. Also, the eight inch rise of the console platform minimizes the overhead angles to the monitors.

The control room ceiling is rigid except for a single layer of cloth-covered one inch Aeroflex. It is made entirely of 2" x 6" frame construction with double overlapping layers of sheet rock nailed to both sides of the timbers. The height of the ceiling angles up from the speakers and acts much like an extended horn while reducing undesirable early reflection. The ceiling is 8 feet high at the front of the room and rises toward the rear wall to a height of 9 1/2 feet. Woody's view is that this design makes the speaker dispersion more uniform. He concedes that the SPL level at the console is not as high as might be achieved with a compression ceiling design, but in this case the system has considerable headroom so it can be safely turned up. (1800 watts are available to the UREI's from five Crown PSA-2 amps.) Between this ceiling and the outside shell are contained most of the airconditioning duct work and plenums. The balance of the void is filled with fiberglass.

The rear of the control room curves inward and is alternately 12" wide double pane windows and one foot solid cyprus beams. The radius of this curved surface coincides with the arc created by the three speakers. The back wall acts pri-

marily as a diffuser, with its reflections and those of the sidewalls falling within the Haas zone. The longest reverb time for the control room is .35 seconds for low frequencies and .25 for the higher tones, without significant deviations. Woody feels the extremely clean bass response of the control room is the result of the absence of resonant boundaries and diaphragmatic bass traps.

Three separate air conditioning systems were used. One for the control room, another for the studio, and a third for the balance of the building. Needless to say, the highly insulative stone helps the air conditioning to better control the interior. Special high power lines were brought into the studio to minimize electrical noise.

The view from the building is spectacular. The many windows provide the design with an openness and a feeling of space that brings a balance to the massive stone edifices. The conversation area which can be seen from the control room has a fireplace and a 180 degree panorama of the ranch. From the balcony at sunset a client can observe a view so ageless and unchanging that at one time it likely inspired pioneers past to conjure songs around their campfires. Indian Creek Recording is the antithesis of a warehouse with decor. It is its *ambiance*, where someone sitting on the balcony strumming a sad song to the moon might have a chorus of distant coyotes and wolves sharing a similar sentiment. ■

The Tools of The True Professional...

People who are serious about their work in the sound industry know how to find their way through fads and hype to the real thing—equipment that delivers maximum results in a cost-effective manner ... and that's the only kind we sell.



**If you are a professional,
we're expecting your call.**



512/824-8781

**P.O. Box 6520
San Antonio, Tx 78209**

The Start of Something Big*



by John T. Mullin

Ed. note: In 1943 John T. Mullin was in England working as a Liaison Officer with the U.S. Army Signal Corps. On a late night assignment he happened to tune his radio to a German station and was amazed to hear clear and flawless performances of orchestral music... no surface noise that he would expect

from a record, and yet, he thought, what would a live orchestra be doing broadcasting at this hour?

The mystery was soon solved when Mullin encountered the brilliantly designed and built German Magnetophon near the end of the war. The events that followed led to what we now know as the tape recording industry. But let's let him tell the story.

FIRST AND LAST. . . John Mullin, often called the "father of tape recording," examines an original tape on his Magnetophon, the German recorder that he modified. To Mullin's left is a 32-track digital recording system, developed by 3M and the BBC.

The most unforgettable moment in my life was the one when I stood before my Magnet-

* The History of the Tape Recorder

ophon tape recorder and pressed the "PLAYBACK" button for the first time in the presence of Bing Crosby, John Scott Trotter and Bing's producers, Bill Morrow and Murdo McKenzie. Everything was at stake. By invitation I had been present with my colleague, Bill Palmer, to record the first radio show of the 1947-48 season in the NBC-ABC studio complex in Hollywood. And now we were to hear the result of our efforts and to judged by perhaps the most critical ears in the world of radio and recording.

To be sure, this was in August and the show would not be broadcast until October first, but the policy was to record it well in advance of release time in order to enable it to be edited down from an indeterminate running time to a neat half-hour program. This technique gave Bing the ability to be relaxed, to ad lib as he chose and never to be concerned about timing.

The policy had been to record casually on 16-inch lacquer discs. Editing was later accomplished by re-recording from disc to disc to produce the final radio show, but the losses in tone quality had at times been excessive. Throughout the previous season, the golden ears of the producers, network executives, advertising agency representatives and Bing himself at times underwent considerable torture when the final disc assembly was played to the air coast to coast on the full ABC radio network. The audience rating had been falling badly. Philco, the sponsor, was unhappy and it had been pretty well decided that if it fell a few points more at the start of the new season, Bing would have to go back to live broadcasts.

Prior to our invitation to come down to Hollywood from San Francisco to record and possibly, just possibly, to edit our tape into a complete show, the producers had looked into every alternate means of recording sound that showed any promise of success. Mostly these boiled down to variations of disc recording methods and photographic sound-on-film systems. ABC had even arranged for tests to be made on a magnetic tape system in New York, but the results had been completely unacceptable. None of them had shown better promise than the one they had been employing. I am sure they held out little hope for success in testing our apparatus.

The tape came up to speed—then

Opening theme—Crosby: Blue of the Night

Applause

Song—Crosby: My Heart is a Hobo

Applause

Murdo McKenzie signalled me to "cut" I pressed the "STOP" button. There were surely no more than two seconds of silence, which seemed more like minutes to me, and then—a shower of compliments. One small machine, one of a pair, side by side on a makeshift table—the only two of their kind in the United States arranged to record and reproduce magnetic tape with such remarkable fidelity, had, in a listening demonstration lasting almost exactly five minutes, upset the entire future of sound recording in this country.

Why only this pair of machines, and how did they happen to be here? Let me go back to 1943. I was in England at the time, in the U.S. Army Signal Corps, but assigned to the RAF, working as a Liaison Officer concerned with inter-

change of technical information. A problem had come up where a certain Signal Corps radio receiver was found to be highly subject to interference from a type of high powered RAF radar transmitter. We were working to reduce vulnerability of the receiver. It was an urgent program and some of us plugged away through the night. We had been listening to the BBC as we worked until sign off time, and then we fished for something else on the radio. Germany came in loud and clear. The music was appealing. Strauss and Lehar melodies played by a full orchestra—solo arias from Viennese operettas—What? At this hour?—More full orchestra—a male chorus singing songs of the Rhine and so on through the night. How could they do it? The sound was so flawless that we were convinced we were hearing live performances. The usual deficiencies of record scratch and other tell-tale distortions were completely absent.

The mystery was solved some time later after the invasion of France. The operations center of our particular group, the Technical Liaison Division of the U.S. Army Signal Corps, was set up in Paris and our first objective was to ferret out developments in which the Germans may have been active during the war and at the time of their retreat. Two of us, for instance, were the first Americans to get to the top of the Eiffel Tower after the Germans were driven from the area, in order that we might see what kind of radio transmitters and receivers they had been employing from this most favorable location. It was an exciting time.

On one trip into Germany some time later, we were following some tips regarding a particularly intriguing, if dubious, activity which had been reported. On a mountain northwest of Frankfurt, a tower had been discovered in which a scientist had supposedly been conducting experiments in stopping aircraft engines at a range of several miles by means of some kind of powerful radio beam.

While going through the installation, which was certainly awesome and reminiscent of the more spectacular moments of a Frankenstein movie, I struck up a conversation with a British Army officer. We soon concluded from the information we were able to put together that the installation had been a dismal failure, but we also found we had a common personal interest in music and sound recording.

The officer asked me if I had seen or heard the Magnetophon, a magnetic tape recorder which he assured me performed with a fantastic dynamic range from full orchestral crashes to virtual silence without background noise and incredibly low distortion. I told him we already had about six such machines back at our laboratory in Paris but that they were quite poor in dynamic range, since their background noise was not as good as a 78 RPM shellac record and their distortion had been found to be very inferior in the tests we had made. He urged me to go to the studios of Radio Frankfurt and hear the performance of a machine for myself. Thinking this chap must have a tin ear, I bade him farewell and began to drive down the mountain. As my assistant and I reached a fork in the road, with all intentions of turning westward, I reconsidered. Suppose he had something there after all. So we turned eastward.

The British officer had told me that Radio Frankfurt had vacated the city during the heavy bombing raids and had relocated in a large house at a resort spa north of the city, a small town called Bad Nauheim. I drove there, found the house and confirmed that the radio station, as he had informed me, was now being directed by the U.S. Armed Forces Radio Service. The German staff was still operating and maintaining the equipment.

I asked if I might hear one of the tape machines they were using. An order was directed to one of the technicians. I was taken into a room in which there was a large loudspeaker and two of the Magnetophons. The mechanism appeared to be the same as the ones we had in Paris, but there was an obvious difference in the electronics.

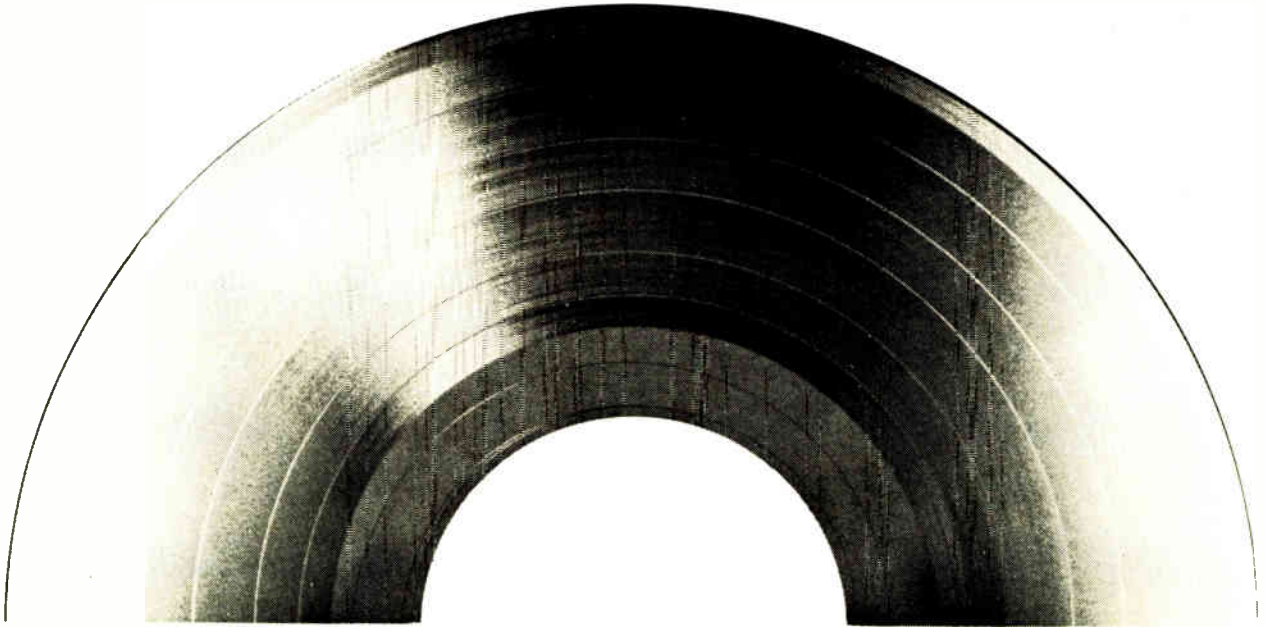
The technician placed a roll of tape on one of the machines and started it. Suddenly, out of complete silence, an orchestra bloomed into being with fidelity such as I had never heard in my life. From deep resonant brass to the shimmering of the flute it was all there. It was clean! It was free from any noticeable distortion. And if that were not enough, the dynamic range was fantastic compared with anything I had ever previously experienced.

My assistant was very proficient with a camera, and before the afternoon light had waned he had photographed all the schematic diagrams and instruction manuals, even though they were in German. I had talked the officer in charge out of a few rolls of the type of tape they were using, my gold oak leaves helping to convince the Lieutenant that we needed the tape for further investigation of the Magnetophon back at our laboratory in Paris. It seemed curious that while the AFRS personnel were busily engaged in using the Magnetophon in each day's programming, they had apparently never considered that these machines were really something very exceptional!

Until now, the machines which had been sent in to the laboratory had received only a casual inspection and then been set aside as having no particular significance to the Signal Corps. When we returned to Paris, I immediately pulled one of them out of our storeroom and set to work with Capt. James Menard to duplicate the electronics that I had found in Bad Nauheim. After several day's work we had the machine operating splendidly.

Mechanically, the machines were well designed so that they drove the tape at a very constant speed. In either the low fidelity or high quality version of the Magnetophon this resulted in completely acceptable wow or flutter. The use of plastic tape impregnated or coated with iron oxide, a development of the Germans, contributed to a uniformity and smoothness of sound never previously achieved in magnetic recorders which used steel wire or ribbon. But the one great difference in the machines we had previously found and those in the German broadcasting service was in the employment of a very high frequency mixed with the audio signal to provide what is termed "bias." All magnetic recorders require a form of bias, but the lower quality ones used direct current. The tremendous dynamic range brought about by using high frequency bias had never been approached by direct current methods.

How to succeed in the music business without selling your soul,



The Platinum Rainbow, a new book by Grammy award winning record producer Bob Monaco and nationally syndicated music columnist James Riordan, will give you an inside look at the recording industry and tell you how to think realistically in a business based on fantasy, how to promote yourself, how to get a manager, producer or agent, how to get free recording time, how to make a deal, how to recognize and record a hit song, how to be a session musician, how to kick your brother out of the band, how to put together the six key elements a record company looks for.

The Platinum Rainbow, over 200 pages, quotes some of the biggest names in pop music and gives you a complete analysis of The Song; The Studio; The Stage; Demo Or Master; Cutting A Record; Hooks And Arrangements; The Producer; The Engineer; The Budget; The Basic Track; Vocals; Overdubs; The Mix; The 24 Track Monster; Things You Can Hear But Can't See; The Deal; The Creative Businessman; The Music Attorney; The Manager, Agent, Promoter; The Artist As Vendor; Leverage, Clout And The Ladder; Getting A Job With A Record Company; Gigs; The Golden Reel To Reel And The Platinum Turntable; Staying Happy; Waiting To Be Discovered And Nine Other Popular Myths About The Music Business.

The Platinum Rainbow also includes a complete DIRECTORY of record companies, producers, managers, publishers, agents, studios, engineering schools, concert promoters, all the names, addresses, phone numbers of who to contact. The music business is not mysterious and it is not magical. The music business is a game, and like any game, it has its own set of rules. Once you know the rules, you can decide if you want to play. If you do, ***The Platinum Rainbow*** will show you how to give it your best shot, and if you are not happy with the knowledge this book gives you, return it within two weeks and we will send you your money back.

Rip this page out or cut coupon and send \$10.00 to Swordsman Press,
c/o Mix Magazine, 2608 9th Street, Berkeley, CA 94710

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

The Start of Something Big*

These three things, a splendid mechanism, a satisfactory tape, and the employment of high frequency bias placed the Magnetophon far above any other magnetic recorders anywhere in the world at the time. To be sure, others were aware of the advantages of each of these three elements, but nowhere had they been brought together so effectively.

One function of our organization was to collect data and samples of German developments and send them to the Signal Corps Laboratories and the Department of Commerce in the United States. After dutifully complying with this service with regard to the Magnetophon in this more significant form, I was able to obtain two of the remaining low quality machines and send them to my home in San Francisco as souvenirs of war. By now we had a goodly supply of tape as well, and I was able to send home about fifty rolls of it. Each roll ran for only twenty-two minutes at the speed in use at the time, thirty inches per second.

One of the regulations covering war souvenirs was that anything to be sent had to be small enough to fit into a U.S. Mail bag. I had to completely dismantle my two machines and send them, with the tape, in eighteen different packages. The project was challenging and the results rewarding. All eighteen boxes were at home awaiting my arrival after discharge from the Army in early 1946.

Because it was still not clear to any of us who had investigated the high quality Magnetophon in Paris whether or not there was something particularly unique about the metallurgy of the recording and playback heads, I decided not to send them with the packages I mailed home. Since they were physically quite small, I carried them with me in my personal kit.

En route from Paris to San Francisco, I stopped off a couple of days at Fort Monmouth, New Jersey, over the Thanksgiving holiday, 1945. Here I encountered a Signal Corps acquaintance of several year's standing, Lt. Col. Richard Ranger. He invited me to his home for Thanksgiving dinner. Knowing of his interest and reputation as a clever inventor and developer of electric organs, I thought he might be interested in the Magnetophon and I took one of the heads which I was carrying with me to his house. He had not until then heard of the Magnetophon and was immediately interested in its possibilities.

Col. Ranger and my friend, Jim Menard, were still in the service. Jim was still in France and I soon learned from him after I was back in civilian life in San Francisco, that Col. Ranger was in Europe and probing more thoroughly than we had into the manufacture of Magnetophon tape and the Magnetophon itself.

I had worked for the Engineering Department of Pacific Telephone and Telegraph before the war and my old job was open to me if I wanted it. I found myself more interested in working with an old friend of mine, William A. Palmer, who had developed a successful motion picture production services company in San Francisco

Bill had established a splendid reputation in all facets of 16mm film work with particular specialization in color film duplication and sound recording. He enthusiastically awaited my assembly and demonstration of the Magnetophon. Assembly of the machines was, of course, relatively easy since I had taken them apart myself in Paris, but I had to build the electronic circuits from American tubes and components along the lines of the original German schematics and I made certain modifications which I deemed desirable. I put electrical pre-emphasis, for example, into the high frequency record circuit and corresponding de-emphasis on playback.

This proved to be worthwhile and was duplicated later almost exactly in Ampex's first model. By March of 1946, I had both machines operating to my complete satisfaction.

Bill and I immediately put them to work in his studio in San Francisco, where we found them most useful for recording off screen voice and music for films. We worked out cutting and splicing techniques so that the sound track for a complete reel of film (12 minutes long) could be prepared in its final form on tape. Then a single transfer to optical sound track could be made resulting in a final product that sounded much better than any previous re-recording process. To our knowledge, this was the first time magnetic recording was ever used, at least in this country, to record sound for motion pictures.

I remember well the first public demonstration I gave in San Francisco to the local chapter of the *Institute of Radio Engineers on May 16,*

1947. We prepared some tapes at KFRC of orchestra, vocalists and pipe organ. We had a large attendance and the enthusiasm was terrific.

Little did I know that night that among the audience were several men with whom I would later have a close and long association. Oddly enough, they were particularly interested in the sound of a small German loudspeaker I used as a monitor during part of my demonstration. They contacted us later, wanting to know if they could come to our studio to see it at closer range. We were, of course, happy to let them do so and they introduced themselves as Harold Lindsey and Myron Stolaroff, representing a small company of only six people in San Carlos on the San Francisco peninsula. They had been making aircraft motors during the war and were now looking for some new field of post-war promise. Since they were interested in high quality audio, they were considering the possibility of making speakers or even a disc recording lathe. Their company was headed by a gentleman named A. M. Poniatoff. Borrowing his initials and adding EX for excellence, they had named the company Ampex.

While their first interest was the loudspeaker, this soon gave way to an expanding interest in the Magnetophon and it was not long before they decided the undeveloped field of professional magnetic recording should be their area of specialization.

In October of 1946, Bill and I attended the annual convention of the Society of Motion Picture Engineers (SMPE, now known as SMPTE). There were few references to magnetic record-



GORDON HARDY
President & Dean
JORGE MESTER
Music Director
announce



AUDIO-RECORDING INSTITUTE HAROLD BOXER - Director

Three three-week sessions offering experience in recording live symphony, opera, and chamber music with world-renowned artists.

June 22 - August 23, 1981
Aspen, Colorado

"The Aspen Audio-Recording Institute has something no other recording studio-oriented course has—the Aspen Music Festival."

BILLBOARD MAGAZINE

Address all inquiries to: Aspen Music Festival, 1860 Broadway, New York, NY 10023 (212) 581-2196 After June 1st: Box AA, Aspen, Colorado 81611 (303) 925-3254

The Aspen Music School admits students of any race, color, and national or ethnic origin.

The Start of Something Big*

ing, but one or two papers were scheduled for presentation on experimental work which was being carried on. In particular, I remember that Marvin Camras of Armour Research presented a demonstration of sound from a strip of 35mm film which he had coated with a form of iron oxide, using a paint brush. It sounded pretty good, but didn't seem to excite the sound departments of the major studios.

Bill and I got to talking with a man who ran a rather exclusive radio-phono and record store in Beverly Hills, Art Crawford by name. He was excited about the potential for tape in the home and we told him we had one of our machines in the back of Bill's car. He was anxious to see it, so we set it up in our hotel room. He nearly flipped when he heard it and immediately got on the phone, calling Douglas Shearer, the head of sound at MGM; Tom Moulton, the head of sound at 20th Century Fox; and John Hilliard, chief engineer of Altec Lansing. Arrangements were made with each of them for visits at their plants and the next two days were a series of exciting demonstrations. I remember particularly the few hours we spent at MGM.

Since they had never heard of us and discounted heavily any reports that a new sound recording system might be comparable to their latest system of sound on film recording—so called "200 mil push-pull" recording—they arrange to feed us some music, a piano solo by Arthur Rubinstein, played back from this newest medium, a test reel they particularly prided as having exceptional quality. I recorded it on the Magnetophon.

