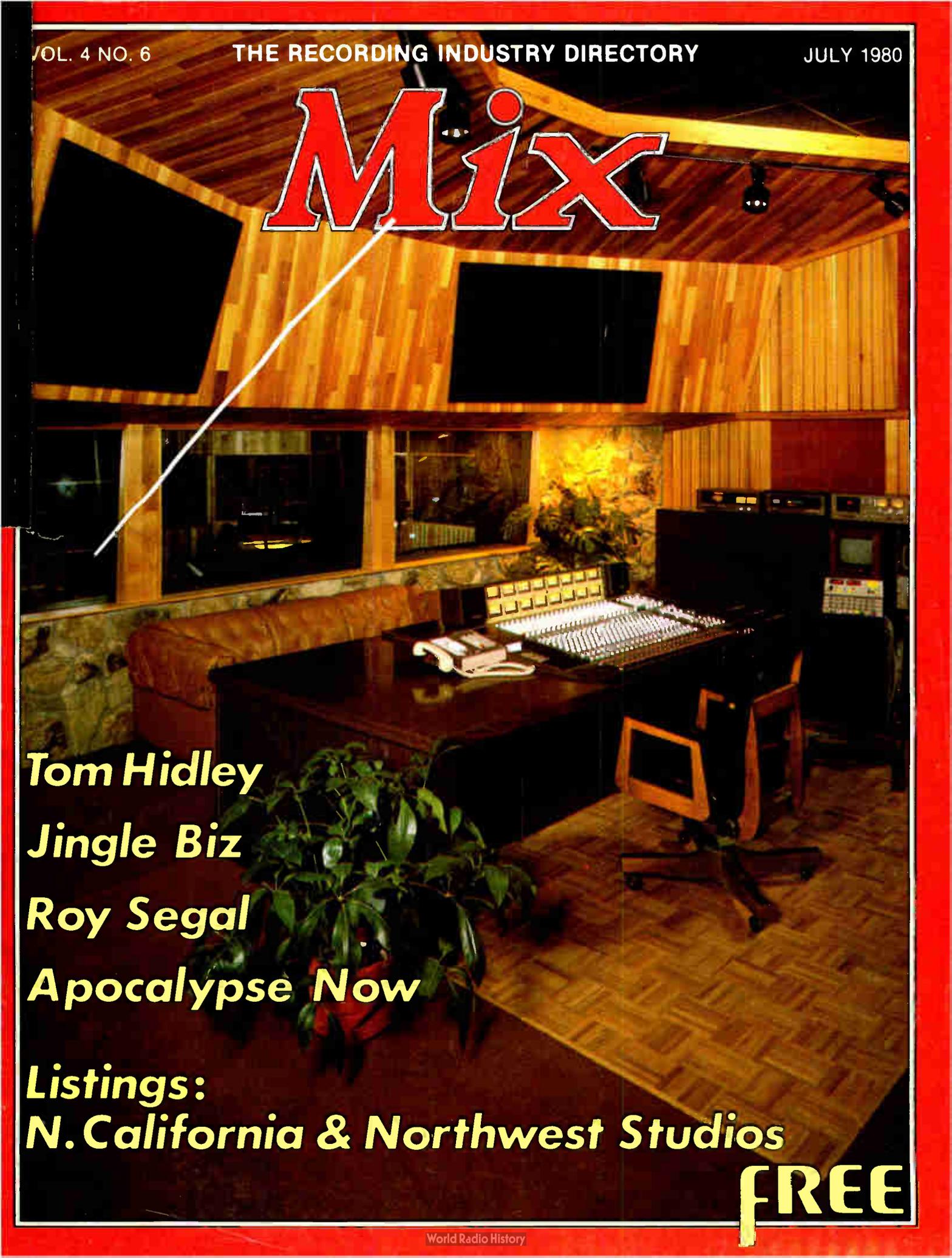


Mix

A photograph of a recording studio control room. The room features wood-paneled walls and ceiling. In the center, there is a large mixing console on a desk. To the left, there is a brown leather sofa. In the foreground, there is a large green potted plant. The floor is covered with a patterned rug. The overall lighting is warm and focused on the equipment.

Tom Hidley

Jingle Biz

Roy Segal

Apocalypse Now

Listings:

N. California & Northwest Studios

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Mix

Cover:
Womach Recording
Studios
Spokane, Washington



Photo by Don Hamilton

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JULY 1980

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Welcome to the new **Mix** for the 80's. We hope you like our new look. After three years of printing as a tabloid, we felt the time was right to upgrade our format. Now **the Mix** will fit on your bookshelf, will carry more color with better graphic reproduction and won't leave you with black fingertips after each reading. All this, and still free.

Now maybe you are thinking, "Gee, I really liked the old **Mix**. It was... different." Well, **the Mix** is still different... and we'd like to think that it is a little better. The monthly listings and regular features are still here, along with increased editorial coverage of the stories that you have been requesting. We are in an industry that is constantly growing and changing, and in order to stay in tune, we are always looking for ways to improve what we are doing.

• • •

One new touch for this month is Committee Report, a summary page of activities within the recording industry's professional organizations. Many special interest groups have developed over the past few years and each month Committee Report will keep us informed as to how we all can benefit from their operations.

Our regular monthly columns are back, with another bonus. This month we begin an extended version of Sound Advice where Dr. Richie Moore surveys the used equipment market, beginning with tape recorders.

On the feature editorial side, this issue is also pretty special. Our staff writers have put together a piece on the booming jingle business around the country, revealing some fascinating observations and opportunities. The new Fantasy Studios have just reopened and **the Mix** was there, getting the lowdown from studio manager Roy Segal on this truly world class facility. Also in this issue: an exclusive interview with Tom Hidley, the world's most accomplished studio designer; Diane Sward Rapaport's look at the independent record label phenomenon; a special "behind the scenes" report on the Academy Award winning sound for *Apocalypse Now*; and a visit to a studio in a one hundred acre almond grove.

• • •

Next month: Studios of the Southeast, plus listings of recording schools, Sun Records, the Grand Ole Opry and the Criteria story. ■

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TRACKS

CURRENT

Sony/Studer: Digital Pact

Sony Corporation of Japan and Willi Studer of Switzerland have announced their agreement to support a common format in stationary-head digital audio recording. At their joint press conference, held at the recent Los Angeles Audio Engineering Society Convention, principals of the two companies said that they hope their common format will be widely accepted in the industry as an international specification in stationary head digital audio recording.

The agreement covers a wide range of applications in professional digital audio, with channel numbers ranging from 2 to 48. The format includes newly developed and highly efficient codings for error protection and high-density recording. Sony and Studer are convinced that this new format not only provides full tape interchangeability, but also represents a major step towards the fully digitalized audio systems of the future, with free communication between digital equipment.

Sony, at present, has a full line of digital equip-

ment, including PCM digital audio processors and digital audio editing systems for professional sound recording. "Sony has agreed to provide Studer with its digital knowledge in exchange for Studer producing its digital machines in a format compatible with Sony's," according to Roger Prior, Sony's Digital Audio Division Manager.

Studer and Sony also said that they expect to explore possibilities for mutually utilizing their technology and know-how for future research and development in the wide range of digital audio applications.

Digital recording, unlike the conventional analog-type recording usually employed at present, is an advanced technology that virtually eliminates the distortions which are present in analog recording. Using a system of digital codes to represent the sound waves, which are then decoded into analog form when reproduced for listening, the technology represents what many claim to be the best attainable form of sound recording in professional studios.

According to Studer, "We think that analog equipment still has a long way to go. New, improved, easier-to-use analog products will appear along with matching PCM components. If they are correctly designed, they can coexist peacefully for a while."

events

Agfa-Gevaert, Inc. has announced that it will start building a \$25,000,000 magnetic tape plant in Huntsville, Alabama, this fall, with production of audio and video recording tape scheduled to begin toward the end of 1982.

Ewald J. Consen has recently been named Vice President of Sales and Marketing for the new professional division of **ESS Inc.**, the Sacramento-based manufacturer of Heil air-motion transformer loudspeaker systems.

The Signal Companies and **Ampex Corporation** have mutually agreed to terminate negotiations for the merger of Ampex into Signal, as earlier reported. [*Mix Vol. 4, No. 3*]

dbx, Inc. of Newton, Massachusetts, and **Crystal Clear Records** of San Francisco have announced plans to issue albums from the Crystal Clear catalog in the dbx® Encoded Disc format.

Creative Audio, a Nashville firm which designs, constructs, equips and installs recording studios, has incorporated under the new name of **Audio Architects**.

David Kelsey, President of the **Filmways Audio Group**, has announced the appointment of **Kenneth R. Fause** to the audio group as President, Filmways Audio Services.

UREI, the North Hollywood, California, manufacturer of professional audio products, has appointed **Bruce Marlin**, former sales manager for **Westlake Audio**, to the post of Assistant Sales Manager.

Melody Patterson has announced the formation of **Papillon Productions**, in Woodland Hills, California, to handle public relations designed for the professional music industry.

VIEWPOINT

NAIRD CONVENTION DISAPPOINTING

by Diane Sward Rapaport

The National Association of Independent Record Distributors (NAIRD) met in Kansas City last April for their fourth annual convention. The name, NAIRD, is somewhat a misnomer because the organization also includes the numerous independent labels served by the distributors.

Those attending the convention meet to participate in three different activities. A trade show is held during which record labels and distributors show off their wares to each other, seminars are held to share information and awards (the 'Indies') are given to outstanding individual artists and records.

This year's convention, unlike the past three, was lackluster, boring, poorly organized, ill-attended,

poorly publicized and with a somewhat negative spirit shrouding all the events. A case in point, the 'Indies' never happened at all. Ballots were cast, even collected, but then lost in some confusion that no one ever explained. The pity of that was that the Indies are a great way to focus media attention on independent labels and their excellent records. A good P.R. idea fumbled on the one yard line.

The cause of it all? Perhaps the jittery recession blues that affected everyone attending. Stories of record stores owing distributors; distributors going bankrupt; labels experiencing cash shortages; stores cutting back in catalogue depth or in the number of individual records stocked; rising price of vinyl and freight and on and on.

Next year's convention is being hosted by Richman Brothers Distributors in Philadelphia. They've already put out questionnaires in an attempt to re-create the spirit of past conventions.

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SESSIONS

NORTHEAST

Rosemary Melody Line, in Vineland, New Jersey, reports that Buddy Leonetti is doing final mixes with Dennis Link engineering.

At Saxony Recording Studios, Rouses Point, New York, Nashville's Doug LaValley is recording several solo projects and is due to begin work on an album for Gary Lee.

At the New York Record Plant Casablanca artists KISS, produced by Vini Poncia, RPS Chief Engineer Jay Messina at the board, assisted by Gray Russell, recently finished their latest album.

At Kingdom Sound, Syosset, NY, Blue Oyster Cult just completed their new album for CBS. Martin Birch produced and engineered the project, with an assist at the board from Clay Hutchinson.

At RBV Recording Studio, Southbury, CT, Vassar Clements was in doing overdubs on the Turkey Foot Band album which is scheduled to be released this summer.

At RPM Sound Studios, New York, Brian Eno producing auto-harpist "La Rage" engineering by Neal Teeman with an assist from Dominick Maita.

At Sigma Sound, New York, Teddy Pendergrass is recording three tunes for his new PIR album which is being produced by Ashford & Simpson with engineer Michael Hutchinson.

At Sigma Sound Studios, Philadelphia, singer-producer Bunny Sigler is hard at work in both roles. He has just completed a single, "Kool Aid" for Sal Soul Records as artist and producer.

SOUTHEAST

CBS Recording Studios in Nashville, TN, did some work on the Warner Bros. Pictures sound track of *Honeysuckle Rose*. Willie Nelson, who stars in the picture, was in for some overdubs.

The Henry Paul Band is back at Criteria in Miami, FL, for their second album on the Atlantic Records label. The new LP is produced by Henry Paul and Dave Thoener; engineers are Thoener, Jerry Masters and Mike Guerra.

At Ardent Recording, Inc., Memphis, TN, Little Milton is finishing the vocals for his new album.

At Quadrafonic Sound Studios, Nashville, TN, CBS Record's Johnny Cash is tracking and overdubbing before final mixes on his new album. Earl Ball is producing, while Gene Eichelberger is engineering. Willie Pevear,

Kevin Nimmo, and Barbara Cline assisting.

Warner/Curb artist Debby Boone returned to Sound Emporium, Nashville, TN, May 27-29. She and producer Larry Butler are working on an album of new and old songs, including the old Brenda Lee hit, "Too Many Rivers." Billy Sherrill and Harold Lee engineered the recording.

MIDWEST

Suma Recording Studios in Cleveland, OH, provided its 24 track equipment and engineers Paul Hamann and Michael Bishop to record the Fleetwood Mac performances May 20th and 21st at the Richfield Coliseum near Cleveland. Ken Calliat, Fleetwood Mac's producer, oversaw the live recording.

At Pearl Sound, Ann Arbor, Michigan, Cub Koda & the Points have just completed their debut LP. The project was produced by Cub Koda and engineered by Ben Grosse, Cub Koda was formerly with the group Brownsville Station.

NORTHWEST

Jeff Ostler, who engineered the first digital record album to be recorded in the United States, has returned to Bonneville Productions in Salt Lake City.

At Bay Sound Reproductions, Oakland, CA: the New Critics, Golden Gate Jumpers, Now!, the Tots and Digital Image with Glenn Oey engineering and Gene Mick assisting.

At The Automatt, San Francisco, CA, Devadip Carlos Santana's new Columbia Records LP, entitled *Swing Of Delight*, is currently being mixed by producer David Rubinson, with engineer Leslie Ann Jones and second engineer Bob Kovach. The LP is the first to be recorded digitally in Northern California.

The Phil Edwards Recording remote truck, out of San Francisco, has been pretty busy, doing a live recording with the Hawkin's Family at the Oakland Auditorium, and a duo concert at the Marin Veteran's Memorial Auditorium with Marion MacPartland and George Shearing.

At Sea-West Studios/Hawaii in Honolulu Marvin Gaye is completing his latest LP for Motown Records, with Rick Keefer at the mixing console.

Bayshore Studios, San Carlos, CA, currently has Richi Ray completing three songs for summer release as an EP.

At Music Annex Recording Studios' Studio B, Menlo Park, CA, Will Ackerman is recording a digital LP of solo acoustical guitar music on the

Sony PCM 1600, Harn Soper engineer.

At Wally Heider Recording, San Francisco, CA, the VIP's (B-Square Records) with David Coffin producing/engineering; and Light Year (Rankin Music Co.) with David Rankin and Jesse Osborne behind the console.

SOUTHWEST

At Britannia Studios, Hollywood, CA, Merle Haggard is producing his newest album with Ken Suesov engineering and Russ Bracher assisting... George Martin is working on the film soundtrack of *HonkyTonk Freeway*.

Tim Pinch Recording, Hollywood, CA, was on hand May 25th to handle the recording and live broadcast of *Survival Sunday 3* held at the Hollywood Bowl. Musical guests performing at the anti-nuclear rally included Crosby, Stills and Nash, David Bromberg, the Eagles, Dr. John, Peter Yarrow and Mary Travers.

At International Automated Media (IAM), Irvine, CA, Denny Correll is doing lead vocals on his 2nd solo album. Skip Konte producing, and Willie Harlan engineering.

Kendun Recorder's Studio D, Burbank, CA, has George Benson completing vocals for his upcoming album produced by Quincy Jones for Warner Bros./Quest. Engineering is Bruce Swedien with Ralph Osborn assisting.

Al Jarreau and Danny O'Keefe recently stopped by Mama Jo's in North Hollywood for a session with John Klemmer who is recording a new LP with producer Steve Goldman. Rick Ruggieri is engineering the project.

At Can-Am Recorders, Tarzana, CA, Jerry Marcellino producing Butterfly Records recording group St. Tropez, Howard Walen at the board. Leland Rogers is in mixing Kin Vassey for the International Artists label, Gary Gunton engineering.

At Salty Dog Recording, Van Nuys, CA, Juan Gabriel, number one artist on Billboard's Latin charts, flew in from Mexico for the special North American sound. His latest sound "Es Mi Vida" was produced at Salty Dog Recording by Jose Quintana for Ariola Records. Engineer was Brian Vessa.

Artisan Sound Recorders', Hollywood, CA, new overdub and mix room, Studio C, is busy day and night with Johnny "Guitar" Watson producing himself for his Vir-Jon Music Company. Dennis Moody and Rick Smith engineering.

NOTE: The Mix welcomes press releases on studio activity. Please send to: "Sessions", The Mix, 956 San Pablo, Albany CA 94706. ■



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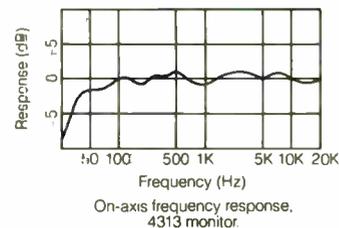
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JULY 1980

World Radio History

PROGRESSIONS

VINTAGE MICROPHONES

by Larry Blakely

In my recent visits to recording studios I have often been proudly shown a new purchase of an older make and model of microphone. The studio owner or engineer would then proceed to tell me how he came to acquire this rare treasure and the outstanding sounds he could obtain on certain vocals or instruments with the microphone. Needless to say, these experiences brought back many memories of the recording industry when I first entered it in the early 1960's.

The extent of multi-track tape recording in the early sixties consisted of two, three and four track. The typical outboard equipment available was limited to a few compressor/limiters and, occasionally, an outboard equalizer. Many of the recording consoles had very basic equalizers, if any, that would boost or cut at usually 2, 3, or 4 frequencies.

Now in spite of the shortage of tape tracks, limited amounts of equalization, and few choices of outboard equipment it is readily apparent that there were some outstanding recordings made during this period.

Engineers had to learn to get a lot out of what they had. Since there was not available to them much of what we now take for granted, the color and nuances of a voice or instrument were obtained almost entirely by the particular microphone that was used and the way it was placed.

Perhaps one of the most popular microphones of the time was the Neumann U-47. This microphone came out in the middle 1950's and was the first widely accepted condenser microphone in the recording industry. It was a three pattern type and one could select either omni, cardioid, or figure eight pick-up patterns. The U-47 was a very bright sounding microphone and had an exceptional high frequency response as well as an accented (boosted) mid-range. The microphone was used mainly for vocals because of its presence qualities. It was rarely used on strings, however, because it was too bright and would result in a very wirey or tinnny sound. It likewise was not often used for brass because it was too bright, although some engineers employed that effect.

Also in the middle 1950's the Telefunken

M-251 was introduced. This microphone was a condenser and also had three patterns. The M-251 was a smoother sounding microphone than the U-47, however, it was still very bright in comparison with many of today's microphones. The M-251 was popular for vocals and was often used for strings and brass because of its smoother qualities. The Telefunken M-251 and the Neumann U-47 were the most popular condenser microphones of the time and are still revered by many professionals as the two finest condenser microphones ever made.

The Sony C-37-A, another very popular condenser microphone which appeared in the late 50's to early 60's, gained a great deal of popularity because of its very smooth response. This microphone had much of the warmth of a ribbon but with the transparency of a condenser and became popular in the 1960's for strings, piano, and woodwinds. It was later followed by several other versions from Sony, such as the C-37-FET, although none of the later versions have the fine quality of the original C-37-A in my opinion and in the opinion of many other industry professionals.

The Altec 21D condenser microphone was introduced in the very early 1950's. This was a strange looking microphone that was approximately 12" long, about 1" in diameter at the bottom and narrowing down to a little 1/2" ball on the top. This microphone had a response peak at around 8 KHz and was often used where the high frequencies would fall off in certain acoustic environments. It was popular as an overhead drum microphone because the high end peak gave the drums a little edge or snap. Occasionally this microphone was taped to the bridge of a string bass with the head of the microphone right at the "f" hole. This particular microphone on bass was one of the first popular methods of close microphone placement.

The RCA 44-BX was widely used in radio in the 1930's and in recording in the 1940's and 50's. The 44-BX was a bi-directional microphone and had a warm sound (as do most ribbon type of microphones). It was often used with vocalists placed on each side of the microphone. This microphone was also used for brass, providing a

great deal more warmth than the condenser microphones, and was popular for reeds and strings because of its warmth. The response started rolling off in the 5 KHz range and a little high frequency boost in the 10 KHz region gave the microphone an extended high frequency response to match that of the condenser microphones, but with much more warmth.

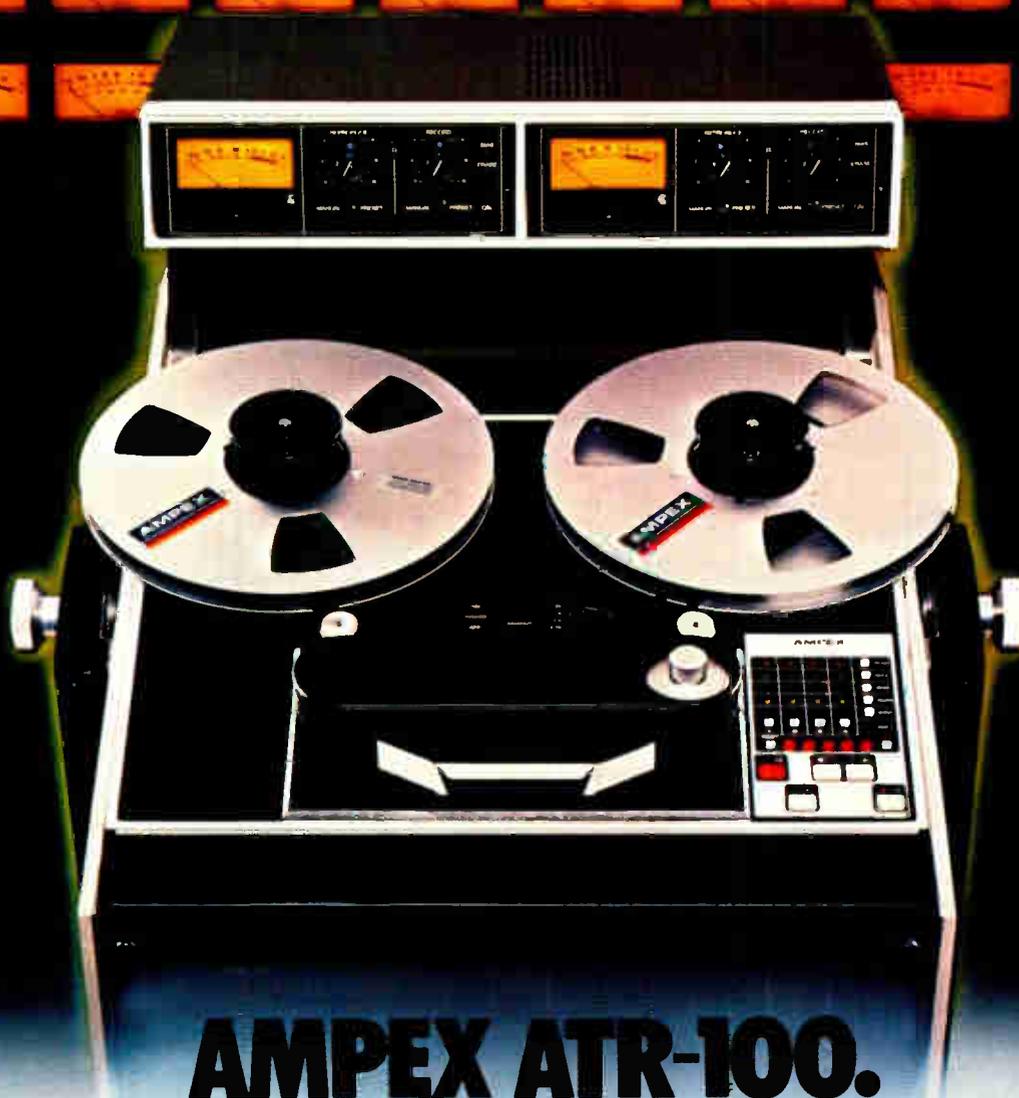
The RCA 77-DX was introduced in the same time period as the 44-BX, however the 77 was a multi-pattern microphone and was far more directional than the 44 and became very popular because of its directional qualities. Doc Severinsen once told me that the RCA-77 gave him the best recorded trumpet sound he had ever heard. The 77 was also very popular for woodwinds and strings.

The Electro-Voice 666 was one of the first cardioid microphones to gain wide acceptance in the recording industry. It was an excellent dynamic mike often used in multiple microphone setups because of its extreme directionality. This was also a very rugged microphone, as demonstrated in its introduction by using it to pound nails into a 2x4.

Another very popular microphone of the time was the Western Electric 639, later manufactured by Altec Lansing. This was a combination dynamic/ribbon type and had the ability to select a number of pick-up patterns. It was said to have a peculiar sound unlike the condenser, dynamic, or ribbon microphones, which stands to reason in as it was a hybrid. The 639 was very popular for rhythm instruments, such as acoustic guitar and string bass, and also vocals. It was used for the voices on the Stan Kenton album "Road Show" with June Christy and the Four Freshmen with excellent results, as I am sure those who have heard it will agree.

If you have not had a chance to personally work with some of these "vintage" microphones, I suggest that you look for the opportunity. These older microphones have a lot to say so take the time to find one and listen. There is fine wine in old kegs.

Special thanks to Bill Robinson for providing additional useful information.



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COMMITTEE REPORT

Society of Professional Recording Studios

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SPARS participated in the second annual conference of the Black Music Association in Washington, D.C., June 26-30. Serving on the "All About Recording Studios" panel were Dave Teig, Atlantic Studios; Mack Emerman, Criteria Studios; Murray Allen, Universal Recording Corporation; Guy Costa, Motown/Hitsville USA Studios; and chairman Joe Tarsia, Sigma Sound Studios.

In response to the highly successful recording industry seminar presented in May, in Los Angeles, SPARS is offering cassette tapes of the events at \$25/set for nonmembers who attended the sessions and \$50/set for nonmembers not in attendance. Tapes can be ordered by writing to SPARS c/o Malcolm P. Rosenberg, Esq.

Recent committee chairmanship appointments include Guy Costa, engineering practices committee; and Nick Collieran of Alpha Audio, finance committee.

Creative Audio and Music Electronics Organization

10 Delmar Ave., Framingham, MA 01701

At the recent NAMM convention in Chicago, CAMEO presented seminars on "Mixing for Recording and Sound Reinforcement," hosted by Bill Porter; and "How Pro-Sound Dealers Can Remain Profitable in the 1980's." The latter was a panel discussion consisting of Ray Hartman, California Musical Instruments; Dick Rumore, Paragon Music; J.D. Sharp, Bananas At Large; Den Dues, Far Out Music; and moderator Larry Blakeley, CAMEO president.

CAMEO reports that sales are brisk on their *Dictionary of Creative Audio Terms*. Copies can be secured by sending \$5.95 to CAMEO.

National Academy of Recording Arts and Sciences

4444 Riverside Drive, Burbank, CA 91505

The San Francisco NARAS Chapter has announced their second series of recording studio tours, to be conducted in August. The tours will visit the Automatt, Heider Recording, Different Fur, Record Plant, Russian Hill Recording, Music Annex, Altmann Recording, Marin Recorders, Freeway Recording, and 1750 Arch Studios. For exact dates and times, call Beverly at 415/777-4633.

A panel of three music business attorneys discussed topics of legal protection for the creative musician at the June 2 meeting of the Miami Members Association of the Atlanta NARAS Chapter, held at Triad Studios.

Eddie Lambert, re-elected Governor and present L.A. Chapter President has announced the new 1980-1982 chapter Governors: Joanie Sommers and Len Chandler (vocalists); Jimmie Haskell and Michael Melvoin (conductors); Eddie Lambert and Rupert Perry (producers); Dee Ervin and Patrick Williams (composers); Don Hahn and Phil Kaye (engineers); Earl Palmer, Sr. and Dave Pell (musicians); Morgan Ames and Ian Freebairn-Smith (arrangers); John Kosh and Christopher Whorf (art direc-

tors); Bill Dana and Marvin Miller (spoken word); Don Christlieb, Myron Sandler, and Delores Stevens (classical).

Audio Engineering Society

60 E. 42nd St., New York, NY 10017

Close to 8000 attendees and exhibitors were present during the four day Los Angeles AES Convention, held in May, in which 70 technical papers were presented. Four innovations were introduced into the convention plan: a special "AES Interface Evening," where exhibitors and guests discussed their technologies in-depth; a special session of "Women in Audio;" a forum on "Motion Picture Technology;" and "Meet the Author," an opportunity for attendees to gain a more intimate understanding of the papers presented. The Technical Committee on Digital Audio met prior to the start of the convention on Sunday, May 4, and hosted an international cross section of experts from the field of digital audio developments.

Professional Entertainment Production Society

P.O. Box 998, N. Hollywood, CA 91603

As one of its projects for 1980, PEPS is launching a major industry survey aimed at developing new data relating to live entertainment. The survey will be collecting data on types of travel; areas of specialization such as lighting, sound, rigging, etc.; insurance; types of equipment purchased; total dollars spent per area of specialization; repairs and maintenance of equipment; and other concerns and problems within the industry. To participate in the survey, call 213/760-8857.

National Association of Recording Merchandisers

1060 Kings Hwy. North, Cherry Hill, NJ 08034

Regional NARM meetings have been set for August and September in sixteen cities throughout the United States. The all day programs will integrate the needs of the retail store personnel, middle managers in retail and wholesale companies, as well as accounts serviced by rack jobbers and one stops. For dates and times, call the NARM office at 609/795-5555.

The NARM "Roadshow," featuring the multi-media "Give the Gift of Music" audio visual presentation, traveling the country wherever groups of recorded music industry members are gathered, presented a specially prepared version of the show, entitled, "Give the Gift of Music... Black Music," at the Illinois Black Music Seminar, at the Kennedy King Auditorium on June 17 in Chicago.