In assembling the electronics, I had provided an "A-B" switch. In the "A" position, one was able to listen directly to the source material. In the "B" position, the Magnetophon playback head was used to reproduce the tape less than 1/10 of a second after it had passed over the record head. Thus instantaneous comparisons were possible. This in itself opened their eyes. They could not tell whether we were listening to their film directly or on playback from the tape. Their system had the highest dynamic range of any available at the time, yet when they cut off the film at the end of the test, we were all aware of a drop in noise level, but the tape continued merrily running on with so much less inherent noise that it was easy to tell when the film had stopped. Their cool welcome had given way to a most cordial and warm visit. Before we had left, they fed us music from their music recording stage where Jose Iturbi was playing piano with Georgie Stoll and the full MGM symphony orchestra. This was followed by an arrangement of a Roumanian Rhapsody featuring Larry Adler, the harmonica virtuoso. These gentlemen all came into the recording room afterward and contributed to the enthusiasm the Magnetophon created.

Colonel Ranger had come to the convention and he had accompanied us on these visits. He returned home with great enthusiasm, resolved to get into the business of making an American copy of the Magnetophon and its tape.

We agreed to keep in touch, with the hope that W. A. Palmer & Co. could be his West Coast representatives when he got into production.

The president of Ampex, Mr. Poniatoff, was also at the convention and we invited him to hear playbacks of some of the material we had recorded. Naturally, he was most enthusiastic and shortly thereafter the visible results of Ampex interest in developing a professional tape recorder began to be apparent. Because we had a verbal agreement with Colonel Ranger, I was not able to disclose to Ampex information I had learned in the course of development and use of the machines beyond what I knew from my activities in an official capacity while in the Signal Corps. Several months passed while Col. Ranger and Ampex both developed machines and we continued to use ours in the studio in San Francisco.

Early in 1947, a film producer with a particular problem which Palmer Co. was in a position to service came to us one day from Hollywood. His name was Hugh King and he saw us using the tape for recording and editing. He told us that he had recently been talking with an agent who told him they were having a very difficult time with Bing Crosby's radio program on the ABC network. They had been recording it on disc and then editing from disc to disc with losses in quality which were quite drastic. Furthermore, the difficulties in making some of the cuts and assemblies of parts which were desired were enormous. At times this was so complicated that it was necessary to make "pre-dubs" as they were called. These were short portions of the show which were put together as a section, assembled from the original records by trial and error over and over again, until acceptable. Then, of course, it was necessary to re-record the pre-dub into the final assembly. Thus it was that some of the material heard on the air was actually a re-recording of a re-recording. These parts were particularly deficient in tone quality.

From watching me assemble a master tape from bits and pieces and rearrange parts by the simple expedient of using a pair of scissors and Scotch tape, he was struck with the idea that this might be a useful technique for Bing's radio show. He asked us if we would be interested, which we most certainly were, in giving a demonstration to the Crosby people, if he could set it up.

Hugh King returned to Hollywood and contacted his agent/friend, Frank Healey. Healey contacted Murdo McKenzie, the technical producer of the show. Murdo had the responsibility of all service aspects of the show from procuring studio space on the particular days Bing desired to record, through microphone placement and audio balance in the control room, to the ultimate giant problem of editing the discs into a final show and deciding on the acceptability of the product. Murdo was happy to witness a demonstration of anything that might ease the nightmarish situation in which he found himself week after week.

Healey made arrangements for us to meet Murdo at a small recording studio in Hollywood. McKenzie brought in some discs—originals from one of the shows—which he played onto the tape and then indicated the cuts he wanted to be made. I found them extremely easy with my scissor and Scotch tape method, and he seemed delighted. He was furthermore very impressed with

the fact that playbacks of the tape sounded identical to the original discs. I did not realize it at the time, but it later became obvious to me that he had brought in discs which had been most difficult to edit and which had necessitated use of the "pre-dub" technique.

No further commitments on either side were made at the time and we returned to San Francisco.

By now tape machines of reasonably good performance were beginning to appear on the non-professional market. Perhaps the best at the time was the Brush Soundmirror, which was considerably better than the quality of dictating machines, but well below professional requirements. Such machines had difficulty in finding their niche. They were closely watched by 3M Company, who by now were making a paper base tape suitable for use on them.

Our tests of the 3M tape at this time indicated that it was not for use on the Magnetophons and, consequently, I had to carry on recording, editing, playing back and erasing the same original fifty rolls I had sent back from Germany. Col. Ranger meanwhile assured us that he would soon be making tape according to the German formula, and that his copy of the Magnetophon was coming along nicely. Ampex gave us similar reports about their recorder. In July, we were informed that the first show for the 1947-48 Crosby season would be recorded in August at the ABC-NBC studios in Hollywood, and we were invited to be there, in the recording department, to take it on tape while they recorded on disc.

Concern was expressed for the fact that we had only the two original German machines and a limited supply of tape, but we assured McKenzie and Healey that we soon hoped to have backup machines and tape from Col. Ranger.

We contacted the Colonel and found he was confident he could be present at the recording session to give such assurance with two completed machines and, hopefully, some tape of his own fabrication.

We were able to set up our machines a day or two in advance in the recording department at NBC, not without considerable concern on the part of Les Cully, head of the recording department, who wondered about this encroachment in his "never never land." We then met Col. Ranger at the Union Depot. He had come by train and had indeed brought two machines with him, but alas, no tape.

The machines were set up the following day, but did not sound particularly good.

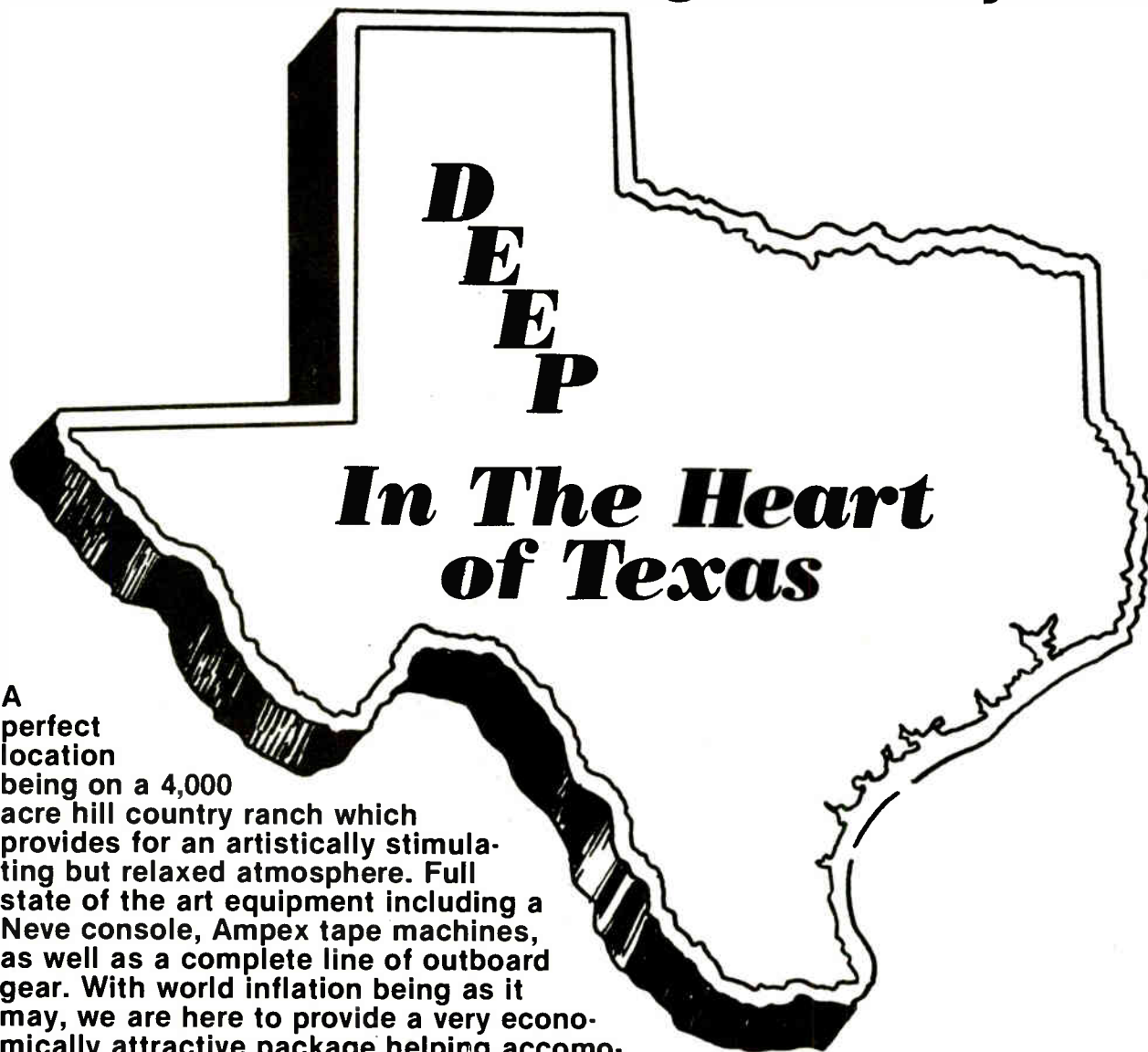
Thus we came to the most unforgettable moment in my life. The show was performed in the early evening. NBC's recording department took it down on several disc lathes simultaneously, while Col. Ranger and I recorded it on tape on our four machines.

Then that awesome moment of playback. Murdo asked first to hear the Ranger machines. My heart sank! The distortion on the peaks was excessive and the background noise was too high.

Murdo indicated "cut" and then asked me to play one of the Magnetophons. We were in! **End Part I. Next issue: Ampex, 3M and mass production.** ■

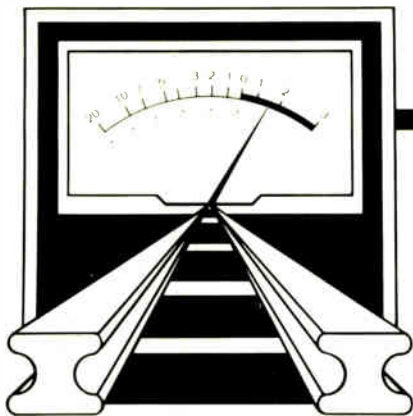


AT LAST A WORLD CLASS Resort Recording Facility



A perfect location being on a 4,000 acre hill country ranch which provides for an artistically stimulating but relaxed atmosphere. Full state of the art equipment including a Neve console, Ampex tape machines, as well as a complete line of outboard gear. With world inflation being as it may, we are here to provide a very economically attractive package helping accommodate the tightening record company budgets now in the industry.

CALL FOR RATES/DETAILS!
Blaine Bennett, Studio Mgr.
P.O. Box 487
Uvalde, Texas 78801
(512) 278-7343 or (512) 278-5811



by Mr. Bonzai

I was busy scribbling away at my manager memoirs when an old friend, Mark Redwood, appeared in the doorway of Ryan Recording. In addition to being a fine songwriter, Mark held a Ph.D. in Anthropomusicosophy. I had heard rumors that he had been in the mountains of Japan for the last six months studying their ethnic music. He entered the reception area carrying a bundle of reeds and ropes strung together—it appeared to be either a harp or hammock. He strummed the bundle and a ringing, ratchety chord waited through the office.

"Wanna record an album?" he queried.

"Sure, Mark, let me just put up a roll of tape... can we start in five minutes?"

"Ah so, Mr. Bonzai," he addressed me, "I met a Japanese musician who has the top-rated show in Japan. It's called 'I Love Sushi.' He was just contacted by a big agent at UBC and they want me to write the English lyrics for his songs. I think it could be a very interesting project."

To be honest, things had been a little slow at the studio, but they always are in the first six months of the year. The Japanese record industry was doing unusually well and some international clients might help to pay off the debt on our automation, not to mention the outstanding bill from Mr. Caffeine, our beverage supplier.

"Do you really have a deal, or is this the sound of one hand shaking?" I zeroed in on the crux of the matter.

"Well..." Mark mused, "it's not exactly signed, sealed and delivered, but I think if we put together a showcase for this bigshot from UBC..."

"Who's your contact at UBC?" I interrupted.

"None other than Nat Elderly himself," Mark answered.

Nat Elderly was more commonly known as Nat "Hypo" Elderly, the most powerful agent in show business. He could make a book deal for Lassie before his morning coffee and have Lawrence Olivier signed up to film "You're an Old Man Now, Charlie Brown" by noon. Nat Elderly taught Ziegfeld, David Merrick, and Shep Gordon about showbiz. His affirmative nod was worth a million dollars. I went for it.

"What do you need?" I asked Mark.

"We've got a band that Godan (he's the star) put together. I'd like to get them in the studio for these guys from UBC. It won't take long to set up... there'll just be vocals, a koto, a shakuhachi section, a basket of crickets, a bullfrog hooked up to a Vocorder, and some wind in the bamboo."

The spirit of a truly great recording studio is imbued with a sense of adventure. Cart Ryan,

Other Side of the Tracks

THE SOUND OF ONE HAND SHAKING

"Smilin' Deaf Eddie, Layla, and myself were of the trailblazer breed. We had recorded everything from electric belly dancing music to the Senior Citizens' Kazoo Orchestra. A Japanese album would be an Occidental challenge.

Mark went out to his VW camper and rounded up Godan and the musicians. They assembled in a very orderly fashion and bowed in unison to the staff.

Godan was the largest Japanese person I have ever seen. He stood at least seven feet tall and had a resemblance to Geronimo, the Indian chief. I was to learn later that the Japanese and the American Indian share the same ancestors, who crossed the Bering Straits when geography permitted it.

Godan and his band didn't speak English, so we did a lot of bowing and motioning and gesturing. I put on a pot of herbal tea and then escorted the musicians into the studio. I asked Eddie to bring out all of our microphones and we began to experiment.

After about an hour we had the sound of the shakuhachi (the bamboo flute that takes thirty years of playing before you are certified as sounding exactly like the wind) with a pair of 414's, and an ECM-50 stuck in the player's kimono. The koto was easier to mike than a piano, and the crickets were a cinch.

Unfortunately, when we hooked up the bullfrog to the Vocorder, we forgot to check the impedance and the frog expired. Godan went out to the bus where he had an aquarium with a couple of spares.

I had counted on a few days to get the sounds just right, but Mark informed me that the showcase had to be at five o'clock that afternoon. He wanted them to have a cassette of the tunes when they left, so we shifted into *hustle*, the regular studio pace.

Mark had taken rough translations of the Japanese song titles and created dreamy, haiku-like lyrics for the gentle Oriental melodies. It was truly enchanting to hear Godan phonetically singing "Moon in Fog," "Growing Grass," and "Whispering Bullfrog."

Our buzzer rudely announced the arrival of the UBC executives. Two male nurses wheeled Nat Elderly into the control room, adjusted his oxygen level, and tuned in his briefcase telephone. As he wheezed and barked orders into the phone, he occasionally put his hand over the receiver and offered his greetings:

"Great to be here... beautiful studio... (what's that, George?... no, cancel the Brando appearance. We'll get Orson Welles to play Tweedledum and William Conrad for Tweedledee)... sorry folks, transatlantic call... really, it's a pleasure to be here... we've got big plans for Godot."

"His name is Godan, Mr. Elderly," Mark corrected.

"Yeah... Godan. How ya doin', kid?"

Godan bowed and the rest of the band did likewise. Then an associate of Elderly's entered the room. It was Robert Cioppino, the famous movie director. His most recent epic was "Heavens, Nate!", the forty million dollar film dealing with the first delicatessen west of the Rockies. Nat explained that the studio had pulled the financing and Cioppino was presently re-editing it as a half-hour television show. (I couldn't resist asking, "What was so expensive, Mr. Cioppino?" "The corned beef," he grumbled.)

After a deadly, uncomfortable, and chilling silence, we quickly ushered the musicians out to the studio for the showcase/recording. Mark sat happily at the producer's desk with a stack of music sheets and lyrics. Godan gave the count and the performance began.

Fifteen minutes later I felt like I had travelled astrally through the bamboo curtain. The control room was permeated with a gentle, seductive mood and I looked over to see Cioppino trying to play footsy with Layla. Nat appeared to have dozed off, but his attendants adjusted his scuba tanks and he immediately perked up.

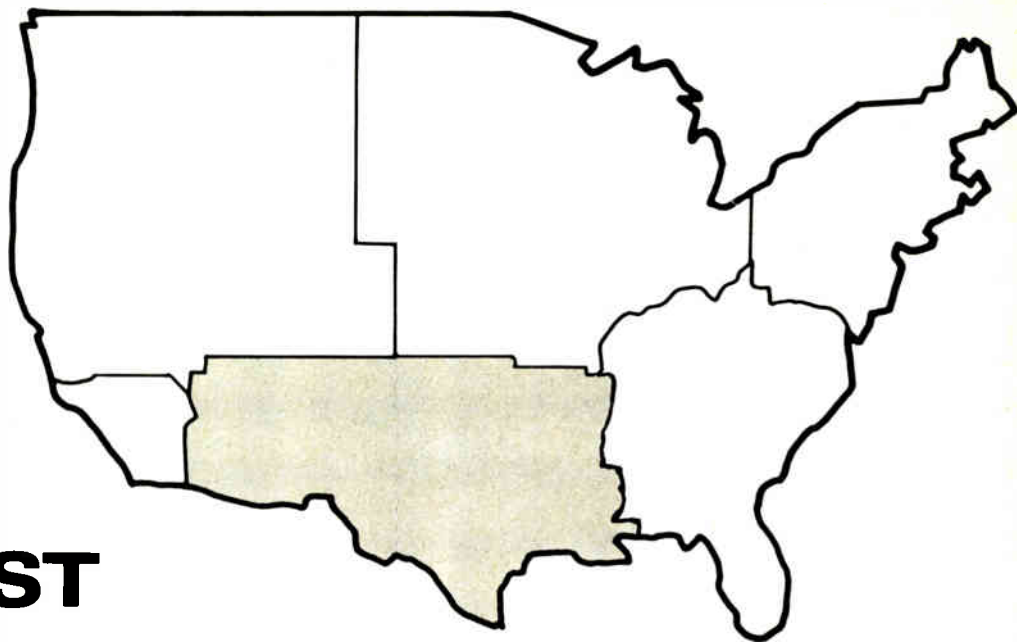
"That was real fantastic," he complimented us, "but I really had more of an *R&B* sound in mind for this project." His energies swelled as the oxygen went to his head. "You know, I'm talking about *crossover* action. Give Godan a good solid rhythm section and stick those sitars in once in a while for a little accent... a little Japanese *flavor*. And the lyrics are awful. I want to hear something with the power of a "Whip It"... do you dig?"

"Oops," I thought profoundly. Mark smiled like a little Buddha and put his head down on the desk. Nat held out a shaking hand, and as I shook, I said, "No thanks a lot." One of Godan's frogs sealed the occasion with a couple of rib-its.

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

STUDIO LOCATION INDEX

TEXAS AND THE SOUTHWEST



Page No.	State	City	No. of Tracks	Page No.	State	City	No. of Tracks	Page No.	State	City	No. of Tracks
44	ARKANSAS	Little Rock	16	53	NEW MEXICO	Albuquerque	24	42	Texas	Fortworth	8
44	ARIZONA	Paradise Valley	24	44	NEW MEXICO	Cerrillos	16	44	Texas	Houston	16
48	ARIZONA	Chaton Recording	8	48	OKLAHOMA	Oklahoma City	24	44	Texas	ACA Recording Studios	16
42	ARIZONA	Synchestra Studios	24	48	OKLAHOMA	Benson Sound, Inc.	24	44	Texas	Buttermilk Records & Mobile Studio	16
53	ARIZONA	Underground Studios	16	48	OKLAHOMA	The Cornerstone Rec. Co.	24	48	Texas	Dale Mullins Studios	24
47	ARIZONA	Prescott	24	45	OKLAHOMA	Media Sound, Inc.	16	44	Texas	Dusty Dickerson's Studio	16
50	ARIZONA	Pantheon Recording Studios	16	47	OKLAHOMA	Sooner Sound Lab	16	42	Texas	Emporium Studios	8
44	ARIZONA	Bleu Recording & Productions	24	42	OKLAHOMA	Tulsa	8	50	Texas	Inergi Recording Studio	16
48	ARIZONA	Audio Prod./Glenn St. Studio	8	42	OKLAHOMA	I.T.T.I. Studios	8	45	Texas	Ludwig Sound Studio	16
42	ARIZONA	Autograph Recording Studio	8	42	OKLAHOMA	Southern Records	8	45	Texas	Musician's Recording Studio	16
42	ARIZONA	Marsound	24	42	OKLAHOMA	Texas	24	46	Texas	Rampart Studios	16
54	ARIZONA	Westworld Recording	8	50	OKLAHOMA	Arlington	24	46	Texas	Shotgun Cook Productions	16
53	LOUISIANA	Alexandria	8	42	OKLAHOMA	Austin	8	52	Texas	Sound Arts Recording	24
53	LOUISIANA	Bogalusa	24	48	OKLAHOMA	Austin Recording	24	52	Texas	Sound Masters	24
53	LOUISIANA	Studio in the Country	4	42	OKLAHOMA	Onion Audio	24	52	Texas	Sugar Hill	24
42	LOUISIANA	La Louisiana	24	51	OKLAHOMA	Pecan Street Studios	8	47	Texas	Wooden Studios	16
42	LOUISIANA	Lake Charles	16	46	OKLAHOMA	Production Block Studios	24	44	Texas	Manchaca	16
42	LOUISIANA	Goldband Recording Studio	24	52	OKLAHOMA	Ruff Cedar Sound	24	51	Texas	Reelsound Recording	24
50	LOUISIANA	Metairie	4	42	OKLAHOMA	Salvation Sounding	24	48	Texas	Pasadena	24
50	LOUISIANA	Knight Recording Studios	4	54	OKLAHOMA	The Third Coast Sound	24	52	Texas	Rivendell Sound	24
47	LOUISIANA	Shreveport	24	44	OKLAHOMA	Dallas	16	48	Texas	San Antonio	24
47	LOUISIANA	Southern Star Recording	16	42	OKLAHOMA	Dallas	4	42	Texas	Associated Prod. of Texas	8
53	LOUISIANA	Thee Studio	24	48	OKLAHOMA	Dallas	24	47	Texas	Audio America	16
				44	OKLAHOMA	Dallas	16	53	Texas	Soundtrack Recording	24
				42	OKLAHOMA	Dallas	4	42	Texas	United Audio Recording	24
				48	OKLAHOMA	Dallas	16	42	Texas	Springtown	8
				50	OKLAHOMA	Dallas	24	42	Texas	The Windmill	8
				50	OKLAHOMA	Dallas	24	52	Texas	Tyler	24
				51	OKLAHOMA	Dallas	24	42	Texas	Robin Hood Studios	24
				46	OKLAHOMA	Dallas	16	54	Texas	Wichita Falls	24
				42	OKLAHOMA	Dallas	4	48	Texas	Warner Productions	24
				47	OKLAHOMA	Dallas	16			Uvalde	
				47	OKLAHOMA	Dallas	16			Indian Creek Recording	24
				53	OKLAHOMA	Dallas	24				
				53	OKLAHOMA	Dallas	24				

All studio information listed has been supplied to the Mix by studios responding to questionnaires mailed in January, 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.

4&8 TRACK

Texas and the Southwest

**** AUTOGRAPH RECORDING STUDIOS**
601 E. Blackledge Dr., Tucson, AZ 85705
(602) 882-9016
Owner: Autograph Incorporated
Studio Manager: Joe Bidwell

**** AUDIO AMERICA**
6017 Rittiman Plaza, San Antonio, TX 78218
(512) 824-0215
Owner: Khan Hamon
Studio Manager: Khan Hamon

**** EMPORIUM STUDIOS**
5714 Green Ash, Houston, TX 77081
(713) 865-8565
Owner: Greg Daniel
Studio Manager: Greg Daniels

• FIREHOUSE RECORDING
2242 Butler St., Dallas, TX 75235
(214) 834-0415
Owner: Ron Mason
Studio Manager: Ron Mason

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

**** I.T.T.I. STUDIOS**
also REMOTE RECORDING
4235 S. Memorial Dr., Tulsa, Okla 74145
(918) 863-7700
Owner: Sonny Gray
Studio Manager: Judy Pendergras

**** LA LOUISIANNE**
also REMOTE RECORDING
711 Stevenson St., Lafayette, LA 70501
(318) 234-5577
Owner: Carol J. Rachou, Sr.
Studio Manager: Carol J. Rachou, Jr.

**** MARSOUND**
2716 E. Ft. Lowell, Tucson AZ 85716
(602) 795-8256
Owner: Michael Reinhard & Susan Pietrzyk
Studio Manager: Susan Pietrzyk

Direction: Marsound is a professional facility. We are primarily concerned with original music and artists who are interested in working on a professional but relaxed and informal basis. We feel that studios should be efficient but also enjoyable places to work in, in order to bring out the best creativity. Please call for further information.

**** OAKRIDGE MUSIC RECORDING STUDIO**
2001 Elton Road, Haltom City, Ft. Worth, TX 76117
(817) 838-8001
Owner: Homer Lee Sewell
Studio Manager: Homer Lee Sewell

**** ONION AUDIO**
also REMOTE RECORDING
7095 Comanche Trail, Austin, TX 78732
Owner: Hank Alinch
Studio Manager: Lanis LeBaron

**** PRISM STUDIOS**
also REMOTE RECORDING
2217 C. Michigan Dr., Arlington, TX 76013
(817) 265-4300; 277-4341
Owner: Jane Alexander
Studio Manager: Keith Rust

• SALVATION SOUNDING
also REMOTE RECORDING
P.O. Box 10248 Austin, TX 78766
(512) 836-6498; 836-3134
Owner: Keith Henson & Don Salter
Studio Manager: Keith Henson & Don Salter

• SELLERS COMPANY
2102 Jackson, Dallas, TX 75201
(214) 741-5836
Owner: Jack Sellers
Studio Manager: Jack Sellers

**** SOUTHERN RECORDS**
also REMOTE RECORDING
56 E. 53rd Pl., Tulsa, OK 74105
(918) 747-3701
Owner: John Southern
Studio Manager: John Southern

**** SYNCHESTRA STUDIOS**
3127 N. 33rd Ave., Phoenix, AZ 85017
(602) 272-4292
Owner: Ed Van Fleet & John Wilson
Studio Manager: Ed Van Fleet

**** THE WINDMILL**
also REMOTE RECORDING
P.O. Box 946, Springtown TX 76082
(817) 433-5720
Owner: James Michael Taylor
Studio Manager: Charles P. Bowles

How To Get Listed in Mix Magazine

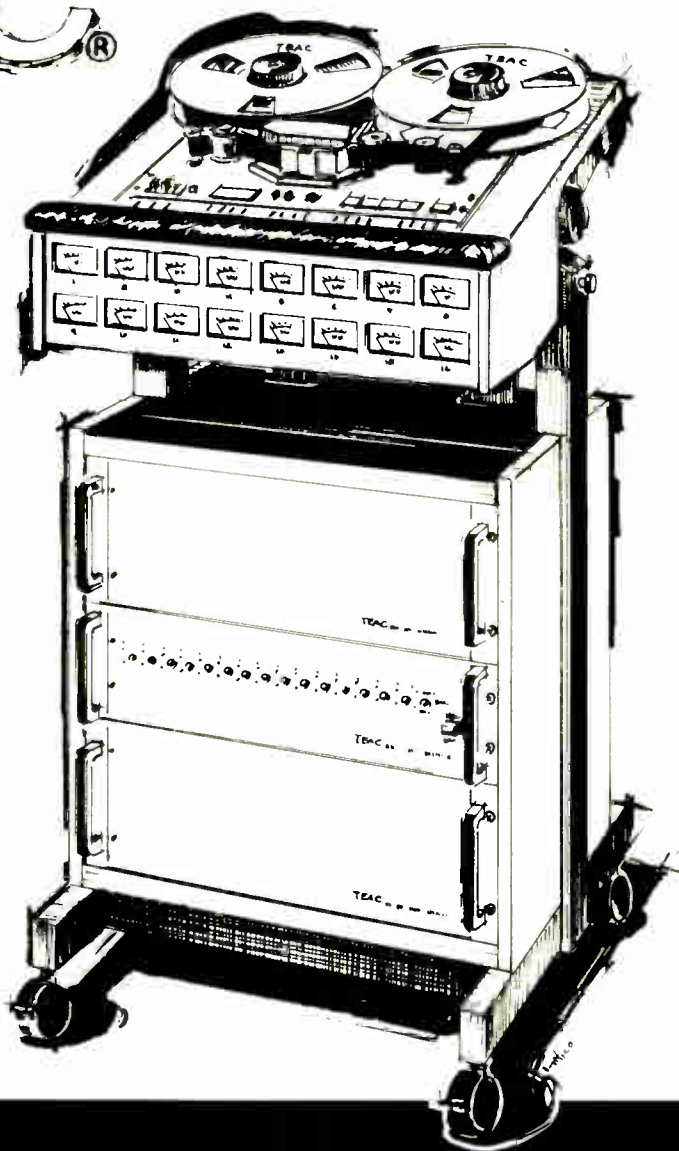
1. Be a commercially available 4, 8, 16, or 24 + track recording studio.
2. Get in touch. You can call us at 415/843-7901 or write us at P.O. Box 6395, Albany Branch, Berkeley, CA 94706.
3. Fill out and return the questionnaire that we send you. We survey each of six areas of the U.S. once a year:
January-Northwest
February-Southeast
March-Southwest
April-Northeast
September-Southern California
October-North Central.
4. If you have not yet heard from us by six weeks prior to the issue date, please get back in touch so we don't miss you.

TEAC®

STUDIO SERIES

TASCAM 85-16

- 16 tracks on 1" tape
- 15 inches per second, and $\pm 10\%$ record/play speed control
- 4 digit display for tape speed (% of 15 ips) or elapsed time
- Accurate zero-search function
- Plug-in front accessible PC cards for record/play amps and dbx encode/decode processing
- Three DC servo motors
- Spooling mode for fast winding and neat tape pack
- Integral dbx noise reduction
- Adjustable transport mounting angle
- Superior record/play audio performance from DC-coupled FET amplifiers
- 28 dB system headroom



**In stock,
in St. Louis, only at Antech Labs.**

If the equipment is studio quality you can expect to find it at

8144 BIG BEND BLVD. WEBSTER GROVES, MO. 63119 314/962-5656

**ANTECH
LABS** ST. LOUIS

TRACK 16

Texas and the Southwest



ACA Recording Studios
Houston, Texas

••• **ACA RECORDING STUDIOS, INC.**
also **REMOTE RECORDING**
8208 Westpark Dr., Houston, TX 77063
(713) 783-1771

Owner: William D. Holtford
Studio Manager: William D. Holtford
Engineers: William D. Holtford, Dwight Holtford & Andy Bradley & Bill Hinnertford
Dimensions of Studios: Studio A: 13 x 55 x 22, Studio B: 21 x 15 x 22
Dimensions of Control Rooms: Studio A: 20 x 21 x 10, Studio B: 12 x 10 x 10, Studio C: 9 x 21 x 10
Tape Recorders: M500 16 track, M501 16 track, Ampex 404 4 track, Ampex 440 2 track, Ampex 451 2 track, Scully 280 1 track, Scully 280B 2 track
Mixing Consoles: Audiotronics Model 501 24 in x 24 out, Audiotronics Model 110A 16 in x 4 out, Stephenson Interleave Model 114 16 in x 4 out
Monitor Amplifiers: McIntosh Mc2200, McIntosh Mc2100, McIntosh M-41
Monitor Speakers: Studio A: Studio Altec A7, Control Room: JBL 4333A, Auratone 55, Auratone 55, Studio B: Studio Altec A7, Control Room: JBL 15, Auratone C, Control Room C: HFT Delta Monitors, Auxiliary monitors: moveable Altec A7s, REI Delta Monitors
Echo, Reverb, and Delay Systems: 2 EMT 140 Plates, Lexicon Delta T Stereo

Other Outboard Equipment: Dual dbx Noise Reduction on all channels in all control rooms, Lexicon Delta T with Flanger and doubling, Orban/Parasound D'Esser, dbx Compressors, UREI, LA-3A Limiters, Allison Gain Brains & Kepex, UREI Graphic Equalizers, UREI Digital Metronome, Countryman 968 Phase Shifter, PAIA Flanger Chorus, Varispeed

Microphones: 4) Neuman U 47 (3) Neumann U 67s, Neumann Km84 (2) AKG C 61s, AKG C 41E (2) Sennheiser 421s, RE 20 Electro Voice, Sennheiser MKH 105, EV 655E, EV 645, Shure SM 58, Shure SM 57, Shure 545, EV PL 14, Altec 645s
Instruments Available: Baldwin 9 Concert grand piano, 2 Hammond organs (B3 & HT 4) with Leslie, Pearl Drum Kit, Fender Rhodes piano, Mellotron

Rates: Studio A: 16 track \$96/hr recording, \$80/hr mixing, 8 track \$72/hr recording, \$62/hr mixing, 2 track \$54/hr, Studio B: 4 track \$40/hr
Extras: Arranger/Producer, Dr. Art Gottschalk, Songwriter/Arranger/Producer, Shelton Berg, Producer, John Owens. Highly experienced studio musicians available for virtually any musical production. Affiliated with ACA is the Indie Production Company, Media Music Group.
Direction: ACA has been in continuous operation in Houston since Feb. 1948 and has cut many country, R&B, rock, Top 40, and Spiritus nation hits. We are experienced with Symphonic, orchestral, jazz, big band, marching band, and music of many ethnic settings. Such as music of India, Turkey, Kenya, Rhodesia, So Africa, Australia, Burma, China, Japan, and many others.

••• **AUDIO RECORDING CORPORATION OF ARKANSAS**
also **REMOTE RECORDING**
100 N. Rodney Parham, Little Rock, ARK 72205
(501) 224-1111
Owner: A.R.C.A.
Studio Manager: Larry Nichols & Clyde Snider

••• **BLEU RECORDING & PRODUCTIONS**
1066 A Vista Del Cerro, Tempe, AZ 85281
(602) 968-6199

Owner: Tom Mortensen
Studio Manager: Tom Mortensen
Dimensions of Studios: Studio A: 25 x 16, Studio B: 12 x 11
Dimensions of Control Rooms: 12 x 13
Tape Recorders: Ampex MM1100 16 track, TEAC 3300S 2 track, TEAC 3340S 4 track, Nakamichi 580 cassette deck
Mixing Consoles: Tangent 4216 32 in x 16 out
Monitor Speakers: JBL 4333, Auratone
Echo, Reverb, and Delay Systems: Echoplex Reverb, Lexicon Prime Time Digital Delay, MXR Digital Delay, Tapco 4400 Reverb
Other Outboard Equipment: UREI 1176LN Peak Limiter, EXR Exciter, Bump, Compressor/Limiter, Eventide Harmonizer, dbx Compressor/Limiter
Microphones: Neumann, AKG, Sennheiser, Electro Voice, Sennheiser
Instruments Available: Access to most instruments and the very best of musicians and producers
Rates: \$50/hr. Reduced in 1/2 hr. block

••• **BUTTERMILK RECORDS & MOBILE STUDIOS**
also **REMOTE RECORDING**
1310 Tulane, Houston TX 77008.
(713) 864-0705, 864-6433.
Owner: Charles Hickley
Studio Manager: Andre Mathews

••• **CYGNUS SOUNDS/R&R PRODUCTIONS**
also **REMOTE RECORDING**
P.O. Box 355, 406 Whitetail Dr., Manchaca, TX 78652
(512) 473-6701

Owner: Robert D. Whiteside Jr.
Studio Manager: Robert D. Whiteside Jr.
Direction: We are a small, comfortable organization of different people and musicians at one time, catering exclusively to remote recording. Although we usually record music, we also will record almost anything that you desire that needs to be kept for records. We will enable you to actually be able to feel the atmosphere to close your eyes and be there.

••• **DALE MULLINS STUDIOS**
also **REMOTE RECORDING**
8375 Westview Dr., Houston, TX 77055
(713) 465-6554
Owner: Dale Mullins
Studio Manager: Dale Mullins

••• **DESERT SOUND RECORDING INC.**
3026 W. Clarendon, Phoenix, AZ 85017
(602) 264-1280
Owner: Desert Sound Recording Inc.
Studio Manager: Sandy Lamont
Engineers: Sandy Lamont
Dimensions of Studios: Main Studio: 30 x 30, Drum Booth: 8' x 8', Vocal Booth: 6' x 6'
Dimensions of Control Rooms: 12 x 15'
Tape Recorders: Scully 280B 16 track, Tascam 70 Series 4 & 2 track, TEAC 3300 2 & 4 track
Mixing Consoles: Custom 16 in x 4 out
Monitor Amplifiers: Studio: McIntosh MC 2100, Control Room: custom tube amp
Monitor Speakers: 4 JBL 4311 Auratones
Echo, Reverb, and Delay Systems: 2) Custom built plates (mon send stereo return), Custom built spring reverb: Delta Lab DL 2, MXR Flanger, MXR Digital Delay
Other Outboard Equipment: EXR Exciter (2), UREI 1176 (2), dbx 160 Comp, Orban SIG 800 D'Esser 6 Sweep Ex, dbx (4 ch) N/R
Microphones: AKG 451, 414, Sennheiser 421, AKG D12, Shure SM 57, 58
Instruments Available: Yamaha Grand piano, AHP 2600 ARP String ensemble, Guitars, Amps, Bass, Drums, etc.
Rates: \$40/hr 16 track, \$25/hr 4 & 2 track, \$30/hr package

••• **DUSTY DICKERSON'S RECORDING STUDIO**
1514 Mercury Dr., Houston, TX 77029
(713) 673-6385
Owner: Dusty Dickerson
Studio Manager: Ronn Buss
Engineers: Dusty Dickerson, & Ronn Buss
Dimensions of Studios: 20' x 40'
Dimensions of Control Rooms: 15' x 10'
Tape Recorders: Ampex MM 1000 16 track, Scully 280B 2 track
Mixing Consoles: Soundcraft II 16 in x 16 out
Monitor Amplifiers: McIntosh
Monitor Speakers: CTC Drivers custom built
Echo, Reverb, and Delay Systems: AKG BX 10E, Eventide H910 Harmonizer Digital delay
Other Outboard Equipment: UREI 1176LN compressor/limiter, dbx 161 compressor/limiter, dbx 163 compressor limiters, Orban D'Esser Model 516 EC, Eventide FL 201 Instant Flanger, Eventide Instant Phasor, Countryman Assoc's direct boxes
Microphones: Sony, Electro Voice, Shure, AKG
Instruments Available: Kawai Studio piano, Hammond B3 organ, Ludwig Drums, Ovation Acoustic guitar, Yamaha Acoustic guitar, Wurliatzer electric piano, AHP string ensemble, ARP Pro soloist Mini Moog synthesizer
Rates: \$50/hr

••• **EDENWOOD RECORDING STUDIOS**
7319-C Hines Place, Suite 201, Dallas, TX 75235
(214) 630-6196
Owner: Jerry Swatford
Studio Manager: Dave Scott

••• **HUDDLESTON'S RECORDING STUDIO**
11819 Lippitt Ave., Dallas, TX 75218
(214) 328-9056
Owner: Gene Huddleston
Studio Manager: Gene Huddleston
Engineers: Gene Huddleston, Paul Hill, Ron Morgan
Dimensions of Studios: 30 x 30
Tape Recorders: MC11H 10 16 & 8 track, Ampex 440-B 2 track, Pioneer RT701 4 track, IVC KD 35 cassette, Ampex AG500 mono
Mixing Consoles: Tangent 4216 18 in x 16 out
Monitor Amplifiers: Yamaha P 2100
Monitor Speakers: JBL 4313
Echo, Reverb, and Delay Systems: Spring Reverb, Tape Echo, Digital Delay
Other Outboard Equipment: Limiters, Graphic EQs
Microphones: Neumann U87, FV HE 20, FV HE 15, Sennheiser 421, AKG D12E & 1000, EV PL9, Superscope FC9PS, Sony ECM 270
Instruments Available: 7 Grand Rhodes, AHP String ensemble, Fender jazz bass, Epiphone acoustic guitar, Harmony acoustic (High Tune), Fender Vibrolux w/JBL, Fender Princeton w/JBL, Ludwig drums

••• **KLUDGIT SOUND**
also **REMOTE RECORDING**
P.O. Box 171, Cerrillos, N.M. 87010
(505) 471-0051
Owner: Baird Banner
Studio Manager: Alan Hand
Engineers: Chief Engineer: Baird Banner, Ass't Engineer: Alan Hand

Dimensions of Studios: 20' x 25'
Dimensions of Control Rooms: 18' x 15'
Tape Recorders: MCI JH 16 16 track, MCI JH 110 2 track, Otari MX5050 2 track
Mixing Consoles: MCI 200 20 in x 16 out, with odd-even panning
Monitor Amplifiers: BGW 500/250
Monitor Speakers: UREI Time aligned, JBL 4.11, Spica Auratone
Echo, Reverb, and Delay Systems: Harmonizer MIC MIX Stereo, Stereo Lexicon, Echoplex Plate Reverb
Other Outboard Equipment: Scamp Rack-(3) Compression, (3) Parametric, (3) Noise gate, (2) UREI 1176 Compressor, EXR Exciter, Stereo, (3) Sibilance Compressors dbx compressors, dbx & Dolby Noise reduction, Mutron Bi Phase MXR Phase
Microphones: (3) Neuman U 47 (2) U-48, AKG 451 RE-20, Shure 57, 58, 59; Beyer Dynamic, Beyer Ribbon, Sennheiser 421 & 441
Instruments Available: Hammond M-3, Kawai Grand, Wuritzer electric piano Hohner D 6 clarinet, drums (ast.)
Rates: \$35/hr 2 track, \$60/hr 16 track Day rates and blocked time available at reduced rates