Association of Professional Recording Studios

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

With a view to exploring the possibility of studios adopting an International Digital Standard, should one be feasible, APRS has agreed to act as Secretariat to coordinate the activities of a special working party. An inaugural exploratory meeting of the world's major manufacturers and potential users of digital recording equipment was held in London during February, to set up the terms and references of the new working party. ■

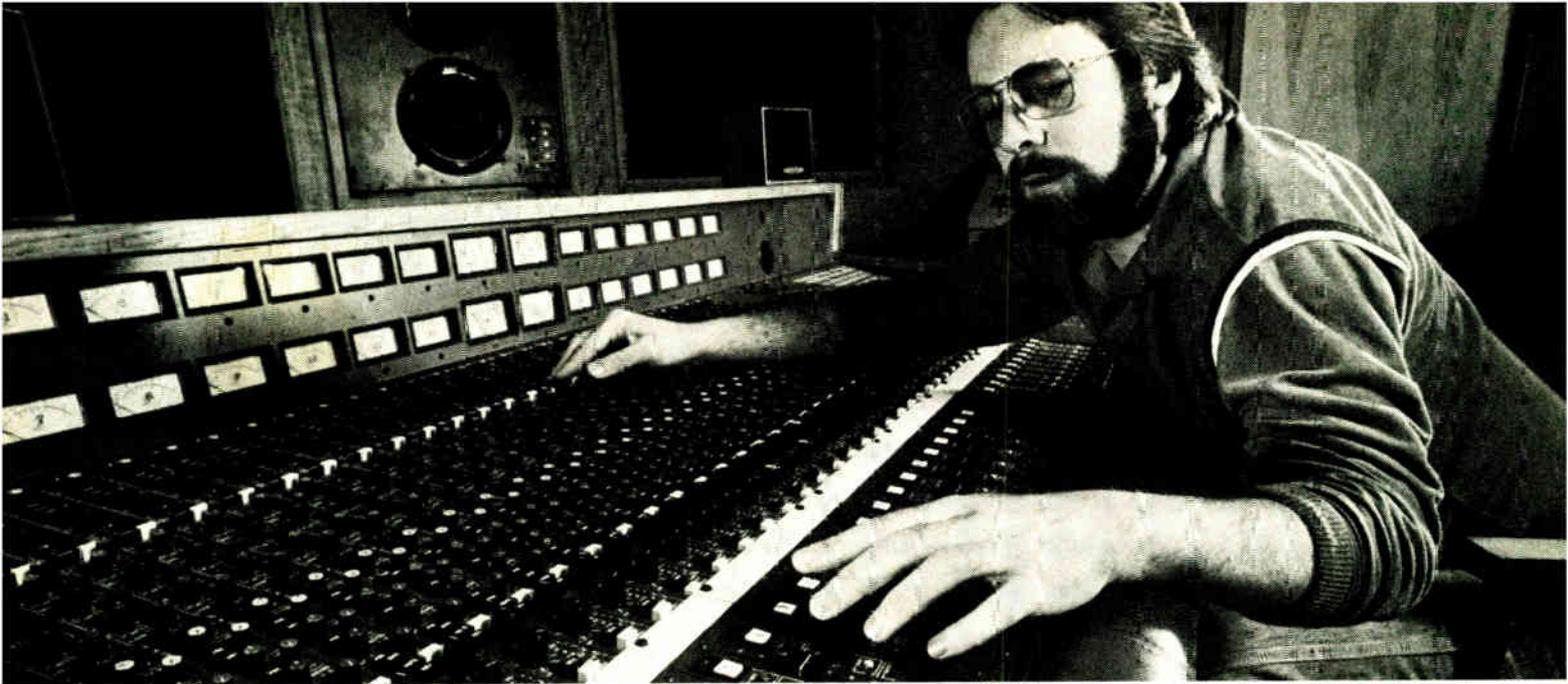


Photo location courtesy of Blue Jay Recording Studios, Carlisle, MA.

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The 2001 maintains its specified performance and musical clarity regardless of input and output levels. Its 50MHz bandwidth, widest in the industry, means you can add more than 30dB of gain without worrying about high frequency distortion or attenuation. And unlike other VCAs, the Model 2001 won't "thump" when you mute or duck a channel.

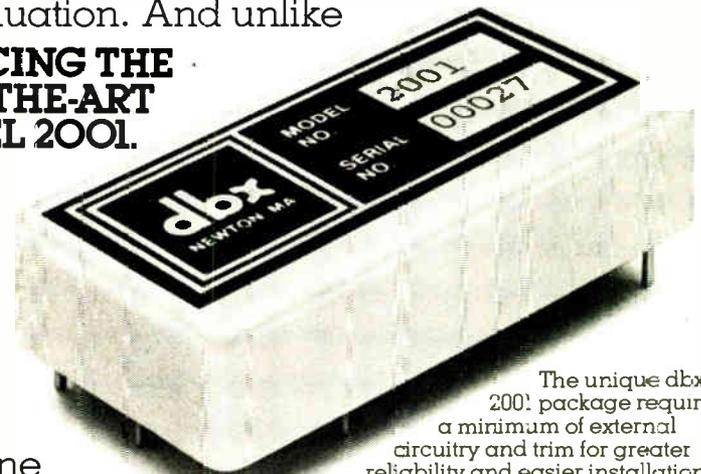
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STUDIOSCOPE

Studio Accounting Systems

by Dennis Buss
and Chris Haseleu

Most studio owners do not understand the true benefits or elements of an effective accounting system. It is important for the studio to keep a set of books that can generate the correct information needed to prepare the regular federal and state tax forms. However, this isn't the only, and surely not the most important application of a bookkeeping system. Using the data attained from the books for internal business planning decisions is of tremendous help to the studio owner, particularly for those who have been operating for a relatively short period of time.

A survey conducted by *Pro Sound News* (August 10, 1979) revealed the average age of the recording studios in the U.S. is 7.2 years. The *Small Business Administration* suggests that most new businesses require a little more than three years to financially break even; however, because of the heavy capitalization required, we feel the figure for recording studios is closer to four or five years. Accordingly, most medium-size studios today have been profitable for only a short time, or are still plugging along below the break-even point. An effective bookkeeping system can help avoid mistakes due to bad planning during these crucial first few years. The system can be used to generate data to plan growth (capitalization), to identify and emphasize the most effective use of profit centers, and/or to evaluate studio performance.

As an illustration of a business planning application, last year we were approached by a studio owner with a common problem: increasing sales, but decreasing net profits from studio operations. Although our client had an organized bookkeeping system, he treated all income from various sources—music recording, tape duplication, demo studio work, equipment sales, etc., as one revenue source. Also, expenses associated with each income source could not be identified

using the expense journal. Accordingly, the studio owner did not know which sources were generating the most profit, or the most costs. Our analysis showed the pro. equipment sales and tape duplication services were not turning a profit, thus bringing the studio's total net profit down.

By changing the books to reflect income and expenses by "profit centers" (versus grouping all of the figures together), decisions are now being made as to the effectiveness of each of the studio's services. Ultimately, our client eliminated the equipment sales service and hired an individual to restructure and operate the duplication department. This is an example of how to use the information from the studio's books to improve business planning. Our client's profits are now increasing at about the same rate as sales.

In addition to aiding in business planning and pricing decisions, an effective accounting system also can be used as a basis for securing financing. A recent survey directed toward studio managers indicated that over half of the respondents developed prices for their studio's services by following what other studios are doing, not based on what prices are needed to cover costs and contribute to net profits. A good set of books will thus make it easier for the studio owner to develop efficient and realistic pricing policies.

Elements

It is our philosophy that if something is too confusing, or takes too much effort, chances are it won't get done. This is particularly applicable for small to medium-size studios! So we warn that, no matter what type of accounting system you adopt, keep it simple.

The specific elements of the studio's bookkeeping system will vary, depending on the operation's individual needs. The following is a briefly noted outline of the more common elements.

Business Checkbook. This should be the core of the studio's bookkeeping system. However, it shouldn't be the *only* accounting device, as some smaller studios seem to practice. An often overlooked advantage of the checkbook is that the IRS will accept cancelled checks as legitimate receipts. A well organized and noted checkbook can be an excellent source for verifying information from other bookkeeping devices. Most banks offer basic business checking plans for no fee.

Sales Journal. This is a record of all receipts for the studio's services. The state of the industry suggests that the aggressive studio may benefit by diversifying into such areas as commercial work, consultation, pro. audio sales, instruction and other activities. Accordingly, the

sales journal should be set-up to treat these areas as "profit centers" to allow effective analysis. Also, due to the fact that most studios do not have a tremendous volume of credit sales, we suggest reporting only *cash* sales in the sales journal. Regular credit payments, from such clients as advertising agencies, can be treated as periodic cash sales. This holds with our philosophy to "keep it simple."

Expense Journal. Like all other accounting elements, the expense journal can be an effective business aid. The expense categories should be broken down into sufficient detail to accommodate analysis and control of costs. Preferably, an attempt should be made to allocate the appropriate expenses to the proper profit centers. This way, the profitability of each studio service can be monitored. Also, certain accounting systems have been developed that enable the owner to enter the studio's sales and list the operation's expenses on one sheet. Again, "keep it simple."

Summary. A regular (weekly, monthly, etc.) posting of sales and expenses is needed to analyze the studio's performance from period to period. For convenience, the summary report should incorporate both sales and expenses categories on one form.

Balance Sheet and Income Statement. The purpose of the balance sheet is to allow the owner an understanding of the studio's net worth at a particular point in time. It involves an analysis of assets and liabilities. On the other hand, the income statement (sometimes known as a "profit and loss" statement) reflects the relationship between the firm's sales and expenses over a period of time. The information used to develop these two statements is generated from the previous journals and reports discussed earlier.

Support Sources. Depending on the needs of the studio, "payroll," "inventory," "petty cash," "cash flow," "accounts payable," and "accounts receivable" reports can be useful in making business decisions.

In our brief discussion of the characteristics of an efficient accounting system, we attempted to cover areas that are of particular interest to the progressive recording studio owner. To obtain a more detailed explanation of this area, we recommend picking up a copy of the "Ideal General Business Bookkeeping and Tax Record," available at most office supply stores.

In addition, studio owners or managers wishing further information are encouraged to contact the authors in care of *the Mix*.

We would like to thank Ms. Kathi Lewis, owner of LSI Studios in Nashville, and Mr. Jay Webster, owner of Recording Associates in Portland, Oregon for their assistance in writing this article. ■

Our culture, our ingenuity, our music.



Our music means a lot to us. Ever since the Blues, we Americans have had a language in which to share our history and our dreams. We've moved together in a common rhythm that tells us who we are and unites us as a people.

Every one of us has been involved. As performers. As listeners. As Americans who support the freedom and the youthful energy that make our music unique.

You see, you can't separate our music from our culture—because our music reflects how we live and what we value.

Take our ingenuity, for instance. It's an integral part of our music and its heritage. Americans invented the electric guitar. The phonograph. A multitude of new techniques and sounds.

It was here where the Blues gave birth to Rock 'n' Roll. And artists from around the world have come here time and time again for inspiration and support.

But the sounds and the techniques that make our music what it is are so deeply rooted in American culture that they resist imitation. To create genuine American

music, you've simply got to use American methods. Others may try hard to reproduce our products, but *a copy is still a copy.*

That's why we at MXR are so strongly committed to providing a vocabulary of special effects that will enable us to express ourselves in our own special way. From Blues to Country, Rock to Jazz, we Americans have something unique and important to say. At MXR we understand that nobody can say it for us.

Because our music is who we are. It's our history. It's our culture.

It's America.

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SOUND ADVICE

USED EQUIPMENT TAPE RECORDERS

by Dr. Richie Moore

Studios are always updating their equipment to meet the current demands. Part of this turnover in equipment is due to client suggestions, ego fulfillment and clever advertising. The principle part is due to the actual ongoing equipment improvement that will give a better product, thus warranting the updating of old equipment. The older machines that are often sold off to make financial allowances for the new equipment are usually purchased by struggling new studios looking for quality equipment, but who cannot afford the newest models. One problem these rebuyers find is that there is not enough information available to make optimum purchasing decisions.

It is the intent of this series on used equipment to shed some light on the history and functions of the older and still available machines. By buying the less expensive used equipment, the studio owner is given the chance to own quality equipment without paying state-of-the-art prices. Let me add, though, that it is the operator and not the machine that controls the quality of the operation.

As with all tape machines and manufacturers that will be discussed in this series, it is important that the buyer be aware of the mechanical and component condition of the used tape machine he wishes to purchase. Two machines with consecutive serial numbers can be as different as night and day, depending on how well each machine has been maintained over the years. There are generally sufficient replacement parts available from the manufacturers to bring most machines up to specifications. But still, the apparent difference between very careful maintenance and just sloppy day to day operation can be astounding.

We will begin our used equipment odyssey with the tape recorder. It is impossible to discuss all the tape machine manufacturers in just one article and, for this reason, I have chosen to cover the Ampex and 3M manufactured machines this month and several other manufacturers next month.



MM 1000



300



AG-440B

Various Ampex Models



352

By way of a short chronology of the tape machine, we know that the Germans first publicly demonstrated the "Magnetophon" in Berlin in 1935, and by 1938 had adopted the Magnetophon and magnetic tape as the future standard for radio broadcast in Germany. The tape, by the way, consisted of carbonyl iron powder coated on cellulose tape acetate. It is interesting to know that the Germans were a full decade ahead of us in machines and tape, while here in the United States we were still struggling with steel tape and wire recorders. John T. Mullin brought back the German machine and demonstrated it in the United States, leading to the American development of the magnetic tape machine. Although a classic curiosity, it would serve little use to try to find a German Magnetophon unit today, as they are exceedingly rare and would be of no practical purpose in a modern recording studio.

Ampex Recorder/Reproducers

The Ampex Corporation, located in Redwood City, California, was the first to pioneer magnetic tape recording after World War II in the United States. Based upon John T. Mullin's presentations of the German Magnetophon, Ampex embarked upon the development of a magnetic tape machine for mass distribution. The first Ampex production machine was the Model

200, a rather bulky though well-manufactured machine. An interesting note is that the Model 200 machines were helped along financially by Bing Crosby and some subsequent sales to the American Broadcasting Company. In all, only 112 Model 200's were manufactured, even though the Model 200 decks can still be found in a few select locations, probably highly modified. It is not a machine that will often crop up on the used equipment market.

Most of the Ampex identification numbers stem from deck modifications and construction more than electronics. This is something that you should bear in mind when perusing the Ampex used equipment catalog.

In November, 1948, Ampex began to develop the Model 300. The Model 300 had a production run from about 1950 to 1967, its basic design being virtually unchanged until 1966 when the solid state version was introduced. In all, there were somewhere around 20,000 Model 300's manufactured during this time. Using the Model 300 deck and its tube electronics, people have developed anywhere from mono 1/4 inch to one inch 8 track machines. Model 300 Ampex machines crop up on the used equipment market fairly often. The prices of the Model 300 vary to quite a degree, and it is possible to find one that is still in excellent shape.

One of the significant developments that Ampex came up with was Sel-Sync, which is an Ampex registered trademark. The ability to listen to several channels on a tape machine while adding an additional channel with no time lag has become very commonplace. It should not be assumed, however, that all machines have three heads (erase, record, and play). Many of the early machines only had playback and record heads. The erase head was added later to give improved signal to noise. Many 1/4" machines

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*.

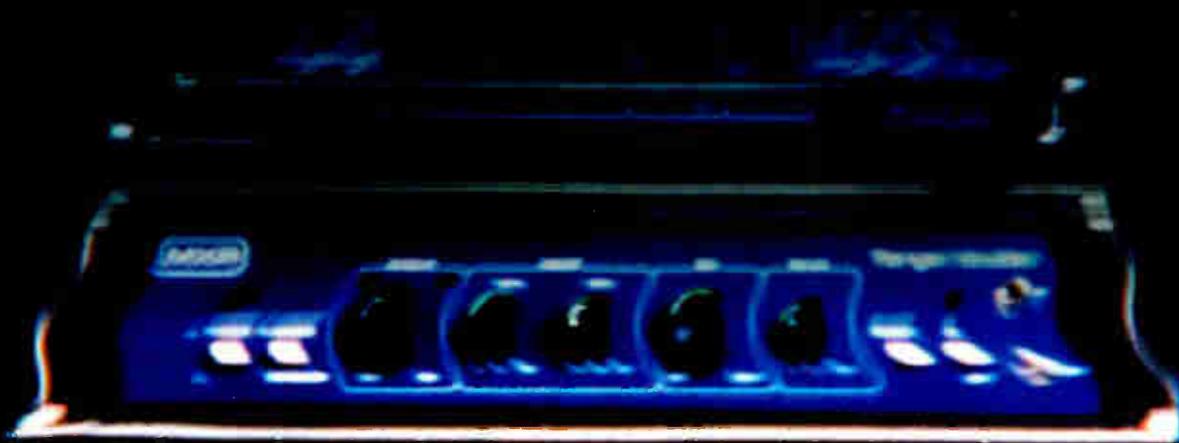
The Flanger/Doubler switches easily between flanging and doubling modes and provides pre-setting and LED monitoring of sweep speed and range, so musicians no longer have to hunt for correct flanging and doubling settings during performance. And the MXR Flanger/Doubler is an economical and effective way 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.

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MXR Professional
Products Group





3M M-23 two track

M-64 two track

M-64 four track

M-56 sixteen track

even left a space (next to their 1/2 track playback head) to take a 1/4 track playback head. As you may have gathered to this point, there are many things that you have to look for in determining if the machine suits your needs.

To cover each one of the features of every machine that Ampex has made over the years would file an entire book. Much of the knowledge is lost because of company turnover and the lack of company statisticians keeping track of all the modifications. We will go over some of the key machines and their individual quirks. Below is a list of the Ampex tape machine models and the years that they were produced

Model	Production Run
200	1947-50
300	1950-67
400-450 portable	1950-51
350	1953-57
351	1957-65
AG-350	1965-67
PR-10	1960-67
AG-500	1967-77 (solid state version of the PR-10)
600 Series	1954-68
AG-600	1968-77 (replaced by the ATR-700)
MR-70	1964-66
AG-300	1966-67
AG-440-A-B-C Series	1967-date
AG-500	1967-77
MM-1000	1968-72
MM-1100	1973-75
MM-1200	1976-date
ATR-100	1977-date
ATR-124	1979-date

Starting with the 200 series to the AG-600-02 the majority of the machines were from mono to three and four track. The first three and four tracks being the AG-300 and AG-350. As stated earlier, the 300-350 series recorder/reproducers were the first to have Sel-Sync™ (Selective-Synchronization). The difference between the AG-350 and the 350 was the fact that the AG-350 was solid state, while the 350 was a tube (valve) recorder/reproducer.

The 600 series machines were portable and usually used in offices and small rooms to record either mono or stereo sound. This was probably the closest machine that Ampex ever made to a professional home-type unit. It had speeds of 3 3/4 and 7 1/2 ips and had an optional speaker/amplifier.

The 400-450 portable machine was very interesting from one particular standpoint. Instead of having the normal capstan-pinch roller arrangement that pulled the tape through the

tape guides and against the heads, the limited edition 400 series pushed the tape through the heads and used the constant tension of the take-up mechanism to hold the tape against the heads. The idea was a bit ahead of its time, but now there are highly regarded machines on the market that employ this same principal; somewhat notable is the Ampex ATR series.

The Series 300 Ampex's, as mentioned before, came in several formats. In the more than 17 years of production, the Ampex 300 proved to be a most reliable machine. Remember, the 300 series was a tube (valve) machine that came in mono up to three track configurations, and later to four. There were some 300's in the tube version that were made into 8 tracks on 1" tape. The quality and sturdiness of the die-cast transport made it a tinkerer's delight as far as modifiers were concerned.

The AG designation before the series number denoted the fact that the machine was a solid state version. The AG-300 offered such things as low power consumption, plug-in transistors that were easy to get, (nuvistors, at first) plug-in equalizers for maximum flexibility, convenient front panel adjustments, record/safe switch, locking type gain controls, record mode indicator lights, and individual phone plug monitor jacks on each set of electronics, not to mention plug-in microphone preamps for each channel. These developments are now fairly standard on even the most expensive multi-track machines. The standard AG-300 models were the AG-300 full track single channel with 1/4" tape width; the AG-300-2 two channel, 1/4" tape width; and the AG-300-3-4, three and four channel, 1/2" tape width machines with or without the Sel-Sync™ synchronizer. Special models of the AG-300 were the AG-300-6 and AG-300-8 six and eight channels (yes, a six track machine) that utilized 1" tape with special head configurations and operating speeds from 1 7/8 to 30 ips. Another special AG 300 model was the AG-300-2M two channel with 1/2" tape width utilizing special head configurations for four (1/4) track masters. We will see later that 1/2", 1/2 track machines were rare but gave increased signal to noise because more of the head surface was allowed for each track making the sound clearer and more definite.

The Ampex Model PR-10 is probably the most common reel to reel tape machine found in broadcast studios throughout the world. They are also primarily a rack-mounted machine. Not only are they found in commercial radio and television studios, but in the broadcasting teaching facilities around the world. Their dependability has been a hallmark of professionalism. The AG-500 was the solid state version of the PR-10 that was manufac-

tured for about a year. Other models, such as the ATR-70C have since replaced both of these product lines

The AG-440 series which started its production run in 1967 and continues to this date is probably the most successful series that Ampex has ever created and has had universal appeal. But before I discuss the 440 series, I want to talk about a rather unique machine that was an interim model between the 300-50-51-55 series and the AG-440 series. This machine was called the MR-70, MR standing for Master Recorder. It is easy to say that the MR-70 was a machine that was ahead of its time. Many of the features on the MR-70 have become standard on today's most advanced analogue and digital tape machines. You may not be that aware of the MR-70 as there were not many made during its production run from 1964 to 1966.

I first encountered an MR-70 at Elektra Studios in Los Angeles and was very impressed by what the machines had to offer both mechanically and aurally. In fact, in 1972 I mixed Tom Wait's first album, "Closing Time" in Asylum Records, at Elektra Studios down to an MR-70; choosing the MR-70 over an AG-440 and a 3M model 64. The MR-70 Master Recorder was a direct result of Ampex design engineers working closely with key personnel in the recording industry. It was one of the first times that an audio manufacturer had designed a machine with the input of the people that had to use the device on a day-to-day basis. Today this approach to component design is commonplace, but in 1964 it was innovative.

The MR-70 was designed to take advantage of the low noise-high output tapes that were being developed at that time. Using the low noise tapes, a signal to noise increase of 10 dB was realized over the broadband (at the time) of 20 Hz to 15 KHz, giving the MR-70 a noise floor of about -60 dB. The machine introduced a precision idler assembly (scrape-flutter filter) between the record and the playback head to cut down the unsupported tape path and rid itself of almost all frequency modulation noise. Tape speed was accurate and constant, even if the machine was moved due to an optical sensing capstan. The constant hold-back tension system maintained the correct tape speed and alignment from beginning to the end of the reel. A balanced 150 KHz master oscillator in the transport drove the bias and erase amplifier (feedback stabilized), maintained low noise, and reduced even order harmonic distortion. The resulting symmetrical bias waveform eliminated the need for a "noise balance" control. The 150 KHz bias frequency minimized audible beats between the bias and the

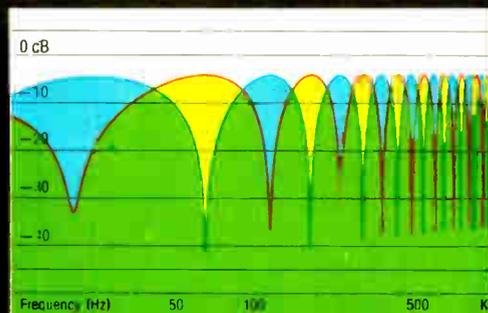
More than a chorus.



The new MXR Stereo Chorus stands alone among conventional chorus devices. Its unique design and sound almost defy description.

The Stereo Chorus utilizes advanced time delay circuitry providing a doubling effect for voices and instruments; one voice will sound like two singing in unison, two like four. As in nature, the voices can vary subtly in pitch. What you get is a natural choral effect. It can be used to thicken the sound, so that six-string guitars sound like twelve-strings. Through the introduction of extreme pitch bending, the Stereo Chorus will produce an intense vibrato, normally unattainable.

Not only is the Stereo Chorus musical and versatile, it also provides a means of achieving realistic stereo enhancement. We've included two outputs with complimentary notches and peaks in the frequency spectrum. The exact frequencies which are notched in one channel are boosted in the other. The graph shown is an actual response plot of the two outputs, which illustrates this concept. The Stereo Chorus transforms tones, harmonics and sounds into a lush and shimmering musical environment which surrounds the listener. This differs from similar devices which have one processed output, and one dry output. The Stereo Chorus provides a true stereo image which sounds more vibrant and alive than conventional chorus effects.



The manual control varies the delay time; a width control determines the amount of sweep; and a speed control adjusts the rate at which the delay is swept. A bypass switch provides noiseless accessibility to the dry signal in both outputs.

The MXR Stereo Chorus is equally geared for the studio or the road. We've included

an internal switch which allows the selection of instrument or line level at both the input and output. Its high input impedance reduces the effects of loading when using long lines or other effects devices. Its low output impedance allows you to drive long lines and any other equipment. Superior circuit design has enabled us to maintain a wide bandwidth and dynamic range, ensuring signal fidelity.

The MXR Stereo Chorus is AC powered, ruggedly constructed to withstand the rigors of professional use, and is backed by MXR's reputation and commitment to the music industry. But reading about a product that has no equal is not enough. To appreciate what your music has been missing, see your MXR dealer.

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MXR Musical
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Sound Off?

When your recorder or reproducer sounds off, the problem could be due to the tape steering up or down because of faulty alignment. Eliminate this problem with the all new VIF Capstan Idler Assembly.

Precision designed by Walter White, the VIF 1005 has a unique self-aligning feature which enables it to remain exactly parallel to the capstan at all times, thereby completely eliminating alignment problems regardless of capstan diameter.

Price: \$30.00 each.



Professional sound equipment for the professionals in sound.

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Sound Advice

The Problem: Selecting a first playback stage, low noise tube for an Ampex Professional Audio tape recorder.

The Solution: Replace the tube with a VIF 1006 JFET device that has lower noise, higher amplification, and will last about 600 times longer than an equivalent tube without drift or aging.



The Price: \$33.00 each. Some Ampex models require an Adaptor, available at \$16.00 each.

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harmonics of the high frequency signals.

Another handy feature of the MR-70 that appears on today's newest machines is variable speed winding and rewinding capability (from creeping to 400 ips in either direction). The machine also has fully automatic tape lifters, manually retractable at any time. Other operational features of the MR-70 include a drop down gate providing full access to the heads for easy cleaning, demagnetizing, and editing. Fast, positive starts are guaranteed by supplying power boost to the takeup motors during the start function and by using easy-to-see illuminated pushbutton controls for all motion functions. When the tape speed is selected on the transport, relays automatically switch to the proper equalization in the electronics. A high-frequency response selector switch allows selection of three different post-emphasis characteristics for each speed. Any of these characteristics, from 17.5 to 100 microseconds, may be pre-adjusted and then selected as desired.

A series of machines that we commonly see on the used market is the Ampex AG-440, in production from 1967 to the present, incorporating almost all the Ampex design ideas up to the introduction of the present ATR series. The AG-440 and 440-B series utilize a rigid die cast frame that provides an absolutely flat mounting for all mechanical components. The electronics on all models are solid state, and its modular (that is, each channel having its own meter bridge, record/repro level adjustments, and switching controls) construction of the bias, record and repro cards assures rapid maintenance and downtime adjustments. The 440's electronics' modular approach is evident in the MM1000, the MM1100, and the MM1200 series multi-track recorders.

Some of the varying features to look for when choosing a 440 include: rotating tape transport guides to accept more than one size tape, AC capstan motor or a capstan servo, an MDA (motor drive assembly) option so that a variable-speed device can be used and automatic monitor switching from the Sel-Sync mode to input.

The Ampex MM1000, Master-Maker series, was the first Ampex designed for the master recording facility. The MM1000 was basically an Ampex VTR transport that, because of its two-inch tape handling capability and somewhat proven design, made it ideal for the move to 16 and 24 track. The MM1000 was available in a basic 8 track format, but because of its original design, could easily be updated to 16 or 24 without making any part of the machine obsolete. The tape transport converted rapidly from 1" to 2" wide tape handling, using the same tried and proven technique of the AG-440 series—rotation of the tape guides. Another thing the MM1000 borrowed was the AG440-type electronics which, being modular, fit perfectly into the idea of an expandable recorder/reproducer.

The MM1000 was produced from 1968 to 1972 and is a fairly common machine to find on used equipment lists. You will more likely find them in the 16 track configuration with an optional 8 track head stack. I must admit that I have never seen an MM1000 24 track.

The MM1100, which was produced from 1973 to 1975, utilized the AG440 series electronics, but had a one-above-one meter bridge.

The 1100 handled 14" reels with great ease and introduced a variable tape tension adjustment to go along with the all-servo capstan control assemblies. The 1100 is best noted from the 1200 by the 440 electronics.

At this time, there are few MM1200's that appear on used equipment lists, and even fewer ATR100's and ATR124's. Because of this, specifications are easily available from your local Ampex distributor. For the most part, there are replacement parts available for all the machines and I would advise you to check the availability of support parts before any machine purchase.

3M Recorder/Reproducers

Originally, 3M was the manufacturer of pressure-sensitive tapes. One of their representatives came to Ampex in the spring of 1947 and asked if 3M might prepare a suitable tape for use on the Ampex developed machines. Over the years, 3M did develop a great series of high performance tapes, beginning before Ampex started developing their own brand of tape. Information as to exactly when 3M got into the development of tape machines is a bit sketchy, but the first 3M machines were introduced in 1965 as the Series 23. The most important innovation was that of the 3M Isoloop™ transport. This type of transport reduced flutter by reducing the unsupported tape distance to 3½", compared to the conventional transports that varied from a few inches in length up to twelve inches. Flutter was also reduced by creating a difference in the effective diameters of the capstan, so that a smaller-diameter drives the incoming tape, and a larger-diameter capstan pulls the outgoing tape. The incoming roller was contoured to press the tape firmly against the capstan, and the outgoing roller would press firmly against the ridges of the larger-diameter capstan. The differential capstan diameter was constantly trying to extract more tape than was being fed into the loop, and developed the necessary tape tension for the heads.

Whereas with other tape machines the capstan motor and other controls were activated by a solenoid-type switching arrangement, the 3M machines used a photocell switch; so that when the tape was threaded into the capstan assembly, it interrupted the light path, readying the controls for operation. Simultaneously, the supply and takeup torque motors were energized and applied sufficient tension to remove slack from the tape path and protect the tape from breakage. A second photocell sensor worked in conjunction with the run-out switch to perform whatever switching function had been preselected at the end of the tape. Depending upon the presetting of the switching, the transport would allow normal tape run-out, rewind, stop, or start of another tape transport system.

When 3M introduced the innovative Isoloop, they called the system transport and electronics the 3M Dynatrack. The Dynatrack system was in all the Model 23 and 64 series machines from 1965 to 1971. The idea was to present a system that increased the signal-to-noise ratio and the dynamic range. The Dynatrack system employed a two-section recording system, using high and low level sound tracks. During the playback of recorded material, an automatic switching device sensed which of the two tracks had the best signal-to-noise ratio and

the least amount of harmonic distortion.

For those wishing to know the specifics of the Dynatrack system, there is an excellent explanation in Howard Tremain's *Audio Cyclopedia* on page 871.

The main reason why the Dynatrack system never came into great prominence is quite evident. Every one channel took two tracks on a Dynatrack machine. This meant that you would need a four channel tape machine to record just two tracks. In a "track-conscious" industry, we needed a machine that would give us every track possible. Probably the most use that the Dynatrack system ever saw was with Angel Records division of Capitol Records. Carson Taylor, who at one time did more recording for Angel than any other mixer, has advised me that the Capitol vaults have many hundred Dynatrack system recorded tapes.

When looking at 3M machines it may be well to know that the transports (Isoloop) look alike. The difference is on the inside. The Model 23 and the 64 used rim drive capstan idlers. Later model 64 and model 56 employed belt drive. This can be determined by lifting up the deck of the machine. If there is a triangular grey cover it is belt drive. You can consult with a local 3M tech representative, as far as the electronics are concerned. However, I should point out that the Model 23 and 64 had plug-in electronics for each channel, as did the Ampex. The Dynatrack feature was deleted in the 56 series machines.

The Model 23 was produced from 1965 to 1967 in mono, 2, 4, and 8 track. There were only three portable 3 track model 23's made. The rest were made to be in one case. The three that exist are at Wally Heider's in San Francisco, 1750 Arch Street Studios in Berkeley, and Dale Manquein's own private collection of vintage gear. Thanks to Gray O'Dell of Filmways/Heiders San Francisco for his help on the 3M details.