••• **LUDWIG SOUND STUDIO**
 also **REMOTE RECORDING**
 1022 Hodgkins, Houston TX 77032
 (713) 449-8388

Owner: Charles T. Ludwig
Studio Manager: Charles T. Ludwig
Engineers: Charles Ludwig, Mike Buehrer, Glenn Adams, Tommy Melder, Pat Hautz
Dimensions of Studios: Studio A 30' x 22', Studio B 9' x 12'
Dimensions of Control Rooms: Studio A: 13' x 22', Studio B: 4' x 7'
Tape Recorders: Scully 100 16 track, Otari 5050 8 8 track, Ampex AG440 B 4 track, Ampex ATR 100 2 track, Otari OXHD 4 track
Mixing Consoles: Electro Dyne 1808, 18 in x 16 out, Electro Dyne 1608 16 in x 8 out
Monitor Amplifiers: McIntosh & Yamaha
Monitor Speakers: JBL
Echo, Reverb, and Delay Systems: AKG BX 20, & 10 Fairchild 659, Quad 8 R V10, MXR Digital Delay
Other Outboard Equipment: Omni Craft, dbx systems, dbx limiters, UREI 1176N's, 1/2 Octave EQ's
Microphones: Neumann U87 AKG C414, AKG C451, (4) Sony 500, E-V RE 20, Sennheiser, MD 414, Sony 33EP, PZM SM5768 Shure & SM7's
Instruments Available: 6'3" Kawai, Hammond B3, Drum set, vibe, Guitar amps, Bass amp, Acoustic guitar, Kay upright bass, ARP Odyssey
Rates: \$35/hr 2 track, \$45/hr 4 track, \$50/hr 8 track, \$60/hr 16 track Remotes quoted

••• **MEDIA SOUND INCORPORATED**
 1911 Classen Blvd., Oklahoma City, OK 73106
 (405) 525-7585
Owner: Dick Wilkinson
Studio Manager: Dick Wilkinson

••• **MUSICIAN'S RECORDING STUDIO**
 1423 Richmond Ave., Houston, TX 77006
 (713) 521-9887

Owner: Music Resource Services, Inc
Studio Manager: Bill Wade
Engineers: Bill Wade, Bobby Ginsburg, Bruce Coffman
Dimensions of Studios: Studio A 36' x 22', Studio B (live) 30' x 19'
Dimensions of Control Rooms: 17' x 12'
Tape Recorders: MCI JH-16 16 track, Otari MX 5050 8 8 track, Otari MX 5050 B 2 track, Pioneer RT 1050 2 track, Technics RS M14 cassette deck with metal capability
Mixing Consoles: Interface series 300 with custom modifications 24 in x 8 out
Monitor Amplifiers: SAE 2400, Crown D 150, Kenwood KR 7400 (phones)
Monitor Speakers: JBL L100's, Auratones
Echo, Reverb, and Delay Systems: MICMIX Super "C" Master Room Delta Lab DI-4, live room for foldback or cutting, any special effects available for small rental by appointment
Other Outboard Equipment: 16 channels dbx, UREI and dbx compressor/limiter, Technics SL-1500 turntable
Microphones: AKG 414-EB's, Sennheiser 441's & 421's, Beyer M 500's, Sony 22P's, Shure SM 57's & 565's, AKG D-1000 F's, AKG 451 with omni and shotgun heads
Instruments Available: Kawai 6' grand piano, Fender Precision bass, assorted guitar amplifiers (Fender, Marshall, Yamaha) Any percussion and synthesizers available by appointment Hammond M 101 and C 3 with Leslie 147
Rates: 2 track rates upon request, \$45/hr 8 track, \$60/hr 16 track Available 24 hours/day, 7 days/week
Extras: Separate rehearsal hall available for practice and arranging, office space availability Complex only five minutes away from downtown Houston Independent Record Label Group of audio engineers available for free lance work in concert sound, video, and post-production film sound
Direction: Solidly serving Houston's music scene for over four years, Musician's Recording Studio maintains a relaxed atmosphere coupled with the greatest attention to advanced recording techniques Our emphasis on a close artist-engineer relation-

Blakely Pro Audio

Serving
 the
 Southwest's
 Professional

Custom Sound & Lighting
 design, fabrication, installation

Multi-track Recording

— featuring —
 The Affordable Alternative



Jbm 12-S

Stage Monitor



Write for Details
 3103 Central NE
 Albuquerque, NM 87106
 (505) 266-0296

\$159⁰⁰ (ppd)

Dealer Inquiries Invited

THE ALPHATONE CHROMATIC NOTE ANALYZERS MORE THAN A TUNER

Our amazing ALPHATONE is the only device of its kind. It actually analyzes a tone and reads out the letter of the note you're playing or singing, and the accuracy, without having to preset dials or switches. The applications for the musician are endless:



- Shows you an alphabetic readout of the note played for any of 84 notes.
- Totally hands-free tuning
- The tune display shows whether your note is sharp, flat or right on tune.
- For on stage performance, you play through your Alphonetone to your amplifier. Then by pressing a footswitch, you tune silently.
- Tune guitars, violins, keyboards, band instruments, even vocals with plus or minus 1 percent accuracy over its 7-octave range. A must for every musician, every instrument, every voice.
- Students learn music faster and easier with Alphonetone's instant visual feedback
- A special pitch control automatically transposes notes for playing in a different key, or sympathetic tuning.
- The Alphonetone Pitch Control can also be used with a tape recorder for chromatic pitch transposition.

The Alphonetone has made tuners obsolete. Try this new wave in music technology. It's light, compact, dazzling and very affordable.



IMAGINEERING AUDIO
 5558 SE International Way
 Milwaukie, OR 97222 • (503) 653-5927

VIDEO

THE NEXT BIG MARKETPLACE FOR AUDIO

*Find Out All About It
in
June
when Mix Magazine
presents*

VIDEO FOCUS

...a special issue of Mix devoted to the new technology that just may bring the next boom period to the recording industry.

*Release date: June 1
Advertising closing: May 1*

16 TRACK

Texas
and
the Southwest

ship; together with an understanding of how to make your recording dollar benefit you most makes Musician's Recording Studio the choice of Houston's professional performers.

... PRODUCTION BLOCK STUDIOS

also REMOTE RECORDING
2222 Rio Grande, #D-108, Austin, TX 78705
(512) 472-8975
Owner: Joel Block
Studio Manager: Joel Block

... RAMPART STUDIOS

also REMOTE RECORDING
8105 Jessamine, Houston, TX 77081
(713) 772-6939
Owner: Steve Ames
Studio Manager: Steve Ames
Engineers: Steve Ames, Dan Yeane
Dimensions of Studios: 24' x 40'
Dimensions of Control Rooms: 12' x 18'
Tape Recorders: 3 M M-56 16 track; 3M Series #79 2track;
Ampex AG-352 2 track; Sony Qtr Trk 2 track; Technics RM-45
cassette
Mixing Consoles: Custom designed console 24 in x 16 out.
Monitor Amplifiers: Crown DC-300A Crown D-150, Crown
D-60.
Monitor Speakers: JBL 4333's, Bi-Amped, White EG, Crown,
Crossover
Echo, Reverb, and Delay Systems: EMT 140-Stereo Plate,
Lexicon Digital Delay Line, VSO Tape Delay
Other Outboard Equipment: UREI 1176 Limiters, UREI LA-4
Compressors, dbx & Quad Eight noise gates, MXR Auto Flanger,
LANG Parametric EQ, Bi-Amp Graphic EQ
Microphones: Neumann, Sennheiser, Beyer, RCA, Electro-
Voice, Sony, AKG, etc.
Instruments Available: (No Additional Charge) Kawai grand
piano Hammond B-3 organ with Leslie, Fender Rhodes piano,
Hohner Clavinet, Gibson acoustic guitar, Rogers drum set
Rates: \$30/hr 2 track, \$50/hr 16 track

... ROSEWOOD SOUND

4307 Merrel Rd., Dallas, TX 75229
(214) 350-0905
Owner: Sam Davenport & Jimmy Kelley
Studio Manager: Larry "Bull" Dozier & J R McMath III

... SHOTGUN COOK PRODUCTIONS

also REMOTE RECORDING
6626 Hornwood, Houston, TX 77074
(713) 772-1008
Owner: Shotgun Cook
Studio Manager: Tina Nelkin
Engineers: Chns Jensen, Shotgun Cook, Tina Nelkin, Karen
Cook
Dimensions of Studios: Studio I 10' x 10', Studio II, 30' x
30'
Dimensions of Control Rooms: Studio I: 25' x 25', Studio II:
30' x 20'
Tape Recorders: Otari MX 5050 2 & 8 track, Tascam 25-2 2
track, Tascam 40-4 4 track, Technics RS1500 2 track; 16 track on
request 4 cassette machines
Mixing Consoles: SpectraSonics 8/16 custom, 20 in x 8-16 out,
Tascam 3/2A, 15 in x 4 out
Monitor Amplifiers: AU-217, AU-717, Technics (Phones)
Monitor Speakers: L.A. Studio Monitors, JBL 4311, Four
Auratones
Echo, Reverb, and Delay Systems: Sound Workshop stereo
reverb Tapco stereo reverb, Eventide Delay Lines
Other Outboard Equipment: dbx 3bx expander, dbx 165
compressor/limiter, dbx 158, Eventide Harmonizer with 2nd out-
put; dbx 158 noise reduction, 2 channels of dbx for mixdown
Microphones: Shure SM-5, Shure SM 81's, Shure SM-53
Instruments Available: Horugel studio piano
Rates: \$43/hr Studio I, \$60/hr Studio II
Extras: Full snack area, free munchies, free beverages, 1 block
from nice, hotel accommodations Relaxed creative atmosphere
complete with rough cedar, stained glass, and low level track
lightening Plus high speed reel & cassette duplication
Direction: We are a commercial studio with a full knowledge of
sound Our engineers have both a music recording and broad-
casting background We produce national radio campaigns,
jingles, original music for records & demo tapes Shotgun Cook
Productions can create the sound that sells Write for our free
Demo and consultation

... **SOONER SOUND LAB**
3604 N.W. 58th, Oklahoma City, OK 73112
(405) 947-8094

Owner: Sooner Sound Lab LTD.

Studio Manager: Carl Dito

Engineers: Carl Dito, Kevin Gilroy, Mike McGee

Dimensions of Studios: 34' x 29'

Dimensions of Control Rooms: 20' x 22'

Tape Recorders: Ampex MM-1100, 16 track; Ampex AG-440 1-2-4 track.

Mixing Consoles: MCI/Garvin 416- modified with Trans Amps, new high slew-rate op amps & new output groups, 18 in x 16 out.

Monitor Amplifiers: (3) Crown D-150, (2) Crown D-60

Monitor Speakers: JBL 4320, with added slot tweeters, Auratones, Dahlquist ALS-3

Echo, Reverb, and Delay Systems: Lexicon 224 Digital Reverb Series 3, AKG BX-20, Lexicon PCM 41, Marshall Mini Modulator with 450 ms delay & digital remote

Other Outboard Equipment: Eventide Harmonizer; EXR EX-2 Exciter; (4) Allison Kepex; (4) Allison Gain Brains; (2) UREI 1176 LN limiters; (2) UREI Teletronix LA-3A Leveling Amps, Spectra Sonics Complitter; 6 channels of Parametric E.Q.; MXR Flanger, Orban De-Esser; Orban Mono to Stereo Synthesizer.

Microphones: (3) Neumann U-87, (3) Sennheiser MD 441, (4) Sennheiser MD 421, (6) Crown PZM61P Pressure Zone Mics, Crown PZM 30 GP Pressure Zone Mic, AKG C-414 EB, (2) AKG D-224, RCA 44, E-V RE-20, Shure SM81

Instruments Available: Yamaha 6' grand piano, ARP Odyssey, Octave-Plateau Cat (serial #1000-the first, handbuilt), Sequential Circuits Prophet 5, (2 sets) Ludwig drums, ARP string ensemble, Dyno-My-Piano Rhodes, Hohner clavinet D6, upright piano.

Rates: 16 track \$60/hr; 4 track \$45/hr; 2 track & Mono \$35/hr
Midnight-6:00 AM: 16 track \$40/hr; 4-2-Mono \$25/hr; Mixing: 16 track \$45/hr, 4 track \$33 75/hr; 2 track & Mono \$26 25/hr; After hours-Same as track time; Discounts: 15% to recognized Agencies, 10% for 6 hrs or more/wk., 10% for 20 hrs or more/month

Direction: At Sooner Sound Lab, we offer a combination of up-to-date recording technology and a relaxed, comfortable atmosphere. A look at the record charts across the last 20 years will show the impact Oklahoma has had on the national music scene. We feel it is our job to offer future generations of musicians "state-of-the-art" production/publishing facilities so they may have a chance to make their mark on the national scene. In that light, we plan a quick expansion to 24 track and a fully automated console.

... **SOUNDTRACK RECORDING STUDIO**
2011 North Alamo St., San Antonio, TX 78215
(512) 224-4107

Owner: Mike Hettler, Jr.

Studio Manager: Mel Moran

... **SOUTHERN STAR RECORDING**
also REMOTE RECORDING
8105 Youree Drive-A, Shreveport, LA 71105
(318) 861-0569

Owner: George W. Clinton and Joe Spivey

Studio Manager: George W. Clinton

... **THE STARR STUDIOS**
7011 North Janmar Dr., Dallas, TX 75230
(214) 691-8846

Owner: Dick Starr

Studio Manager: Carole Starr

... **TIMBERLINE PRODUCTIONS**
also REMOTE RECORDING
114 E. Union, Prescott, AZ 86301
(602) 778-0010

Owner: Roger Pearsall/Ron Swartz

Studio Manager: Roger Pearsall/Ron Swartz

Engineers: Jan Miller, Wayne Pearsall, Roger Pearsall

Dimensions of Studios: 22' x 19'

Dimensions of Control Rooms: 16' x 12'

Tape Recorders: 3M M-56, 16 track, 3M M-79, 2 track; 3M M-79, Full track; Otari MX5050, 2 track, (2) Technics, 2 track; Tascam 40-4

Mixing Consoles: Allen & Heath 16 in x 18 out x 8, Tangent 1602ax, Tascam Model 3

Monitor Amplifiers: BGW

Monitor Speakers: JBL 4313, 4315, Auratones

Echo, Reverb, and Delay Systems: Orban Parasound Reverb, DeltaLab DL-4 Digital Delay

Other Outboard Equipment: Omnicraft Noise Gate, 2 dbx 160 compressor/limiter, Drum booth and vocal booth, Roland PH-830 Stereo Phaser, Biamp EQ.

Microphones: AKG, Shure, E-V, Sennheiser.

Instruments Available: Howard grand piano, Rogers drum kit.

Rates: Call for information

Direction: Recent projects at Timberline include songwriter demos, 45's, and we are in the midst of two album projects. Timberline has an in-house publishing company and record label. Narrations and production work for our audio-visual shows also occupies much studio time. Sound tracks and custom music tracks for multi-image shows are all generated in house.

... **WOODEN STUDIOS**
7334 Rampart, Suite 102, Houston, TX 77081
(713) 988-9872

Owner: Gus Buzbee

Studio Manager: Gus Buzbee

Why Pay For Degraded Performance? DeltaLab Has The Special Effects Digital Delay Line Featuring...

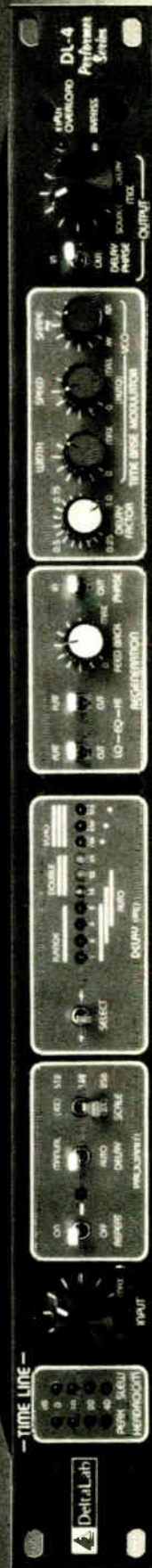
- Unique VCO with infinitely variable waveshape control.
- 512 milliseconds delay at full bandwidth
- 2.5 seconds delay with external memory module
- Flanging/Doubling/Echo
- Digital Octave Flanging (a new effect)
- Infinite (non-deteriorating) repeat
- 15k Hz Bandwidth at all delay settings
- Resonant and doppler effects
- Footswitch control of effects
- 90 dB min.; 95 dB typ Dynamic Range
- Limited 2 year warranty



DeltaLab Research, Inc.
27 Industrial Avenue, Chelmsford, Mass. 01824
Tel. (617) 256-9034

Canadian Distributor:

Heini Audio Developments, Inc.
Markham, Ontario, Canada
Tel: (416) 495-0680



DL-4 Time Line™ Performer Series available at quality dealers

BRACOR

Texas and the Southwest

**** ASSOCIATED PRODUCTIONS OF TEXAS

also REMOTE RECORDING
222 College at Presa, San Antonio, TX 78205
(512) 227-3408
P.O. Box 22801, Houston, TX 77027
(713) 780-7227

Owner: Henry W. Lam, Jr.
Studio Manager: Bob Roberson

**** AUDIO PRODUCTION, GLENN ST. STUDIO

also REMOTE RECORDING
25 E. Glenn St., Tucson, AZ
(602) 828-5398

Owner: University of Arizona, Media & Instructional Services
Studio Manager: Robert Rosaldo

**** AUSTIN RECORDING

also REMOTE RECORDING
4805 Clawson Rd., Austin, TX 78745
(512) 444-5489

Owner: Wank Tyler
Studio Manager: Wank Tyler

**** BENSON SOUND, INC.

1044 SW 38th, Oklahoma City, OK 73109
(405) 834-4481

Owner: Larry R. Benson
Studio Manager: Linda Groves



Chaton Recording
Paradise Valley, Arizona

**** CHATON RECORDINGS

also REMOTE RECORDING
Nauni Valley Dr., Paradise Valley, AZ
(602) 991-2802

Owner: Ed & Marie Ravenscroft
Studio Manager: Marie Ravenscroft
Engineers: Ed Ravenscroft, Steve Moore, Ben Taylor, John

Gibson.

Dimensions of Studios: 14' x 20'; Drum Booth: 6' x 8'.
Dimensions of Control Rooms: 14' x 16'

Tape Recorders: Otari MTR-90 16 & 24 track w/AutoLocator; Tascam 80-8 8 track; Otari 8-D 8 track; Otari MX 5050B 2 track; Revox A-77 2 track & Full & 1/4 track; Nakamichi 680 cassette deck

Mixing Consoles: Tangent 3216 w/ simultaneous PPM, VU Bar Graph Display Meter Bridge, 24 in. x 16 out

Monitor Amplifiers: BGW 750B, AB Systems 105, Cue Amplifier, BGW 100B

Monitor Speakers: UREI 811 Time Aligns, Auratone 5C's, JBL 4311's w/UREI 539 Room Filters

Echo, Reverb, and Delay Systems: Master Reverb XL-500 Acoustic Chamber Synthesizer, DeltaLab DL-2 Acoustic Computer, DeltaLab DL-4 Time Line

Other Outboard Equipment: Eventide H949 Harmonizer w/keyboard; dbx 900 Modular Processing System w/2) 903 compressor/limiter; (5) 901 NoiseGate; 902 Sibilance Controller; dbx 161 compressor/limiters, Orban 418A stereo limiter, EXR Exciter; MGA Video Monitor; Sony 34" VTR, dbx 20B Noise Reduction System (16 channel)

Microphones: Neumann U-87; KM-84; PML; Sony ECM 33; AKB E12E; Sennheiser MD-421, 441, Shure SM-58, 57; E.V., Countryman Type 35 Direct Boxes.

Instruments Available: Steinway 1881 grand piano, Prophet 5, ARP Pro-Soloist, String ensemble, Pre-CBS Fender Vibrolux amp, Precision bass, Gretsch all wood drumkit, Roto-Toms, Zildjian cymbals

Rates: 16 track \$65/hr. Block rate: available. Call for information. Rate includes engineering

Extras: Located on 2 1/2 secluded acres, patio, swimming, poolside lunches luxury resort nearby, quiet, no traffic. Studio is well maintained, comfortable atmosphere with many creative tools for both musician and engineering staff. Everything works!