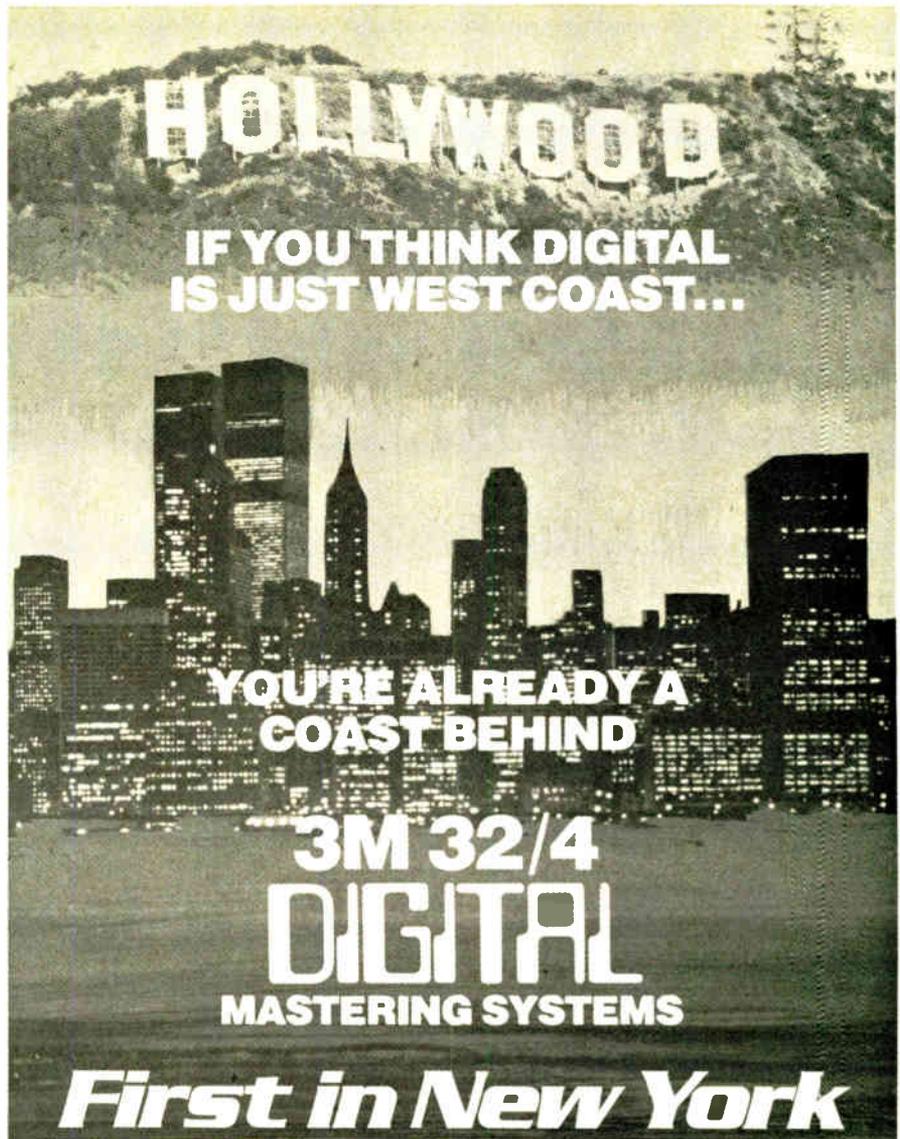
From 1968 to 1971 both the model 64 and the model 56 were produced; the model 64 in the mono, 2 and 4 track versions, the Model 56 in the 8 track 1" and 16 track 2" models. These machines were real workhorses and, by personal experience, I would put a 3M Model 56 16 track up against almost any machine and not be ashamed of its performance or handling. It might be interesting to note that all of the 23's, 56's and 64's were shipped from the factory at 7½/15 ips and many were later modified for 15/30 ips operation.

As with the ATR series Ampex machines, it would not do much good to cover the M-79's as used equipment, even though they have been around since 1972. You will find Model 79's on the market for used equipment but, as with the ATR series, current literature is available from your local 3M distributor.

This brings us to the end of this chapter on used equipment. Most of the information has been assembled from the various companies, as well as the author's personal encounters with machines over the years. If you have any further questions you may direct them to the author c/o *the Mix*, or Studio Operations Services (SOS) 540 Canal, Number 7, San Rafael, CA 94901, 415-459-1783.

The next series on used equipment will continue with tape machines. Your feedback on this series is welcomed and encouraged.

Until next time, have a good MIX! ■



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INDEPENDENT RECORDING

A BOOMING ALTERNATIVE

by Diane Sward Rapaport

While news of plummeting record sales has major labels in the doldrums, Northern California's independent labels are experiencing something of a boom. In the last five years, Northern California has become the independent recording capitol of the United States. Not only are hundreds of individual artists 'rolling their

own', but some 15 small labels are based here which, between them, manufacture more than 100 records a year.

With quixotic names like Kicking Mule, Kaleidoscope and Solid Smoke and representing almost every genre of music from New Wave to jazz to classical, folk and country, these labels share a common desire to bring to their audiences music that is outside the commercial mainstream.

Usually no more than five people operate the average independent record label. Budgets for recording and manufacturing rarely exceed \$15,000 and sales averaging between 5,000 and 25,000 records are considered very profitable. While major labels dub sales in these quantities 'stiffs' and kick them into warehouse graveyards, these smaller companies make owners and artists a stable, living wage at a fraction of the heart-ache, frustration and risk experienced by many artists signed to major companies.

In fact, these Northern California independent labels sell well over a million records a year throughout the U.S., providing audiences with a healthy alternative to more commercial sounds. Their distribution includes sales by networks of local and regional independent distributors to the smaller non-chain record stores, by mail order or directly from the artist at club and concert performances. Collectively, the impact of these labels on the music industry is extremely impressive. For example, Kaleidoscope Records' *David Grisman Quintet* sold some 80,000 records and Olivia Records' Cris Williamson's *The Changer and the Changed* sold well over 100,000.

These labels also generate a healthy cash flow which has kept many Bay Area recording studios and stores that sell home recording equipment happy and healthy.

It is worth mentioning that the surge in independent labels and recording studios is largely due to the greater accessibility of recording equipment. In 1974, TEAC began an aggressive marketing of multi-track home recording equipment. In this issue of *the Mix*, some 4 and 8 track studios are listed which are equipped with the new format TEAC or Otari tape recorders. These tape recorders use narrower tape widths: instead of one-inch tape for 8 track tape recorders, 1/2-inch tape is used; instead of 1/2-inch tape for 4 track recording, 1/4-inch tape is used. And just this year, TEAC began marketing its new format 16 track machine (1-inch is used in place of the usual 2) at a price that is less than half the price of its nearest pro-audio competitor.

These innovative recording formats have made rehearsing, arranging, editing, composing and recording an affordable dream for thousands of musicians. A 4 track studio can be outfitted with new basic equipment for less than \$6,000; less than \$12,000 buys an 8 track, complete with recorder, mixing console, mikes, stands, speakers, amps and perhaps even a few pieces of outboard gear. Rentals in these studios average \$15-20 an hour for 4 track time; \$25-40 an hour for 8 track time.

These and other advances within the industry have made it possible for independent labels to operate. Here's a rundown of some of the labels that are helping to maintain Northern California as the place for innovative musical movements.



DAVID GRISMAN

**Kaleidoscope
Records**

ARHOOLIE RECORDS

Chris Strachwitz, founder of Arhoolie Records, is the granddaddy of the specialty labels in San Francisco. He started his label some 20 years ago in order to preserve what he felt were vanishing traditions in rural Southern music. Some 150 albums are now available on Arhoolie: Louisiana zydeco and Cajun music; Tex-Mex border music; prison work songs; New Orleans jazz; 'old timey', and Western swing and Chicago blues from such greats as Mance Lipscomb and Lightnin' Hopkins.

Some of Arhoolie's records sell as many as 5,000 copies a year, some as few as 28. But compared to the lifespan of a major label record which can be stone-cold dead in six months, Strachwitz' records are timeless in their appeal. "Slow selling, long lasting," Strachwitz says with a smile. "I've sold a million records—in 20 years!"

Strachwitz records most of the musicians on a 2 track recorder, either in a club or living room, preferring the spontaneity and warmth that a live performance often brings. His favorite recorder is a Nagra, which he bought with money that he got from selling some old 78's to a collector in France. Seldom do Strachwitz' recording costs exceed the costs of tape and travel.

Many of the newer Bay Area labels like Kicking Mule or Bay Records have borrowed expertise and help from Chris when just starting out. For them, and many others, he represents integrity, pride and devotion to the music—a nicely spoken man actively dedicated to helping musicians communicate through the medium of records.

BAY RECORDS

Bay Records, founded in the early 70's by Mike and Sheila Cogan, specializes in traditional and progressive country/folk records. Their catalogue includes Kenny Hall and the Sweets Mill String Band, Mitch Greenhill and Mayne Smith, the Arkansas Sheiks, Frankie Armstrong (Britain's foremost female folksinger) and legendary jazzgrass pioneer Frank Wakefield. (Wakefield has a new album on Bay, *End of the Rainbow*, featuring his most famous original composition, "New Camptown Races", which is considered a bluegrass classic.)

Mike Cogan augments his recording label with a recording studio, Bay Records Studio, and helps other labels find printers and manufacturers—an invaluable service for inexperienced or busy label owners.

KALEIDOSCOPE RECORDS

Newgrass jazz, contemporary country and 'dawg' music are found on Kaleidoscope Records. The success of their first album by the David Grisman Quintet led to other signings: fiddler Darol Anger, guitarist Tony Rice, electric mandolinist Tiny Moore, acoustic mandolinists Jethro Burns and Tim Ware, and the silken voice of singer/songwriter Kate Wolf.

Incidentally, David Grisman's scenario could be a model to other musicians looking to sign with a major label—particularly since his music defies most of the mainstream requirements: it is all instrumental; there are not hit singles; few of the songs are shorter than three minutes. Grisman used his record to help gain au-



ROY LONEY & The Phantom Movers

Solid Smoke Records

dience acceptance for his music during performances at clubs and college concerts throughout Northern California. Fan support helped to get radio airplay and both led to phenomenal record sales. By proving his strength regionally, Grisman was able to land a contract with A&M records, which in turn helped him to secure his new contract with Warners.

KICKING MULE RECORDS

Kicking Mule Records, founded in the early 70's by Ed Denson, former manager for Country Joe and the Fish and blues guitarist Stefan Grossman, specializes in records for playing musicians. They feature dazzling acoustic guitar stylings: rockabilly, ragtime, folk, Chicago and country blues, as well as traditional and contemporary finger-picking, bottleneck and slide virtuosity, and dulcimer music.

Kicking Mule's most popular album features former Pentangle artist John Renbourn and Stefan Grossman performing elegant, warm and whimsical instrumental guitar solos and duets with titles like "Snap a Little Owl", "The Shoes of the Fisherman's Wife are Some Jiveass Slippers" and "Why a Duck".

Because most of the label's albums feature solo instrumentals or acoustic duets, recording costs seldom exceed \$500. "For a long time we wouldn't go over \$100."

The success of the label is not only due to keeping recording costs low, but to involving the artists in selling their own records. "The ones that are energetic can sell 200-300 a year. When Renbourn and Grossman toured, they were selling 100 a night. And then there's Bob Hadley who plays up in the parks in Canada and sells 1,000 a year. A loyal cadre of fanatical people will do almost anything..."

OLIVIA RECORDS

Olivia Records, founded by a five-woman collective in the early 70's, has made something of a sensation by opening up an alternative

marketing network that reaches out directly to an audience of women. The network of women-owned coffeehouses and bookstores, as well as college women's organizations, provide unique performance and sales opportunities for Olivia artists throughout the country. Their success also helps scores of other women-owned record labels promote and sell their records. Two of these labels operate in the Bay Area: Redwood Records, whose primary artist is Holly Near, and Pleiades Records, featuring singer/songwriter/pianist Margie Adam.

More importantly, the success of these labels has given them a fan base from which to reach a much wider audience. Cris Williamson's following extends way beyond a collection of feminist diehards. Her new album, *Strange Paradise*, with sales exceeding 30,000 copies in two months, is perfectly designed for a cross-over audience. In fact, I predict that the album will be Olivia's first gold record—beautifully recorded, the album features Cris' lushly textured voice belting out earthy rock-n-roll, reggae and dreamlike ballads.

RALPH RECORDS

New wave absurd is best epitomized by Ralph Records, a company that has been around since 1976. Ralph began with an outlandishly weird group called the Residents (whose identities still remain concealed) and catapulted them to underground fame by a combination of flagrant graphics, imaginative p.r. and good business (defined here as the practice of returning phone calls, delivering what is promised and COMMUNICATING). Last summer Ralph Records began signing other artists: Snakefinger, The Art Bears (with Fred Frith, Chris Cutler and Dagmar Krause), Tuxedo Moon and MX-80 Sound. Wit and good musicianship are their calling cards. Ralph has released a good sampler pack of their music called *Subterranean Modern*, which features the Residents, Tuxedo Moon, Chrome and MX-80 Sound doing versions



CRIS WILLIAMSON
Olivia Records



ALEX de GRASSI
Windham Hill Records

of "I Left My Heart in San Francisco".

Other Northern California record labels which specialize in new wave—or old wave rockabilly—are Solid Smoke Records, whose biggest star is Roy Loney, and 415 Records, whose artists include SVT and the Readymades.

1750 ARCH RECORDS

The most conspicuously avant garde label is 1750 Arch Records, which specializes in contemporary modern music. On their releases you can hear 'lexical music' (words used as sound and rhythm textures), Charles Dodges' musicalization of a radio play by Samuel Beckett called "Cascando", or "Complete Studies for Player Piano" by Mexican genius Conlon Nancarrow. Less heady stuff: jazz by Denny Zeitlin or the guitar music of Villa Lobos performed by Joseph Bacon.

THERESA RECORDS

The Bay Area's reputation as an outstanding jazz center is perpetuated by Theresa Records, founded by fluegelhorn player, Allen Pittman. "A few years ago we made a demo tape of some of Bishop Norman Williams' music and took it to some of the prestigious jazz labels and they delayed and delayed and I said, well, let's try it on our own." Since then, the label has added jazz pianist Ed Kelly, Babutunder and Pharoah Sanders.

WINDHAM HILL RECORDS

Windham Hill Records began as an artist-owned label by guitarist William Ackerman. His three records on Windham Hill have established him as one of the very finest steel string fingerstylists performing today.

Ackerman, however, is also a skilled businessperson—efficient, straightforward, reliable, serving as a model to other musicians who are conditioned to feel that artists are inept in business. He has used his leverage to release albums of others whose music he respects: Alex de Grassi, a guitarist who performs tone poems in odd stylings; Robbie Basho, venerated 6 and 12-string steel string guitarist; and Bill Quist, a pianist who performs the piano solos of Erik Satie in a way that magically highlights Satie's haunting, spare melodies.

Windham Hill Records sold almost 100,000 records last year—a phenomenal number for a label specializing in instrumental, acoustic music. Some of the success is owing to the superb musicianship, some to the artists' willingness to go on the road and perform, and some to Ackerman's great efforts to record and manufacture technically superior albums. Value is what this label delivers—in everything from the music to the mail order forms and album covers. Ackerman also has a great respect for graphics as a primary means of expressing that value.

Look forward to a Sony digital recording of Ackerman's compositions forthcoming sometime this fall! ■

Diane Rapaport is the author of How to Make and Sell Your Own Record. Portions of the book appeared in our Feb. issue. The book is available by mail order for \$11.50 from Headlands Press, Box 862 M, Tiburon, CA 94920.



The San Francisco String Quartet.



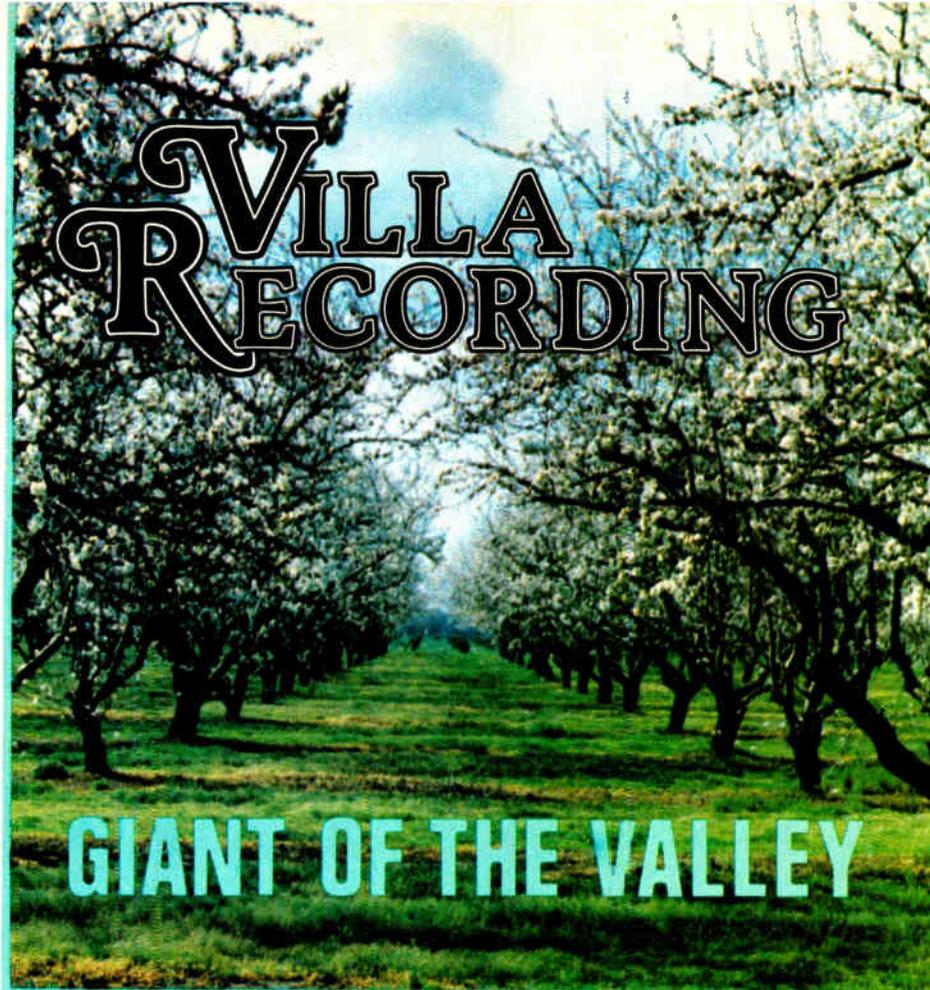
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A year-old professional recording studio located in an almond orchard 90 miles east of San Francisco is gaining popularity with artists who want to create their music out of the limelight.

Villa Recorders, a 24-track facility, is the realization of a dream of two native Californians with a long involvement in the recording industry, Fred Eichel and Scott Snider.

The realization of that dream has been well-received by several name artists during Villa's first year of operation, among them Steve Marriott of Humble Pie, Bill Champlin of the Sons of Champlin, Bobby Kimble of Toto, and soloist Dobie Gray.

Villa is located on the Eichel family homestead in Modesto, California, where recording artists can utilize a resort/studio complex on 80 acres of almond trees to work in a relaxed, low key environment.

"When you work here, you can walk out the door and be relaxed, really feel relaxed and get yourself together and then come back in and do your best," says Snider.

The fact that Villa Recorders is in Modesto is not just to escape from the crowds and pollution of the big city. Eichel grew up on the land and has always returned there for renewed energy and creative solace.

"One day, after working all night in a Los Angeles studio, I woke up in North Hollywood and I couldn't see two blocks—it was so brown," Eichel recalls. "So I said, I'm going to leave and come home to the ranch. It's so beautiful here in the spring and summer when the almond trees start to bloom, and so green."

The partners have been close friends for nearly ten years and saw a studio/resort business as a good idea. "This studio was just something we both knew we were going to do somewhere along the line," Snider recalls. "So we did it."

The improbable location didn't aid the two in making their dream come true. "Everybody told us not to do it, even people I knew in the business," Eichel says. "We did it on faith," Snider adds, "just knowing that it would work out. In black and white, on paper, it didn't look good. The banks thought we were crazy!"

But the pair went ahead anyway. Some co-signers were found and construction began in the spring of 1978.



Villa owners Fred Eichel (left) and Scott Snider

"We said we can build the studio in four months and it'll cost this much and it took a year and cost us about ten times as much," Eichel says. "It's like anything—no matter what you plan, always double it."

Villa Recorders completed its first year of business in April with results that satisfied Eichel and Snider, as well as numerous clients. Both believe Villa's control room and studio acoustics have contributed to their early success.

"I guess we hit it lucky," Scott Snider says, referring to the room's design. "We've had the room checked for trueness and our tapes are holding up real well. We were very fortunate to get the room right without changes."

Snider also feels that economic considerations have made a contribu-

tion. "With lower rates than in the big city and the same quality sound, we have a lot to offer our clients," he says.

But far and away their greatest fortune came in the form of head engineer John Wright. He's worked in recording and live mixing situations with talent like Supertramp, Elton John, Frank Sinatra, Chuck Berry, the Kinks and Rod Stewart. "Just about anyone in England who's made it big—he's worked with at one time or another," Snider says. "He's a great engineer and he's a musician on top of all that. Everyone here has some musical background."

Luck aside, there has been a lot of sweat and money spent to make Villa technically and aesthetically better than many big city studios.

In addition to the "Sierra Sunrise" wood mural paneling in the 30 by 32-foot main studio, equipment purchases have included a Trident 28 x 24 console, an Ampex MM-1200 multitrack recorder, and two Ampex ATR-100 audio recorders.

"I started out being a musician and having my own studio with four tracks and moving up to 16," Eichel says. "When Scott and I wanted to build a multitrack studio we considered 16 tracks but figured we'd be limited because people that like to do 24 wouldn't be able to come here.

"So we shopped for equipment," Fred continues. "The main reason we bought Ampex, besides the equipment meeting our needs, was that we talked to them and two days later a salesman was in our office trying to work out a good deal for us. The others wouldn't show us the time of day. They barely went out and bought us a hamburger—and we had driven up to see them.

"Other than little minor things, we've had no problems with the MM-1200," Eichel adds.

The combination has impressed several well known artists. Snider reports that Steve Marriott of Humble Pie "loved it. He said it was like being home. Steve would walk around in his bathrobe, come in and record when he wanted to. They were here half of November and December."

The result was the recently released album, *On To Victory*.

"We've had a lot of different kinds of groups," Eichel says. "Recently, we've had reggae and jazz groups. Rock and rollers come. Country people come in—some disco, but I'd say we've had more rock than anything.

"We've had lots of good comments from people on our studio's drum sound, and this could be a reason to go in the rock direction," Snider adds.

Beginning its second year, Villa Recorders just completed a new album project for Wheatfield with Norton Buffalo producing and Jim Gaines engineering. Other bookings are in the offing, Snider says.

The second summer will see Villa's recently hired Japanese chef and complete kitchen facilities being added to other comforts like the 40' x 20' pool, Jacuzzi and sauna.

"People coming here and checking us out is all it takes," Eichel says. Just getting people here sells them once they're here."

Villa's owners feel that their best promotion is their product. "Both Fred and I are into quality control. When we do something, we like to do it right and make sure that everyone is getting what they want," Snider explains. ■



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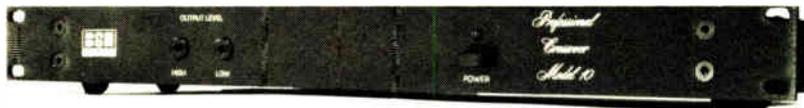
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THE JINGLES BIZ

MARKETING WITH MUSIC

by David Goggin, Sam Borgerson and Tom Donald.

This is definitely the advertising business.

What is it that drives composers, producers, and engineers to subject themselves to the high-pressure strains of creating the modern advertising jingle? Money may have something to do with this curious form of music. A budget for the average national spot often runs as high as \$40,000. Composers have received more than \$200,000 for the use of one song. Studios that can accommodate this type of work can count on lots of good paying, regular bookings.

By way of some historical perspective, the composer and musicologist Nicolas Slonimsky first set advertising copy to music in 1925. He satirized exaggerated ad claims and became the composer of the first advertising songs designed for concert performance.

Slonimsky's intent in creating his own jingles, though, was purely humorous and musical. Finally recorded in 1975, his esoteric disc (Orion 72100) contains these first "advertising" spots. The products were Pepsodent, Utica Sheets, Vauv Nose Powder, and Castoria, the children's laxative. Mr. Slonimsky's hilarious songs are reminiscent of Frank Zappa (200 *Motels*) and P.D.Q. Bach. In the liner notes, the composer explained his musical approach:

"The Pepsodent song was on a par with the best fourth-rate Italian operas, full of emotional bel canto, the sheets of Utica were spread with the artiness of a slightly adulterated Schumann. There followed 'No More Shiny Nose' attesting to the durable effect of the powder. In the Castoria song, the climax comes with the cry, 'Mother, relieve your constipated child!' A parlando recitative against a dissonant tremelo reassured the parents that Castoria did not include harmful drugs or narcotics."

Mr. Slonimsky is in his late eighties now, but is still active in the world of serious music as lecturer, instructor, and historian. His book "Music Since 1900" is a widely known authoritative text.

• • • • •

Jingle Business: Los Angeles

1980 Los Angeles is an enthusiastic jingle marketplace. At the L.A. Musicians Union, Nick Pelico, administrator of the national contract division, notes that on an average day about five jingles are being recorded in Los Angeles. According to Max Herman, Musicians' Union president, local musicians (exclusive of singers) received nearly \$2½ million for playing jingle dates in 1979.

Don Piestrup appears to thrive on a schedule that averages an incredible seven jingles a week. He is the composer and arranger, and shares producer duties with his engineer Dick Hart, and his vocal contractor, Ron Hickman, at Piece of Cake Productions. We visited with Don at Hollywood's Bell Studios where he was mixing a jingle for Transamerica.

How long have you been in the jingle business?

I started in 1969, but it's been really heavy since about '73.

What are some of the accounts you handle?

Let's see. Chrysler, Ford, Chevrolet, Mazda, Toyota... McDonald's, Northwest Orient... Levi's...

How did you get started?

A friend of mine got me a job directing a Borax jingle, which I think I'm still doing. The first couple of years I didn't know what I was doing. It took three or four years to really catch on. The most important thing I learned was to hire the best musicians, the best singers.

Who are some of the musicians you work with?

Well, there's Larry Carlton, John Ferraro, Jerry Hay, Hal Blaine, Reinie Press, John Guerin... to name a few.

Who are some of the vocalists we might recognize?

It depends on where their career is. If they're really hot in records you probably can't use them, but in the past I've worked with Kenny Rogers, Kim Carnes, Ren Woods, John Stewart, among others. One of the top guys now is Michael Dees. He has many different voices, and he is familiar with this business. It's a different type of singing. They want to hear all the words. You can run into problems when you use somebody who is really a singer for records.

What comprises a jingle package?

It varies from one or two spots to a package that has ten second, thirty second, and sixty second versions. There are "donuts" of varying length. (These are the instrumental portions which the announcer will speak over.) Some are specifically for radio, some for TV.

What is the average cost to the advertising agency?

Anywhere from \$15,000 to \$40,000. There is really a wide range, depending on the number of musicians and singers. The composition fee is separate. Depending on whether you write a song or an arrangement, it varies from \$1,500 to as high as twenty or thirty thousand dollars.

Do you ever use existing songs?

Lots. The agency negotiates that fee separately with the publisher of the song. It used to be ten grand. I think it's gone way up. The highest price I've heard was over \$200,000.

What do you look for in a recording studio?

You have to have engineers who are familiar with this part of the business. The punch-in problems are tighter than you have in records. Sometimes you have to punch in from one word to the next.

Could you give a typical jingle case history?

First, you meet with the agency and discuss the concept. A lot of the time I call them up and play it for them on the phone. Piano-voice demos are the worst way to do it. First of all, they will never understand. I just did one with Michael Dees singing and myself playing the piano. They said it was fine, but replace the piano player. I prefer to do a fairly full demo, which can cost from \$1,500 on up to ten grand; or if they don't have the money I bring them over to the office and do what I used to call the "Bubble-up Shuffle." We sit around the piano and sing it. I like to do it that way.

The next step is actually doing the jingle. I do my own contracting, and I basically use the same group of musicians. I have three or four drummers I work with, the same brass section.

What is the average length of time from concept to finished jingle?

It ranges from three hours minimum, where you're calling musicians as you're writing... on up to about three weeks on the average.

Are you a musician?

I play most instruments. I studied composition at the University of California. I've had a lot of piano training and I play violin, horns... it comes in handy.

How does Los Angeles rank as a jingle center?

We are about even with Chicago for second place. I would imagine that New York does four or five times as many jingles as either Chicago or L.A. There are a lot of people doing jingles. We got together concerning ASCAP and I was surprised to see how many people write jingles. We don't get any ASCAP royalties, but we are supposed to. They make it very difficult. They are collecting but they are not paying. In order to collect your ASCAP royalties you have to go through their procedures... log your own commercials. There's no possible way in the world you can log your own commercials. You have to keep track of how many times they've been played, plus they want the ad copy... and the copy changes all the time. They say they'll pay but I'd probably have to have a staff of about forty people to check all the stations in the country.

So you make your money from the initial sale?

Yes, and from revised versions recorded later on. I get residuals from the Musicians Union as leader and arranger.

Sounds like you make a pretty good living...

Yes, but I make about the same per job as I did in 1969. There's a lot of competition and prices have come down. I just handle a large volume now.

Can you offer any final advice to people interested in jingles?

The one thing you have to do is not like sleep. You have to be able to stay up for two or three days at a time with no sleep. I do it every week. It's ridiculous.

**In recent years, however
the Bay Area music
production seems to
have come of age.**

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Jingle Business: New York

As an advertising capital New York City remains unsurpassed. The international advertising giants reside here in a cluster around Grand Central Station and Madison Avenue, distributing millions of dollars each year to an assortment of producers, musicians, songwriters and recording studios that specialize in their line of work—the jingle.

As an industry the jingle business is a substantial one, employing numerous songwriters who make a sizable living with their 60 second ditties before breaking into the music business (Barry Manilow, for instance), session musicians (David Sanborn), and singers (Melissa Manchester) who thrive on a steady diet of uninspired but well-paying work. And unlike the glamorous music industry, to which many aspire, the jingle business has traditionally remained stable even in the light of economic slumps. As a result, advertising work is becoming a growing part of the daily bookings of even the traditional music business studios in New York.

The jingle follows closely the format and fads established by the pop music trade. But that is as far as it goes. "The jingle business lags a year or two behind what the record business is doing," explains Kim McFadden of Radio Band of America, a commercial and jingle production house associated with Penny Lane Studios in New York (Kodak, EZ Wider, Sara Lee). "But our job is different. Our job is to sell a product."

According to McFadden there was a slight softening in the New York jingle market at the beginning of the year which has since turned around. He associates the dip with the demise of disco. "People were waiting around, just like they are in the music business, for what the next sound was going to be," he explains. "Things are picking up again and I think now we'll see a simpler format, not like new wave, but probably like rock, a solid and simple rhythm section sound."

The demands on the jingle writer go beyond simply emulating the current hits on the AM or FM dials. Work by leading New York jingle scribes like Dick Behke (Pan Am, Dr. Pepper), Al Gorgoni (Nestea, Amtrak) and David Horowitz (Budweiser, Jello, Chevrolet) must also stand out on a radio station that broadcasts the traditional homogenized Top 40 mix.

**The one thing you have
to do is not like sleep.**

"This is definitely the advertising business," explains Bernard Drayton, co-owner of one of New York's leading jingle production and writing houses, HEA Productions (Dr. Pepper, Chevrolet, CBS). "There is this misconception that anyone who is in records can get into jingles. It's not that way. There are different objectives. When you are writing a jingle you have to know who you are going after, what the product is about, and how it is going to be sold."

Drayton maintains that the jingle business is exempt from the economic hills and dales experienced by the music business. "Advertisers learned their lessons in 1969 when they cut back on expenditures and, as a result, their customers slumped. When you are selling a product you have to give it a shot. You benefit by keeping your face out in the place," Drayton says.

His statement is well-based. Recent reports in *Advertising Age*, the advertising industry bible, claim that major advertising firms have earmarked increased advertising budgets for the radio airwaves in response to increased costs of advertising on TV. In addition, sources at McCann Erickson, a leading New York agency (ie. Coca Cola, Sony, *The New York Times*) confirm that there has been a growing trend toward buying radio time by major clients.

Many recording studios in New York have been built and prospered from the advertising trade. While the smaller studios have felt the impact of traditionally record label studios moving in on their territory, the larger facilities report healthy signs—especially in the sound quality now being requested by the ad agencies.

"The agencies are demanding better quality sound. They are paying more attention to how it is going to sound over the radio," explains Howard Schwartz of Howard Schwartz Recording. "It is unfortunate that when it leaves the studio the tape goes through four or five more processes before it gets turned into a cartridge. But on our end the clients are asking for more effects and a clear, well produced sound."

Though he notes that the New York jingle market is now witnessing an influx of talent from the record industry, Schwartz says that the demands on the studio level preclude a client using a facility not used to jingle or commercial work. "The studios who have been doing record work don't have the speed. Jingle and commercial studios have been trained to get a client in and out in time. It is going to take the other studios some time to switch-over to this format.

"The jingle business is a whole other ballgame."

• • • • •

Jingle Business: San Francisco

The San Francisco commercial music market has never really been afforded much respect or had its product considered very significant. The pervading thought within agencies has been: If the client or campaign needs music, let's get everyone on a plane and get it done in Los Angeles. With one or two exceptions, one could not consider local production

There is this misconception that anyone who is in records can get into jingles.

because there was no one in town with sufficient capability to carry the project off. In addition, those houses dealing primarily with retail accounts were often, due to budget restrictions or creative problems, turning out inferior product.

In recent years, however, the Bay Area music production seems to have come of age. There are several local producers earning top dollar doing nationally-aired spots, among them: Art Twain, Ed Bogas, Bernie Krause and Walt Kraemer. There are also several smaller operations serving both agency and retail accounts. Richard Nowels and Tamarin Productions, among others, have experienced significant growth, both qualitatively and quantitatively, in the past few years. Tamarin, which uses its own 16 track studio, offers broadcast marketing and creative consultation as well as producing radio station ID's and commercials.

Art Twain is probably the uncrowned king of the San Francisco commercial music market. He's operated his successful production company since 1970 and has definitely made his mark in the field. He says he is busier now than ever before and, even amidst all the hustle-bustle of a busy workday, Art still admits to a special thrill the first time he hears a new spot on the air.

Was music always a part of your life?

My family always had a lot of music around the home; my father was a bandleader back in the Paul Whiteman days and my mother was a musician too. As a kid I was kind of a showoff, doing whatever I could to attract attention, and music was one means by which to perform for people.

How did you first get involved in producing jingles?

I'd written a commercial for Del Monte soft drinks while working with Bob Pritikin at Campbell-Ewald ad agency. All the agency people just naturally assumed they'd go to L.A. to produce the music. So I spoke up and made the suggestion that I do it right here. There were all kinds of questions as to my qualifications and the issue became a *cause celebre*. Finally, after threatening to quit, I was allowed to produce the commercial. It turned out rather well and I began doing more production.

When did you go on your own?

In 1970 I left Honig, Cooper and Harrington to open my own business. My first big client was Olympia Beer, with 28 radio and three TV spots. Things seemed to come together rather quickly after that as I acquired more clients.

Such as?

I did all The Gap advertising for the first eight years of their existence. I've done a lot of the Levi's stuff, Foster Farms, Visa, C&H Sugar, Chevrolet, Channel 4. I also do a lot of regional ads from other areas.

What goes through your mind when you are given an assignment to write and produce a jingle?

I generally start by trying to steep myself in information about the product. I want to know all I can about every aspect of it. I challenge everything I come up with to make sure that it's most pertinent to the project at hand.

How is a typical session conducted?

At the basic track session I'll generally hand out chord charts with an explanation of the type of feel I'm looking for plus whatever specifics I need. My rhythm section guys have been working for me a long time and it's usually only a couple of run-throughs before we're right on target.

If it's a very complex idea, I'll write all the parts out, but I generally like to leave something to the interpretation of my players. There are certain patterns that I want to hear and they can give me that. Then of course there's always the click track for the center, the heartbeat.

After the basics are done, I do vocals, whether it's a choral sound or

character voices. After I have the vocal sound I want, I add the sweetening, horns, strings, whatever. I want the sweetening to complement the vocals, not the other way around. After all, that's the message. When people hear a commercial, especially for the first few times, the majority will be hearing mostly vocals.

How do you structure commercials?

I like to fill all or most of the holes with something to keep interest up. Melody is all important. You've got to have that constant repetition of your hook, or main melodic theme. My music has a certain energy, even the ballads. If you put that same kind of energy into a record, the listener would be worn out in ninety seconds. In a commercial you've got to be exciting, informative and distinctive in one minute, not three, and I think the pace and feel and even the mix reflect that.

What about mixing commercials?

In the beginning I used a lot of high end because I wanted my stuff to cut through on little car radios or small television speakers or whatever. In recent years, however, I've begun to rely less on high end and have gone for broader fidelity—in other words a truer representation of the full production. It's a warmer sound and I like it better when I hear it on a small speaker.

How do you handle vocals?

I think intelligibility is the key. You just have to be able to understand the lyric. The idea is to move somebody to do something or to get them to think about a product in a certain way. I think clarity, and not just in the vocals, plays a very important role in the mixing of a successful jingle.

It's also certainly possible to go too far in the other direction. There are a lot of producers and clients who are so concerned with clarity that the words end up way out in front and the music gets buried. I think that's wrong too. The music is part of the total impression. The commercial will get a lot of airplay and the listener has to feel the music. That's part of the lasting quality of a good spot; the music holds up and is memorable after many listenings.

Any thoughts on formulas for commercials?

I think when one loses the ability to change it becomes very dangerous. I like to think that if I lined up three of my commercials, in different musical styles, the listener might not be able to tell that they are all mine.

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Jingle Business: Nashville

Exact dollar figures are hard to determine, but a general consensus places Nashville in a close race with Chicago and L.A. among the nation's jingle production centers. For years Nashville's rise to prominence in the business was slowed by two handicaps. First, although Nashville has a thriving advertising industry for a city its size, it cannot match the concentrations of powerful ad agencies found in those other cities. And second, Nashville had to convince these big out-of-town agencies that local studios were capable of doing much more than "countrified" jingles.

The handicaps have obviously been overcome. Nashville producers are now churning out hundreds of regional and national jingles every year, with sounds ranging from lush Mantovani-style strings to disco and hard rock. The products? Everything from soda pop to agricultural chemicals, from airline tickets to hamburgers. Jingle work now supports about 20 production companies in Music City, and dozens of free lance writers and arrangers make all or part of their living in a struggle to find that ultimate sound that sells.

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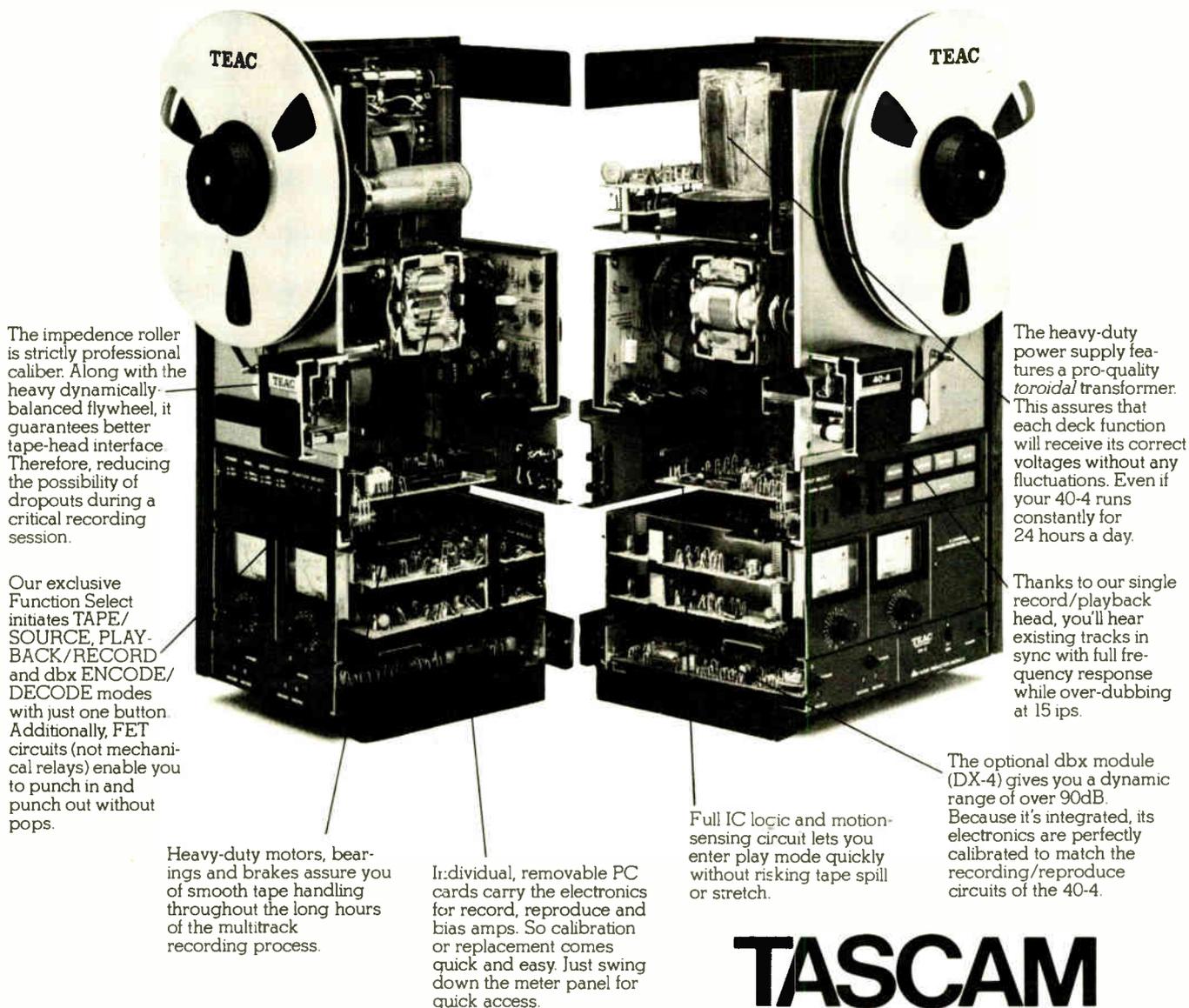
make overdubs and punch-ins convenient as well as positive.

Calibration adjustments are readily accessible, because professionals constantly maintain their tools in peak operating condition.

The results produced on the 40-4 (and its 8-track companion, the 80-8) are a matter of record. Sometimes gold.

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The impedance roller is strictly professional caliber. Along with the heavy dynamically-balanced flywheel, it guarantees better tape-head interface. Therefore, reducing the possibility of dropouts during a critical recording session.

Our exclusive Function Select initiates TAPE/SOURCE, PLAY-BACK/RECORD and dbx ENCODE/DECODE modes with just one button. Additionally, FET circuits (not mechanical relays) enable you to punch in and punch out without pops.

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Individual, removable PC cards carry the electronics for record, reproduce and bias amps. So calibration or replacement comes quick and easy. Just swing down the meter panel for quick access.

The heavy-duty power supply features a pro-quality toroidal transformer. This assures that each deck function will receive its correct voltages without any fluctuations. Even if your 40-4 runs constantly for 24 hours a day.

Thanks to our single record/playback head, you'll hear existing tracks in sync with full frequency response while over-dubbing at 15 ips.

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The most important thing I learned was to hire the best musicians, the best singers.

The jingle business is subject to the same sudden cycles of boom and bust that have plagued the music industry. "Six months ago it was really the pits," says producer Gayle Hill, who broke the Nashville jingle biz wide open a few years ago with her "Country Sunshine" Coke spots. "But for the last three months I've been just as busy as I can be." When interviewed, Ms. Hill had just finished booking back-to-back sessions for Rubbermaid kitchen products, a regional drugstore chain, and a new agricultural chemical—and she was rushing to catch a plane to New York to firm up more business.

Travis Turk, staff engineer at the Soundshop, reports a similar resurgence lately. "Jingles are fairly steady these days," he says. "We just came off a mild downer, but now you can't get enough studio time around here." Since the Soundshop has its own in-house jingle production company, this advertising work accounts for almost 50% of the booking in the two automated 24-track rooms. For Nashville's other major 24-track facilities, jingle booking usually accounts for between 10% and 30% of total time booked.

If you counted the total number of impressions made on the American population, Kelso Hurston might rank as one of the nation's "most heard" producers. In the last dozen years he has given us memorable jingles for Kawasaki, Schlitz, Budweiser and Burger King, among others.

Back in the 1950's, Hurston owned Tune Recording, the first studio in Muscle Shoals, Alabama. ("Well, I'm not really sure you could call it a *studio*," he admits.) In 1966, while working as the head of the Nashville office of United Artists Records, his first jingle opportunity dropped in out of nowhere. "Somebody from J. Walter Thompson called me up and asked me to do a jingle for Sterling Beer," Hurston recalls. "He said he didn't really know anything about jingles. I said, 'Neither do I—so let's do it together.' We did it, he took it back to Chicago and got a standing ovation."

It wasn't long before Hurston dropped his job at UA and turned to jingles full time. "I really like it better," he says. "A few years ago it was a different story, but now the record business is such a hassle. When I do a jingle, I don't have to promote it, and I don't have to place it with a label. I kiss it good-bye and go on to the next one."

Bob Farnsworth of Hummingbird Productions is one of the new, young breed of Nashville jingle producers. In the four years since it started, Hummingbird has produced jingles for—among others—Kelloggs, McDonalds, Sun Oil, and the Whataburger chain. Hummingbird has an 8-track studio in house, but this facility is used primarily for preparing demo tapes. The finished jingles are cut—almost exclusively—in the top 24-track studios.

"I want a studio that's pretty much state-of-the-art," says Farnsworth. "We're competing with other major centers like L.A. and New York. If we bring in a client and they see an ill-equipped studio, it doesn't reflect well on us—or on Nashville." When booking time, Farnsworth looks for a clean-sounding board, a reputation for reliability, and the availability of automated mixdown.

Kelso Hurston has found a good thing and sticks with it. "My favorite place is CBS Studio A," he says, "and my favorite engineer in the whole world is Ron Reynolds." And what is it that Hurston looks for in an engineer? "I like somebody who doesn't take all day to do it, somebody who does a fast mix and a good one. You need somebody who knows about music, and somebody who can get that voice out front."

For Bob Farnsworth, the engineering skill should be complemented by good attitudes. "I look for somebody who is patient, who understands

the erratic schedules, and who *likes* jingles. I like somebody who is an excellent editor, so he can pull clean 30's out of 60's. Attitude is also very important. It's the difference between somebody who explains to you why they can't do it, and the guy who says 'I'm not sure if I can do it but I'll try.'"

Two Nashville engineers who tried and succeeded are Travis Turk and Ron Reynolds. In addition to his jingle credits, Turk has engineered sessions for the Doobie Brothers, Jimmy Buffett and Waylon Jennings. Reynolds, a 7 year veteran at CBS, works with stars like Tammy Wynette, J.J. Cale and Johnny Paycheck between his jingle sessions. Both men encountered similar challenges while adjusting to the demands of the jingle biz.

"Jingles go a lot faster," says Reynolds. "You don't have the luxury of, for example, setting your drum sound just the way you want it. They usually have the day tightly scheduled, often with the client there in the studio, and they don't want to spend a lot of time listening to you mess with the sound."

Turk notes the same constant time pressures. "Everybody is working overtime to get it done for yesterday," he says. "Jingles are not a good time to experiment. That should be done on record dates when you've got the time and the money. It pays to know your studio, know the client, know what you're going after, and go get it—in a minimum amount of time."

Many jingles are done start to finish—tracks, sweetening, vocals and mix—in a single three-hour session. With this kind of pace the engineer with a sharp ear for mistakes is always in demand. Although the sessions are tightly structured, a good engineer can often make important contributions to the final product.

"If you just sat there and never said a word, they might think you didn't care," says Reynolds. "My contributions have mainly to do with the sound. I might say, for example, that a guitar should move up or down an octave if it's playing in the same register as the piano so that the sounds will separate in the mix. It also helps if you have a good ear when overdubbing so you can tell if a singer is sharp or flat."

Although both engineers work in studios with automation, they differ somewhat on its advantages in jingle work. "They're not that complicated," says Reynolds, who rarely uses it. "I try to record them going down the first time pretty much how they're going to be mixed. It doesn't take me over 10 minutes to mix a 60 second spot."

Turk, on the other hand, says he always uses the automation. He finds that it helps in the primary mix, and that it is even more useful as a time-saver when a client asks for a new vocal track—a common occurrence in jingle work.

Since jingles have to punch out their sales pitch through tiny AM radios, the mixing is almost always done on Auratones. According to Turk, some studios have even installed small AM transmitters so the client can hear exactly how the final product will sound to the consuming public.

Both engineers agree that jingle work takes some getting used to. "For a studio that wants jingle work," says Turk, "the most important thing is training the staff. They have to orient themselves to the speed in which things are done. Most people who are used to record dates find that doing jingles is very nerve wracking at first. It goes by so fast that you don't have time to think."

This kind of frantic pace may not be some engineers' cup of tea. (Or coffee. Beer? Cola?) But Travis Turk has learned to take it all in stride. "That kind of speed has always been my nature so it doesn't bother me." And, he adds, "It helps me do record dates because then I can really lay back." ■



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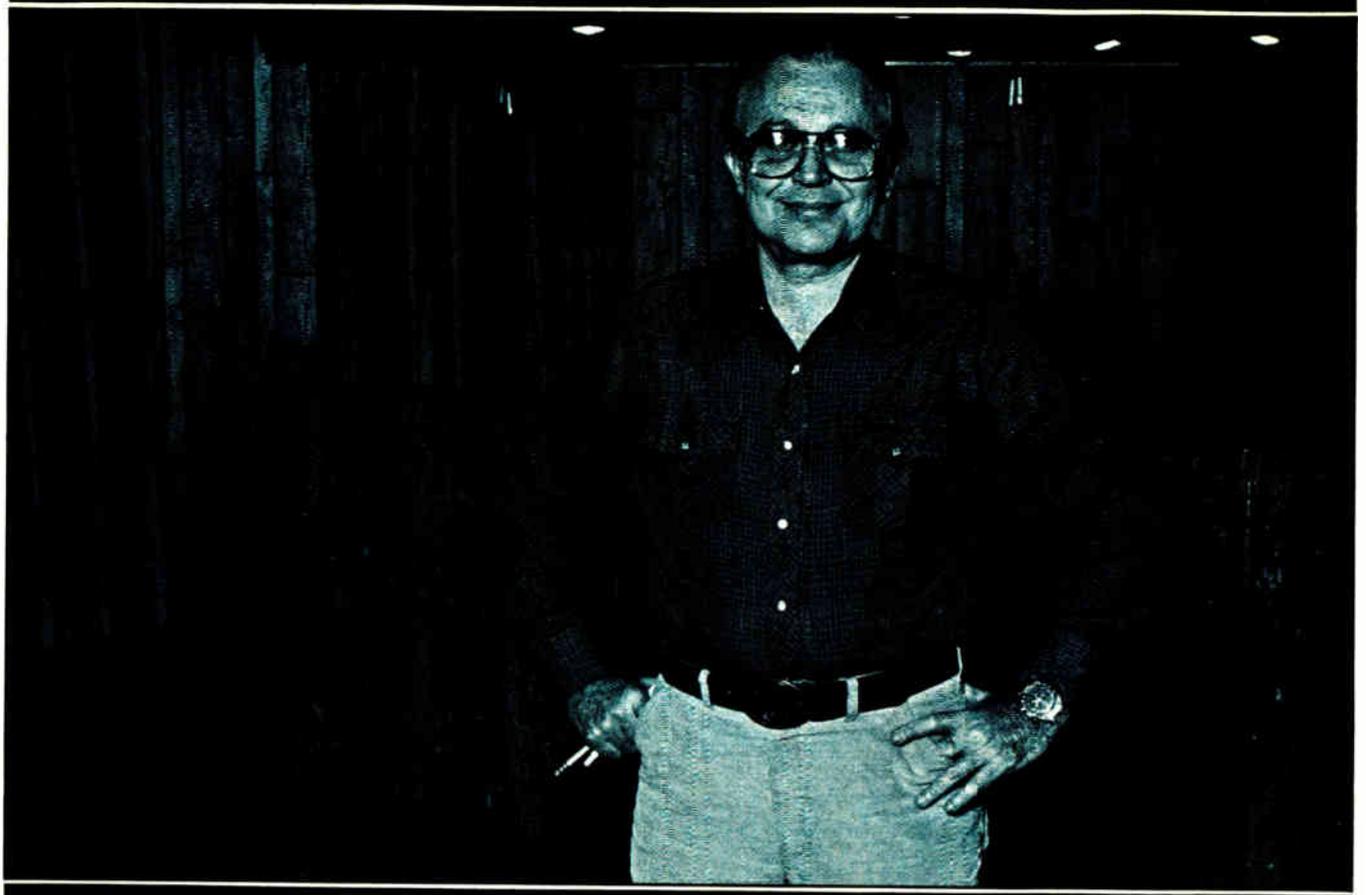
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Roy Segal's FANTASY

by Comrie Bucknell

Roy Segal has returned to the San Francisco area, assuming the position of General Manager of Fantasy Studios in Berkeley. It could be easily said that the freelance, independent engineering and producing world's loss is Fantasy's gain. Already the word has filtered throughout the Bay Area and Roy is receiving lots of well wishing calls from musicians, engineers and producers.

Recently I spoke to Roy to find out more about his background, experiences, his new position at Fantasy, their new Studio D, his hopes, aspirations and philosophies.

In 1966 Roy Segal joined Columbia in New York as a tape editing engineer. Prior to working for Columbia he had been an audio engineer for many years in radio and television and had freeanced in the music industry. In 1970 Columbia asked Roy if he would go out to San Francisco with Roy Halley and open a Columbia Studio there. The motivation behind that move was C.B.S. President Clive Davis' desire to create a first class studio and environment in San Francisco to offer Columbia artists. Segal takes up the story: "Together we (Roy Halley and I) ran the studio and did most of the sessions, joined later by other members that I hired locally as mixing and second engineers and maintenance engineers. We got pretty involved in the local music scene because that was basically our function, although we did have acts coming in from New York to record specifically with Halley and myself, artists that we had worked with prior to moving to California. We did start to develop a fairly active local clientele... recording the Columbia artists then living in San Francisco such as

Santana, Boz Scaggs, Taj Mahal... I could go on and on... it was really quite a roster at that time, including some local clientele in addition to CBS people."

During this initial period some of the best known people in the professional audio and music industries joined the Segal/Halley team at the Folsom Street studios of Columbia—names such as Glen Kolotkin, Fred Catero, George Horn and David Rubinson. Explains Segal, "When Halley and I came out from New York to open the studio we recruited Glen Kolotkin, who I knew in New York. Subsequent to our working in New York he had been transferred to Los Angeles, working for C.B.S. When Glen heard that Halley and I were coming out to San Francisco, he called me in New York and said, 'How about getting me involved in the operation in San Francisco?' He made the arrangements and came out—so Glen was also there at the beginning. I actually did the hiring and expanded the staff from there. That was when Tom Lubin and George Horn were hired, Mike Fusaro, and Mike Larner, who is now the Chief Engineer of the Automatt. When Dave Rubinson was there he brought along Fred Catero who had also worked with Glen, me and Halley in New York. George Horn and I go back to 1971. George was the first local engineer that I recruited. We worked together for six years and he was in charge of mastering and maintenance. He is one of the finest mastering and maintenance engineers I have ever had the good fortune of working with. I also hired Tom Lubin locally to the engineering staff of C.B.S. and he developed into an excellent engineer. He had quite a bit of experience when he came to us.

"We had a real good professional operation going and we all got along very well. Nobody really left the C.B.S. family once they were in it. We had a happy act."

The San Francisco C.B.S. family lasted six years. According to Segal, "The artists' roster based in San Francisco was reduced through the years and we started to do more and more 'outside artists' work—developing a clientele that was not Columbia artists and discovering new talent, doing demos for new groups and getting very active in the local scene. I think it was 1975 when Clive Davis, who really conceived the studio originally, left Columbia and, simultaneously, an active interest in San Francisco as a recording center seemed to diminish from the East Coast. We were pretty much on our own for the final two years and then in 1977 CBS decided to close the studio—they felt that they basically did not have enough 'in house' work to warrant their presence in San Francisco."

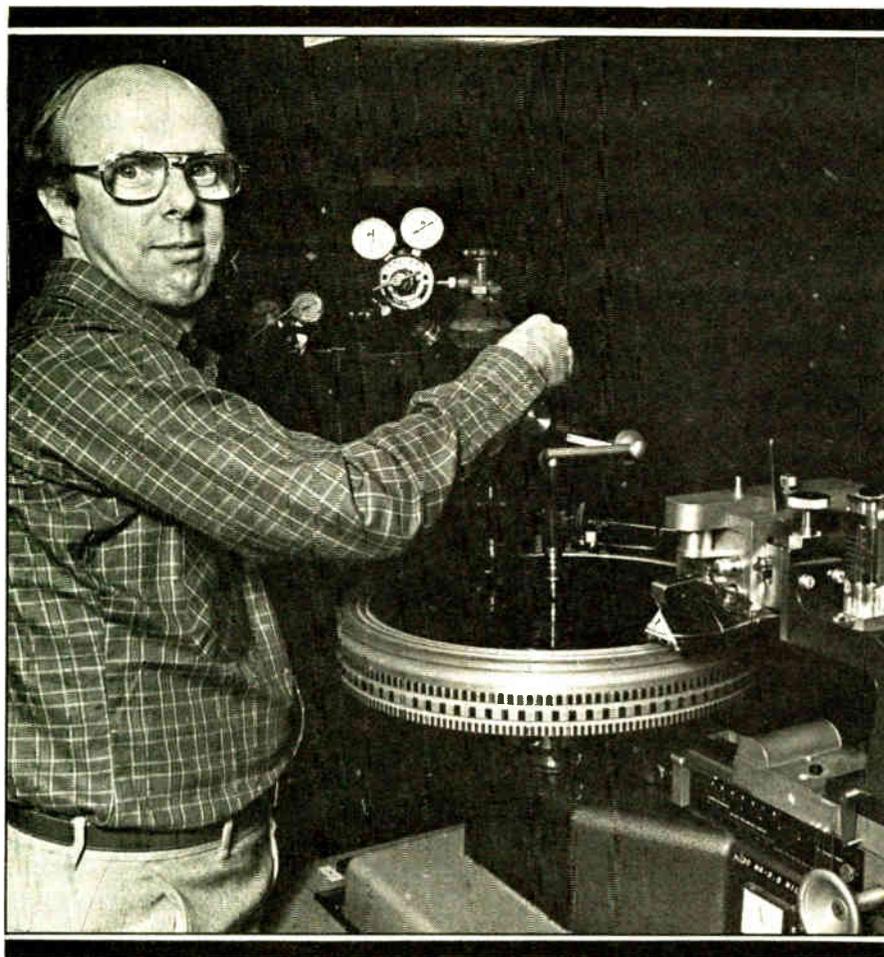
"It all broke up in 1977 when CBS decided that the motivation to have a studio was not enough and they didn't want to be in the studio business per se without enough local acts to take care of. David Rubinson took over the studio and made The Automatt out of the same operation. Rubinson had occupied one room in the CBS complex for the last year of our life. He was a tenant with his own equipment which we maintained for him. We had a very good relationship and when we moved out he was faced with a terrible dilemma. Rather than see the rooms turn into warehouses or the like he took over the lease and has continued to function, and very successfully too."

"I was sorry to see Columbia close the



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studios but then it was another experience going independent and I had a lot of interesting experiences... The only thing that troubled me was that a lot of the work was not local, in fact most of it was not local."

For a little over two years Roy Segal worked as an independent. He operated out of San Francisco, having lived there for seven years, liking it and not wanting to leave. "I just remained here and began to do independent work, engineering and production in San Francisco, Los Angeles, New York, and wherever the crow flew and the job came, I went and did it. It gave me the opportunity to work in quite a number of studios and also work on quite a variety of consoles—from homebuilts to the state-of-the-art. So there is a kind of pay-off, I think, in having a couple of years of independent life where you are not working specifically with one studio like so many of us did in the old days."

Despite the advantages of working freelance, Roy Segal feels that there are disadvantages as well. Over the past year he has spent at least 50% of his time in Los Angeles. He likes Los Angeles a lot and he continues, "I like some of the energy that I get out of L.A. It gets a little tiresome, though, when you spend that amount of time out of your home town, away from your friends and business activity. I am not a happy flyer and in fact the only time that I am happy, when I am flying, is when I get off the plane. So I am not a good candidate for commuting, though I would have continued to do so if I had not received the opportunity to do this job."