Direction: Chaton's engineering staff maintains a policy of client involvement at all phases of a project to insure realization of production goals. The studio is small but plush. Most clients have found it to be a very relaxed and creative environment catering to local, national and international production. Being a relatively new and well equipped facility we look forward to many future projects including jazz, rock, country, and classical format

**** THE CORNERSTONE RECORDING COMPANY

also REMOTE RECORDING
P.O. Box 18508, Oklahoma City, OK 73154
(405) 235-2848

Owner: Kenneth A. Sarkey
Studio Manager: Jern Cobb/Greg Gray

Engineers: Kenny Sarkey
Dimensions of Studios: 35' x 50'

Dimensions of Control Rooms: 15 x 25'

Tape Recorders: Stephen's Electronics 821 24/16 track; Otari 5050-B 2 track, Otari 5050-A 2 track, Sony TC-630 1/4 track, Nakamichi, Sony, & Technics cassette

Mixing Consoles: Tangent 3216, 28 in x 24 out, Tascam 10, 12 in x 8 out

Monitor Amplifiers: 2-Crown D-150, 1-Crown D-63

Monitor Speakers: Altec 604 8-G with UREI Time-Align Crossovers, Auratone 5-C, JBL 4311's, RTR's Altec Model 5's

Echo, Reverb, and Delay Systems: EMT 140 Tube Stereo Reverb, AKG BX-10 reverb, Eventide Harmonizer/Digital Delay, Lexicon Frime-Time delay

Other Outboard Equipment: UREI LA-4 compressor/limiters; dbx 160 compressor/limiter; Crown EQ-2, Dynaco Graphic EQ, Otari Craft Noise Gates, Audio Control Real-Time Analyzer & Graphic EQ; dbx NF; phase & flangers

Microphones: Neumann, Sennheiser, Sony, Shure, Beyer,

Electro-Voice, Altec, PZM, ARG, RCA.

Instruments Available: Yamaha 7-5" grand piano, Rhodes stereo electric piano, Wuritzer electric Piano, Hammond B-3 Organ w/Leslie, ARP Omni synthesizer, Mini Moog synthesizer, Yamaha drumset w/5concert, 5 dbl headed toms, Yamaha, Fender, & Pignose guitar amps, complete percussion/effects.
Rates: 16 & 24 track recording and mixing: \$80/hr incl. engineer & all studio instruments

**** DIGITAL SERVICES RECORDING

also REMOTE RECORDING
1001 River Oaks Bank Tower, 2001 Kirby Dr., Houston, TX 77019

(713) 520-0201

Owner: John Moran

Studio Manager: John Moran

Engineers: John Moran, various independents.

Dimensions of Studios: Limited only by location

Dimensions of Control Rooms: Editing room approx 20' x 30' x 12'

Tape Recorders: Sony PCM 1600; BVU 200A Digital; Nakamichi 1000 II cassette; Studer Revox B77; Reel to reel.

Mixing Consoles: Neve 5442

Monitor Amplifiers: Phase Linear 400

Monitor Speakers: Snell Model A

Microphones: AKG 414's, other on request.

Rates: Please call for various services

Direction: Digital Services will work with studios and artists to provide full digital recording, editing and disk mastering anywhere it's desired. We can handle any type of situation for less than you expect in cost, and more than you could ask for in quality. 24 track digital is coming, too. Call us, we love to talk.

**** GILLEY'S

also REMOTE RECORDING
4500 Spencer Hwy., Pasadena, TX 77504
(713) 941-7193

Owner: Gilley Ent

Engineers: Bert Friot & Mike Taylor

Dimensions of Studios: 45' x 35'

Dimensions of Control Rooms: 24' x 24'

Tape Recorders: MCI JH-24, 24 track, MCI JH-2 2 track; MCI JH-2, 2 track

Mixing Consoles: Harrison 2824 28 in x 24 out

Monitor Amplifiers: BGW

Monitor Speakers: Super Reds (Mastering Labs Crossovers)

Echo, Reverb, and Delay Systems: EMT (stereo), AKG (stereo), Cooper Time Cube-Eventide

Other Outboard Equipment: 1176, LA 3A; GainBrain; Limiters Kepey, MXR Phasers, Flangers

Microphones: Neumann U47-U87, AKG, Electro-Voice; Sennheiser; PZM's

Instruments Available: Rogers drums, Fender bass amp, "Boogie" guitar amp, Peavey amps, Yamaha 74" grand, B-3 Organ w/Leslie, Fender Rhodes

Rates: \$100/hr (studio) \$75/hr (mixing)

Extras: Live recording from Gilley's night club (4000 seats), "World's Largest Night Club"

Direction: Mickey Gilley, Willie Nelson, Charlie Daniels Band, Bonnie Raitt, Johnny Lee, Merle Haggard

**** GOODNIGHT AUDIO

11280 Goodnight Lane, Dallas, TX 75229
(214) 241-5182

Owner: Gordon Perry

Studio Manager: Gordon Perry

**** INDIAN CREEK RECORDING

P.O. Box 487, Uvalde, TX 78801
(512) 278-7343

Owner: Marty Manry

Studio Manager: Blaine Bennett

Engineers: John Rollo

Tape Recorders: Ampex MM1200 24 track, Ampex ATR-102 1/2 inch, Ampex ATR-102 1/4 inch.

Mixing Consoles: Neve 8058 28 in x 24 out, (first and only Neve in Texas).

Monitor Amplifiers: (4) Crown PSA-2

Monitor Speakers: (3) UREI 813 Time Aligned arranged in a 105° arc for accurate stereo imaging, Auratones

Echo, Reverb, and Delay Systems: Lexicon 224 Digital reverb, Marshall Time Modulators, Eventide H-949 Harmonizer, Lexicon model 93; Loft

Other Outboard Equipment: Pultec EQ, Klein & Hummel 1000 EQ, Orban De Esser, Orban Equalizers, ADR Vocal stessor, ADR limiters & compressors, UREI LA-2A limiters, UREI LA-4A limiters, dbx 165 limiters, EXR exciter, Teletronic leveling amps

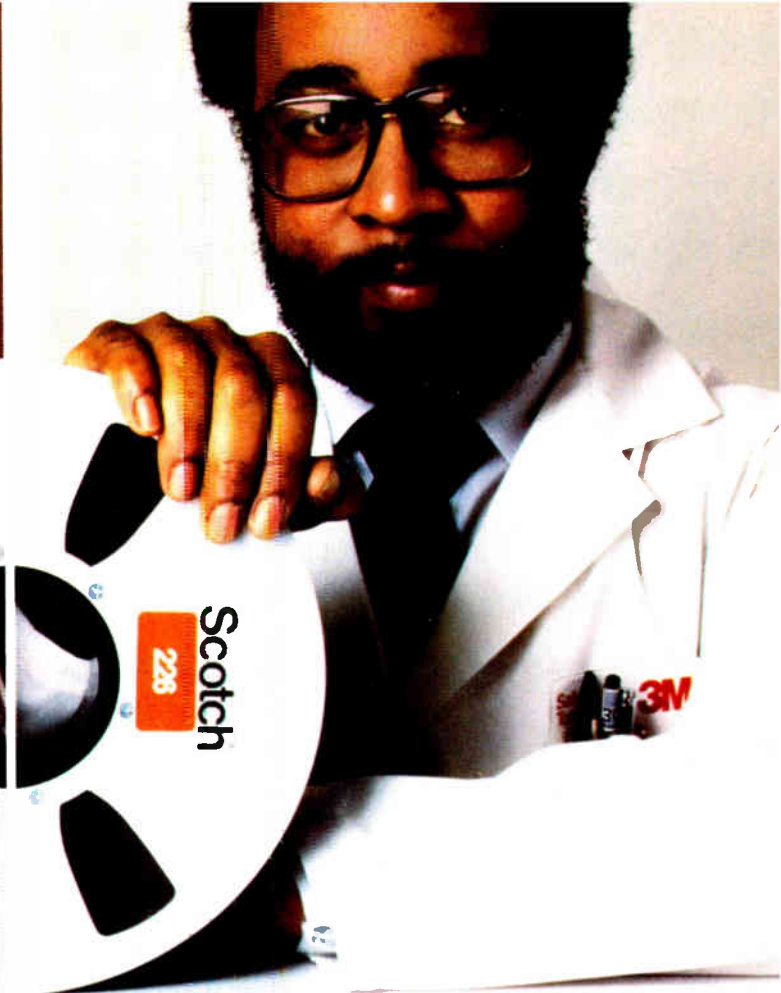
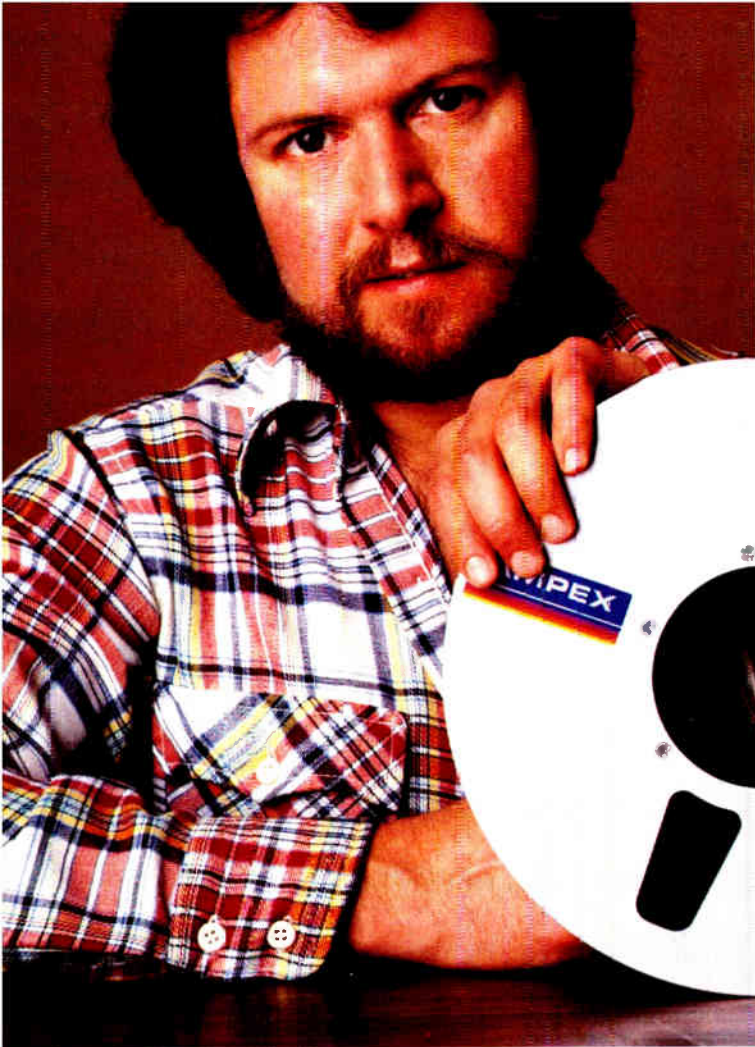
Microphones: Neumann, Shure, AKG, Electro-Voice, Sony, Sennheiser, Countryman, Beyer.

Instruments Available: Yamaha C-5D grand piano, Hammond B3, Fender Rhodes piano, ARP 2600 ARP string ensemble, Hohner D-6 Clavinet, various guitars and amplifiers (Fender, Guild, Mesa/Boogie, Ampeg, etc.), LP Congas

Rates: Call for rates-discounts on block booking

Extras: Located on a 4,000 acre ranch, accommodations included in price, full kitchen, rivers, lakes, Mexico, San Antonio, Austin, Gulf coast all accessible

Direction: ICR is totally new to the Southwest and has been built from the ground up as a full service, no compromise state-of-the-art



"Scotch" is a registered trademark of 3M.

If you've been using Ampex 456, you've been setting yourself up for Scotch 226.

Our new Scotch® 226 is compatible with Ampex 456. But that's about the only way the two tapes are equal. Scotch 226 gives you much lower modulation noise and 2 to 3dB less print-through. Yet there's no compromise in headroom, signal-to-noise, biased tape noise, distortion levels or frequency response.

And because Scotch 226 delivers fewer print-through problems, we can offer Scotch 227, a one-mil version for longer playing time.

Best of all, you'll find Scotch 226 to be consistent in quality reel after reel, batch after batch. And that may be the most important difference to consider.

We developed Scotch 226 because we heard you wanted it. Those of you who like our master ng tape, but don't like to rebias,

will find it's just the ticket. And together with Scotch 250, it gives you an unbeatable tape combination.

Most of the major equipment makers have already recommended Scotch 226. But you don't have to take their word for it. Test it for yourself. It's as simple as changing reels.



3M hears you.

3M

Coming
in
May

Mix
Magazine

AES

New

Product
Update

Ad closing:

April 1

Catch the latest
new audio and
recording
equipment in
Mix Magazine.

resort-studio. We have gone to great lengths to provide not only the best in equipment but the best in personnel and environment as well. John Rollo, our chief engineer, has worked with such greats as The Kinks ("Low Budget"), Leslie McKeown, The Sweet, Nicky Hopkins, Dave Davies, The Streetband, Cleo Lane, Trevor Rabin, Eric Clapton, Clem Clempson, Jack Bruce, Max Middleton, Simon Phillips, and many more. Beyond this, we feel that we have something new and different to offer to artist, free-lance engineers, producers, and groups all over the world in terms of the beautiful Southwest TX environment and in terms of design and equipment.

**** INERGI RECORDING STUDIO
15825 Memorial Dr., Houston, TX 77079
(713) 493-1533

Owner: Vincent Kickenillo
Studio Manager: Danny Ward
Engineers: David Kealey
Dimensions of Studios: 25' x 40' x 18' ceiling
Dimensions of Control Rooms: 18' x 19' x 12' ceiling
Tape Recorders: MCI JH114, 24 track, (3) MCI JH110, 2 track
Mixing Consoles: MCI JH536C 36 in x 32 out
Monitor Amplifiers: BGW
Monitor Speakers: Audison, JBL 4313's, Auratone, UREI 813
Echo, Reverb, and Delay Systems: (2) EMT 240's, Lexicon and Eventide delay
Other Outboard Equipment: Scamp/rack, Aphex model 602, Marshall Time Modulators, dbx & UREI compressor/limiter, ADR Vocal Stretcher, Parametric Equalization, Dolby Noise Reduction on all equip., Automaton
Microphones: Neumann U-47's, U-87's, KM 84's, KM86, AKG 414, 452's, Sennheiser 421-D, Beyers, Sony, PZM, Shure SM56, Electro-Voice RE 16, RE-20
Instruments Available: Yamaha grand piano, Fender Rhodes Clavinet, ARP string ensemble Mini Moog, Prophet 5, Musir-Man guitar amps, Pearl drums
Rates: \$150/hr, Block rates on request

**** JANUARY SOUND STUDIOS
also REMOTE RECORDING
3341 Towerwood, Suite 208, Dallas, TX 75234
(214) 243-3735

Owner: Fairbanks Broadcasting, Inc
Studio Manager: Les Studdard
Engineers: Bob Pickering, Linda Adelskoff, Tom Adler, Thom Caccetta
Dimensions of Studios: Studio A: 30' x 36', Studio B: 15' x 15'
Dimensions of Control Rooms: Studio A: 15' x 20', Studio B: 16' x 24'
Tape Recorders: 3M 16 & 24 track, MCI 24 & 16 track, Electro-sound mono, MCI 2 track
Mixing Consoles: MCI 536 32 in x 24 out, Audiotronics 501 26 in x 24 out
Monitor Amplifiers: BGW, McIntosh, Crown, Phase Linear
Monitor Speakers: UREI Time Aligns, JBL, Altec (with Mastering Lab crossovers), Visonix
Echo, Reverb, and Delay Systems: EMT, MICMIX, Lexicon, Harmonizer
Other Outboard Equipment: Dolby and dbx noise reduction, UREI, compressor/limiters, dbx limiters, Gain Brains, Kepex's, Orban Desser, Orban parametrics
Microphones: Neumann, AKG, Sennheiser, Sony, Shure, Electro-Voice, RCA
Instruments Available: Steinway 9' grand piano, Fender Rhodes, Clavinet, Crummar w/Leslie, Ovation guitar
Rates: \$120(including engineer) Studio A, \$95(including engineer) Studio B

**** KNIGHT RECORDING STUDIO, INC.
also REMOTE RECORDING
3116 Metairie Rd., Metairie, LA 70001
(504) 834-5711
Owner: Traci Borges
Studio Manager: John Sanchez

**** OMEGA AUDIO, INC.
REMOTE RECORDING ONLY
2805 Clover Valley Dr., Garland (Dallas), TX 75043
(214) 228-7179

Owner: Paul A. Christensen
Studio Manager: Paul A. Christensen
Engineers: Paul A. Christensen
Dimensions of Studios: Remote Truck 27' x 8', Inside dimensions 16' x 8'
Dimensions of Control Rooms: Remote Truck 27' x 8', Inside dimensions 16' x 8'
Tape Recorders: Otari MTR-90 24 track; Otari 5050B 2 track; Studer/Revox A77HS 2 track, Kenwood KX 1030 cassette
Mixing Consoles: Custom designed with parametric EQ on each i/o module 30 in x 24 out
Monitor Amplifiers: Crown D 150 (2 each)
Monitor Speakers: JBL 4311 1/2 octave tuned with UREI 539 Equalizers, Auratone Monitors also
Echo, Reverb, and Delay Systems: Master Room MR II reverb, Delta Labs DL-1 digital delay
Other Outboard Equipment: 5 channels of dbx limiters; Kepex; Orban parametric; Stereo octave graphic; UREI 539 1/2 octave graphics, Orban Stereo synthesizer, Technics Lab Phono

24 TRACK

Texas
and
the Southwest



Omega Audio
Garland (Dallas), Texas

pre amp, Dual 601 turntable, Technics Lab FM tuner, car off air monitor

Microphones: Selection of over 50 including groups of the following Neumann U47, AKG 414 451, Sennheiser 441, Beyers M201, MB 520, Sony 22P, 21 50P, Shure SM 31 56, 57 53, etc., HME wireless multi channel compander system with Shure SM58 head or Sony ECM 150 Lav

Rates: Quoted on a per project basis
Extras: Remote facility is a custom constructed, acoustically finished recording and mixdown room. The facility was designed for record and film/video support. Full closed circuit video, Clear Com headset communication system. Full Video interface including SMPTE time code available. 34 Pair Transformer Isolated Stage split 150 amp power drop for providing custom stage power.

Direction: Over eight years experience in remote recording with such major artists as Johnny Cash, Helen Reddy, Jerry Lewis, Eddie Rabbitt, Willie Nelson, Waylon Jennings, Charley Pride, Ben Vereen, Anne Murray, Loretta Lynn, Al Jarreau, Blindie, Tanya Tucker, Todd Rundgren, Charlie Daniels Band, Billy Thorpe, Delbert McClinton, Johnny Winter, Spyro Gyra, Ernest Tubbs, Hall and Oates, Nazareth, Sammy Hagar, Michael Franks, The Ramones, Pat Travers, Johnny Duncan

**** PANTEGO SOUND STUDIO
2210 Raper Blvd., Arlington, TX 76013
(817) 461-8481
Owner: Charles Stewart & Danny Wood
Studio Manager: Charles Stewart & Danny Wood

**** PANTHEON RECORDING STUDIOS
8325 N. Invergardon Dr., Scottsdale, AZ 85253
(602) 948-5883

Owner: Dennis Alexander
Studio Manager: Tom Wyatt
Engineers: Steve Escallier, Tim Hunnicutt, Dennis Alexander
Dimensions of Studios: Studio A: 40' x 22', Studio B: 3 separate rooms totaling 22' x 17'
Dimensions of Control Rooms: Studio A: 18' x 18', Studio B: 15' x 13'
Tape Recorders: Lyrec (Neve) 24 track, Ampex ATF 100 2 track, Tascam 80-A 8 track, Technics 2 track
Mixing Consoles: Studio A: AMEK 8064 28 in x 24 out, Studio B: Spectrasonics 22 in x 16 out
Monitor Amplifiers: BGW 750 C
Monitor Speakers: A: Altec 604E w/Mastering Lab Crossover, B: Altec 604E bi-amp w/new advanced technology cone #524
Echo, Reverb, and Delay Systems: Quad Eight origis; reverb, AKG BX-10, assorted bathrooms, stalls and hallways for echoes
Other Outboard Equipment: 24 track dbx and Dolby, UREI 1176 limiters, dbx 160 limiter, noise gates, 8 channel Omni-Craft GT 4's, Eventide Flanger, Eventide Harmonizer
Microphones: Neumann U 87's, AKG's E-V's, Snaves, Sonys, Sennheiser 451's
Instruments Available: 2 Yamaha grand pianos, new 5 piece

Gretch drum set, assorted percussion, other instruments on request.

Rates: Upon request

**** PECAN ST. STUDIOS, INC.

308 W. 6th St., Austin, TX 78701
(512) 477-1122

Owner: Pecan St. Studios, Inc.

Studio Manager: Mary Hawthorne

Engineers: Larson Lundahl, Chet Himes, Richard Mullen

Dimensions of Studios: 19' x 27' & 14' x 18'

Dimensions of Control Rooms: 16' x 23'

Tape Recorders: MCI JH24 24 track; (2) MCI JH110 2 track, Technics 1520 2 & ¼ track.

Mixing Consoles: MCI 536 36 in x 24 out

Monitor Amplifiers: Crowns, PSA 2's, DC 300's

Monitor Speakers: JBL 4313's, JBL 4343's, Auratones

Echo, Reverb, and Delay Systems: EMT plates, MICMIX Master-Room; AKG BX20, Lexicon digital reverberation, live chamber; Deltalab DL1; DL2 Acoustcomputer, Space Station

Other Outboard Equipment: MICMIX Flanger, Eventide Flanger; EXR; Audio Designs vocal stressor; Quad Eights, UREI Graphics; Ashley Parametric EQ; UREI 1176's; dbx compressor/limiter; digital metronome; Eventide Harmonizer, pitch transposer (MXR); Orban Sibillance Controller

Microphones: Neumann-U87's, U47's, KM 84's, KM 86's, Shure-SM7's, 54's 56's, Sonys, Beyers-201, 88's Sennheiser 414's, 421's, 441's, AKG's, Electro-Voice-RE-20, RE-15

Instruments Available: Yamaha C-7 grand piano, Fender twin, Fender Rhodes piano, Hammond B-3 organ.

Rates: \$50/hr 24 track, recording & editing, \$100/hr 24 track, record/mix—plus engineering.

**** PRECISION AUDIO, INC.

also REMOTE RECORDING

11171 Harry Hines, Suite 119, Dallas, TX 75229
(214) 243-2997

Owner: Mr. & Mrs. Charles S Sheppard, Jr

Studio Manager: Rick Sheppard

Engineers: Rick Sheppard, John Rouzer, Stacy Brownrigg

Dimensions of Studios: 25' x 25' x 11' ceiling

Dimensions of Control Rooms: 15' x 15' x 11' ceiling

Tape Recorders: MCI JH-114, 24 track, (2) Scully 280 2 track, TEAC 3340S, 4 track; Ampex 400, Full track; Crown 722, 2 track; Telex 300 2 track.

Mixing Consoles: Custom built, 28 in x 28 out, w/8 mixing busses. (1) Tascam model 10, modified

Monitor Amplifiers: Crown and Custom built

Monitor Speakers: UREI 811's, Speakerlab super 7's.

Echo, Reverb, and Delay Systems: EMT Plate Model 140; MICMIX Model III, Tapco 4400, tape delay echo.

Other Outboard Equipment: UREI 539 equalizers, 48 channels STC noise reduction; 8 channels dbx noise reduction; UREI LA3A compressor/limiter, Eventide Phase Shifter

Microphones: (2) Neumann U-87, KM-88; (2) Sennheiser 441, (5) Sennheiser 421 U, (3) AKG C-451-E, (4) Sony ECM-22P; (2) AKG D 224E; (4) AKG D-1000-E, (3) Shure SM-53, MB 301; EV 635-A.

Instruments Available: Yamaha C-3 conservatory grand piano, 8 piece Ludwig trap set, Yamaha 115B bass amp, 2 Checkmate 25 guitar amps, VOX continental organ, ARP Strung Ensemble, Gibson Grabber bass, Gibson ES 340TD electric guitar, acoustic guitars by Yamaha, Epiphone, & Dobro, large custom built two keyboard studio synthesizer

Rates: 24 track: \$85/hr, 16 track: \$65/hr, 8 track: \$45/hr, Special after hours demo rates available. Call for quotes on location recording

**** REELSOUND RECORDING CO.

also REMOTE RECORDING

P.O. Box 280, Manchaca, TX 78652
(512) 472-3325 or 282-0713

Owner: Malcolm H. Harper, Jr.

Studio Manager: Malcolm Harper, Jr

Engineers: Malcolm H. Harper, Jr

Dimensions of Studios: Remote recording Bus

Dimensions of Control Rooms: Remote Unit 18' x 7'

Tape Recorders: MCI JH-24, 24 track; MCI JH 16, 24 track, (2) Ampex 440-B 2 track; (2) Nikko NG-790, 2 track

Mixing Consoles: MCI JH-428 LM 28 in x 28 out, (2) Ampex AM-10, 6 in x 2 out

Monitor Amplifiers: Crown, Marantz

Monitor Speakers: JBL-4311, JBL-4313, Auratones

Echo, Reverb, and Delay Systems: AKG-BX 10, DDL, DL2, MICMIX XL-305

Other Outboard Equipment: Allison, Gain Brains, Keyplex, dbx-160 limiters; UREI LA-3A; UREI graphics, Sony color TV Monitors, Toshiba color camera; MCI JH-45 AutoLock System Microphone transformer split system up to 40 mics

Microphones: Shure SM-57; AKG D224, D1000, 451, 414; EV RE-20; Beyers 88, 201; Sennheiser 441 & 421; Neumann U47 & U84; Countryman DI; Crown PZM's

Rates: Based on per day. Mileage, Per Diem on crew, meals and lodging

Direction: Ampex Golden Reel Awards, Gold and Platinum Record Awards. Artist: Ted Nugent, Journey, ZZ Top, Tom Petty, Todd Rundgren, Al Stewart, Genesis, Christopher Cross, Bee Gee's, Humble Pie, Willie Nelson, Joe Ely, Asleep at the Wheel.

ACCURATE SUMMING

The Essential Crossover Quality

It's not enough for a loudspeaker crossover to just divide the audio spectrum into "highs" and "lows". What's important is the frequency response that results when these high and low signals are recombined . . . and that's where crossovers of the past have fallen short.



The X3B electronic crossover combines accurate summing filter technology with low noise/fast slewing electronics to provide a crossover system of unsurpassed audio quality. A variety of configurations are available with frequency selection made by way of tamper-proof tuning modules.

FOR MORE INFORMATION CALL OR WRITE:

OCTAVE AUDIO

A Division of:
FORD AUDIO & ACOUSTICS, INC.
4800 W. I-40
Oklahoma City, Oklahoma 73108
405-946-9966
800-654-6744

— Dealer Inquiries Invited —



Time and place is all we need . . .

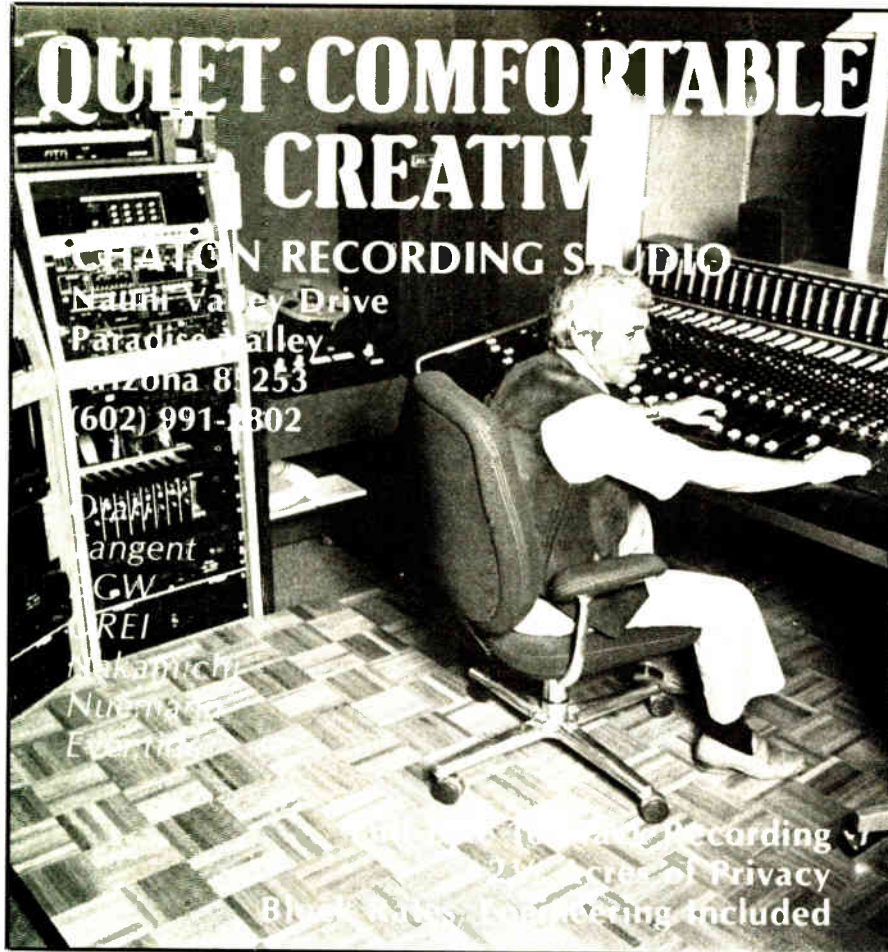
. . . We can be there, with all the up-to-date equipment you need to produce a high quality recording. Our 24-track diesel mobile unit has the best equipment available: New 24 track MCI-JH 24 transformerless machine, MCI 428-28LM console, Ampex 2-tracks, Alison rack, teletronix limiters, 1/6 octave, voiced JBL-4313 monitors, Urie and dbx equalizers, AKG-BX-10 reverb, TV monitor system, a complete collection of dynamic and condenser microphones and transformer splits for 32 microphone lines.

Reelsound has the people and experience to give you sound studio quality on location. Ask some of the artists we've worked with: Al Stewart, Genesis, Joe Ely, Asleep at the Wheel, Leif Garret, Michael Murphy, Willie Nelson, Earth, Wind, and Fire, Ted Nugent, Journey, Tom Petty, Todd Rundgren, Christopher Cross, and the Bee Gee's television special. Reelsound Recording Company will capture the sounds you need for TV and film projects, too.

For more information contact Malcolm H. Harper at (512) 472-3325 or (512) 282-0713.

*Reelsound
Recording*

P.O. Box 280
Manchaca, Tx. 78652
(512) 472-3325 or 282-0713



Jerry Jeff Walker, Michael Murphy, Leif Garret, Charlie Daniels Band, Commander Cody, Earth, Wind and Fire, Johnny Dee and The Rockett 88's, Maze, Taste of Honey, B.J. Thomas, Truth, Chuck Sugar, Andrae Crouch

**** RIVENDELL SOUND RECORDERS

2223 Strawberry Village, Pasadena, TX 77502
(713) 472-5082

Owner: Jubilee Communications, Inc
Studio Manager: Wayne Donowho
Engineers: Brian Tankersley, Paul Mills, Rick Thigpen
Dimensions of Studios: 28' x 42'
Dimensions of Control Rooms: 20' x 18'
Tape Recorders: MCI JH-24 24 track; Technics RS-1520 2 track; Technics RS-1506 2 track, JVC KD-A8 cassette
Mixing Consoles: Rivendell 000001 32 in x 24 out, 5 band EQ, 2 stereo Q mixes, Trans Amp inputs
Monitor Amplifiers: Crown, Bose
Monitor Speakers: UREI 813 Time Aligned, Advent/1, Auratone
Echo, Reverb, and Delay Systems: EMT 140ST, Delta Lab DL-1
Other Outboard Equipment: Harmonizer: UREI 1176 LN; Eventide Omnipressor; EXR EX-2, dbx 162; Loft 450.
Microphones: Neumann U87, U47, KM84-AKG C414, C33 Sennheiser 441, 421-various Sony and Shure.
Instruments Available: Kawai 7'1" piano, Yamaha CS-80, CS-60, Hammond B-3, Fender Rhodes, Clavinet D.6, EML-101, Crumar D-2, Yamaha Drums (5 toms) including Paiste 2002 cymbals
Rates: Upon request

**** ROBIN HOOD STUDIOS

also REMOTE RECORDING
P.O. Box 775, Tyler, TX 75710
(214) 592-7677

Owner: Robin Hood Brians
Studio Manager: Robin Hood Brians

**** RUFF CEDAR SOUND STUDIO

5012 Brighton Rd., Austin, TX 78741
(512) 444-0183

Owner: Russell Whitaker.
Studio Manager: Russell Whitaker
Engineers: Ben Thornton, Chief Engineer
Dimensions of Studios: Main Studio: 35' x 25' x 18'; Drum booth: 8' x 8' x 6'; Vocal Booth: 10' x 20' x 9'; Live room: 15' x 25' x 9'
Dimensions of Control Rooms: 15' x 20' x 7' (approx)
Tape Recorders: MCI JH-16-24 24 track, MCI JH-110B-2vp 2 track; Technics RS 1500 2 track, Nakamichi 680ZX 2 track, Nakamichi 1000 2 track.
Mixing Consoles: MCI JH-536-28LM 28 in x 32 out, MCI JH-50 Automaton.
Monitor Amplifiers: Crest Audio P-3500, Crown DC-300A, Crown D-150.
Monitor Speakers: Eastlake TM-7, JBL 4333A, JBL 431J, E-V Interface 1, Auratones.
Echo, Reverb, and Delay Systems: Lexicon digital reverb #224 Automated with console, MICMIX Model C, Delta Lab DL-1, Eventide Harmonizer
Other Outboard Equipment: Marshall Time Modulator, Allison Rack, dbx compressors.
Microphones: AKG C414, AKG C451, Sennheiser MD-421, MD-441, MD-431, Beyer X1n, M-88, M-103, Neumann U87, U67, U47 let, KM-85, Crown PZM-6LP, Countryman EM-101
Instruments Available: Kawai 6' grand piano, Music Man HD-212, Ludwig drums, Sunn/Acoustic bass rig, Mountain Dulcimer, assorted percussion
Rates: Basic time: \$65/hr, 10-hr period \$600/period. Rates do not include engineer or other expenses
Extras: Kitchen, lounge, wet bar, sundeck, hot tub/Jacuzzi, basketball court, motocross.
Direction: A recording studio should provide not only the equipment, but the environment to record in as well. This includes proper acoustic treatment, good room selection, and the proper mood. Ruff Cedar provides not only excellent recording facilities, but also features recreational activities. This is all at no additional cost because we believe it's a very important part of the recording atmosphere. Clients include: Debby Boone, Papa Moon, Willie Nelson, Asleep at the Wheel, Extreme Heat, Tennessee Hat Band, Judy Price

**** SOUND ARTS RECORDING STUDIO

also REMOTE RECORDING
2036 Paskett, Suite A, Houston, TX 77092
(713) 688-8067

Owner: Jeff Wells.
Studio Manager: Barbara Pennington

**** SOUND MASTERS

9717 Jensen Dr., Houston TX 77093
(713) 695-3648

Owner: Jim D. Johnson
Studio Manager: Jim D. Johnson

Southern Recording and Video Productions, Inc.

The finest in STUDIO and ON LOCATION Recording

Demos — 45's — Albums — Video Cassettes



Ampex MM1200

24 Track



IKEGAMI HL79

Comeros

☆
Acoustically de-
signed control
rooms, isolation
booths and live
room.
☆

1123 JACKSON STREET
ALEXANDRIA, LOUISIANA 71301

PHONE
(318) 473-0779

24 TRACK

Texas and the Southwest

**** SOUTHERN RECORDING & VIDEO PROD., INC.

also REMOTE RECORDING
1123 Jackson St., Alexandria, LA 71301
(318) 473-0779

Owner: Bill Gabour & Dennis Murdock
Studio Manager: Bill Gabour & Dennis Murdock
Engineers: Chief Engineers for Audio: Bill Gabour and Dennis Murdock, Chief Video Engineer: John Leihman
Dimensions of Studios: Video and Audio Total: 4000 sq ft including control rooms. Video Camera Studio & Audio Live Room: 25' x 25'. Isolation booths for lead guitar, keyboard, bass, vocals, drums.

Dimensions of Control Rooms: Audio: 28' x 16'. Video: 14' x 26'

Tape Recorders: Ampex MM1200, 24, 16 and 1" 8 track. Tascam 80-B, 8 track demo assemblies, Ampex AG 350's, 2 track & full track, Studer Revox 2 track, Pioneer RT 10, 50, 2 track & 1/4 track.

Mixing Consoles: Tangent 3216 24 in x 24 out, Tapco 4216 16 in x 16 out.

Monitor Amplifiers: Crown 150, Crown 60, BGW 250 & 100
Monitor Speakers: JBL 4311, Custom M35, Altec Big Reds
Echo, Reverb, and Delay Systems: AKG BX10, MXR Digital Delay Tapco

Other Outboard Equipment: Orban Parametric UREI compressor/limiters dbx 1bx Expander dbx Noise Reduction Ampex VSO van speed for Ampex recorders 3M D8800 Computer

Microphones: AKG 414s, RE 20's, RE 16's, SM 59's, 58's, 57's
Instruments Available: Yamaha Electric Grand, Hammond M-3 organ, Baldwin Acoustic, Fender Rhodes 88, D6 Clavinet, 5 baby grand

Rates: 24 track \$90/hr, \$80/hr for block time consisting of 12 hours or more, 16 track \$80/hr, \$70/hr block time, 8 track 1" \$65/hr, \$55/hr block time, 8 track 1/4" \$60/hr, \$50/hr block time

**** STUDIO IN THE COUNTRY

Hwy. 436 Bogalusa, LA 70427
(504) 735-8224

Owner: Eugene O. Foster
Engineers: Eugene Foster, David Farrell
Dimensions of Studios: 50' x 60' Westlake
Dimensions of Control Rooms: 24' x 28' Westlake
Tape Recorders: Studer A 80 MK III, 24 track, 3M M 79, 24 track, Studer A 80, 2 track, 3M 410, 2 track
Mixing Consoles: Harrison 3232, 32 in x 32 out
Monitor Amplifiers: Crown DC-300A, 14, Crown D 150, 4, Crown D-60, 4

Monitor Speakers: (6) Westlake TM-1, (2) JBL 4311, (2) Cubes, (2) JBL 4333

Echo, Reverb, and Delay Systems: Westlake live quad chamber, (2) AKG BX 20E

Other Outboard Equipment: Vocorder, VocalStressor, LA 3A's, 1176, compressor/limiters, Allison Kepex, Gain Brains, dbx complete rack, Harmonizer, Lexicon Prime Time, Little Dip pers, Cooper Time Cubes, Orban De-essers, Orban Parametrics, Moog EQ

Microphones: Neuman 87's, 69's, Electro-Voice, AKG, Sennheiser, Beyer, Sony, Shure, Altec Studer

Instruments Available: Baldwin 9' grand piano, Kawai 74' grand, Hammond B 3, Clavinet D-6, Stereo Rhodes, Wuritzer, ARP Omni II, Crumar Trilogy, Orchestrator T Z

Rates: \$110/hr

**** SUGAR HILL

5626 Brock, Houston, TX 77023
(713) 926-4431

Owner: Huey P. Meaux
Studio Manager: Lonnie Wright

**** SUMET-BERNET SOUND STUDIOS INC.

7027 Twin Hills Ave., Dallas, TX 75231
(214) 691-0001

Owner: Ed N. Bernet
Studio Manager: Tom Kenchel
Engineers: John Mayfield/Bob Sullivan/Zeke Durrell
Dimensions of Studios: Studio A: 48' x 52', Studio B: 28' x 20'

Dimensions of Control Rooms: Studio A: 14' x 18', Studio B: 12' x 14'

Tape Recorders: MCI JH-16, 24 track, Ampex MM-1000, 16

track, Ampex AG 440 B, 8 track, Ampex AG 440-B/AG 440-C, 162 track

Mixing Consoles: Studio A: Harrison 3232B w/Allison Automation 26 in x 24 out, Studio B: Custom 24 in x 16 out

Monitor Amplifiers: A: Phase Linear 400's, B: Phase Linear 400's

Monitor Speakers: Studio A: UREI Time Aligned 813's, Auratones, JBL 4331, Auratones

Echo, Reverb, and Delay Systems: AKG BX 20E, EMT, Four Nevea Phantoms

Other Outboard Equipment: Kepex, Gain Brain, Stereo synthesizer, compressor/limiters, limiters, Varispeed, Harmonizer, Aural Exciter, Metronome, Dolby Noise Reduction, D-Esser

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

Instruments Available: Steinway 9' grand, Yamaha 7 grand, Hammond B 3, Fender Rhodes 73

Rates: 24 track \$95/hr, 16 track \$65/hr, 8 track \$50/hr, Mono 2 track \$50/hr

**** SUNDANCE PRODUCTIONS

7141 Envy Ct., Dallas, TX 75247
(214) 688-0081

Owner: Rush Beesley

**** THEE STUDIO

1380 14th Street, P.O. Drawer 519, Slidell, LA 70459
(504) 524-5716; 643-5952

Owner: The Schneiders
Studio Manager: Chris M. Schneider

**** UNITED AUDIO RECORDING

8535 Fairhaven, San Antonio, TX 78229
(512) 690-8888

Owner: Robert Bruce, Phil Blakely
Studio Manager: Bruce Greenberg

**** UNDERGROUND STUDIOS

also REMOTE RECORDING
4420 E. Thomas Rd., Phoenix AZ 85018
(602) 959-2007

Owner: Charley Eyanson
Engineers: Charley Eyanson, Michael Schwartz, Craig Olsen
Dimensions of Studios: 20' x 27' Isolation booths A) 10' x 16', B) 10' x 14'

Dimensions of Control Rooms: 18' x 20' x 12' high
Tape Recorders: Otari MTR-90, 24 track, Otari 5050B, 2 track, Pioneer RT2022, 2 track

Mixing Consoles: Tangent 3216 24 in x 24 out
Monitor Amplifiers: Yamaha

Monitor Speakers: JBL 4311s, Auratone 55's

Echo, Reverb, and Delay Systems: DeltaLab DL 4 Master Room XL 210 reverb, EXR Exciter dbx 161 compression, Yamaha E1010 delay, MXR pitch transposer, MasterRoom Dyna-Flanger Omnicraft

Other Outboard Equipment: noise gates, Orban reverb
Microphones: AKG 451, 501, Sennheiser 441, 421, Beyer 500, 400, Electro-Voice RE 16, Shure 81, 58, 57, Audio Technica 41, 31, 21

Instruments Available: Yamaha grand piano, Hammond B-3 w/ Leslie, ARP synthesizers, Ludwig Octo plus & overdrive sets

(2) Citation acoustic & electric 12 string, Rickenbacker 4001 bass, Gibson Les Paul, Fender Strat & others on rental

Rates: 24 track \$100/hr, 16 track \$80/hr, 8 track \$60/hr

Block rates on request & studio musicians available

Extras: 6 television, Atan video games, kitchen, lounge, pool, spa

Direction: We specialize in the musician with a serious project in mind. Special attention is paid to creating a comfortable atmosphere so you can make your music the way you want it

**** JOHN WAGNER PRODUCTIONS INC.

202 Wisconsin N.E., Albuquerque, NM 87108
(505) 265-3441

Owner: John Wagner, Rex Wagner, Max Wagner
Studio Manager: John Wagner
Engineers: John Wagner, John Standish, Pat Mouser
Dimensions of Studios: Studio A: 20' x 30' x 12' slope ceiling; Studio B: 20' x 25' x 10' ceiling

Dimensions of Control Rooms: Studio A: 16' x 14'; Studio B: 15' x 17'

Tape Recorders: MCI JH114 24, 16, & 8 track; MCI JH-110 2 track, Electro-Sound ES-505 2 track, Revox A-77 2 track

Mixing Consoles: Custom John Wagner Prod. 26 in x 16 out (studio A); Custom John Wagner Prod. 20 in x 8 out (studio B)

Monitor Amplifiers: (2) Crown DC-300A's, Crown 150's, BGW 250's

Monitor Speakers: UREI 813 Time-Aligned, JBL 4320, Altec 604 E

Echo, Reverb, and Delay Systems: AKG BX 20; Masterroom stereo, Eventide Digital Delay

Other Outboard Equipment: dbx noise reduction, Kepex; Gain Brain & UREI compressor/limiters, Eventide Flanger

Microphones: Neumann U-67's, U-87's, Electro-Voice RE-20's, 667's, Shure, Sennheiser, Sony, AKG

Instruments Available: Rogers & Campo drums, Fender amps, Senn amps, Baldwin 7 grand, Steinway upright, Hammond Organ, various Fender guitars, Martin classical guitar, Fender

Concert Music Systems

Concert Music Systems is offering the finest sound reinforcement and studio outboard equipment for short and long-term rental. We proudly feature:

- Harrison 'Alive' Consoles
- John Meyers MSLI Speakers
- ADR 'Scamp' Modules
- EMT, 250 Revb. 950 Turntable
- Complete PA 'Superpackage'

Harrison 'Alive', Console MSLI UltraPA's, UltraMonitors and UltraSubwoofers. Call today for our complete Rental Listings.