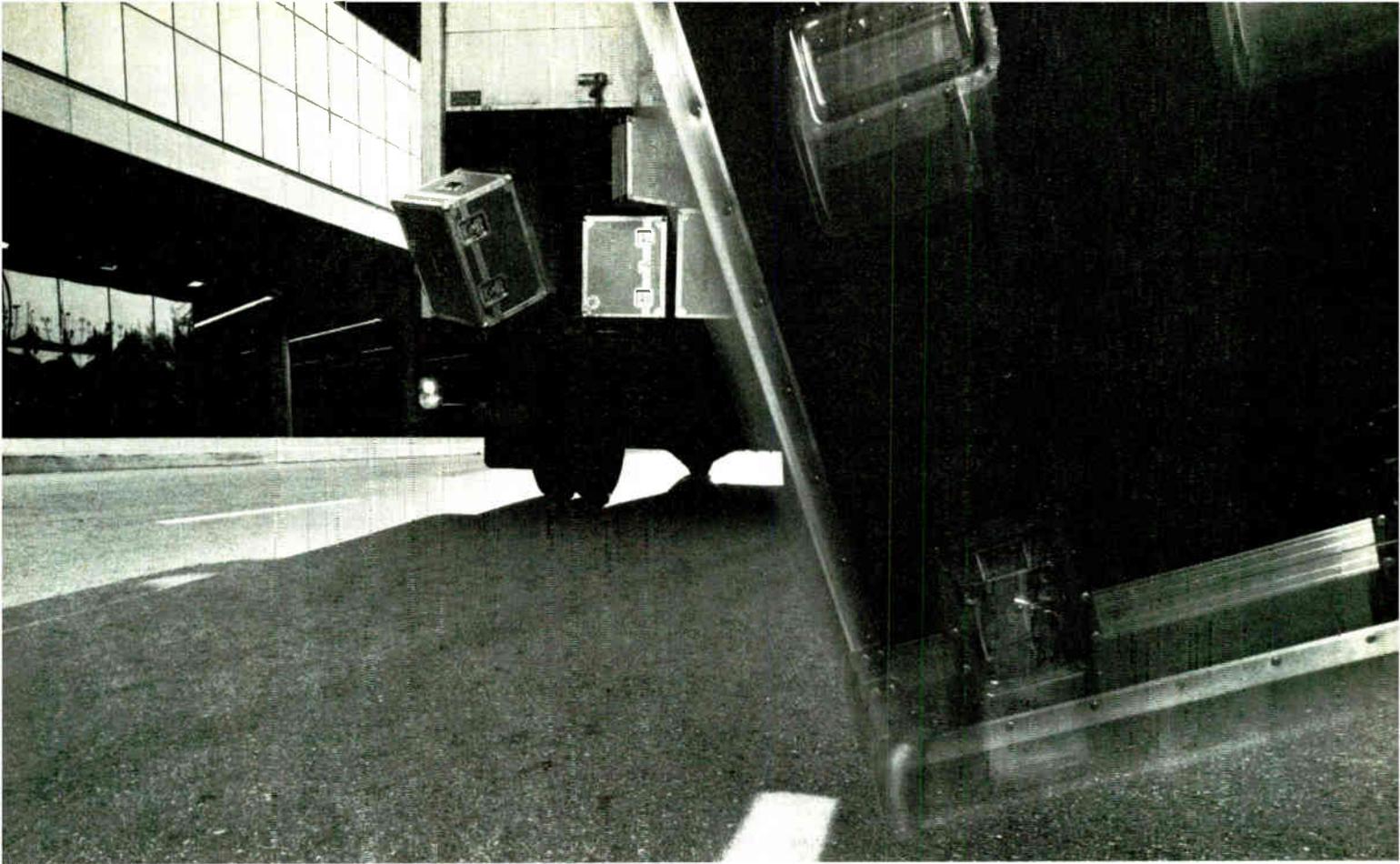
In February of 1980, Roy Segal joined Fantasy. He relates the circumstances. "I was contacted by some mutual friends in the business and put together with the owners of Fantasy Records. We discussed the possibility of my taking over the operation of the Fantasy studios here in Berkeley which were being re-organized and restructured to make them available to the public, rather than just an in-house facility."

Among those vacating Columbia's Folsom Street studios in 1977 was George Horn, who went independent and later joined Kendun Recorders in L.A. to do mastering and maintenance. He worked there for about a year and returned to the Bay Area. Roy contacted George and, on finding out that George was available, immediately hired him to work for Fantasy.

The studio complex at Fantasy is very complete in that there is a disc mastering room, a small 16 track studio, a medium sized 24 track and a large 24 track studio as well as the new 46 track Studio D. Roy would like, over the next couple of years, to do some work on the 16 track studio in the area of aesthetics and equipment updating but he feels that presently the room is excellent both acoustically and electronically.

Studio D represents the state of the art in studios. The main room is 30 feet by 50 feet and approximately 20 feet high, although with all of the acoustic and aesthetic treatment it does not appear to be that high. The adjoining string room is about 18' by 30', and there is also a 10' by 18' producer's lounge connected to the control room. The drum booth is large enough for two complete drum kits. The extensive degree of uniquely adjustable acoustics and tasteful appointments beg to be seen in person and, unfortunately, do not lend themselves to brief descriptions. Studio D

"He is one of the finest mastering and maintenance engineers I have ever had the good fortune of working with."



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“The capital investment is quite considerable and the room has been architecturally and acoustically built so that it has a true digital capability...”

was designed and built by the combination of Tom Hidley and Kent Duncan's Sierra Audio, both of whom have an enviable record of world class studio constructions.

Roy recognizes the potential of Studio D. "We want this room to be a viable facility for many years. The capital investment is quite considerable and the room has been architecturally and acoustically built so that it has a true digital capability from that standpoint. The floor has been divided into floating areas so that there is very little transmission of sound through the floor from one area to another. The piano has its own block that floats from the rhythm area, and the hardwood surface area of the room, which we refer to as the brass area, is also floating from the rhythm area and from where the piano is. The drum booth floats in relationship to the rest of the room and the string room floats with respect to the rest of the room. So you have a fully decoupled situation from the standpoint of controlling extraneous sound. The room is very quiet and, when the decision is made to get digital equipment on site, we will be ready for it as far as the studio is concerned. The room has been specifically engineered with that in mind."

In addition to the recording rooms Fantasy also has a disc mastering room, built by the Hidley/Sierra combination.

With regard to noise reduction, Fantasy can handle both Dolby and dbx as they operate on the frame basis and can interchange cards easily.

Technically, Studio D is equipped with a Necam automated Neve 8108 board with 56 in, 48 out. The multitrack tape machines are two Studer A800 24 tracks locked together with the Studer TLS2000. Video facilities are available if required.

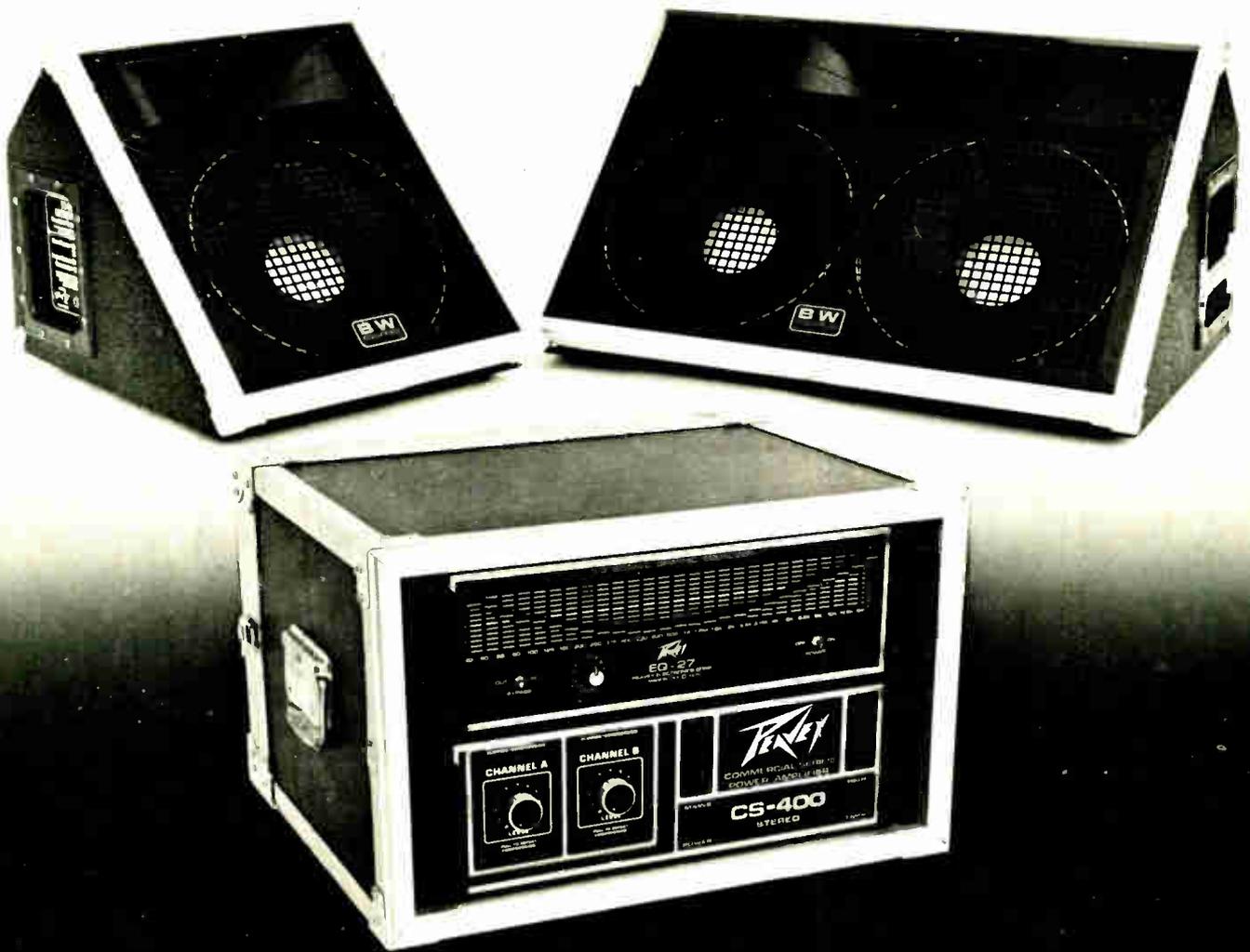
Roy has nine engineers working for him in the areas of operations, maintenance and mastering and a list of independents "on call".

Although Roy Segal's historical background is impressive, his feelings about the music business should serve as inspiration to the Bay Area music community. "I am looking forward to more involvement again in the local music scene. By this, I mean the development of new talent. I worked with Eddie Money at the beginning of his career and did his demo. I demo'd bands like Pablo Cruise, the Shakers and Clover and all these people got deals and went on to bigger and better things. I enjoyed that part of it and you can't do that when you are an independent and traveling a lot. So I'm looking forward to getting more involved and I am already doing it. You never know where the next great artist is going to come from, so I keep my ears open and my willingness to listen."

On the subject of Fantasy, Segal says that they will create the right environment because if the act is successful, then the studio is going to be successful. "We are here to help each other."

Segal looks after his clients and will go to the extent of securing accommodations for the artist. He does, however, recommend the Claremont Hotel at the end of Ashby Street in Berkeley. It is close to the studio and is a very spacious and well maintained hotel with all the facilities of the Bay Area close by.

One last insight from Roy "I don't care what the music is—when the talent is for real, I get turned on. Class will win out." ■



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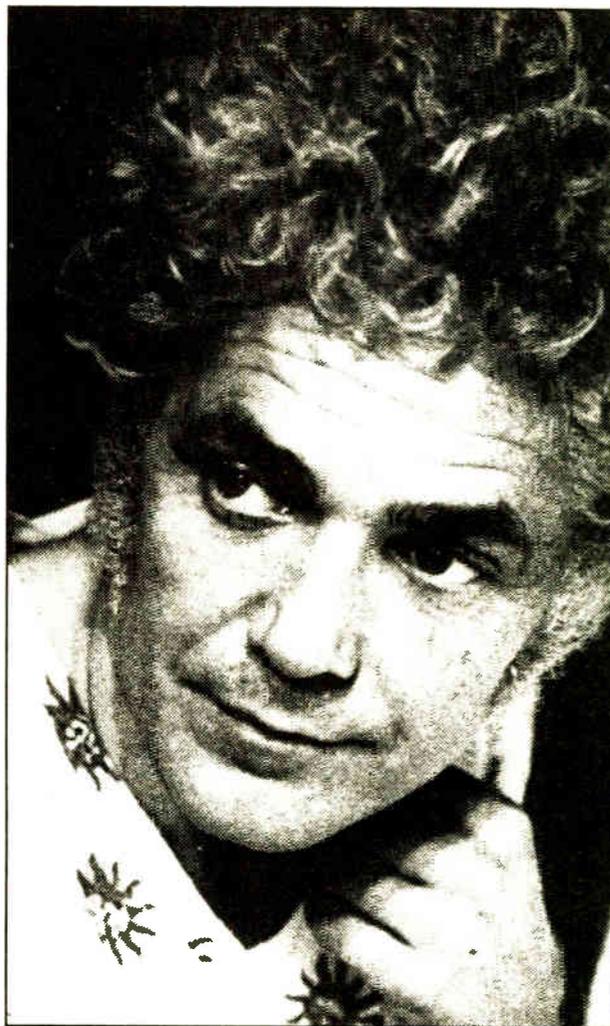
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TOM HIDLEY WORLD CLASS STUDIO DESIGNER



by David Schwartz

As audio recording increasingly deals with the demands of compatibility, acoustical accuracy and environmental conditions, we find the recording studio designers at the forefront of the industry's development.

The term "designer" connotes a personal style. In the spirit of Gucci, Cardin and St. Laurent, Tom Hidley leaves his mark in the form of beautifully designed and appointed recording studios. With over 250 designed installations in the United States, South America, Europe, Asia, Africa and Australia, odds are that if NASA commissions a lunar recording studio the contract will go to Hidley.

An innovator since his early days in the industry, Tom developed Los Angeles' first sixteen track tape machine in 1966 several months before the introduction of either the Ampex MM1000 or the 3M M56. Shortly thereafter, Record Plant president Chris Stone asked Hidley to join them and help design the studios for L.A., the rebuild of their New York studios and, later, their Sausalito Record Plant.

The Hidley monitor system was one of Tom's first designer touches. At the request of Gary Kelgren, Stone's partner at the Record Plant, Hidley developed a system with "power that (Gary) could feel in (his) body, with sound that didn't break up and a broad range of frequency response." The result, and its progeny, soon became common in hundreds of studios worldwide under various labels: Hidley monitors, Record Plant monitors, Westlake monitors, Eastlake monitors and Sierra monitors.

As the demand increased for Tom's custom work during the Record Plant times, he found himself devoting all available afterhours and weekends to his garage workshop in L.A.'s Westlake Village. Partly at the suggestion of George Augspurger, Hidley's old friend from his JBL days, Tom rented an office space with Paul Ford and a receptionist at 6311 Wilshire, in L.A., and named the operation Westlake Audio.

In 1975, after several years of studio design, sales, consulting and construction, Hidley perceived the European demand for his ideas, largely resulting from two very successful Westlake rooms in England and Switzerland. Opening a European branch

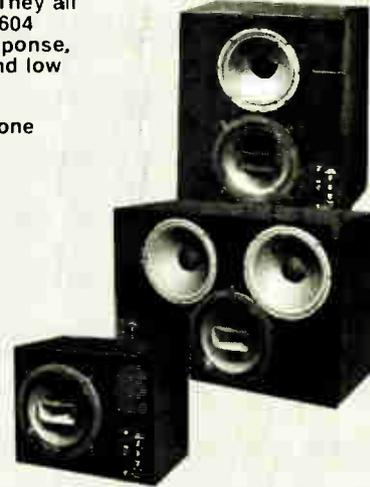
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of Westlake proved infeasible so Hidley left Westlake interests, moved to Montreaux, Switzerland, and began designing, selling and over-seeing the projects under the name Eastlake Audio.

A fever pitch continued until 1978 when Hidley, on the brink of exhaustion, decided to trim his activities back to just the design aspects. He turned Eastlake's business and production chores over to David Hawkins, of London's Scenic Sound, for Eastern Hemisphere projects and Kent Duncan, of Sierra Audio in Los Angeles, for construction in the Western Hemisphere.

Presently Hidley resides with his wife on the Hawaiian island of Maui, where he comfortably creates his designs. We recently spoke with Tom (by phone, unfortunately) and are pleased to pass along some reflections on his thirty years and many studios in the industry.

On current trends in studio acoustics...

"Current trends are heading toward more extensive control and variability of reverberation time. We are currently designing isolation rooms that can vary from about .35 seconds to over one second at the midrange of frequencies. This is an enormous change in subjectivity and a great tool for the balance engineer who would like to spec the reverb time for an instrument or an ensemble in the room. Rooms of this nature require lots of cubic volume and very critical attention paid to the delicate geometry of the room.

"This trend is an attempt to get the sound before the microphone, rather than by electronic manipulation after the sound is on tape. If used properly, these tools open up to the balance engineers unlimited possibilities of new sounds, new effects and naturalness, in addition to the wonderful things the electronics folks have brought us in the way of signal processing equipment."

On studio design...

"I think that the most important factor in a studio is that the musician feels comfortable when he plays. That comes from my belief that what is being performed is absolutely performed as well as the musician can perform it. A comfortable environment has to do with the reverberation time affecting the sound that comes from the musician's instrument or voice. If the sound is pleasing to the musician and doesn't sound compressed, and doesn't sound dry and dead or extremely bright and reverberant, it will work positively on the musician's psyche and how he feels about his music.

"The next thing that the balance engineer must be concerned with is the isolation needed to control the various microphones on the studio floor. He wants to be able to lift a fader and bring up only one instrument if that is what he is trying to do."

On control room design...

"The biggest problems I find in control rooms lie in the irregularities of sound perception. By irregularity, I mean that if you are at the balance engineer's position and you move over three or four feet the sonic perspective changes...or a portion of the audio spectrum changes. You would have to alter your mix to get what you wanted to hear depending upon your

position in the room. What we are trying to get to is sound uniformity. Reverberation time must be controlled since it goes hand in hand with uniformity.

"A control room must not lie, misrepresent or deceive you. It must be an honest reflection of what is going on on the other side of the glass.

"I'm all for control rooms that are designed with acoustical integrity aimed at the minimum use of electronic equalization. It would be nice to think that rooms could be built without electronic equalization but we've found that even the finest monitor systems will alter their characteristics over time, depending on temperature, humidity and even the power that they handle. Within a ninety day period I have seen good monitor systems develop power changes of four to five dB at different portions of the frequency band. Frankly, changing monitors to retain frequency response is a very expensive and time consuming solution and is not very practical. I'd rather not have electronic equalization, but at this stage of the art I don't know how to get around it and still maintain uniformity of monitors in a given room.

"If I were to build a studio for myself I would use third octave equalization...not to correct the room, but to correct the monitors. The room would be designed so that it would not distort the true power curve of the monitors. Then, the equalization that would most likely have to be applied at some future date should be minimal. By minimal I mean no more than a boost or cut of 3 dB. Once it gets past there, it is time to change the components.

"As far as monitor rolloff equalization to relate the monitors to the eventual playback systems, in most of our European rooms we've put in an equalization slope of 4 dB per octave beginning at eight thousand cycles. That is, 1 dB down from the average power at 8 KHz, 2 dB down at 10 KHz, 3 dB down at 12 KHz and 4 dB down at 16 KHz. There are some exceptions but this is primarily the way things are done in Europe.

"People who elect to do their own measuring and monitor system analysis should be aware of the differences in the available microphones. The free field microphone is not satisfactory for use in a control room. The random incident grazing microphone is the one to use. This microphone, such as one of the Bruel and Kjaer grazing microphones, sees not only the direct field but the random field...the reflected fields in the room...and sums them all for the power level. Without this type of microphone it is very easy, (unless one is extremely experienced or has a lot of time,) to become confused by the on axis response of the omnidirectional free field mike in a room. I've found people making this mistake all over the world and it's just a matter of finding the correct microphone for the application."

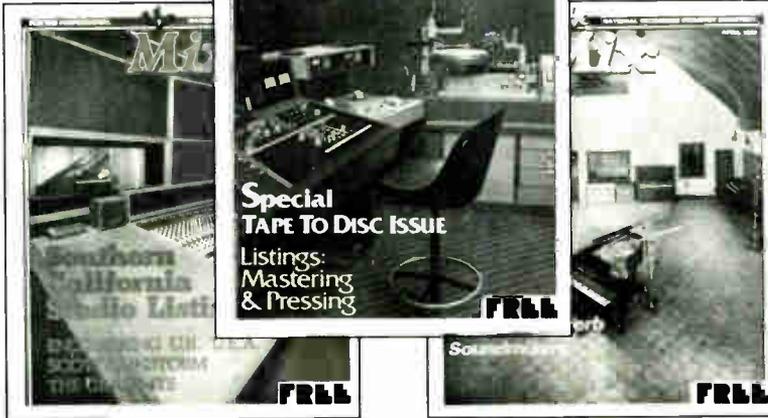
On the future...

"How studios will be ten years from today is not in the hands of the designer, but in the hands of musicians, producers and balance engineers. They will say, "I want this, I want that..." and it is up to the designer to translate those desires into the studio performance and environment. Technology and the minds to develop new things are infinite and we have only scratched the surface." ■

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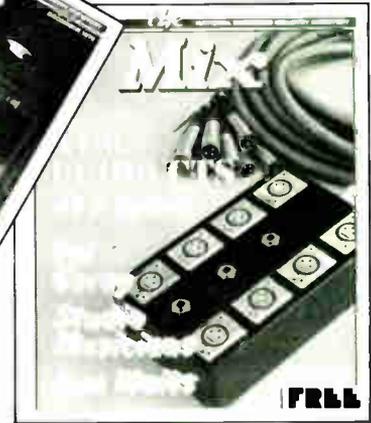
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Apocalypse Now

OSCAR WINNING SOUND

by Tom Donald

In the months that have passed since its climactic premiere, it has become apparent that *Apocalypse Now* is assured an important chapter in the annals of film. It is the kind of movie that people twenty years hence will recall as having had a major impact on the industry.

Certainly no previous motion picture had encountered the kind of problems and setbacks *Apocalypse* did. When one considers the constant delays in production schedules, the faltering health of several key participants (including Francis Coppola himself), the continuing problems with weather as well as with local authorities while on location, and the incredible logistics of maintaining a large film crew many thousands of miles from home, it is difficult to understand exactly how the company managed to return from the Philippines with anything that was usable.

Once home, the general plan was to edit the footage and construct the soundtrack, which consisted of re-recording the dialogue and sound effects as well as the music. Originally it had been determined that a Los Angeles-based company called Sound Arts, led by composer David Shire, would produce the original music for *Apocalypse*. Initially the idea had been to accomplish

Richard Beggs (left) with Francis Coppola at Beggs/American Zoetrope Studio.

this in the traditional way; i.e., the composer would write a score and then record it with an orchestra on a sound stage while viewing the rough cut. Gradually, and for a variety of reasons, this thinking began to change. There had been some dissatisfaction with Sound Arts and by December of 1978 they were no longer involved with the project.

At this point it was clear that the sound, or audio portion of the *Apocalypse* experience would become massive and far-reaching in scope, like that of no other picture. It was also apparent that the only person truly qualified to "write" the score was Francis Coppola himself, with the assistance of his father, composer Carmine Coppola. With these considerations in mind it was decided, following the severance of ties with Sound Arts, to record the music in San Francisco. It was further concluded that the music would be entirely synthesized. Later the use of Randy Hansen's guitar work and Mickey Harf's percussion segments would contradict that idea somewhat, but the theory remained.

Coppola felt that elements of the music should be made up from elements of the sound effects. The use of synthesizers was therefore an obvious choice in that they could create orchestral sounds as well as simulate, and in some cases amplify and augment, recorded effects tracks.

Well-known San Francisco record producer David Rubinson became involved early in 1979. It was his task, as he put it, "to record Francis' music." As deadlines for completion approached, work on the music began in earnest.

An interesting, and as far as is known, totally new production method evolved at the initial sessions. The rough cut of the film was transferred to videotape and then synced to a 24-track recorder. A pianist by the name of Shirley Walker then recorded sketches written by

Francis' father or in some cases sung by Francis himself. A music copyist would subsequently notate the score based on the "piano expression" track, as it became known. The synthesist, while viewing the rough cut on videotape, could then record the parts on 24-track tape, using the piano track as a guide. Coppola, in many instances, personally directed the rhythmic and dynamic interpretation of the guide tracks.

For his work in designing and executing the sound montage, Walter Murch was given film's top honor, the Academy Award. Richard Beggs assisted Murch in the mixing process and, in fact, recorded many of the segments heard in the film. Recently the Mix talked to Rubinson, Murch and Beggs about the music of *Apocalypse Now*.

DAVID RUBINSON

A year later, how do you view your experience working on the film?

I know that it was one of the most insane periods of my life and yet in retrospect, one of the most stimulating and satisfying periods too. I'm naturally very proud to have been involved in the making of the picture because I think years from now it will continue to occupy a very special place in film history, but I've also got to say that there were times in the middle of it all when I wasn't so sure.

How did you become involved?

After the experience with Sound Arts it became apparent to Francis that he couldn't achieve the music he wanted in the traditional way. It didn't work because the film was so personal to Francis that, in fact, what he ultimately wanted was *his* music. What he decided to do was secure the services of a producer, someone who produced tape, to deliver the music that he wanted. There was a need for someone to administer and creatively direct the musicians in the studio.

Francis and his father, more than anyone else, composed the score. Francis has an encyclopedic knowledge of classical music. He can sing most arias from major operas. He can not only tell you he wants something from Wagner, but he can tell you specifically what kind of Wagner. That's really how the score was written. He and his father would sit down and write it; Francis would explain very specifically what he wanted.

Essentially it was my job to oversee that whole process and to make sure the resulting music was recorded in the best manner possible, using all that modern recording technology had to offer.

Can you explain the "piano expression" track?

The first order of business, given that all or virtually all the music would be performed on synthesizer, was to figure out how it could be composed. Of course Carmine is a traditional composer who writes notes on paper and then has musicians play them, but synthesizers are not traditional instruments that make traditional sounds.

We would have meetings on specific cues and toss rhythmic, harmonic and melodic ideas around. Carmine might go and write something; we'd come back into the studio and Shirley would play the sketch to the videotape of the rough cut,



PHOTO BY JON SIEVERT

simulating what was on the paper. Francis would then sit there and give direction to Shirley on the piano: "faster here, louder here, stop," that kind of thing. We'd then made notations on the score to reflect the changes and record the piano in sync with the videotape as a guide for the synthesists to use later. In that way Francis got the music to flow with the film in exactly the way he wanted.

Let's talk about Randy Hansen.

Okay. One of the other elements that Francis heard in terms of music was the rock and roll that was being played constantly on portable radios everywhere in Vietnam—Creedence, Doors, Hendrix. In looking for someone to recreate the Hendrix sound we encountered Randy Hansen. He turned out to be much more than a Hendrix imitator; he's also an incredible guitar synthesist. There are explosions, flares, munitions going off that are really Hansen with his guitar.

Do you think that more record producers will begin to get involved with movie soundtracks? Will you do another one?

Well, I think that Hollywood is finally realizing that a movie has to sound good as well as look good. Sound used to be the last thing people worried about. You had a couple of union guys and if the dialogue was loud enough, everyone was happy. A movie like *Apocalypse* can certainly go a long way to help educate people as to the possibilities and potential of film sound.

As for me, I lost a lot of time in the record business in 1979 because of my involvement with the film so I think it behooves me to concentrate on albums for the time being. More important than that, I would probably do another one, but only for a man like Francis and a project like *Apocalypse*. That movie is a classic in its vision, scope and importance and yes, I would do it again.

Do you think Francis was satisfied with the music when it was finally completed?

You can't tell. He's not the kind of man to rush over, shake your hand and say, "Great job." I

assume that whatever ended up on the picture he was very pleased with, because somewhere there are literally millions of dollars worth of tape and film that didn't make it to the final cut. For my part, I'm very pleased and, as I said, very proud to have played a part in it all.

WALTER MURCH

What was your original involvement with *Apocalypse*?

I began working in 1977 as a film editor and then went on to sound construction. The project was like that. Things evolved and various peoples' roles changed as time went by. No one had ever attempted anything like it before, so as a result the concepts and ideas we used came together very gradually.

I think one of the important points with regard to music is that with this film we tried to get the musicians and composers involved much earlier than is considered normal in this business. Generally speaking, music is the last element of the sound to be recorded and sometimes the dialogue and effects are already mixed. In order to achieve the kind of overall sound that Francis heard for *Apocalypse*, we felt we had to let the

film and sound, of which music is a large part, grow organically together.

An example of the way the process worked would be that we might have a fresh recording of jungle sound effects. We'd send it over to the synthesists and they would either synthesize directly from our effects tape or come up with new sounds, using the effects as a point of departure. We'd then put up both tapes, listen in various combinations and in some cases re-do entire cues.

What was your earliest involve-

Left: David Rubinson with pianist Shirley Walker at the Automatt. Below: Walter Murch mixing sound for the helicopter attack scene at Omni Zoetrope Studio.



ment with the film's music?

I was involved with the music to the extent that as I was cutting the film, I was also laying in "temp" music cues that I'd lift off records. We would agree that a certain sequence needed music and then suggest a specific kind of music by means of a needle drop. To that extent those early decisions that Francis, the other editors and I made then are echoed now in the soundtrack.

Of course, all the period music like the Doors and the Suzie Q dance number were in the film from the beginning, as was the Ride Of The Valkyries sequence.

One of the hallmarks of the *Apocalypse* soundtrack seems to be attention to detail. I know that you went to the trouble to record authentic Cambodian jungle sounds, authentic M-50 machine gun sounds, etc.

Yes, that's true. At the same time, it's reasonable to pursue something in the name of authenticity only to a degree. After all, authenticity is not necessarily always the end unto itself. If you're attempting to incite a certain emotion or feeling in

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the viewer, sometimes a recording of the authentic sound is not enough and you have to augment it. There were instances where we used signal processing gear on the effects tapes and often combined them with synthesized versions of those sounds.

It's apparent that you had the ability to take full advantage of all that modern recording technology had to offer in the making of a soundtrack.

That's right. We devoured new devices. Something would come along and someone would say, "that looks like it might be possible," and within two weeks we'd be irrevocably wedded to it.

Some people seem to think that every time something new appears, like automation, for instance, the primary value is in saving time. Well, it's true certainly that an automated board can save a lot of mixing time. But due to human nature what invariably happens is that you discover new things that were impossible or inconceivable before and you wind up working more hours than without the technology. That kind of attitude was very prevalent among those of us working on the picture. It's one of the reasons it took so long to finish but it's also one of the reasons it turned out so well.

RICHARD BEGGS

What was your role in the soundtrack?

I'm credited as the music mixer and also as a synthesist. I recorded several music and effects tracks.

How would you describe the mixing process?

Long and difficult! What happened was that all music tracks, as well as dialogue, narration and effects were mixed to six tracks, which was the playback configuration. There were three speakers in front, two in back and also a special sub-woofer.

The music was, of course, just one element of the sound. Walter and Mark Berger had to mix multi-track tapes of effects onto six tracks, plus the dialogue and narration as well. Automation was a tremendous help but it was truly a monumental task and there were definitely many long days and nights involved.

I remember one solid week I spent doing just music mixes, using the raw 24-track tapes. Walter and Mark weren't there so I would put up dialogue and effects pre-mixes that had been roughed out and mix the music to them. There's an example of the luxury we had working on this film. Usually when the music arrives to be added to soundtrack, it's already mixed to at most three tracks and generally just to mono. With *Apocalypse* I could listen to the dialogue while mixing the original 24-track music tapes. For instance, if I came to a spot where the music seemed to intrude, I could lower the flute to make room for the dialogue and yet keep the bass strong so that I didn't lose the entire track.

Working on *Apocalypse*, and especially with people like Walter and Mark, was definitely one of the highlights of my career. It was also something that few of us are likely to experience again soon and for that I'm doubly grateful for the opportunity to have been a part of it. ■

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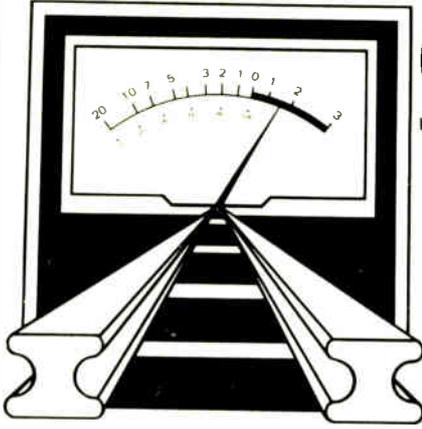


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Other Side of the Tracks

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



SOUNDS LIKE FUN

by Mr. Bonzai

Once a studio becomes successful, boredom lurks just around the corner. In the early days you hustle and wheel and deal and face impossible missions with a tuning fork clenched in your teeth and a lasso of mike cable in your fist. There are the days where recording is pioneer work. The pay is low and the pressure is high. You work around the clock and your complexion becomes vampire pale. You develop "VU squint" from staring through clouds of smoke in dim control rooms. You have a ringing in your ears and a searching look in your eyes. In other words, you are fulfilled.