CONCERT MUSIC SYSTEMS
1655 Laurel St.,
San Carlos, CA 94070
(415) 592-8674

Sales, Service & Rentals

Automate Your Patch Bay

CMS has developed a new completely unique switching system that will allow you to sum as well as distribute your audio signals. The CMS switching routing matrix features:

- Efficient dual key pad assignment
- Computer interface and floppy disc storage
- Full color CRT displays studio signal flow
- Expandable to 64 x 64 matrix
- (Larger custom arrays avail.)
- Low distortion .02%
- Signal/noise — 95 dB

CONCERT MUSIC SYSTEMS
1655 Laurel St.,
San Carlos, CA 94070
(415) 592-8674

Sales, Service & Rentals

COMING IN JULY

MIX MAGAZINE'S RECORDING SERVICES ISSUE

ARE YOU INVOLVED IN:

- Tape Duplication
- Remote Recording
- Independent Engineering/Production
- Studio Maintenance Service
- Instrument and Equipment Rentals
- Studio Business Services
- Educational Programs in Recording

If so, please get in touch and we'll send you information on how to get listed.

415/843-7901

KINGPIN RECORD PRESSING...

Has a special for the month of March!
1,000 45's — including mastering,
plating, and one-color labels.
1,000 Albums — including mast-
ering, plating, and labels in your
covers.

Call Beth Hona — (404) 428-5336
Kingpin Record Pressing
212 Roswell St., Box 606
Marietta, Georgia 30061

Rates: Studio A: \$35/hr 2 track; \$55/hr 8 track; \$65/hr 16 track. \$80/hr 24 track (per hour weekdays); Studio B: \$30/hr 2 track; \$40/hr 8 track; \$50/hr 16 track (per hour weekdays); Weekends add \$5/hr both studios.

**** WARNER PRODUCTIONS

also REMOTE RECORDING
1502 11th St. Wichita Falls, TX 76301
(817) 322-3878

Owner: Larry Warner

Studio Manager: Billy Jones

Extras: Aside from the studio, we have an "in-house" production department that writes, performs, records, and produces commercial radio jingles. Warner Productions also provides a complete Custom Record Service. Call for details.

Directions: We are a musician's studio, owned, operated and built from the ground up by people who love music and love recording. Warner Productions provides a complete source for all your audio production needs. Whether your needs are transferring, mixing, editing or tape duplicating. For all your narration and "recording" needs, Warner Productions includes dbx noise reduction, special effects and compression with interface capability to other audio systems.

**** WESTWOOD RECORDING STUDIOS

964 West Grant Road, Tucson, AZ 85705
(602) 622-8012

Owner: Roger King, Fred Porter, Bill Cashman

Studio Manager: Bill Cashman

Engineers: Fred Porter, Roger King, Bill Cashman

Dimensions of Studios: Studio A: 32' x 22'; Studio B (vocal booth) 6' x 6'; Studio A also has an adjoining 10' x 10' Drum room.

Dimensions of Control Rooms: Studio A: 14' x 22'; Studio B: 8' x 8'

Tape Recorders: MCI JH-114 16 & 24 track; MCI JH-110 2 track; Ampex 440B 2 track; Ampex 440 1 track; TEAC/Tascam 40-4 4 track; TEAC cassette C-3 2 track; TEAC A-2300SX 2 track.

Mixing Consoles: MCI JH-636 with Automation 28 in x 28 out. Tascam Mod 5 A 8 in x 4 out.

Monitor Amplifiers: Crown 300's, Crown 150's, Crown D-60

Monitor Speakers: JBL 4333A's 4311, 4301's, Auratones

Echo, Reverb, and Delay Systems: AKG BX-20E, Eventide Digital Delay.

Other Outboard Equipment: Eventide Harmonizer; Orban/Parasound De-Esser, UREI LA 3A's, UREI 1176, & LA4's, Orban/Parasound Stereo Synthesizer; UREI Parametric EQ; ITI stereo parametric EQ; Allison Kepex, dbx-163 limiter; MXR Flangers; Eventide Flanger. Plus a BTX 4500 SMPTE Synchronizer and BTX 4100 SMPTE Time Code Generator.

Microphones: Neumann 87's & 83's, Sennheiser 441's & 421's, Shure SM81's & 58's, Electro-Voice 635A's, EV-RE10's, AKG.

Instruments Available: Baldwin grand piano, Hammond B-3 w/Leslie, ARP 2600, ARP Omni, Music Man guitar amplifiers, Fender Precision bass guitar, Indian sitar, Rogers drum set, Slingerland Drumset, Indian Tablas, Gibson Guitars, Marxophone, misc. percussion instruments.

Rates: \$60/hr 24 track; \$55/hr 16 track; \$45/hr 4 track; \$40/hr 2 track; We also offer reduced rates for block booking. Our Studio B production rates are \$35/hr for 1-4 track recording. These rates include all outboard gear, studio instruments, and engineer. No additional charges.

**** THE THIRD COAST SOUND

501 N. L-35, Austin, TX 78702
(512) 478-0019

Owner: Michael Block.

Engineers: Andrew Murphy, Vince McGarry, Patterson Barrett.

Dimensions of Studios: 4 rooms ranging in size from 120,000 cubic feet to a 6' x 7' isolation

Dimensions of Control Rooms: 26' x 20'

Tape Recorders: MCI JH-24, 24 track with Autolocator 3; MCI 110B 2 track.

Mixing Consoles: MCI 500 series with automation 28 in x 28 out.

Monitor Amplifiers: BGW 750, McIntosh.

Monitor Speakers: UREI 813 Time-Aligned.

Echo, Reverb, and Delay Systems: Lexicon, Masteroom.

Other Outboard Equipment: Harmonizer; UREI compressor/limiter; Eventide Omnipressors; UREI graphics; Omnicraft gates.

Microphones: (2) Neumann U-47's tube types, (2) Neumann U-87's; Sennheiser; (3) 441's; (4) 421's; (2) AKG 451's, (2) 202; (3) P2M by Crown; various others.

Instruments Available: Yamaha grand piano, Hammond organ w/Leslie, Ludwig drums, Various guitars, etc.

Rates: Call for rate information.

Directions: The Third Coast is a full audio video production house centered in an historic stone warehouse in Austin. We feature the finest video equipment available, a fully automated 24 track recording facility and a 120,000 cubic foot sound stage. Audio and Video are tied together with house sync and fully interfaced. The Video equipment includes 3 RCA 1" machines, a CMX 340X and a Grass Valley switcher with Emem®. Audio features a full 24 track MCI system with a 528 automated console, JH24 recorder and Dolby A. Texas' finest 25 track facility where the last overdub is video. For information Call Michael Block or Mike Moore. (512) 478-0019.

Who are those guys?



Is this what you think of as the southwest? Let us assure you that it is more than tacos and tortillas. Professional audio is alive and well in the southwest. We are E.A.R. a comprehensive sales and service organization dedicated to professional audio for recording, sound reinforcement, broadcast and audio for video.

Call or write today for our brochure and line card. Find out the real reason why the southwest is becoming the newest production center of the industry, and why it has more to offer than just Mexican food and good weather.

E.A.R.

professional audio

947 South 48th Street
Tempe, Arizona 85281
Phone: 602-968-8675

For the Active Musician

M.I. MAGAZINE
Now Only \$6/yr

Subscribe to Musician's Industry

Send check or money order to:
M.I. Magazine
2608 Ninth Street
Berkeley, CA 94710

Name _____
Address _____
City _____
State, Zip _____



*When
You're
Ready*

When it's time to get serious about upgrading your studio's boards, your music needs the flexibility, performance and prestige of a professional Tangent console.

The Tangent Model 3216 is a good place to start. Nearly 200 studios worldwide have chosen it. And, if you're looking at making the investment in a large, world class console, it will make sense to wait and check-out our upcoming Phoenix Series consoles available with automation.

Write us for full information. We can show you some of the best in's 'n' out's of the music business.

When you're ready.

tangent

Tangent Systems, Inc.
2810 South 24th Street
Phoenix, Arizona 85034
(602) 267-0653
Telex: 69 6191

Reader Service Page

If you would like to receive further information on products and services advertised in Mix Magazine, just check the appropriate boxes and mail us this page.

Page No.	Advertiser	Info for Purchase	Info for Files
5	AKG Acoustics	<input type="checkbox"/>	<input type="checkbox"/>
45	Alphatone	<input type="checkbox"/>	<input type="checkbox"/>
B/C	AMEK	<input type="checkbox"/>	<input type="checkbox"/>
43	Antech Lab	<input type="checkbox"/>	<input type="checkbox"/>
15	Ashly Audio	<input type="checkbox"/>	<input type="checkbox"/>
33	ASI (Abandon/Sun, Inc.)	<input type="checkbox"/>	<input type="checkbox"/>
37	Aspen Music Festival	<input type="checkbox"/>	<input type="checkbox"/>
2	Audio-Technica	<input type="checkbox"/>	<input type="checkbox"/>
45	Blakely Pro Audio	<input type="checkbox"/>	<input type="checkbox"/>
52	Chaton Recording	<input type="checkbox"/>	<input type="checkbox"/>
53	Concert Music Systems	<input type="checkbox"/>	<input type="checkbox"/>
47	DeltaLab Research	<input type="checkbox"/>	<input type="checkbox"/>
29	DePlant Music	<input type="checkbox"/>	<input type="checkbox"/>
13	Digital Services	<input type="checkbox"/>	<input type="checkbox"/>
55	E.A.R.	<input type="checkbox"/>	<input type="checkbox"/>
B/C	Everything Audio	<input type="checkbox"/>	<input type="checkbox"/>
25	Ford Audio	<input type="checkbox"/>	<input type="checkbox"/>
45	Imagineering Audio	<input type="checkbox"/>	<input type="checkbox"/>
39	Indian Creek Recording	<input type="checkbox"/>	<input type="checkbox"/>
11	JBL	<input type="checkbox"/>	<input type="checkbox"/>
61	JVC	<input type="checkbox"/>	<input type="checkbox"/>
54	King Pin Record Pressing	<input type="checkbox"/>	<input type="checkbox"/>
59	Leo's Pro Sound	<input type="checkbox"/>	<input type="checkbox"/>
7	Maxell	<input type="checkbox"/>	<input type="checkbox"/>
16	MXR Innovations	<input type="checkbox"/>	<input type="checkbox"/>
63	Nortronics	<input type="checkbox"/>	<input type="checkbox"/>
36	Platinum Rainbow	<input type="checkbox"/>	<input type="checkbox"/>
27	PRI Record Pressing	<input type="checkbox"/>	<input type="checkbox"/>
51	Octave Audio	<input type="checkbox"/>	<input type="checkbox"/>
32	Otari Corporation	<input type="checkbox"/>	<input type="checkbox"/>
51	Reel Sound Recording	<input type="checkbox"/>	<input type="checkbox"/>
8	Ruff Cedar	<input type="checkbox"/>	<input type="checkbox"/>
52	Southern Rec/Video Prod., Inc.	<input type="checkbox"/>	<input type="checkbox"/>
9	Southwest Pro Audio	<input type="checkbox"/>	<input type="checkbox"/>
13	Studio Technologies	<input type="checkbox"/>	<input type="checkbox"/>
56	Tangent Systems	<input type="checkbox"/>	<input type="checkbox"/>
49	3M Magnetic Tape	<input type="checkbox"/>	<input type="checkbox"/>
23	Westbrook Audio	<input type="checkbox"/>	<input type="checkbox"/>

Name _____

 Company _____

 Street _____

 City _____
 State, Zip _____
 Phone _____
 Signature _____

What is your age?
 15-24 25-34 35-44 45+
 What is your occupation? _____

 How long involved in pro audio? _____

 Where did you get this copy of Mix?

Recording Studio Pro Audio Store
 Music Store Other _____
 What trade shows do you plan to attend this year?
 AES NAMM
 NAB SMPTE
 NARM PEPS
 CES Other:

This response page expires May 30, 1981

INSTANT MAILER
 Just cut this page out,
 fold, staple and
 drop in the
 mailbox

Cut Here — Fold and Mail — No Postage Required

Reader Service Page

INSTANT MAILER

Fold on the lines, staple and mail.
No postage required

* Use this form also to subscribe to Mix.
(See below)

Fold on this line



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 2994 BERKELEY, CA

Postage will be paid by addressee

Mix Magazine
P.O. Box 6395
Albany, CA 94706



Fold on this line

SUBSCRIBE TO MIX

with this same mailing form

I am enclosing a check for
\$18 or an equivalent charge on
VISA/MasterCard:
Exp. Date _____
Card # _____
Signature _____

Name _____
Company _____
Address _____
City _____
State, Zip _____



Cut Here — Fold and Mail — No Postage Required



LEO's

PROFESSIONAL AUDIO

5447 TELEGRAPH AVE.
OAKLAND, CALIFORNIA 94609
PHONE (415) 652-1553

Microphones

Audio-Technica
AKG
Beyer
Countryman
Edcor
Electro-Voice
Nady-Nasty Systems
Neumann
Sennheiser
Sescom
Shure
Sony

Sound Reinforcement Mixers

Audioarts Engineering
Audy
Biamp
Bose
Shure
Soundcraft
Tangent
Tapco
Yamaha

Signal Processing

Audioarts Engineering
Biamp
DBX
Delta-Lab Research
Eventide
EXR
Furman
Klark-Teknik
Lexicon
Mic Mix-Master Room
MXR
Orange County Electronics
Sound Workshop
Tapco
Teac/Tascam
UREI
White
Yamaha

Speakers

Altec-Lansing
Auratone
Bose
Calibration Standard Instruments
Cerwin-Vega
Cetec-Gauss
Eastern Acoustic Works
Electro-Voice
Emilar
ESS Pro
Harbinger Audio
Heppner
JBL
Northwest Sound
Renkus-Heinz
Shure
UREI
Yamaha

Headphones

AKG
Audio-Technica
Beyer
Edcor
Koss
Sennheiser
Sony

Recording & Production

Consoles

Sony
Soundcraft
Sound Workshop
Tangent
Tapco
Teac/Tascam
UREI
Yamaha

Amplifiers

AB Systems
BGW
Biamp
Bose
Cerwin-Vega
Crest Audio
Tapco
Yamaha

Turntables & Cartridges

AKG
Audio-Technica
QRK
Shure
SME
Stanton
Technics/Panasonic

Cable, Cases

& Hardware

Anvil Cases
Atlas Sound
Cases, Inc.
Lifelines
Monster Cable
Neumann
Neutrik
Sescom
Switchcraft

Test Equipment

DBX
Gotham Audio
IVIE
Sennheiser
Sound Technology
UREI
White

Recording & Broadcast

Supplies

AKG
Ampex
Audio-Technica
Edit-All
Maxell
Scotch
TDK
Teac/Tascam

Tape Machines

Sony
Soundcraft
Teac/Tascam
Technics/Panasonic

Equipment For Sale

GUARANTEED LOWEST PRICES!

\$50 CASH OFFER!

We will beat any legitimate advertised price or price quote on any 3M PRO audio product, or we will give you \$50 CASH! Call now. Dealers excluded.

AUDIO WHOLESALE DISTRIBUTORS
8020 HORNWOOD
HOUSTON, TX 77074
1713172-1153
SEND FOR OUR AUDIO PRO SHOP CATALOG
PRICE OUR MIKES AND ACCESSORIES

SMPTÉ TIME CODE

BTX TELCOM: Both USED and NEW

generators, readers, synchronizers.

Contact: Dyma Engineering
P.O. 1697

Taos, N.M. 87571
505/758-8686

(2) DC-300A Crown Amps, (1) DC-150A Crown (4) 4560 JBL cabinets w/2205 JBL speakers (2) Community Light & Sound BRH 90° horns w/Gauss 4000 series drivers w/cases, 19 circuit, 125 ft. snake, amp. rack for Crowns & foam lined case. (2) pairs of JBL wedge monitors. (4) SM-57 Shure mics. (1) Heil HM 1600 board. (1) SAE 2700B equalizer w/electronics rack & foam lined case.

Bill {304}675-5961

For Sale

PM1000-24 w/road case
Call Sound On Stage
(415) 468-2990

THE AUDIO GROUP, a full service Pro Audio Co., leaders nationwide in audio brokerage (buying & selling used equipment). Also dealers of pro line: 3M, Dolby, Audiotronics, Spectra Sonics, Eventide, Lexicon, Ivie, MXR, Shure, Sennheiser, etc. 212/765-7790.

Distributor Pricing!

Tascam, Hafler, EV, Ampex, JBL, Technics, Onkyo, Nikko, Infinity, LUX,

P.K. AUDIO
4773 Convention St.
Baton Rouge, LA 70806
(504) 924-1001

"Studio Equipment for Sale"

API 16-tr console, Studer A-80 Mark I 16-tr recorder with full remote, Studer A-90RC 2-tr tape recorder with remote, Dolby M-16 noise reduction unit, Big Red Mastering lab playback system.

Call (512) 478-3141
Lone Star Recording

MIX CLASSIFIED

LOOK!

(2) dbx noise reduction (model 158). Like new. 16 track plus 2 spares. Cost new \$6,750 asking \$4,800.

Call now. Ask for LOU
(714) 448-6000

Studio Sale

8, 16, 24, 32 tr recorder. Scully 1" or 2" mod. 100. Exec. cond. Incl. 8 tr 1" stk. 16 tr 2" stk. 32 channel electronics w/card racks and regs. Full remote dig. control. Full documentation. \$12,950/ offer. Ampex 300 2 tr, multi-track EQ's, patch bays, mikes, dbx 24 trk pro 216 bal. noise red. 28 channels and much more. For info call Tom (415) 864-1967.

Full 16 Track Studio For Sale
Ampex MM-1100 16 track. 2 Ampex 440-C 2 track. Eventide Digital Delay and lots of outboard equipment. Call Dale at Pan Studios (303) 473-1114.