If you're lucky, your work pays off. The studio gets block-booked by a couple of superstars and you make plans for your trip to the Bahamas. The struggle is over and the experiment is finished. Oh, this is a sad day for one who loves the challenging art of recording. But what can you do? Major album projects are like complex military operations. When each hour means hundreds and hundreds of dollars you can't afford to experiment. More than likely, the artist will have his own engineer and all the studio has to do is make the coffee.

Novelty records are one answer to the doldrums. Not everyone has a taste for wacky recording, but I was raised on Spike Jones, Ray Stevens, and the Mothers of Invention. These guys never settled for less than the startling. They brought sirens, gunshots, animals, and rude sounds to recording. It is true that the market for this type of music is limited, but there are a few outlets. Take Dr. Fermento, if you can. The Doctor's radio show is heard all over the country and welcomes your weirdness.

We closed down one day to put some oak parquet and acoustical mirrors in the vocal booth at Ryan Recording. Cart, our engineer, took the day off to meet with some prospective clients and I was left managing an unbooked

studio. I phoned up an old friend of mine, Norman Priest, and asked him to come to the studio for some fun. Norm is a fine singer and producer and plays most instruments. I figured that the two of us could put together a tune for Dr. Fermento. Smilin' Deaf Eddie, our tech man, was nearby if we had any technical problems.

Norm arrived shortly and I told him my idea for a song called "Sounds Like Fun." These three words were to be the only lyrics. A further requirement I stipulated was that we use only sound effects or altered instruments for the music. After a string of platinum albums, Norm welcomed the chance to get down and fool around in the studio.

We laid down a basic track of grand piano. But instead of recording it normally, we put a mike on the piano and then fed that through a Pignose amplifier which we had placed in a Glad bag and submerged in a tub of water. The Kawai sounded like Captain Nemo had joined the Talking Heads.

As a twist, we recorded the electric piano acoustically. Without the amplification we got the sound of a chicken tap dancing on a hot tin roof. For percussion we ran a mike cable out to the office and recorded Norm at the electric typewriter. If you're after a sound that implies a *message*, you can't beat a typewriter.

To record the lead vocal we dropped a lavalier microphone into a Sparkletts bottle and Norm sang "Sounds Like Fun" into a garden hose which we fed into the bottle. We VSO'd the tape machine up to about 20 ips so that on playback he sounded like a Tibetan monk with a cold. Deep and resonant and sick.

We needed something to approximate a horn section, but had no brass in the studio. We found a Pianophone, one of those breath keyboards that sounds like a wheezy accordion. Pianophones have been around a long time but haven't made much of an impression on contemporary music. They sound like concertinas with asthma, but if you stick a contact microphone on the bridge of your nose and send that through a space echo unit you get something a little like the Tower of Power horn section. Not much, but at least we tried.

For that novelty touch of audio verite, we took the Uher portable out into the street and wandered the alleys near the studio. We nailed a foghorn, a fat lady jumping into a swimming pool, a basketball being dribbled on the hood of a Cadillac, and a parrot that screamed "Yankee Go Home." Move over, New Wave!

When we returned to the studio to lay in the sound effects and do some background vocals, the workmen were still hammering in the new floor. We invited them to take part in the recording and they agreed with gusto. We gave them some headsets and had them hammer in rhythm and guzzle beer at the same time. The belching and laughing gave it a real

earthy, blue collar, redneck touch.

As our goofy composition approached the magnitude of an audio novella, we realized we might have a hit on our hands. This is a common studio hallucination. We thought of such flukes as "They're Coming To Take Me Away" and "Hello Muddah, Hello Faddah." Sure it was a long shot, but maybe "Sounds Like Fun" had a chance of making the oddball Hall of Fame.

By VSO-ing the tape machine down and overdubbing about ten tracks of Norm singing "Sounds Like Fun" we created a munchkin chorus that perfectly balanced the basso lead vocal. We decided on the name "Professor Beaverberry and the Rhythm Midgets" for this bogus artist and his falsetto pals.

Our mix lasted all of thirty minutes and we finished in time to get the tune in the mail that day. One day from basic tracks to final mix. It had that raw, untamed, brute quality of the early Beach Boys, the Bonzo's, and the Chipmunks. Three nights later we actually heard "Sounds Like Fun" on Dr. Fermento's radio show for the first and last time. Like so many records ahead of their time, "Sounds Like Fun" went in the big ear and out the other. It died a quick radio death.

Fortunately, a studio has access to numerous other channels of musical sales. During the next month we sold the tune to various concerns. Our first dollars came from a lease right to the Fatbeater's Clinic. They slipped the song into their "mild behavior modification program" and by associating "Sounds Like Fun" with excessive eating they claimed great success with the overweight.

We really scored some bucks with the Aquarian Smokehouse paraphernalia company. They put "Sounds Like Fun" into their new "Headhouse" media helmet, "guaranteed to drive you totally goony in three hours or your sanity back!" By using total quad combined with the rubber nose vibrator, the mini-strobes, a pneumatic bong, and the bat wing simulator, the "Headhouse" left users of the helmet with expanded consciousness. They beat George Orwell's future shock by four years.

We eventually added a sale to a computer company for their "Examples of Bad Programming" slideshow soundtrack and may have sold "Sounds Like Fun" as the theme for the annual Mardi Gras in Dry Moose, Idaho. Our royalties have accrued to the level sufficient to cover our Q-tip and head cleaner costs.

As a respected consultant on improved studio efficiency I must caution against too much of this novelty recording activity. From a commercial standpoint it has its risk factor, but from a therapeutic angle I feel it is a healthy cure for stifled imagination, repressed experimentation, and the studio "willies." Recording people have a duty to fight the dull, scientific image of the art and open up ears to more sounds, like fun. ■

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• **HARBOR CENTER GUITARS**
also REMOTE RECORDING
 555 Francisco Blvd., San Rafael, CA 94901
 (415) 459-0280
 Owner: Bo Bryant

• **HI SPEED TAPE**
also REMOTE RECORDING
 940 Howard St., San Francisco, CA 94103
 (415) 543-7393
 Owner: Mieub & Associates
 Studio Manager: Michael Baird, Michael Thomas

• **LEW'S RECORDING PLACE**
also REMOTE RECORDING
 1219 Westlake Ave. N., #115, Seattle, WA 98109
 (206) 285-7550
 Owner: Lew J. Lathrop
 Studio Manager: Cary R. Wakeley



Melon Studio

Quality Recording
 Cassette Duplicating
 Recording Workshops

Melon Studio
 San Francisco, CA

• **MELON STUDIO**
 P.O. Box 2188, San Francisco, CA 94128
 (415) 885-8588

Owner: Robin Woodland
 Studio Manager: Teresa Woodland
 Engineers: Robin Woodland. Equipment maintenance and deluxe tweaking by Harry Sitam, Artist's Engineering. Set up and production consultation workshop instructor Bob Ohlsson. Cassette duplicating by Teresa Woodland and Mark O'Shea.
 Dimensions of Studio: 20' x 20' x 8'
 Dimensions of Control Rooms: 8' x 16'
 Tape Recorders: (2) TEAC A3340s 4 track; TEAC 1230 1/4 track stereo, (4) Pioneer CT-F500 stereo cassette deck; Revox custom A-77 2 track
 Mixing Consoles: TEAC/Tascam Model 3, 8 in x 4 out.

Monitor Amplifiers: Dynaco SCA-800 integrated amp; Fisher X-101-B integrated amp (headphones).
Monitor Speakers: Dynaco A-25XLs
Echo, Reverb, and Delay Systems: Hammond custom stereo reverb, tape delay
Other Outboard Equipment: dbx 124 and 122 noise reduction (10 channels); ADC 10 band graphic EQ (4 channels); dbx 163 compressor/limiter, 2 channels; Pioneer PL-12D-II turntable; Pioneer SE-405 headphones.
Microphones: Sennheiser 421s; Shure SM-57s, SM-58s; AKG SE-5Es, direct boxes.
Instruments Available: Traynor "Twin" amp, Klira bass guitar, Rhythm Ace Rhythm Machine, Korg electronic tuner, Small Stone phase shifter, Morley Echoplex, congas
Extras: Free production consultation, including session planning and budgeting, arranging, record manufacturing and distribution info. Great discount price for blank tape.
Rates: Recording, editing, mixing, copying: \$14/hr, days; \$16/hr nights & weekends; \$12/hr, 50 hrs or more. Extra fee for Revox 2 track mixing and rental equipment. Cassette duplicating: \$12.50/hr
Direction: We're recording albums and singles—come see and hear for yourself! Founded in 1971 and one of the first "cheapie" studios in San Francisco, Melon is a comfortable place providing quality tape production at the lowest cost in a friendly, supportive and educational atmosphere. Call for an appointment to inspect our facilities and plan your project. Also, check out our super-duper cassette duplicating deal and amazing 8-track financing offer!

• **PALADIN RECORDING**
also REMOTE RECORDING
 4390 Montgomery St., Oakland, CA 94611
 (415) 852-0255

Owner: Tim Underwood
 Studio Manager: Tim Underwood.
Direction: Paladin records at a base rate of \$5/hr. This allows you the "real" freedom to work on your music and make it sound just right. Paladin is best suited for small groups, solo artists and live performers in need of PA reinforcement. Remote and studio facilities are available. The best times to phone for an appointment or consultation are weekdays in the early to late evenings, and weekends before noon. Whatever your special acoustic needs are, Paladin can meet them.

• **PBO SOUNDWORKS**
 1917 Mildred W., Tacoma, WA 98466
 (206) 585-5077
 Owner: Michael O'Neill
 Studio Manager: Rhonda O'Neill

• **PEARL'S PLACE**
also REMOTE RECORDING
 4183 Doane St., Fremont, CA 94538
 (415) 651-7187
 Owner: Joey and Vickie Horten
 Studio Manager: Joey and Vickie Horten

• **THE PENTHOUSE STUDIO & SOUND CO.**
also REMOTE RECORDING
 880 Second Street, San Francisco, CA 94107
 (415) 543-5471
 Owner/Studio Manager: Michael J. Krsche

• **PINE APPLE STUDIOS**
also REMOTE RECORDING
 P.O. Box 1192, Philomath, OR 97370
 Owner: Clayton Ashley
 Studio Manager: Henry Zellers

• **REAL TO REEL RECORDING STUDIOS**
also REMOTE RECORDING
 1170 Pearl St., Eugene, Oregon 97401
 (503) 485-5977
 Owner: Cliff Nagler
 Studio Manager: Cliff Nagler

• **RED DRAGON RECORDING**
also REMOTE RECORDING
 618 Shrader St., San Francisco, CA 94117
 (Moving to 142 Central, Summer 1980).
 (415) 752-5750
 Owner: Haight-Ashbury Community Radio (a non-profit org.).
 Studio Manager: Eric Buck

• **SILVER LABEL RECORDING**
also REMOTE RECORDING
 305 Melville, Palo Alto, CA 94301
 (415) 321-5778
 Owner: Cherry Productions
 Studio Manager: John R. DiLoreto, M. Eng.

• **SOUNDCAPSULE STUDIOS**
also REMOTE RECORDING
 P.O. Box 6383, Tahoe City, CA 95730

(816) 583-1838
Owner: Michael D. Loomis.
Studio Manager: Michael D. Loomis.

• **SOUND CONSCIOUSNESS STUDIO**
also REMOTE RECORDING
340 Monroe Dr., Palo Alto, CA 94306
(415) 948-0507

Owner: Phillip Greek and the Karmic Farmer's Reunion.
Studio Manager: Phillip Greek.
Direction: For two years now a modern 4-track facility offering the lowest rates available for a superior quality product. Though technically proficient, the emphasis however is not on machines but the music process, affording musicians the time and space needed to capture their full expression on tape. Exploring for new sounds? Check out our museum of unusual instruments—home-built and ethnic percussion, pianos, synthesizers, effects, advanced tape techniques (modeled after Harry Partch, Brian Eno, non-Western music concepts). Share in our regularly scheduled "Jams" or collaborate on compositions for film, jingles, and shows. With music, together, there is no limit.

• **SOUND PRODUCTIONS UNLIMITED**
also REMOTE RECORDING
P.O. Box 835, Saratoga, CA 95070
(408) 887-1830 for Saratoga operations.
(805) 926-2701 for Santa Maria operations.
Owner: Andrew Hecker.
Studio Manager: Andrew Hecker.

• **THE SOUND SERVICE**
also REMOTE RECORDING
860 Second St., San Francisco, CA 94107
(415) 433-3874
Owner: David Dobkin, Steven Pinsky.

• **SOUND TECHNIQUES**
also REMOTE RECORDING
221 Forest Ave., Palo Alto, CA 94301
(415) 328-1820, 408-358-3333
Owner: Martin McGuire, Thomas McCollum.
Studio Manager: Martin McGuire.
Engineers: Martin McGuire, Thomas McCollum, Mark Weldon.
Dimensions of Studios: Remotes only.
Dimensions of Control Rooms: Remotes only.
Tape Recorders: (2) TEAC A-3340S 4 track; TEAC A450 2 track; Sony TC-558 2 track; TEAC R-310 2 track.
Mixing Consoles: Altec 1220 AC modified, 12 in x 3 out; Tapco 6100RB, 6100EB, 14 in x 1 out; (3) Gately SM-6, 18 in x 6 out; Tascam Model 1, 8 in x 2 out
Monitor Amplifiers: Dynaco 416's, 400's, 410's, 120's, ST70's, MK III's; Crown DC-300A's, D-60's, D-75's; Marantz Model 15; Altec 771B's; Phase Linear 400.
Monitor Speakers: Custom Altec/Electro-Voice floor/ceiling monitors, Altec 604E's, 1221's, 816A's, 815's, A7-500's w/E-V T-350 supertweeters, Custom JBL horn cabs.
Echo, Reverb, and Delay Systems: Gately EK6 12 in x 4 out, Roland PE 301 Chorus Echo, Hammond reverb tank.
Other Outboard Equipment: UREI 529 1/2-octave graphic EQ; Altec 8050A real time analyzer with HP 15119A calibrated mic; (3) Crown VFX-2A dual filter x-overs; (2) dbx 118 NR units; dbx 155; (2) TEAC AN-60; (2) MXR 12B 1/2-octave EQ's; Tapco 2200 1/2-octave EQ.
Microphones: Shure SM-58's, SM-57's; Uridyne III's, IV's; E-V RE-15's; Sony ECM 65Ps, ECM 33Fs, 33 Ps, ECM 16's, ECM 150; Sennheiser MD421.
Instruments Available: Custom Les Paul, 62 Melody Maker w/DiMarzio's, Guild D-25, Ana 6-string, Peavey vintage amp, Ludwig 10 piece maple drums, Takamine F-360S
Extras: Specializing in sound reinforcement and repairs and remote 4 track recording
Rates: Flexible, \$10-\$25/hr or bulktime discounts. Remotes or P.A. rentals and operation \$125 minimum.
Direction: Sound Techniques is primarily a sound reinforcement and audio/video repair service providing expert tape recorder, amplifier, studio and pro sound maintenance and calibration. We are new to the Peninsula Area and are eager to serve this area as we have in the South Bay Area. Hope to see you soon...

• **STAR MOUNTAIN STUDIO**
also REMOTE RECORDING
P.O. Box 114, Bodega Bay, CA 94923
(707) 875-8925
Owner: Star Mountain Institute.
Studio Manager: Elm Bordner.

• **STUDIO IV (FRED FOX MUSIC CO.)**
408 Kehoe, Half Moon Bay, CA 94019
(415) 728-3725
Owner: Fred Nesbitt, Jr.
Studio Manager: V. A. Nesbitt

• **SUNSHINE WIZARD PRODUCTIONS**
also REMOTE RECORDING
7935 Fremont Ave., Ben Lomond, CA 95005
(408) 338-2494
Owner: Errol G. Specter
Studio Manager: Errol G. Specter.

• **TAPE SERVICE UNLIMITED (DICK VANCE STUDIO)**
also REMOTE RECORDING
3249 Grand Ave., Oakland, CA 94610
(415) 834-8912.
Owner: Walt Lee.
Studio Manager: Walt Lee.

• **3-B PRODUCTIONS**
also REMOTE RECORDING
701-18B Kings Row, San Jose, CA 95112
(408) 289-1383
Owner: Kevin Boone.
Studio Manager: Kevin Boone.

• **TRANSMEDIA, INC.**
also REMOTE RECORDING
445 Bryant St., San Francisco, CA 94107
(415) 485-REEL
Owner: David B. Adams.
Studio Manager: Kathy Braun.
Engineers: David B. Adams, Cliff Foote, Dane Grant.
Dimensions of Studios: A: 15' x 10'; B: 7' x 15'; C: 25' x 30'.
Dimensions of Control Rooms: A: 12' x 15'; B: 20' x 15'.
Tape Recorders: Revox A77 2 track; Revox (2) B77 2 track; Tascam Series 70 1/2 inch 4 track; (8) Ampex PR-10 mono; Akai X355D 1/4 track 2track; (5) Sparta MC-104 1 track cartridge machines.
Mixing Consoles: TEAC Model 3, 8 in x 4 out; TEAC Model 2, 6 in x 4 out; RCA 76B2, 6 in x 2 out.
Monitor Amplifiers: Fisher 400 tube type in all studios.
Monitor Speakers: B. JBL 4311, A: Fisher ST 750.
Echo, Reverb, and Delay Systems: Fairchild dynamic spring reverb and tape loop echo.
Other Outboard Equipment: CBS Audimax comp/limiters, various outboard graphic EQ's, Pioneer turntables; Ampex cassette decks; complete slide chain and VTR's.
Microphones: Sennheiser MD-421s; Electro-Voice 668; Calrad 10-6s, and various.
Extras: Complete multiple "real time" duplication facilities for both reel to reel and cassette masters. Limo service for ad agency personnel. Kitchen facilities, crash pad for late nite sessions. Complete talent agency on premises. Rehearsal space available.
Rates: \$40/hr.
Direction: Directed exclusively at the advertising industry. We have moved into the Number 3 position among Bay Area advertising studios. With awards for excellence in recording/production regular clients include Record Factory, Rainbow Records, Philippine Airlines, Taco Bell, & Glorietta Foods. Goal: Replace Coast Recorders.

• **ULTRA SOUND STUDIOS**
also REMOTE RECORDING
P.O. Box 1346, Campbell, CA 95008
(408) 371-4064
Owner: Derek L. Jones.
Studio Manager: Vickie M. Saulsbury.

• **AL VEDRO ASSOCIATES, INC.**
also REMOTE RECORDING
725 Second Street, San Francisco, CA 94107
(415) 957-1131
Owner: Al Vedro
Studio Manager: Dave DeMontuzian.

• **WALKERSOUND**
1874 Carlotta Drive, Concord, CA 94519
(415) 888-4347
Owner: David L. Hodtwalker.
Studio Manager: David L. Hodtwalker

• **WELLESOUND**
also REMOTE RECORDING
3780 Clay, San Francisco, CA 94118
Owner: Rob Welles
Studio Manager: Rob Welles!

• **WESTWAY RECORDING**
also REMOTE RECORDING
1226 S.W. 18th Ave., Portland, OR 97205
(503) 228-1940
Owner: America is Great, Inc.
Studio Manager: Bill Stevens.
Engineers: Bill Stevens, Robert Lawhead
Dimensions of Studios: A: 11' x 17'; B: 12' x 20'.
Dimensions of Control Rooms: A: 11' x 7'; B: 20' x 20'.
Tape Recorders: Ampex 440, (2) full track, (3) 2 track, (1) 4 track; MCI JH110, (1) full track, (2) 2 track; Akai PRO 1000, Wollensak 2570 AV; Magnasync 3116-E-2 16mm insert rec./repro.; Wollensak 2770-A high speed cassette duplicator.
Mixing Consoles: Audiotronics 100A, 12 in x 4 out; Custom built, 10 in x 2 out; TEAC Model 5, 8 in x 4 out
Monitor Amplifiers: Spectra Sonics.
Monitor Speakers: Altec, Klipsch.
Echo, Reverb, and Delay Systems: AKG BX10.
Other Outboard Equipment: dbx both studios.
Microphones: Sennheiser 441s; Neumann U-47, U-87, U-60; Sennheiser shotgun.
Rates: Studio: \$35/hr; editing: \$25/hr; mixing: \$30/hr; 16mm sound transfer: \$35/hr.

FILL US IN on what you do FILL THIS OUT!

The Mix is interested in finding out who our readers are. We'd appreciate it if you would fill out the form below and return it to us so we can learn more about you and what you like. To show our appreciation, we will send you a free copy of our next issue.

Thanks for your time.

1. What is your age?
 15-25 25-34 35-40 over 40
2. Are you male or female?
3. What is your occupation?
A. RECORDING STUDIO
 Owner
 Engineer
 Staff
 Independent
 Maintenance
 Producer
 Independent
 Staff
 Studio Employee
B. MUSICIAN
 Full Time
 Part Time
 On Contract to record label
C. PROFESSIONAL AUDIO
 Manufacturer
 Dealer
 Store Owner
 Employee
 Manufacturer's Rep
 Designer
 Consultant
D. MISCELLANEOUS
 Radio/TV
 Student
 Other (please specify)
4. How long have you been involved in recording _____
5. How much time do you spend in recording studios in one month? _____
6. What other recording related publications do you read? _____
7. Do you have recording equipment in your home? _____
 professional reel to reel cassette
8. Where did you get your copy of the Mix? _____
9. What other listings, features or articles would you like to see in future editions of the Mix? _____
10. Comments or suggestions? _____

Please return this form to Mix Publications
P.O. Box 6395, Albany, CA 94706

name _____
address _____
city _____
state _____ zip _____

Thank you. Watch for your free copy of our next issue to be delivered soon.

8 TRACKS

TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS

ACE TUNEL SOUND CO.
9944 S.W. 37th, Portland, OR 97219
(503) 248-5048
Owner: Seth Slager, Greg Zaccana
Studio Manager: Greg Zaccana

ALTA MIRA RECORDING
744 Remo St., San Jose, CA 95118
(408) 280-1329

Owner: Joe Trujillo
Studio Manager: Joe Trujillo
Engineers: Joe Trujillo, Pete Trujillo
Dimensions of Studios: 13' x 15' x 18'
Dimensions of Control Rooms: 9' x 12' x 8'
Tape Recorders: TEAC/Tascam 80-8 8 track; Otari MX 5050B 2 track; Akai GX 709D cassette deck; Philips N4504
Mixing Consoles: TEAC Model 5, 8 in x 8 out; TEAC Model 1, 8 in x 2 out
Monitor Amplifiers: Phase Linear 400, Heathkit AR15; Lalayette 25A
Monitor Speakers: Altec A7's, Avid 102A's, Panasonic RD-7672, Sennheiser HD 420 headphones
Echo, Reverb, and Delay Systems: Maestro Echo-Plex, Shopping for reverb
Other Outboard Equipment: dbx 163 limiters
Microphones: Shure SM 58, Sony ECM 23F, ECM 22P
Instruments Available: Rogers 7 piece drums, synthesizer, Moog Prodigy, Story & Clark upright piano, various guitars and amps
Rates: \$20/hr Call for bulk rates

JOHN ALTMANN RECORDING
1310 20th Ave., San Francisco, CA 94122
(415) 584-4910
Owner: John Altmann
Studio Manager: Colette Salaun

AMERICAN MUSIC RECORDING STUDIO
also REMOTE RECORDING
4450 Fremont Ave. N., Seattle, WA 98103
(208) 833-1774
Owner: American Musical Retailers Corp
Studio Manager: Bradley Spurr

APPLEWOOD RECORDING STUDIOS
4542 49th S.W., Seattle, WA 98118
(208) 932-8348
Owner: Harlan Michael
Studio Manager: Harlan Michael

APR RECORDING STUDIO
2115 Knowles Rd., Medford, OR 97501
(503) 773-3988
Owner: Skip Bensonette
Studio Manager: Dave Wooten

ARCAL PRODUCTIONS
2732 Bay Road, Redwood City, CA 94083
(415) Office: 389-7348, Studio: 368-0973
Owner: Arcal Inc.
Studio Manager: Barry Bisson
Engineers: Barry Bisson, Sal Viola
Dimensions of Studios: 24' x 16'

Dimensions of Control Rooms: 17' x 7'.
Tape Recorders: TEAC/Tascam 80-8 with dbx DX-8 noise reduction 8 track; TEAC/Tascam 25-2 with dbx noise reduction 2 track; Ampex PR-10; Tandberg Model 11-P mono
Mixing Consoles: Tangent 1202A, 12/2 with extra direct outs.
Monitor Amplifiers: Yamaha P2200
Monitor Speakers: JBL 4311's, Auratone SC Sound Cubes
Echo, Reverb, and Delay Systems: Tangent 1202A spring reverb tank, MXR digital delay with 2 cards, Roland RE 101 Space Echo
Other Outboard Equipment: dbx 119 compressor/expander, stereo 12 band graphic EQ
Microphones: Sennheiser 421, AKG D-900, D-1000E, Shure SM 57, 58
Instruments Available: New Horugel 5'8" grand piano, Fender Rhodes electric piano, Gibson "The Paul" electric guitar, Princeton amplifier, Ovation "Glen Campbell" acoustic guitar, Yamaha CP-70 electric grand piano, drum set, ARP Odyssey synthesizer
Rates: \$30/hr Block time \$25/hr—4 hour minimum. Complete recording packages available at unbelievably low prices. Singles, EP's and albums—one low cost includes all studio time, mastering and pressing

ARMY STREET STUDIOS/B.S.U. PRODUCTIONS
also REMOTE RECORDING
P.O. Box 31425, San Francisco, CA 94131
(415) 285-0952
Owner: Jim Keylor
Studio Manager: Lester Gass, Yvette Conter

ASTRAL SOUNDS RECORDING
482 Reynolds Circle, San Jose, CA 95112
(408) 294-5153
Owner: Jeff Tracy
Studio Manager: Jeff Tracy

AUDIO RECORDING INC.
also REMOTE RECORDING
2227 5th Ave., Seattle, WA 98121
(206) 823-2030
Owner: Kearney W Barton
Studio Manager: Kearney W Barton

AUDIOS AMIGOS
1411 6th Ave., San Francisco, CA 94122
(415) 685-7390
Owner: Jim Renney
Studio Manager: Jim Renney

BAY RECORDS
1518 Oak St., Suite 320, Alameda, CA 94501
(415) 885-2040
Owner: Michael Cogan
Studio Manager: Michael Cogan
Engineers: Michael Cogan
Dimensions of Studios: 30' x 40'
Dimensions of Control Rooms: 18' x 12'
Tape Recorders: Ampex MM1000-8 8 track; Ampex AG350-2 2 track; Sony 854 4S 4 track
Mixing Consoles: Tascam Model 10, 8 in x 4 out (plus 8 out, highly modified)
Monitor Amplifiers: McIntosh MC-60
Monitor Speakers: JBL 4311

Echo, Reverb, and Delay Systems: MICMIX Super C.
Other Outboard Equipment: dbx 160 compressor, SAE graphic, Metrotech graphic.
Microphones: Neumann U-87s; AKG D224E, C451E, Beyer M260, E-V RE-15, etc.
Instruments Available: Grand piano
Rates: \$25/hr plus tape in the studio. On location 8 track remotes: \$800 per day, \$1500 for a weekend 1000 LPs from your tape and artwork for \$2400 including color covers, everything

BAYSHORE STUDIOS
871-F Industrial Rd., San Carlos, CA 94070
(415) 591-3509
Owner: Kent Bancroft, Keith Hatschek
Studio Manager: Keith Hatschek
Engineers: Kent Bancroft, Jap ji Singh Ksalsa, Keith Hatschek
Dimensions of Studios: 32' x 26' x 18' ceiling
Dimensions of Control Rooms: 20' x 20'
Tape Recorders: Otari MX 5050 8 track, TEAC A3340S 4 track; Revox B 77 2 track; Pioneer, JVC cassettes
Mixing Consoles: Tascam Model 5, Tascam Model 3
Monitor Amplifiers: BGW, Sansui, Marantz
Monitor Speakers: JBL 4310's, Auratones
Other Outboard Equipment: Delta graphic EQ, dbx RM-155, Bi-Amp quad-limiter, tape delay, Sound Workshop 242 stereo reverb, etc.
Microphones: Sennheiser, MB, Electro-Voice, Shure, TEAC, Neumann, Beyer, AKG, Sony available
Instruments Available: Neumeyer grand piano, Hammond M-3 organ, spinet piano, Ampeg bass amp, Fender Deluxe reverb, drums, congas, umbales, percussion and more
Rates: \$25/hr 8 track, \$18/hr 4 and 2 track.

BAY SOUND REPRODUCTION
5 Yorkshire Drive, Oakland, CA 94618
(415) 855-4885
Owner: Glenn Oey and Gene Mick
Studio Manager: Gene Mick



Bay Sound Reproduction
Oakland, CA

Engineers: Chief Glenn Oey, Assistant Gene Mick
Dimensions of Studios: 30' x 19'
Dimensions of Control Rooms: 16' x 14'
Tape Recorders: Otari MX 5050 2, 4 and 8 track; Nakamichi 700II 550 cassette decks
Mixing Consoles: Soundcraft Series II, 16 in x 8 out with sweep EQ on all inputs
Monitor Amplifiers: Nakamichi: 620 and 420, Marantz 4070 phones
Monitor Speakers: Ed Long TA-3 Time Align (flush mounted in slot); Auratones ADS 2001; JBL 4311
Echo, Reverb, and Delay Systems: Orban/Parasound 111B reverb; MXR digital delay; DeltaLab DL 2 Acousticcomputer
Other Outboard Equipment: (2) UREI LA-4 & dbx 160 comp/limiters; Orban 245E stereo synthesizer; UREI 1176 peak limiter; ADR Scamp S-23 pan effect; F-100 dual noise gates; SO1 peak limiter; 12 channels of dbx noise reduction; SAE 2700 1/2 octave graphic equalizer; SAE 1800 parametric EQ; Phase Linear autocorrelator; Nakamichi 610 control pre amp; Iwve spectrum analyzer; electronic metronome; patchbay
Microphones: Beyer, Sennheiser; Shure, AKG, Neumann, Nakamichi, Electro-Voice, FRAP guitar pick-up; Countryman, Trouper; Uni Sync & Sescom direct boxes
Instruments Available: Yamaha C-5 conservatory grand piano 66" Martin 000 18 and Epiphone Zephyr guitars, 5-piece old Camro drums w/Zildjian cymbals; Roto-toms; Synare Sensor; MESA/Boogie amp with JBL speaker; various percussion instruments; Oberheim 4-voice synthesizer (extra charge)
Rates: 8 track \$25/hr, 4 track \$20/hr, 2 track \$17/hr, all rates include everything but cost of tape. Also possible to rent tapes. Special rates are available for block booking. One hour free set-up. Excellent facilities for recording and mixdown.