A dream come true! Ecoplate original, Ecoplate II, Master Room XL-210, Master Room XL-305, Symetrix, Valley People in stock for immediate delivery. Top dollar on trade-ins. Also we buy used semi-pro gear. Used or demo: AKG BX-10E AKG BX-20, EMT 140 ST (tube) MICMIX Master Room Super C, Tapco 4400, Sound Workshop 242A, Orban 111B, Audio House 4675 S. Yosemite #203, Denver, CO 80237, (303) 741-4746.

Factory prices on all types of 3M tape. Leader, splicing tape, and cassettes. Our price beats ANY retail price on all 3M tape products. Also guaranteed dealer cost on all Nortronics recorder care products, and replacement heads. Call Cal at (704) 375-1054. Studioworks. 1018 Central Ave., Charlotte, NC 28204.

FOR SALE

Trident series 80, Acopian Power Supply, 32 x 24 - 4 months old. \$56,000-owner will finance at 12%
Call 704-375-1053

STUDIO WORKS

WE HAVE IT ALL. ALMOST.

CALL US FIRST
704-375-1053

TASCAM MODEL 10 12x8 console 8 buss 8 VU meters 8 line amps

\$2200
Dave or Roger
(415) 328-8338

Professional Audio Equipment

ATI offers the lowest prices on Electro Voice, Spectra Sonics, Technics R&B, TOA, HME, Kelsey, Tapco, Otari, Ampex Tape, as well as many other professional lines. ATI Professional, 11 North Highway 89, NSL, Utah, 84054, (801) 292-0075

UAR Professional Systems, Texas' largest stocking distributor from dbx to UREI. We have it all for immediate delivery.

(512) 690-8888 or
8535 Fairhaven
San Antonio, TX 78229

CALL US LAST!

Find the best deal that you can, then call us. We guarantee the best prices on MXR, DiMarzio, Electro-Voice and more. At Audio, Light & Musical, it will not cost you a dime to call: (1-800) 446-8000.

"For Sale"

MCI JH-10 16-track, V.g.c. \$10K
Ampex MM1100 16-track V.g.c. \$15.9k. Ampex AG-440 8-track w/R.C. \$6k. MCI JH-416 24 x 24 w/extras.

Contact Steve Simmons
(405) 388-2987

8-track recorder for sale Teac 80-B w/accessories & '66 Stratacaster.

Call & make a bid.
BIG PINK WEST
(415) 388-2987

Professional audio equipment. Shop for pro audio from NY's leader, no matter where you live! Use the Harvey Pro Hot-Line, 800/223-2642 (except NY, AK, HI). Expert advice, broadest selection such as: Otari, EXR, Ampex, Tascam and more. Write or call for price or product info: Harvey Professional Products Division, 2 W. 45th Street, NY, NY 10036, (212) 921-5920.

New & Used recording equipment
-Otari MX-5050-8D, 8 channel
-Otari MX-5050-B, 2 channel & remote

Greg Sargent (415) 364-9424

TOURING SOUND SYSTEM complete ready for the road, with or without truck, state-of-the-art design & equipment, Gauss, Yamaha, BGW, Crown, etc.
Lowrence Sound & Communications
(901)885-4504

The Board for Your Band

Brand new Tangent Series 4, 20 input/4 output, compact yet full of features. Can also be used as 20 in/8 out recording console—

List \$4800, will sacrifice for \$3500.
One only. 415/930-7573

Reliable Music

*The Finest in Professional Audio
With Service to Back it Up!*

Crown, JBL, Tascam/TEAC, Yamaha, Biamp, Technics, Orban, Gauss, Eventide, dbx, UREI, Neumann, AKG, Sennheiser, Beyer, Sony, Shure, Otari, MICMIX, MXR, Tangent, RTS Systems, Revox, Cetec-Vega, E-V, Omni-Craft, Symetrix, Sescom, Ursa Major, Whirlwind, Audio-technica, Ampex.



(704) 375-8662
1001 S. Independence Blvd.
Charlotte, N.C. 28202

Equipment Wanted

WANTED:

Recording equipment of all ages & variety.
Tewksbury Sound
Dan (415) 441-8912

2 Furman compressor/limiters w/De-esser and side chain comp. ratio variable from 2:1 to 50:1 LED
c/o Mike 383-7982
456-7666

Employment Offered

Excellent opportunity for independent serviceman (organ service exper. needed). Occupy vacant shop inside retail music store.

Send Resume:
P.O. Box 952
Port Angeles, WA 98362

INSTRUCTOR/ASST. PROFESSOR to direct respected program in audio engineering & multi-track recording. BA in radio-television or related field. Professional experience in multi-track recording & mix-down required; technical knowledge of basic electronics, acoustics & music necessary. Hands on teaching position using a professional 16-track recording studio. Salary negotiable-evaluation of candidates begins 5/1/81. Start date 9/1/81. Send letter of application & 3 references to:

Eastern Washington University
Personnel Selection Comm.,
Dept. of Radio-Television
Cheney, WA 99004
AA/EEO-M/F emp.

Instruction

Performance Audio Courses. Taught by Jim Coe formerly touring audio mgr. for Jefferson Starship. Learn design, setup and operation of pro sound systems. Call Blue Bear School of Music. (415) 673-3600.

Recording Services

LOST RIVER
RECORDING STUDIO
Mixing, Editing, Masters, Etc.
631 N. 9th St. -Ph(502) 444-7594
Paducah, Kentucky 42001

THE TALKING MACHINE

A MASTERING FACILITY

Specializing in custom disk mastering and record production for the independent producer and studio.

P. O. Box 35354
Phoenix, AZ 85069
602-938-8347

"YOUR PLACE OR MINE?"
Remote or Studio 1" 8 trk \$18/hr
Professional recording for anyone, anywhere on any budget
(415) 883-4757 or (415) 883-6308
QUARTER MOON RECORDING

Maintenance

Audioworks
For expert service. All studio, PA, recording equip. synthesizer repair, modifications, guitar amp repair, modifications. Warranty station for most lines. 654 Irwin, San Rafael, CA (415) 457-1722.

Miscellaneous

HAVE CAMERA WILL TRAVEL
Exclusively music. Credits include top name artists on major labels; covers, publicity shots, trade mags-Reasonable rates-Call: gale warning
Photography
evenings/(415) 386-5708



P.E.P.S.
THE
PROFESSIONAL
ENTERTAINMENT
PRODUCTION
SOCIETY

Lighting, sound, design, rigging, staging, transportation, production management. A working association of companies and individuals who provide technical services for touring entertainment. Join us in advancing our craft and our industry. YOUR VOICE DOES MAKE A DIFFERENCE.

P.E.P.S.
P.O. Box 998
N. Hollywood, CA 91603
(213) 760-8857

Record Pressing. Low package prices on top quality LP's.
H.R. Productions (415) 930-7573.

VIDEO DEMO'S TO SUIT EVERY BUDGET

We've put some of the hottest acts in the bay on tape. We can do it for you . . .
PLUG INTO VIDEO.



2046 Fourth St.
San Rafael 459-2313
(on the Miracle Mile next to Second's Best)
Production / Sales / Service / Rentals / Earth Stations

Categories Available (Check One)

- | | |
|---|---|
| <input type="checkbox"/> RECORDING SERVICES | <input type="checkbox"/> INSTRUCTION |
| <input type="checkbox"/> EQUIPMENT FOR SALE | <input type="checkbox"/> MAINTENANCE SERVICES |
| <input type="checkbox"/> MISCELLANEOUS | <input type="checkbox"/> EQUIPMENT RENTALS |
| <input type="checkbox"/> REHEARSAL SPACE | <input type="checkbox"/> EMPLOYMENT OFFERED |
| <input type="checkbox"/> EQUIPMENT WANTED | <input type="checkbox"/> EMPLOYMENT WANTED |

Specifications

1 inch minimum: 6 lines per inch, 30 characters per line, each inch \$50. Additional lines \$10 for each.

Bold type: \$10 per line. Screened background \$10 extra.

Classified Ad deadline: 5th of month preceding issue.

PAYMENT BY CHECK OR MONEY ORDER MUST ACCOMPANY AD. For your convenience, we now accept VISA & MasterCard (for such payment, please accompany ad with your name, address, card number and expiration date). Send to or call: Gale Rosenberg — Mix Publications, 2608 Ninth St., Berkeley, CA 94710 (415) 843-7901.

Introducing:

DAS Series 90 Digital PCM Recording, Editing and Mastering System

The system is now installed at the **JVC Cutting Center**, in Hollywood, and is available for sale or rental.

To arrange for a demonstration call or write . . .

JVC

Cutting Center, Inc., RCA Bldg. Suite 500
6363 Sunset Blvd., Hollywood, CA 90028 (213) 467-1166



EDITOR'S NOTE:

The following letters refer to an article by Winn Schwartz entitled, "Frankford Wayne Mastering—and Compudisk Control" that appeared in our December, 1980 (Vol. 4, No. 11) issue. Tom Steele and Gerry Block were interviewed for the material in the article, much of it concerning their attempts to build a disc mastering system that could pack grooves at a higher density and higher level than existing systems.

The ensuing controversy sets up an interesting challenge that we will follow closely.

Dear Mix:

I was very much surprised to see that issue on (Disk) Mastering with such bias against Neumann. I realize that you used our VMS 80 Lathe as the cover, but without any mention of it on the title page.

Were I to take the time to answer all of the ridiculous claims made by so-called "experts", it would take me the rest of the year. I really don't have the time, on the one hand, and it is really of little consequence on the other. It might, however, be rewarding

to you to phone Lee Hulko at Sterling Sound, the country's largest disk mastering installation with nine Neumann Lathes, and both of those other computer upgrades for the older Neumann's and the new VMS 80, and ask him how much more level he gets or more time he gets on a disk as a result of using those systems. You will find that the answer is: Not at all!

Stephen F. Temmer
President
Gotham Audio Corp.
New York City

And the replies:

Dear Mix:

I read with some dismay Steve Temmer's response to the Tom Steele/Frankford Wayne interview. I have since been asked personally by Mr. Temmer to write a 'retraction' to many statements made in this article, many of which were not made by me, and in fact Mr. Temmer went so far as to dictate the actual wording that he felt would be appropriate for such a retraction. This under any circumstances I would not do as I stand by my comments. I do feel some response is appropriate to some of the rather insulting remarks in his letter, however.

It appears that Mr. Temmer's definition of an 'expert' is based upon to what degree that person shares his own views on any particular subject, and those views appear to correspond to what happens to be best for the manufacturers he represents. I prefer not to get into a long debate on my qualifications as an 'expert' in the field of

disk mastering based on Mr. Temmer's or anyone else's definition, but instead I would like to let facts speak instead of opinions.

The Compudisk Z-80 based lathe control system has been reported by all users, without exception, to be capable of 2-3 dB level increase when compared to identical program material cut on Neumann VMS 70 equipment, which Mr. Temmer has stated cannot be improved upon. Furthermore, the users report that the consistency and geometry of the resulting cuts are accurate and beyond reproach, even at the increased levels.



At Motown, Guy Costa has had the unusual opportunity of comparing the Compudisk system against other systems directly, since he has had access to the very master tapes used by outside cutting houses, and reports identical level increases to Frankford/Wayne, where similar tests have been made using 1:1 tape transfers of already recorded disk material. These level increases consistently measure 2-3 dB. It should be pointed out that at Motown the Compudisk system replaced VMS 70 control electronics, and enabled them to perform re-cuts of previously cut material at additional level.

I must point out that Mr. Temmer's reference to Lee Hulko's experience with the Compudisk system is curious, since on the date of his letter to the *Mix Magazine*, the Compudisk system had not yet been installed at Sterling Sound. How the comparisons were thus made against Neumann equipment is not clear.

If there is any question about my statements here, I invite Mr. Temmer himself to personally cut a master tape on the VMS 70 lathe of his choice, as many times as is necessary for his satisfaction. I will then like to compare the resulting cut against a lacquer cut on one pass with the Compudisk system, and we can then compare the issue of level, time, productivity, and add in the factor of cost, and lay the issue to rest.

For general information, Compudisk is a registered trade mark of Sontec Electronics, the manufacturer and licensee of the system invented by me.

Gerry Block
Chief Engineer
Sigma Sound Studios, N.Y.

Dear Mix:

The following is a reply to the response of Mr. Temmer to our article, "Frankford/Wayne and Compudisk" in the December, 1980 issue of *Mix Magazine*:

"So called expert"? Just to recap, Frankford/Wayne has been in business for 15 years and currently has 10 (Made in the USA) Scully lathes in two separate locations (Philadelphia and New York), including one in my personal R&D lab in my home. Currently five of these lathes are equipped with "Compudisk" computers and the other five have various other computer control systems. About 80% of my time is spent in re-designing, operating and maintaining our disc cutting rooms. I am not just an equipment salesman and I feel that any steps forward in my industry do indeed have great consequences such as being able to provide our clientele with the ultimate product today, keeping in pace with "American electronic technology".

The initial tests I made during the time we were installing the prototype of the "Compudisk" were as follows: We purchased two pop LP records mastered by another mastering house in the area on a known type of cutting system. We made a 15 ips flat tape copy of them from a flat calibrated playback turntable. On the beginning of each tape we also recorded the 1 kHz "0" level 7 cm test tone using the same calibrated turntable and without touching any settings. I then cut "flat" from this tape with no EQ, limiting or signal processing whatsoever. We kept increasing the cutting level until the space used up by the Compudisk cut matched the space used by the original record. When the original and the test ref dub were A-B'ed simultaneously with each other, little or no difference in sound quality was heard except for a level that averaged from 2½ to 4 dB hotter than the original with no overcuts. Also, I found that if we matched the original cutting level we found that we could get approximately 30% more recorded material on the side.

I must add, however, that no computer control system will achieve its goal unless it is interfaced and programmed correctly, such as absolutely matched "preview" and "program" channels in all functions.

I always welcome the opportunity to substantiate our claims of up to 50% more level or 30% more time on the disc, and with all due respect to Mr. Temmer, I hope that he doesn't allow the salesmanship of his imported line of equipment get in the way of others who are attempting to, and succeeding in improving the state-of-the-art of the disc mastering industry. In fact, I wonder when the last time was that Mr. Temmer cut a #1 hit record.

Thomas S. Steele President
Frankford/Wayne Mastering Labs, Inc.

Introducing the first line of professional recorder care products. The Proformance Series.™ Designed and created exclusively for you, the professional. Who else but Nortronics could deliver products like these.

Nortronics, the undisputed world leader in magnetic heads. We make the heads others are compared with. Over 25 years of engineering skill and expertise are behind every head. Today, high quality and

technical innovation have become Nortronics' trademarks.

Now get that same expertise in recorder care products. The Proformance Series. We first pinpointed the industry's precise requirements. Designed to meet them. Established critical tolerances—tolerances that meet or exceed any requirement you may ever have. The key to everything is simplicity. In short, each product will exceed your highest

expectations. Because that's the way we do things—professionally.

Ask your distributor about the Proformance Series. Or call 1-800-328-5640 for the distributor nearest you. In Minnesota, call 612-545-0401.

PROFORMANCE SERIES™

BY NORTRONICS
8101 Tenth Avenue North
Minneapolis, MN 55427 U.S.A.

Keep them as great as we've built them.



Free yourself from the confines of "semi-pro."

Semi-pro gear limits your possibilities. While it is useful and fun in the beginning, you soon outgrow it. Then it begins to hold you back.

The TAC 16/8/2 is not "semi" anything. It's a professional standard low impedance board offering important features previously found only on all-out 24 track consoles.

And it's expandable.

As your studio grows, the TAC 16/8/2 grows with you. It is designed to accept additional 8-channel expansion modules — up to a maximum of 48 in/24 monitor.

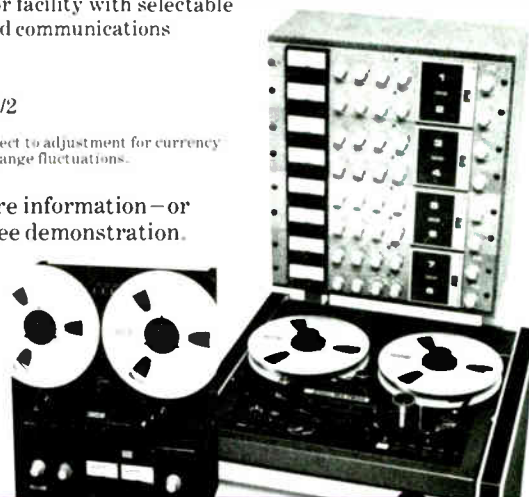
16 mic/line inputs, 4 position EQ with 2 swept mid sections, 8 sub groups, stereo output, 8-track monitor mix (also usable as 8 line returns to the stereo mix buss), 4 auxiliary sends from each channel with one auxiliary return, 11 LED ramp meters (reading p1/solo, the 8 groups, and stereo mix), monitor facility with selectable inputs, talkback and communications facility, oscillator.

16 in/8 out TAC 16/8/2

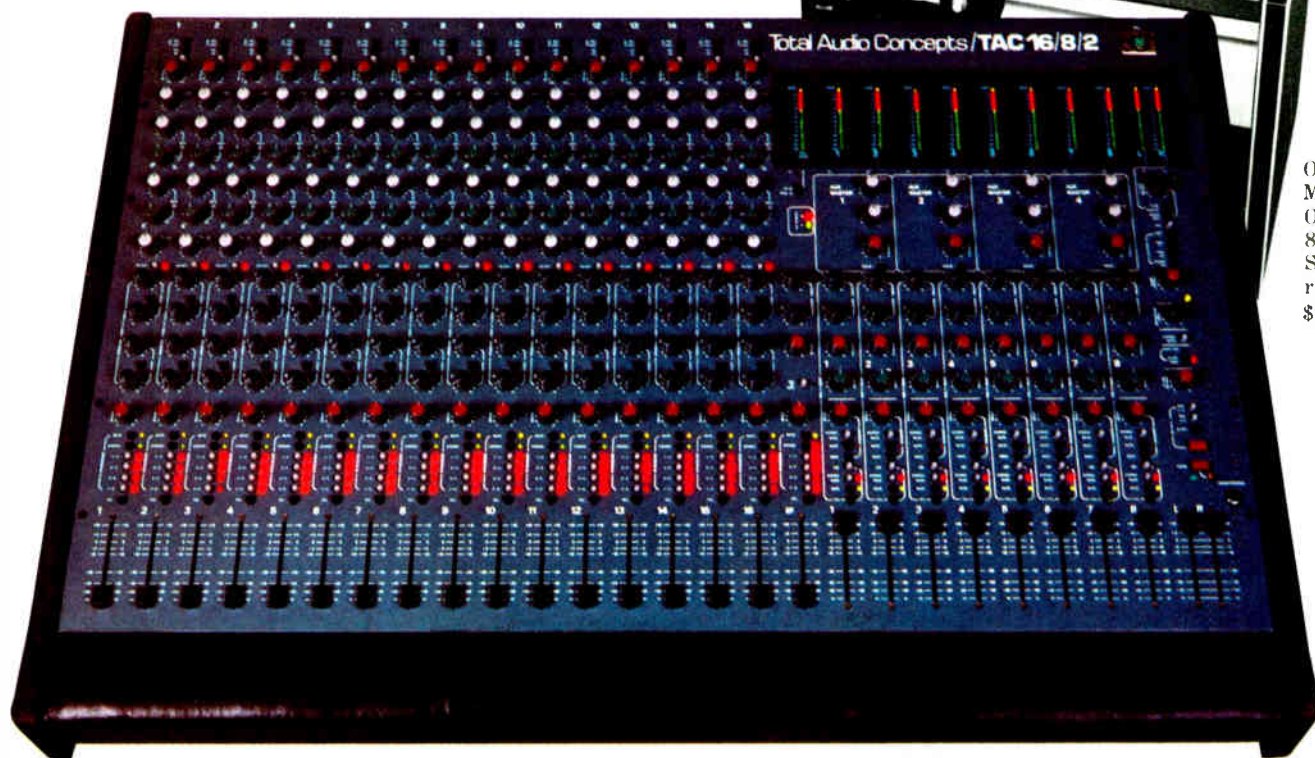
\$8,000. Subject to adjustment for currency exchange fluctuations.

Call today for more information — or to arrange for a free demonstration.

Otari MX-5050 B
Professional 2-track
Suggested retail:
\$2,150.



Otari
MX-7800
One inch
8-track
Suggested
retail:
\$9,000.



New, expandable TAC 16/8/2 Console

AMEK

AMEK SYSTEMS AND CONTROLS, LTD.
Islington Mill, James St. Salford M3 5HW, England

AVAILABLE AT:

EVERYTHING AUDIO
16055 Ventura Boulevard, Suite 1001
Encino, California 91436
Phone (213) 995-4175 • Telex 651485

MARTIN AUDIO VIDEO CORP.
423 West 55th Street
New York, NY 10019
Phone (212) 541-5900

WESTBROOK AUDIO, INC.
11836 Judd Court, Suite 336
Dallas, Texas 75243
Phone (214) 699-1203

FLANNER'S PRO AUDIO
Mayfair Mall, 2500 N. Mayfair Road
Milwaukee, Wisconsin 53226
Phone (414) 259-9665

World Radio History