BENT NAIL STUDIOS
Formerly Morris Recording Studio
2375 Cory Avenue, San Jose, CA 95128

(408) 244-0788

Owner: Dave Morris, Bill Morris.

Studio Manager: Dave Morris.

Engineers: Dave Morris.

Tape Recorders: Tascam 80-8 8 track; Crown 700 Series 2

track; TEAC 2230S 2 track; Sony TC 360-SD cassette.

Mixing Consoles: Tascam Model 5 w/Tascam Model SE5, 16 in

x 4 out, w/direct outputs on all channels; Tascam Model 1, 8 in x 2

out; Yamaha EM-150, 6 in x 2 out.

Monitor Amplifiers: Kenwood, Dynaco.

Monitor Speakers: JBL L-100's; Auratones; Pioneer headphones.

Echo, Reverb, and Delay Systems: Orban/Parasound 111B reverb; MXR flanger/doubler.

Other Outboard Equipment: dbx DX-8 noise reduction (8 ch);

dbx 160 compressor/limiter; Bi-Amp EQ210; Soundcraftsmen

RP2212 EQ, direct boxes; various guitar/keyboard devices;

various acoustic guitar pickups.

Microphones: Electro-Voice RE-20, PL-76, DS-35; Sennheiser

MD 421; Beyers M-500; Shure MS-57, SM-58, 545S; Sony ECM

21.

Instruments Available: Hammond B-3 w/Leslie 122, Camco

drum set, Les Paul electric; Martin D-18; Fender Tremolux amp;

JBL bottom w/2-12's; Road bottom w/1-18; various percussion in-

struments.

Rates: \$20/hr recording and mixdown, plus tape; bulk rates

available.

•• ROBERT BERKE RECORDING

(415) 861-8318

Owner: Robert Berke.

Studio Manager: Joe Hunter.

•• BIG & FAMOUS STUDIOS

also REMOTE RECORDING

825 W. McGraw, Seattle, WA 98119

(206) 282-7110

Owner: Big Shot Productions.

Studio Manager: Greg Haverfield, Paul Wager.

•• BIG PINK WEST

507 Browning St., Mill Valley, CA 94941

(415) 388-2987

Direction: We have expanded to 16-track, but still offer the lowest 8-track rates in the world. Please refer to our 16-track listing for complete studio information.

•• BRANDT'S RECORDING STUDIOS

1030 48th St., Sacramento, CA 95819

(916) 451-3400, 451-7794

Owner: Charles M. & Edna M. Brandt.

Studio Manager: C.M. Brandt & Chief Engineer.

•• C.A.E. SOUND

also REMOTE RECORDING

1737 So. El Camino Real, San Mateo, CA 94402

(415) 345-8300

Owner: Peter B. Miller, Michael Morales, Susan J. Alvaro.

Studio Manager: Mike Morales.

•• CAPITOL CITY STUDIOS

also REMOTE RECORDING

911 East Fourth Avenue, Olympia, WA 98508

(206) 352-9097

Owner: Allen P. Giles.

Studio Manager: Allen P. Giles.

•• CENTER FOR CONTEMPORARY MUSIC

Mills College, MacArthur Blvd. & Seminary Ave.,

Oakland, CA 94613

(415) 832-2770, ext. 337; 835-7820

Owner: Mills College.

Engineers: Maggi Payne and Robert Sheff.

•• CORASOUND RECORDING

also REMOTE RECORDING (2 track)

122 Suite E., Paul Drive, San Rafael, CA 94903

(415) 472-3745

Owner: Stephen Hart, J.D. Sharp, John Rewind.

Studio Manager: Stephen Hart.

Engineers: Stephen Hart, Michael Raskovsky, J.D. Sharp.

Dimensions of Studio: 24' x 32' x 12'

Dimensions of Control Rooms: 9' x 12'

Tape Recorders: Otari MX 5050 8 track; Otari MX 5050B 2

track; Nagra 4S 2 track; TEAC A3340S 4 track; TEAC, Sony

cassettes.

Mixing Consoles: Sound Workshop 1280B, 12 in x 8 out.

Monitor Amplifiers: McIntosh MC250S, Crown.

Monitor Speakers: JBL 4311, Auratones.

Echo, Reverb, and Delay Systems: Ibanez AD230 delay, Ro-

land Space Echo, Sound Workshop 262 stereo reverb.

Other Outboard Equipment: EXR Exciter, Ashly parametric

EQ (2), Furman parametric EQ, Bi-Amp EQ, dbx noise reduction,

dbx comp/limiters, Orban stereo synthesizer, Symetrix signal

gates, Clic-Trac, AD 230 flanger, Countryman and Sescam direct

boxes, MXR phaser.



Microphones: AKG 414 EB, 451s, D1000, D200s; Schoeps; Neumann KM-84; Sennheiser 421s; E.V. RE-20, RE-15, RE-10s, CS15; Beyers 160, M-500, M-201; Shure SM-57s.

Instruments Available: Hammond B-3, Korg Poly-S Strings,

Oberheim 2-voice, upright grand piano, Poly-Fusion synthesizer,

Foland guitar synthesizer, drum sets, electric bass, GMT and

Fender amps, Gibson ES-175 guitar.

Extras: Complete production service, professional studio musi-

cians available.

Rates: \$30/hr; block time (6 hrs or more) \$26/per hour.

Direction: For five years Corasound has been specializing in

budget LPs and singles, radio and television commercials, and film

soundtracks. We also offer production service for your commer-

cial or music. Since the last issue of the Mix, Corasound has

recorded several records, and commercials for West Coast and

national broadcast. We are currently planning a new studio and

upgrade for later this year. For a reasonable price Corasound will

give you a high quality master tape.

•• CREATIVE SOUND

802 Cree Dr., San Jose, CA 95123

(408) 224-1777

Owner: Richard and Ramah Dias.

Engineers: Richard Dias.

•• CUSTOM RECORDING/STUDIO C

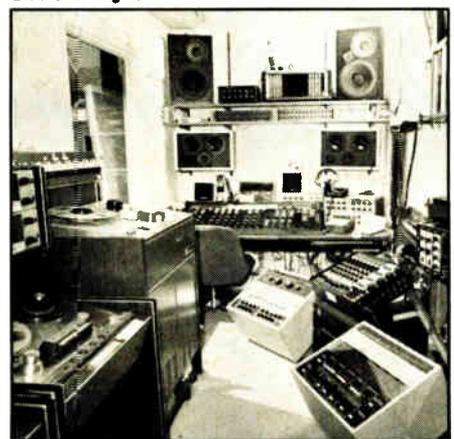
also REMOTE RECORDING (4 track)

2220 Broadway Way, Stockton, CA 95209

(209) 477-5130

Owner: Dr. Thomas T. Chen, M.D.

Studio Manager: Drew Palmer.



Custom Recording/Studio C
Stockton, CA

Engineers: Drew Palmer, Dr. Thomas T. Chen

Dimensions of Studio: 30' x 30'

Dimensions of Control Rooms: 8' x 12'

Tape Recorders: 3M M-56 8 track with autolocator; Ampex

AG-351 2 track; Otari MX 5050 4 track; Tandberg TCD 330

cassette; Yamaha TC 100 cassette; Otari high speed duplicator, 6

cassettes at once.

Mixing Consoles: Langevin AM-4, 12 in x 4 out; Interface

Series 1CD, 8 in x 4 out; Altec, 6 in x 2 out.

Monitor Amplifiers: Crown DC-300, Crown D-60

Monitor Speakers: Bozak concert grand (studio); Electro-Voice

interface A; MDM-4, Auratone.

Echo, Reverb, and Delay Systems: Lexicon 224 digital

reverb, AKG BX-20 reverb, Lexicon Model 102 stereo digital

delay.

Other Outboard Equipment: Allison Gain Brain, Allison

Kepez, Inovonics 200 limiter, Eventide Flanger, Eventide Har-

monizer, Countryman phaser, dbx noise reduction, Orban/Para-

sound stereo matrix, Orban 526A D'Esser, White Series 4000

1/2-octave EQ, ITI parametric EQ, UREI graphic EQ.

Microphones: Neumann U-47 FET, U-67, KM-84; Electro-Voice

RE-15, RE-16; Shure SM-53, SM-58, SM-60, SM-81; Sennheiser

MD-421, MKH-405, AKG C-451E system, D-200; P2M; custom

built guitar & drum mics; FRAP and FRAP for wind instruments,

Countryman direct boxes.

Instruments Available: Steinway grand piano, Hammond B-3

w/Leslie, Oberheim eight-voice w/sequencer, ARP String Ensem-
ble, Alembic graphite neck bass w/Alembic bass cabinet, Deluxe
Fender Precision bass w/custom noiseless electronics, Gibson Les
Paul guitar w/noiseless electronics, custom individualy
microphoned drumset, Roto-tom tympani, Hohner clavinet
w/modification, assorted percussion instruments, Fender Deluxe
Reverb amp, Fender Vibraverb amp, w/JBL speakers, Oberheim
amplifier.

Rates: 8 track: \$35/hr; block rates available, 1 hr free set up. 2
track \$25/hr. 4 track remote recording \$30/hr.

•• DAYSRING RECORDING & TAPE DUPLICATION

also REMOTE RECORDING

P.O. Box 30012, Seattle, WA 98103

(206) 634-2580

Owner: Jan Allen & Runnie Lind

Studio Manager: Jan Allen Lind.

•• DOME STUDIOS

S.R. Box 40510, Fairbanks, AK 99701

(907) 458-1993, 458-2804

Owner: Jerry Ralson.

Studio Manager: Jerry Ralson.

Engineers: Jerry Ralson, Ruf Ralson.

Dimensions of Studio: 375 sq. ft. irregular polygon.

Dimensions of Control Rooms: 125 sq. ft.

Tape Recorders: TEAC/Tascam 80-8 8 track; TEAC A3340S 4

track; Technics RS 1500 US (1/2) 2 track; Pioneer RT 1050 2

track; JVC cassette 2 track.

Mixing Consoles: Peavey MC-24, 24 channel; Tascam Model

3, 8 channel; (2) Shure sub-mixers, 4 channel.

Monitor Speakers: JBL 4313.

Other Outboard Equipment: 8 channels dbx.

Microphones: Beyers, Shure, Peavey, others on request.

Instruments Available: Piano, bass (acoustic and electric),

drums, guitars.

Direction: Mellow woody atmosphere, out of town, with a nice

view of the Alaska range. Lounge, living accommodations

available. 1" Sitka spruce paneling throughout. Musicians

available. We invite all serious musicians/composers to check us

out. Our orientation is toward promoting and developing Alaskan

talent and outsiders here to get a new perspective. Studio is

available on a rental basis or cost plus percentage, depending on

the material.

•• ELECTRONIC MUSIC ASSOCIATES

3400 Wyman St., Oakland, CA 94619

(415) 532-5034

Owner: Howard Moscovitz

Studio Manager: Howard Moscovitz.

•• FOXFUR STUDIO

4709 Guerneville Rd., Santa Rosa, CA 95401

(707) 823-9511

Owner: Stuart, Randall and Melissa Quan.

•• GLACIER RECORDING CO.

also REMOTE RECORDING

9415 Suite D, N.E. 4th Plain, Vancouver, WA 98682

(206) 892-9397

Owner: Les Pollard.

Studio Manager: Sandy Pollard.

•• GOPHER GOLD

also REMOTE RECORDING

495 Primavera Rd., Boulder Creek, CA 95006

(408) 338-4334

Owner: Gopher.

Studio Manager: Gopher.

•• HARBOR RECORDS

1250 Seventh Avenue, Santa Cruz, CA 95063

(408) 478-8444

Owner: Wayne Nelson, Noel Gott.

Studio Manager: Noel Gott.

Engineers: Noel Gott, Rick Cabral, 2nd Engineer.

Dimensions of Studio: 12' x 20'

Dimensions of Control Rooms: 12' x 15'

Tape Recorders: TEAC 80-8 w/variable speed, dbx, 8 track;

Revox A-77 2 track; TEAC 3340 4 track; Sony 770 2 track; Sony

152 cassette.

Mixing Consoles: Sound Workshop 1280B EQ, 12 in x 8 out;

TEAC and Sony's.

Monitor Amplifiers: McIntosh 275, Tapco.

Monitor Speakers: Dumble/Altec custom, Electro-Voice, KLH

and Auratone.

Echo, Reverb, and Delay Systems: Custom stereo reverb,

DeltaLab DL2.

Other Outboard Equipment: Scamp compressors, EQ, noise

gates and expander gates; MXR flanger.

Microphones: AKG 414; Electro-Voice RE-20, RE-11, DS-35;

Shure SM-57's; Sony 22P; direct boxes.

Instruments Available: Steinway grand piano, Dumble amps.

Rates: \$25/hr. Block rates for 10/hr.

•• HART COMMERCIAL RECORDING
also REMOTE RECORDING
 57722 Swan Creek Dr. E., Tacoma, WA 98404
 (206) 472-2740
 Owner: Dean K. Hart.
 Studio Manager: Dean K. Hart.

•• harc—HORIZON AUDIO RECORDING CO.
 10297 Bethel Burley Rd. S.E., Port Orchard, WA 98386
 (206) 878-4972
 Owner: Kerry L. Pilling.
 Studio Manager: Kerry L. Pilling.

•• HOT TRACKS RECORDING
also REMOTE RECORDING
 3141 Humboldt Ave., Santa Clara, CA 95051
 (408) 288-1734, 985-1040
 Owner: Don Heinsen, Phil Jamison.
 Studio Manager: Don Heinsen, Phil Jamison.
 Engineers: Phil Jamison, Don Heinsen.
 Dimensions of Studios: Remote, various locations available for proper studio/control room environment.
 Dimensions of Control Rooms: See above.
 Tape Recorders: Tascam 80-8 8 track; TEAC 3340S 4 track; Tascam 35-2 2 (1/2) track; Sony 2 track; Akai GX-C390 2 track.
 Mixing Consoles: (2) Tascam Model 5A, 8 in x 4 out; (2) Tascam Model 1's, TEAC Model 2.
 Monitor Amplifiers: P2201 Yamaha.
 Monitor Speakers: JBL 4311's, Auratones.
 Echo, Reverb, and Delay Systems: Tapco 4400 reverb, Marshall Time Modulator.
 Other Outboard Equipment: (2) dbx 161 compressors, Ashly stereo (dual parametric EQ; (2) MXR 10-band dual graphic EQ's; Tapco C-201 dual EQ, American Scientific real time analyzer, 200' 19-pair balanced snake, transformer balanced splits.
 Microphones: AKG 414; Sennheiser MD 421's; Shure SM-57's, SM-58's.
 Instruments Available: Fender Rhodes, Hammond B-3 w/Leslie, Twin reverb.
 Rates: \$25/hr, preferred block project rates available, call to discuss

•• IRONWOOD STUDIO
 20816 23rd Ave., West, Alderwood Manor, WA 98038
 (206) 775-7905
 Owner: Paul Scoles
 Studio Manager: Paul Scoles
 Engineers: Paul Scoles
 Dimensions of Studios: 15' x 22' plus 8' x 10' drum booth.
 Dimensions of Control Rooms: 11' x 15'.
 Tape Recorders: Otari MX-5050 8 track; Otari MX-5050 2 track; Akai GX-630 1/4 track, Sanyo STD-1800 cassette deck.
 Mixing Consoles: TEAC/Tascam Model 5 modified, 8 in x 4 out; TEAC/Tascam Model 1 stereo cue mix, 8 in x 2 out; TEAC/Tascam Model 1 stereo echo mix, 8 in x 2 out.
 Monitor Amplifiers: Marantz R-330-B.
 Monitor Speakers: JBL L-99's, ADS 910's.
 Echo, Reverb, and Delay Systems: DeltaLab DL-2 digital delay; Master-Room XC-305 stereo reverb; Tapco 4400 stereo reverb.
 Other Outboard Equipment: dbx 155 8-channel noise reduction, Symetrix CL-100 compressors (2), Symetrix noise gates (2); Audioarts parametric EQ, Neptune 910 EQ (2); custom built stereo synthesizer and phase shifter; Symetrix headphone amp, instrument pre-amps (2), real time analyzer, strobe tuner, and assorted effects.
 Microphones: Sennheiser 441's; Beyer M-500; Shure SM-57's, SM-58's; AKG 414; Nakamichi CM-300's and Audio-Technica AT-813's; Electro-Voice PL-95.
 Instruments Available: Wurhlitzer spinet piano, Farfisa organ, Guild Starfire guitar, Ovaton bass, conga drums, Music Man amp, others on request.
 Rates: \$25/hr recording and mixing, tape extra. Block rates available.



Isolation Studio
 Pleasant Hill, CA



•• ISOLATION
also REMOTE RECORDING
 24 Geriola Ct., Pleasant Hill, CA 94523
 (415) 937-8552 (24 hr answering service)
 Owner: David Denny
 Studio Manager: David Denny.
 Extras: Redwood, acoustic tile and directional track lighting create a comfortable atmosphere for performing.
 Direction: Making people sound professional is our purpose. We try to capture the sound and the feeling of an artist's live performance. We like to help new musicians to get a better understanding of studio functions. We're capable of 14-plus tracks with record quality. Novice & pro's are both welcome. In house production, arranging and writing are available to enhance every tape that leaves our studio. Call for more info. 24 hr. answering service.

•• NEIL JANKLOW STUDIO PRODUCTIONS
 Please phone for appointment
 (415) 858-0132
 Owner: Neil Janklow
 Studio Manager: Neil Janklow
 Engineers: Neil Janklow
 Dimensions of Studios: 200 sq. ft. (non parallel walls). 7' x 8' booth.
 Dimensions of Control Rooms: 10' x 8'.
 Tape Recorders: Ampex AG 440-B 8 track; TEAC A3340-S 4 track; Sony TC 640 (1/2) 2 track; Ampex 952 2 track; Sony SD152 cassette.
 Mixing Consoles: Tascam, 16 in x 8 out; Tascam 8 in x 2 out.
 Monitor Amplifiers: Phase Linear, Kenwood phones
 Monitor Speakers: JBL 4311's, JBL E-V custom design; Sennheiser & Koss phones
 Echo, Reverb, and Delay Systems: MXR digital delay w/4 cards; Tapco stereo reverb; Roland Space Echo.
 Other Outboard Equipment: 8-channels dbx; Tapco graphic EQ's; dbx 161 comp/limiters; 400-point patch bay; Sescam direct.
 Microphones: AKG 451E's; E-V RE-20; Sony ECM 33P's, Shure SM-57's, 58; etc.
 Instruments Available: Baldwin studio piano; Fender Rhodes (modified-stereo), Oberheim synthesizer w/sequencer, Yamaha YC-45D organ, Ampeg V-4.
 Rates: 2 and 4 track \$15/hr. 8 track \$35/hr. 7 hour blocks \$12 50 and \$27 50/hr. Film, slide-tape and commercial sound-tracks: negotiable

•• JOYFUL SOUND
 P.O. Box 235424, Sacramento, CA 95825
 (916) 482-9113
 Owner: Robbie and Rosina Robertson
 Studio Manager: Robbie Robertson.

•• KEZR STUDIOS
 777 North First Street, Seventh Floor, San Jose, CA 95112
 (408) 287-5775
 Owner: Alta Broadcasting Inc.
 Studio Manager: J. Thomas Woods
 Engineers: J. Thomas Woods, David Perez, Carl Flothow.
 Dimensions of Studios: 140 sq. ft. (trapezoid) Studio A 30 sq. ft. isolated announcer booth (trapezoid)
 Dimensions of Control Rooms: 8' x 10' Control 1, 7' x 8' Control 2.
 Tape Recorders: MCI J10 1-A8 8 track; MCI J10 1-A4 4 track; (2) MCI J10 1-A2 2 track; (3) Technics 1500-2 2 track.
 Mixing Consoles: Quantum QM-168, 16 in x 8 out; Quantum QM-12P, 12 in x 4 out.
 Monitor Amplifiers: Technics 9060's (4).
 Monitor Speakers: (All) MDM-TA3 Time Aligned.
 Echo, Reverb, and Delay Systems: Orban 111B reverb.
 Other Outboard Equipment: UREI LA4 limiter/compressor, Orban 622-B parametric EQ, ADC-500 graphic EQ
 Microphones: Neumann, Sennheiser, AKG
 Rates: \$25/hr either studio. 5" reel dubs \$2/ea, 7" reel dubs \$5/ea, 10" reel dubs \$15/ea, (all 1/2" 2 track). 1/2" 4-track dub on 5" reel \$10; 1" 8 track dub on 7" reel \$25; cassette dubs \$2/ea.
 Extras: Full restaurant/bar/lounge from 10am - 1am, free coffee, private office and phone for independent producers/agencies/xerox, full computer labeling for cassette and reel to reel, also a courier service for all local stations, Greyhound shipping or Federal Express delivery no extra charge. Male/female announcers on staff.
 Direction: KEZR Studios was designed to offer the highest quality for broadcast programs and commercials. We also are used for

soundtrack work for television commercials, films, video tapes, slide presentations and instructional cassette programs. We also are capable of recording light music groups, production tracks for jingles and background tracks. More often than not we create our own sound effects for perfect quality and balance.

•• LION TRACKS/CREATIVE ENTERPRISES
also REMOTE RECORDING
 P.O. Box 846, Cotati, CA 94928
 (707) 823-8834
 Owner: Mario Lewin
 Studio Manager: Mario Lewin.

•• LITTLE BIRD PRODUCTIONS
also REMOTE RECORDING
 4416 S.E. Hwy. 101, Lincoln City, OR 97367
 (503) 988-2575
 Owner: Harbinger Foundation.
 Studio Manager: L.F. Caulkins
 Extras: Our facility is state-of-the-art. (Otan, Technics, BiAmp, etc.). The setting is "ecotopian": (On the Pacific Coast Highway; 2 blocks from beach, resort hotels). Our experience is "Hollywood" (ABC-Dunhill, Warner Bros.) Altogether, a rare combination of equipment, space and TALENT that provides a creatively charged, naturally productive environment in which to put your music together... on tape. Week-end lodging makes it a viable package; our rates give you the final edge... Peace of Mind...
 Directions: Little Bird is, now, on-air with our own original jingles and soon, with an EP record by our own artists on the "Harbinger Northwest" label. "Fly On Little Bird"!

•• THE LORD'S PLACE
also REMOTE RECORDING
 919 Howell, Seattle, WA 98121
 (206) 292-9932
 Owner: "The Lord".
 Studio Manager: Douglas T. Green.

•• M. AL'S PRODUCTION
 818 27th St., Oakland, CA 94608
 (415) 451-1031
 Owner: M. Al, Azeem
 Studio Manager: Rasta Ani
 Engineers: Chief Engineer: Azeem, Jahmai, Anu.
 Dimensions of Studios: 17' x 22'
 Dimensions of Control Rooms: 10' x 12'
 Tape Recorders: TEAC/Tascam Series 80-8 w/dbx DX6 8 track remote, TEAC 3340 4 track; TEAC A3300SX 2 track; Akai CS MD2 cassette deck.
 Mixing Consoles: Sound Workshop 1280 Super EQ, 12 in x 12 out.
 Monitor Amplifiers: Randall RRM 2-220 stereo.
 Monitor Speakers: JBL 4311
 Echo, Reverb, and Delay Systems: Echo, Space Echo, Maestro Echoplex, DeltaLab DL4 digital delay system, Sound Workshop 262 stereo reverb.
 Other Outboard Equipment: 4100 parametric EQ, 2102 graphic EQ, AN 300 noise reduction, 164 dbx limiter/compressor.
 Microphones: AKG C-414EB; Sennheiser MD 421-U5; Neumann KM1 84; AKG CE1, PL 76EU; E-V 674, ATM 41, Audio Tech, A2WS Shure
 Instruments Available: Fender Stratocaster, Fender Mustang 6 string, 12 string St. George guitar; bass guitar, Hammond Port B w/Leslie; Elka Rhapsody 490, Hohner D-6 clavinet, Korg guitar synthesizer, Ludwig drums, Synsare.
 Rates: \$25/hr studio time. \$7.00 rehearsal time. Block rate on request. Studio musician available.

•• PETER MILLER RECORDING STUDIO
 Union Street (at Fillmore), P.O. Box 11013, San Francisco, CA 94109.
 (415) 587-7040
 Owner: Peter Miller
 Studio Manager: Peter Miller
 Engineers: Peter Miller
 Dimensions of Studios: 28' x 23'
 Dimensions of Control Rooms: 10' x 10'.
 Tape Recorders: 3M (1" tape) Series 410 8 track; Sony 854-4 4 track; Revox A77 2 track.
 Mixing Consoles: Response (English) BM 104, 10 in x 10 out.
 Monitor Amplifiers: Quad 33/303; McIntosh.
 Monitor Speakers: Altec 604 8G, Auratone Cubes, JBL 4311.
 Echo, Reverb, and Delay Systems: Binson Echorec, Orban/Parasound, various tape delay systems.
 Other Outboard Equipment: SAE-40 band graphic EQ, UREI limiters, Apollo limiter/compressor, Goobly Box, direct boxes, Kepex noise gates, four isolation booths
 Microphones: Neumann U-87, KM-84; AKG C-28, D-1000E, D-19C; Shure SM-54, SM-58; Sony electronic condensers.
 Instruments Available: Kimball acoustic piano, Fender amps, Kustom amps, Fender Jazz bass, Gretsch guitars, Levin acoustic guitar, Roland SR09 organ/string synthesizer.
 Rates: \$25/hr, block time available.

•• MISTY MOUNTAIN PRODUCTIONS
also REMOTE RECORDING
 9585 Rio Vista Rd., Forestville, CA 95436

THE PROFESSIONALS

On the road and in the studio Yamaha power amps have set a new standard for accuracy, dependability, and ease of operation. Here's why:



YAMAHA P-2200

- PEAK METERS
(quick accurate response)
- CALIBRATED INPUT ATTENUATORS
(inset and stepped for accuracy)
- INPUT AND OUTPUT CONNECTIONS
(designed for flexibility and ease in bridging)
- PERFORMANCE
(a rise time of 3.8 microseconds and slew rate of 45 volts/microsecond)
- MECHANICALS
(sturdy construction to withstand high G force, massive heat sinks for noiseless, fan-free operation in all but the most severe thermal situations.)

THE NEW YAMAHA Q1027 1/3 OCTAVE GRAPHIC E.Q. will be arriving soon at Bananas. It incorporates the same sophisticated design features and standard of excellence you find in all Yamaha products. Hearing and seeing are believing. You can put Yamaha professional products to the test at:



Audio/Musical Company
802 & 804 4th Street (at Lincoln), San Rafael (415) 457-7600
Hours: 11-6:30 Tuesday-Friday, 11-5 Saturday, Closed Sunday & Monday

(707) 887-7343

Owner: Doug 'Mac' Rooney.
Studio Manager: B.J.

MIX-MASTER RECORDING
also REMOTE RECORDING
8881 Oakdale Road, Winton, CA 95388
(209) 358-5744
Owner: Jim Schriber.
Studio Manager: Jim Schriber.

MOTHER LODE SOUND STUDIOS
8030 Sacramento St., Fair Oaks, CA 95628
(916) 968-7880
Owner: Ed Hart.
Studio Manager: Ed Hart.

MUSIC ART RECORDING STUDIO - M.A.R.S.
also REMOTE RECORDING
5944 Freedom Blvd., Aptos, CA 95003
(408) 888-8435 or 425-5211
Owner: Ken Capitanich.

Studio Manager: Ken Capitanich.
Engineers: Ken Capitanich, Will Holt.
Dimensions of Studios: 14' x 18'
Dimensions of Control Rooms: 14' x 14'.
Tape Recorders: Tascam w/dbx 80-8 8 track; Tascam w/dbx 25-2 2 track; TEAC 3340-S 4 track; Sony 1/2 track TC756-2 2 track; Sony cassette TC 158-SD 2 track.
Mixing Consoles: Tangent 3216, 12 in x 12 out; (2) Tascam Model 5, 16 in x 8 out.
Monitor Amplifiers: Crown DC-300A, (2) D-75, Marantz 250 (2); Pioneer.
Monitor Speakers: JBL 4315, JBL 4301; Auratones; ESS AMT3.
Echo, Reverb, and Delay Systems: Sound Workshop 242 reverb, ADR S24 time shape module and flanger.
Other Outboard Equipment: 12-channels dbx, MXR limiters, MXR phaser, Burwen dynamic noise filter, Soundcraftsmen 10-band EQ, ADR expander gates, ADR compressor/limiters, ADR parametric EQ.
Microphones: Electro-Voice RE-20, RE-16, DS-35, Shure SM-57s, SM-54, 545SD, Sony ECM 33s, ECM 22, AKG 451 414; Sennheiser 421, 441-U, Beyer M 500N, transformer DI boxes and transformerless DI boxes.
Instruments Available: Piano, amps, Rhythm Box
Rates: \$25/hr, block rates available.

MUSIC TREE RECORDING STUDIO
also REMOTE RECORDING
730 East F St., P.O. Box 1927, Oakdale, CA 95361
(209) 847-8183
Owner: Richard Hall, Harrell Newman

MUSIC IMAGE PRODUCTIONS
2140 Loyola Way, Turlock, CA 95380
(209) 832-8415
Owner: Gary L. Shrver
Studio Manager: Gary L. Shrver

NOVA SOUND CO.
3048 Rollson Rd., Redwood City, CA 94063
(415) 364-7489
Owner: Mark S. Cooper
Studio Manager: Mark S. Cooper
Engineers: Mark S. Cooper
Dimensions of Studios: Studio A: 24' x 20'; Studio B: 34' x 14'.
Dimensions of Control Rooms: 16' x 14'.
Tape Recorders: Otari MX 5050-8 8 track; TEAC A-3340S 4 track; Technics RS 1500 2 track; Sanyo RD 5300 cassette 2 track.
Mixing Consoles: TEAC/Tascam Model 10, 12 in x 8 out w/20 x 2 cue; Tapco 6200A 6 in x 2 out.
Monitor Amplifiers: McIntosh 2100, 250
Monitor Speakers: JBL 4333
Echo, Reverb, and Delay Systems: Orban/Parasound 106CX reverb
Other Outboard Equipment: Soundcraftsmen PE 2217 preamp-EQ, MXR Mini-limiters, 144-point custom patch bay, SAE parametric EQ
Microphones: Sony C-37A, ECM 22P, AKG D-1000E, D-200E, C-505E, Shure SM-54, SM-59, TEAC ME 120, E.V. RE-15
Instruments Available: Hammond B-3, with pedalboard and Leslie, Fender Precision bass, Lyle acoustic guitar, kazoo, slide whistle.
Rates: Recording, mixdown, editing \$15/hr Rehearsal \$6/hr

OASIS RECORDING STUDIO
385 Sussex St., San Francisco, CA 94131
(415) 587-3584
Owner: Greg Goodwin.
Engineers: Greg Goodwin, Dennis Carr
Dimensions of Studios: 15' x 30'.
Dimensions of Control Rooms: 10' x 16'.
Tape Recorders: Tascam 80-8 8 track, TEAC 3340 4 track; Revox A77 1/2 track; TEAC C3 cassette deck, also Sony, and Aiwa cassettes.

OUTBACK STUDIOS
489 1/2 Cavour St., Oakland, CA 94618
(415) 855-2110
Owner: Wilson Dyer, Steve Berryman
Studio Manager: Wilson Dyer
Engineers: Wilson Dyer, Steve Berryman.
Dimensions of Studios: 20' x 20' x 13'.
Dimensions of Control Rooms: 10' x 20' x 10'.
Tape Recorders: Tascam 80-8 8 track, Tascam 40-4 4 track, Otari 5050 2 track; Pioneer RT-701 2 track, Sony TC 129, TC 150 stereo cassette; Technics RS 646 stereo cassette, Sanyo stereo cassette.
Mixing Consoles: Bi-Amp 1642, 16 in x 16, 4 subs; (2) TEAC Model 2, 8 in x 2 out
Monitor Amplifiers: BGW 250C, Dyna MK III, MK IV.
Monitor Speakers: JBL 4311's, 4301, Auratone 5C's
Echo, Reverb, and Delay Systems: Master-Room XL-305 stereo reverb, Lexicon Prime Time DDL, Furman RV-1 reverb.
Other Outboard Equipment: DX-8, dbx 155 noise reduction, Dolby B 2-track noise reduction, Furman parametric, Sunn mono EQ, BSR stereo EQ, (2) dbx 163 comp/limiter, MXR toys, coming soon Aphex Aural Exciter!
Microphones: Sennheiser 441, 421, Shure SM-58, 57; Sony ECM 56, 22; AKG D-1000, D-190, 2000, Sennheiser d-boxes.
Instruments Available: Wuritzer acoustic piano, Gibson 335, Marsauder, Fender Strat, Jazz Bass, P-Bass, Fickenbacker electric twelve, various amps Rentals: Gretsch studio tuned drums



Mixing Consoles: (2) Tascam Model 5's, 16 in x 8 cut.
Monitor Amplifiers: BGW, McIntosh 2100, Symetrix.
Monitor Speakers: JBL 4311's, Klipsch, Auratones
Echo, Reverb, and Delay Systems: Master-Room XL-305 reverb, Orban 111B reverb, Loft 440 delay/flanger, Roland Chorus
Other Outboard Equipment: dbx noise reduction (8 track), JREI comp/pressor/limiters, Orban parametric EQ, Bi-Amp graphic EQ, (2) Tascam Model 1's for stereo headphone mixes.
Microphones: Neumann U-87, KM 84; Sennheiser 421, 402; AKG 414; Beyer M500, M260's; Electro-Voice RE-20, 1776, Shure SM-81, 57's.



Oasis Recording
San Francisco, CA

Instruments Available: Studio upright piano (excellent tone), Fender pre-CBS Super amp, Peavey Mace (boogie type), Gallien-Krueger 112 SC (boogie type amp); Octave Synthesizer, Hammond B-3.
Extras: Production assistance available, also studio musicians, conveniently located in San Francisco but away from the downtown madness. Call for advice on how to make the most of your studio time.
Rates: \$20/hr for 8 track, \$15/hr for 2 and 4 track; free set-up time. Prices may vary, block rates and project rates available.
Direction: Our specialty is producing master quality demos, (Nu-Models, Invasions, Tom Russel) but we have handled material ranging from low budget LPs and singles (the Units, Tuxedomoon, Bill Owens and "Me") to soundtracks for film advertising seen on national television. We've produced demos that have earned artists recording contracts (Starlord on Warner Brothers.) Oasis provides a comfortable, low-key professional atmosphere. We're in our second year and going strong!

BILL RASE PRODUCTIONS, INC.
also REMOTE RECORDING
955 Venture Ct., Sacramento, CA 95825
(916) 929-9181
Owner: Bill Rase.
Studio Manager: Bill Rase

Wurlitzer elec piano, Rhodes w/Dyno-My EQ, Prophet 5 synth, Mini Moog synth, D-6 clavinet.
Extras: One block from the freeway (Hwy 24), Leo's Music, and Soul Brothers Kitchen. Cassette duplication, studio musicians, production, lead sheets and arrangements.
Rates: 8 track \$20/hr plus materials; 4 and 2 track: \$15/hr plus materials. Block rates available. Call for duplication rates.
Direction: Come to Outback Studios and discover "state of the eight" great room, great gear, great ears, just like the "big guys" without spending the "big bucks". Outback has recorded every type of music from new wave to classical. We also offer a full production package from lead sheet to disc, LP or 45. Outback clients include: the Ironics, Len Rideout, John Conman & Indiscreet, Little Roger and the Goose Bumps, Sweet Timmy, Hooker, the Bandits, Dick Bright & the S.O.D., Tom Donald (jingle producer).

PLANET MARS PRODUCTIONS
also REMOTE RECORDING
1445 Koll Circle, Suite 101, San Jose, CA 95112
(408) 294-8178
Owner: James Oldham.
Studio Manager: Matthew Howe.
Engineers: James Oldham, Jerry McReynolds, Garry Miller, Matthew Howe.
Dimensions of Studios: 20' x 20' with isolation booth 6' x 12'.
Dimensions of Control Rooms: 12' x 18' x 11'.
Tape Recorders: Tascam 80-8 8 track; Ampex ATR 700 2 track; Tascam 3340 4 track; Tascam 2330SX 4 track; TEAC cassette deck and VDT 501 RCA video recorder.
Mixing Consoles: Tascam Model SB with expander (modified), 16 in x 16 out.
Monitor Amplifiers: Pioneer Spec Series, Peavey CS 800, RCA.
Monitor Speakers: JBL 4311's, Electro-Voice, Auratone 5C.
Echo, Reverb, and Delay Systems: Lexicon Prime Time, Yamaha analog delay, Reticon analog, Reticon chorus, MXR DDL, Neptune reverb
Other Outboard Equipment: Echoplex, Reference and ADC graphic EQ, MXR compressor and flanger, 6-channel headphone system, 8-channel PA system, assorted guitar effects, direct boxes, RCA color video multicamera.

Microphones: AKG, Audio-Technica, Shure (many models).
Instruments Available: Fender Rhodes, Hammond M-3 with Leslie, studio piano, Mini Moog, 2 osc synth (custom), Roland Strungs, Marshall stack, Orange stack, Acoustic, Fender, Peavey, Marshall power amps, Pignose, guitars and basses, also drums available on request.
Rates: \$25/hr all extras included. Block rates available please call for further information. Video recording \$25/hr.

POLITE PRODUCTIONS
El Cerrito, CA
(415) 525-8289
Owner: Randy Rood
Studio Manager: Randy Rood

RALTBK RECORDING
also REMOTE RECORDING
2851 Oleander, Merced, CA 95340
(209) 722-3220
Owner: Robert Laughton
Studio Manager: Robert Laughton.

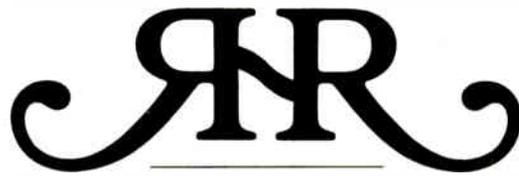
RAM RECORDING COMPANY
also REMOTE RECORDING
727 Calliente Ave., Livermore, CA 94550
(415) 443-2205
Owner: Don Nelson, Dick Marsh, Dave MacMillan.
Studio Manager: Tasha Katey

REDWOOD RECORDING
P.O. Box 58, Cotati, CA 94928
(707) 795-7788 or 823-2007
Owner: Tom Hallstein.
Studio Manager: Tom Hallstein.

RHYTHMIC RIVER PRODUCTIONS
2948 20th St., San Francisco, CA 94110
(415) 285-3348
Owner: Robert L. Richman.
Studio Manager: Bruce Leighton.

RUBBER PARK PRODUCTIONS
also REMOTE RECORDING
P.O. Box 120, Tahoma, CA 95733
(916) 525-8554

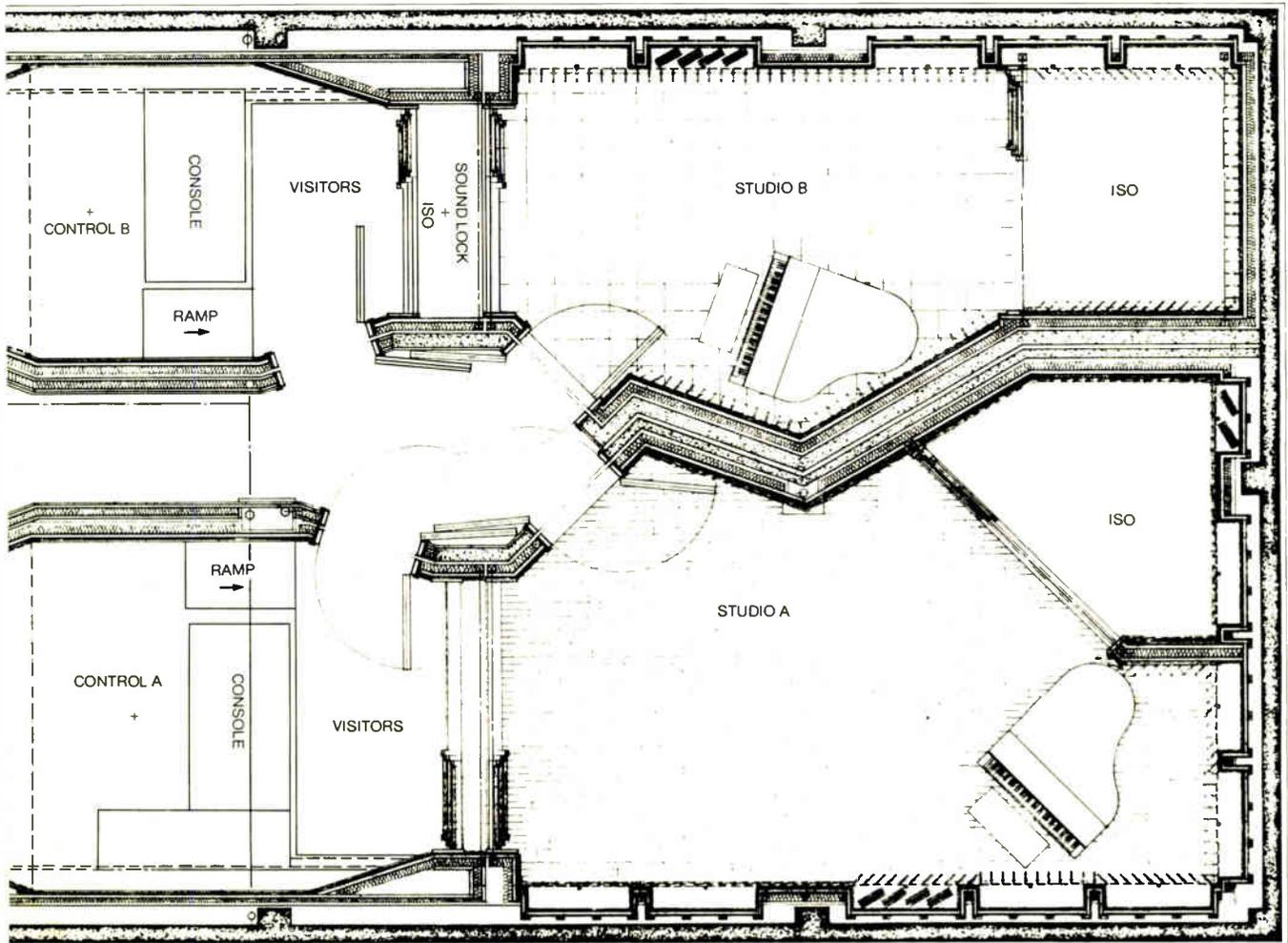
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Russian Hill Recording

1520 Pacific Avenue, San Francisco, CA 94109

- Two new studios, built from the ground-up to the most contemporary acoustical and aesthetic standards – design by Jeff Cooper.
- Located on the west side of Russian Hill, one of San Francisco's most beautiful neighborhoods.
- Completely equipped for 24 and 16 track recording at reasonable rates.
- Featuring one of San Francisco's most experienced staffs of mixers, technicians and studio personnel.



For information call: 415 621-2646

Owner: Steve Teshara.
Studio Manager: Steve Teshara.

•• RANDALL SCHILLER PRODUCTIONS
also REMOTE RECORDING
1207 Fifth Ave., San Francisco, CA 94122
(415) 881-7553

Owner: Randall Schiller.
Studio Manager: Randall Schiller.
Engineers: Randall Schiller.
Dimensions of Studios: 12½' x 15'; Drum Room: 9' x 9'.
Dimensions of Control Rooms: 12½' x 15'.
Tape Recorders: TEAC/Tascam 80-8 8 track; Sony TC-854-4S 4 track; Sony TC-850-2T 2 track; Pioneer RT-707 2 track; Sony TC-152 SD 2 track.
Mixing Consoles: TEAC/Tascam Model 5, 8 in x 4 out; TEAC/Tascam Model 3, 8 in x 4 out; TEAC/Tascam Model 1, 8 in x 2 out.

Monitor Amplifiers: Harman-Kardon Citation 12, SAE 2200, SAE 2400L, BGW Model 100-01.

Monitor Speakers: Altec A7-500 (modified & bi-amplified), Bose 800 & Pioneer CS-88.

Echo, Reverb, and Delay Systems: DeltaLab DL-2 Acousti-computer stereo digital delay, Sound Workshop 242 stereo reverb unit.

Other Outboard Equipment: MXR dual 15-band graphic equalizer, dbx 154 declinear noise reduction, dbx 161 compressor/limiter, Crown VFX-2A dual channel electronic crossover/filter, SAE 5000 impulse noise reduction unit, Advent Model 100A Dolby noise reduction unit, and assorted patch bays, switching systems and necessary support equipment.

Microphones: Electro-Voice RE-15's, 635A's; Shure SM-57's, SM-58's; Sony ECM-16, ECM-33P's, ECM-198's; and Sennheiser MC-431.

Instruments Available: Story & Clark console piano.
Rates: Studio recording: 8-track \$25/hr, 4-track \$20/hr, 2-track \$20/hr. Location recording: prices available upon request.

•• SENSEA
1016 Morse Ave. #16, Sunnyvale, CA 94088
(408) 734-2438; (415) 493-3288

Owner: Sensea Corp.
Studio Manager: Steve Hall.
Engineers: Steve Hall.
Dimensions of Studios: 15' x 18' main room; 7' x 10' drum room; 7' x 5' vocal room.
Dimensions of Control Rooms: 9' x 10'.
Tape Recorders: TEAC 80-8 8 track; Ampex 350 2 track; Transaudio 4000 cassette.
Mixing Consoles: TEAC Model 5 & 5EX, 16 in x 4 out; TEAC Model 1, 8 in x 2 out.

Monitor Amplifiers: BGW 250D.
Monitor Speakers: MDM-4 near field monitors, Auratones.
Echo, Reverb, and Delay Systems: Loft series 440 delay line/flanger, Furman RV-1 reverb.

Other Outboard Equipment: UREI LA-4 compressor/limiter, TEAC DX-8 dbx noise reduction.

Microphones: Electro-Voice RE-15, RE-20, CS-15, 635A; Shure SM-57's, SM-81's, AKG D-1000's; Sesscom direct boxes.

Instruments Available: Packard 6' grand piano, ARP Odyssey synthesizer, Yamaha YC-30 combo organ, Fender Rhodes piano.
Rates: \$20/hr; \$30/hr Sundays and holidays

•• 1750 ARCH STUDIOS
also REMOTE RECORDING
1750 Arch St., Berkeley, CA 94709
(415) 841-0218 or 841-0232

Owner: 1750 Arch Inc.
Engineers: Bob Shumaker.
Dimensions of Studios: Dead studio 23' x 13' x 8'; live recording room 36' x 17' x 11'; many other interesting small rooms.
Dimensions of Control Rooms: 17' x 12' x 8'.

Tape Recorders: 3M Model M23 8 track; Ampex Model AG-440-B 4 and 2 track; Studer Model B-67 2 track; Revox Model A-77 2 track; Sony Model 366-4 4 and 2 track; Nakamichi Model 600 cassette.

Mixing Consoles: MCI Model 416, 16 in x 16 and quad out; Tapco Model 6201, 6 in x 2 out

Monitor Amplifiers: Phase Linear 400, Marantz 250, Dyna 70 JBL SE 400

Monitor Speakers: JBL 4310, 4315, 4320
Other Outboard Equipment: Automatic Dolby A301's for 8 track, 4 track and 2 track UREI 1176 LN limiters; dbx 160 limiter; Furman PEQ-3 parametric EQ; Countryman 150X direct box; portable equipment for high quality stereo location recording.

Microphones: Neumann SM-59, KM-84, KM-86, KM-74, U-87; Sony C500, MB-C520; E-V RE-16, 666, 1776; Sennheiser 421; Shure SM-57; Countryman condenser; Sennheiser 405; E-V 635.
Instruments Available: Steinway B grand, Baldwin grand, Knabe baby grand.

Extras: Tennis court, kitchen, lounge, view of Golden Gate, windows in all rooms, large maintained garden, back issues of Mandolin World News.

Rates: \$45/hr for 8 track; \$40/hr for 4 track; \$30/hr for 2 track; \$25/hr editing; \$20/hr copying. Stereo remote recording at the same rate, door to door. 8 track and 4 track remote rates by request. Block rates by request.

Direction: We make clean recordings of any type of music. Classical, avant garde, jazz and bluegrass are specialties. There is



a concert hall in the building that has a musical series 9 months of the year. Friday night concerts are broadcast live on KPFA. We are affiliated with 1750 Arch Records, producers of early music, classical, avant garde and contemporary jazz.

•• SHOWCASE SOUND
3090 S. Bascom Ave., San Jose, CA 95124
(408) 371-1897

Owner: Jim Bruno, Jack Van Breen.

•• SHYNE SOUND
also REMOTE RECORDING
40 Woodland, San Rafael, CA 94901
(415) 459-2833

Owner: Leroy Shyne.
Studio Manager: Leroy Shyne
Engineers: Leroy Shyne.
Dimensions of Studios: 15' x 30'.
Dimensions of Control Rooms: 15' x 20'.
Tape Recorders: TEAC 80-8 8 track; Pioneer RT 2044 2-4 track; Pioneer cassette CTF-1250 2 track, Pioneer cassette CTF-8282 2 track.

Mixing Consoles: Allen & Heath SD 12-2, 12 in x 2 out; Allen & Heath Mini Mix, 6 in x 2 out.

Monitor Amplifiers: (2) McIntosh C-30s, Dyna 70 headphones.

Monitor Speakers: Shyne, JBL.
Echo, Reverb, and Delay Systems: Orban/Parasound reverb.

Other Outboard Equipment: (2) MXR 31-band EQ's, Pioneer stereo 10-band EQ.
Microphones: E-V RE-15; Shure 57's, 59; AKG 100E's; PZM Model C & D.

Instruments Available: Bass, drums, piano, assorted pre-CBS Fender guitar amps, lap steel.
Rates: \$25/hr, remote \$30/hr.

•• THE SOUND BOARD
also REMOTE RECORDING
402 5th Avenue, Redwood City, CA 94083
(415) 384-3484

Owner: Steven Lawson
Studio Manager: Steven Lawson.
Engineers: Brian Hauck, Steve Lawson, Stephen Muzzarelli.
Dimensions of Studios: (2) 9' x 12' rooms.
Dimensions of Control Rooms: 8' x 14'.
Tape Recorders: Ampex AG440B-8 8 track; Ampex 300 master 2 track, Marantz 5030 cassette 2 track.
Mixing Consoles: Tangent 802A, 8 in x 8 out; Malatchi Performer 6 in x 6 out

Monitor Amplifiers: Gallien-Krueger 1000S-SB power amp, Crown D-150 power amp

Monitor Speakers: JBL 4311, Mitchell woofers; Gauss speakers, horns; Altec.

Echo, Reverb, and Delay Systems: Tangent reverb in board, noise reduction, and digital delay systems upon request.

Other Outboard Equipment: Mutron Bi-phase, MXR 6-band graphic EQ, MXR distortion, Pignose, Peavey 200, Silver Tone vac tube 1346 w/twin 12's, Franz LM-FB-4 elect. metronome.

Microphones: Neumann, Telefunken U-47, Sennheiser, AKG, Shure.

Instruments Available: Sequential Circuits Prophet 5 synthesizer, Fender Rhodes Mark-1 Model 73, Ludwig drums, Rogers snare, Guild F12 12-string, 1969 Martin D18 acoustic guitars

Rates: \$25/hr, bulk rates negotiable.

•• SOUNDSMITH STUDIOS
also REMOTE RECORDING
426 N.W. 6th, Portland, OR 97209
(503) 224-7680

Owner: David Tower, Greg Smith, Gary McRobert, Tom Gandy.
Studio Manager: David Tower.

•• SPECTRUM
also REMOTE RECORDING
P.O. Box 757, San Carlos, CA 94070
(415) 583-9554

Owner: Paul Weaver
Studio Manager: Paul Weaver

•• STRICTLY ROCKERS PRODUCTIONS
P.O. Box 90, Dutch Flat, CA 95714
(916) 388-2328
Owner: Russell Brian Brooker.
Studio Manager: Russell and Vicky Brooker.

•• STUDIO ONE
235 East 3rd Avenue, San Mateo, CA 94401
(415) 347-4811

Owner: Gary Duos
Studio Manager: Gary Duos
Engineers: Kent Bancroft, Richard Bosworth, Gary Duos.
Dimensions of Studios: 12' x 20'.
Dimensions of Control Rooms: 12' x 12'.
Tape Recorders: Ampex 440-B 8 track; Ampex 440-B 2 track; (2) Stemco custom 2 tracks; Otari MX 5050 4 track; TEAC A-3440 4 track; Technics cassette; TEAC cassette.
Mixing Consoles: Tascam 15, 16 in x 8 out.
Monitor Amplifiers: Crown DC-300's.
Monitor Speakers: Altec Model 9's, 7's; Auratones.
Echo, Reverb, and Delay Systems: Orban reverb.
Other Outboard Equipment: (2) UREI 1176LN limiter/comp., Orban 516EC sibilance control, Orban parametric EQ 622B, Allison Kepex's, Gain Brain, varispeed, Burwen and Kenwood noise reduction, Countryman Phase Shifter, 16mm B&H projector, (3) AF-1 slide projector.
Microphones: Neumann U-67's, U-47's; Sennheiser 421's, 451's; AKG; Shure; Electro-Voice
Instruments Available: Ludwig drums, Zildjian cymbals, percussion assortment.
Rates: \$40/hr. Special block time rates available.

•• THOMPSON & THOMPSON
CREATIVE SERVICES, INC.
1005 Pike St., Seattle, WA 98101
(206) 824-3937

Owner: Jerry B. & Dickie Thompson (Incorporated).
Studio Manager: Jerry B. Thompson.

•• TRACKS MOBILE
REMOTE RECORDING
Box 747, Stinson Beach, CA 94970
(415) 868-0783

Owner: Tim Tomke.
Studio Manager: Tim Tomke.

•• TRES VIRGOS STUDIO
1825 Francisco Blvd., Suite G, San Rafael, CA 94964
(415) 4587-8666

Please see our listing in the 16 track section.

•• TRULLION STUDIO
P.O. Box 23051, Sacramento, CA 95823
(916) 381-9691
Owner: Kurt and Nancy Bischoff.
Studio Manager: Kurt Bischoff

•• TWILIGHT STUDIO
842 Palm Avenue, Watsonville, CA 95078
(408) 722-7818 or 724-7140
Owner: Steve Loveless
Studio Manager: Steve Loveless.

•• THE UNREGULATED RECORDING STUDIO
P.O. Box 81485, College (Fairbanks), AK 99708
(907) 456-3419
Owner: The Unregulated Record Co., Inc.
Studio Manager: James Quinn.

•• WENRA—REMOTE AND STUDIO RECORDING
also REMOTE RECORDING
5729 Bayview Ave., Richmond, CA 94804
(415) 528-1610
Owner: Larry R. Nelson.
Studio Manager: Larry Nelson.

•• WESTMONT RECORDING COMPANY
1279 Antwerp Lane, San Jose, CA 95118
(408) 284-2916
Owner: Richard E. Quick.
Studio Manager: Richard E. Quick.

•• WHITE RABBIT STUDIO
301 Harbor Drive, Sausalito, CA 94965
(415) 332-4852
Owner: Richard H. Grove.
Studio Manager: Jan Baldwin, Craig Talmy.
Engineers: Craig Talmy, Fernando Kral.
Dimensions of Studios: 20' x 20' (2 alcoves).
Dimensions of Control Rooms: 20' x 18'. Both studio and control room acoustically tuned with the room instead of electronic equalizers.
Tape Recorders: Otari 7308 1" 8 track; Otari MX 5050 ½

Talk is Cheap.

While others talk about performance and reliability, BGW is at work proving it, day after day after day. That's why so many pros Depend on BGW.

You already know BGW is pre-eminent in discos... recording studios... and on the road. Tough, demanding applications. But, BGW is chosen for even tougher assignments.

Consider the 1980 Winter Olympics. Future Sound, Inc. of Weston, CT was faced with providing PA, background music and network feeds for the Alpine events on Whiteface Mountain. The four amplifier sites were inaccessible by road. The only access was by snowmobile or on foot. Temperatures are, at their mildest, bitter. Naturally, Future Sound selected 20 BGW 750's because of their proven reliability.

And, when the Pope celebrated Mass on Washington's mile-long Mall, BGW 750's were there again (along with BGW 250's and 600's)... selected by Audio Technical Services, Ltd. of Vienna, VA for their reliability and because they can be operated right up to the clip point for hours with no problems.

In fact, the BGW 750 outperforms Crown's latest amplifier, the PSA-2. The 750 delivers more power at 4 and 8 ohms, has more output devices, and uses audibly superior full complementary circuitry.* One thing the Crown does have... a higher price, it's 37% higher.* And you know the BGW 750 is dependable. If you don't know from personal experience... ask the Pope.

*Based on Manufacturer's Specifications



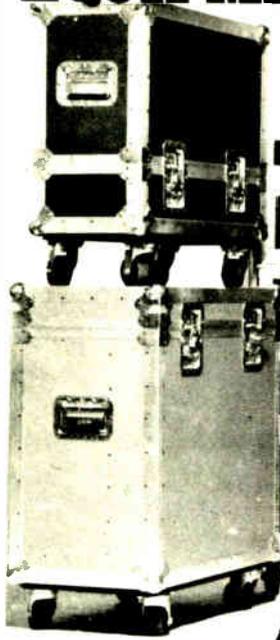
(415) 454-2911
647 Irwin St.,
San Rafael, CA 94901



Depend On Us.

BGW Systems, Inc. 13130 S Yukon Ave. Hawthorne, CA 90250 (213) 973-8090 In Canada: Omnimedia Corp., 9653 Cote de Liesse, Dorval, Quebec H9P 1A3

EQUIPMENT INSURANCE



A&S Case Company Inc., specializes in designing and manufacturing travel cases for all purposes, including musical instruments, photographic equipment and electronic instruments. Our two major case lines include the heavy duty "A&S Flight and Road Cases" and the lighter duty "Lite-Flite Cases".



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FLIGHT & ROAD
CASE CO.

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1111 N. Gordon St., Hollywood, CA 90038
(213) 466-6181 • (213) 469-8379

track; Sony TC850-2 1/2 track; Pioneer CTF1250, Nakamichi 1000, JVC KD95, TEAC A-150 cassettes; TEAC 3340-S 4 track.
Mixing Consoles: Quantum QM-12B, 12 in x 8 out; Bi-Amp 12B2, 12 x 8 x 6 x 2.
Monitor Amplifiers: BGW and Phase Linear.
Monitor Speakers: Altec 604-8G; Auratone Acutex, Northwest Timeline Model A.
Echo, Reverb, and Delay Systems: DeltaLab digital, Orban 111B reverb.
Other Outboard Equipment: UREI compressor/limiters, DeltaLab Acoustcomputer, Audioarts notch filters, Ashly 4-band EQ.
Microphones: Neumann, AKG, Sennheiser, Altec, Beyer, Shure, and E.V.
Instruments Available: Helpinstill PG-21 grand piano, Korg MS20 synthesizer drum kit (wide selection of instruments and amps available with 2 days notice).
Rates: \$25/hr. Block rates available. Call or come by for further information. All rates includes kitchen/living room facilities, patio/plants, and redwood/denim ambience.



Xandor Recording Studio
Orinda, CA

**** XANDOR RECORDING STUDIOS**
also REMOTE RECORDING
407 Camino Sobrante, Orinda, CA 94583
(415) 254-9077, 254-5730 (answering service)
Owner: Jim Weyeneth
Studio Manager: Jim Weyeneth

White Rabbit Studios

8-TRACK RECORDING
\$25-Hour



Acoustically tuned control
room and studio.

Mic's:
Neumann • Sennheiser • E.V.
Beyer • AKG • Altec • Shure

Outboard:
Delta Lab DL-2 Acoustic
Computer • Digital Delay • Notch
Filters • UREI Comp/Limiter
Orban Reverb. • Parametric EQ's.

(415) 332-4852

301 Harbor Dr., Sausalito, CA 94965

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Ready to record?



When Larry Shamus of Dusk Recording Studios, in Santa Clara was ready, he came to Alco Pro-Sound.

We helped him put together a half-inch eight track studio, selecting components from the many lines of pro-audio gear available at Alco.

As Dusk expanded, we continued to assist in the constant upgrading of their equipment.

Last month, with the addition of a new MCI 2-inch machine (with the Auto Locator III), Dusk went 16 track.

DUSK RECORDING STUDIOS, 2217-A The Alameda, Santa Clara 95050/Telephone 408-248-3875

Dusk Recording Studios is just one of the success stories we helped write. We'd like to help you write yours.

Call Ron Timmons at 297-7111, ext. 271. He can arrange financing and leasing.



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When you talk, we listen.

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*** AAA/TRIANGLE RECORDING STUDIO also REMOTE RECORDING

4230 Leary Way N.W., Seattle, WA 98117
(208) 783-3889

Owner: Bill Stuber, Jack Weaver.
Studio Manager: Bill Stuber, Jack Weaver.

*** AUGUSTWOLF RECORDING FACILITY

1250 Pine St. No. 102, Walnut Creek, CA 94596
(415) 933-2817

Owner: Augustwolf, Inc.
Studio Manager: Doug Reid.

Engineers: Doug Reid, Anis Zulgis
Dimensions of Studios: 20' x 20'

Dimensions of Control Rooms: 12' x 15'

Tape Recorders: Tascam 85-16 16 track w/dbx; Tascam 80-8 8 track w/dbx, Tascam 25-2 1/2 track w/dbx.

Mixing Consoles: Tascam Model 15, 16 in x 16 out w/260 point patch bay

Monitor Amplifiers: BGW, custom Opamp headphone system.

Monitor Speakers: JBL 4311's in control room & studio, auratones.

Echo, Reverb, and Delay Systems: Lexicon Prime Time digital delay, DeltaLabs DL1 digital delay, (2) MXR flanger-doublers, Sound Workshop 262 stereo reverb.

Other Outboard Equipment: Audioarts 4200A parametric EQ, Bi-Amp EQ 270A (1/2 octave EQ), UREI LA4 compressor, (2) dbx 163 compressor; dbx 155 noise reduction, Bi-Amp EQ 110, Eq 210, Countryman direct boxes, Roland chorus, MXR analog delay

Microphones: Shure SM-56, SM-57, SM-58, SM-81 (condensers), AKG C-452EB (condenser); Electro-Voice Phantom Power, RE-20, plus large assortment

Instruments Available: Crumar T1 organ, Crumar Performer (strings), Yamaha electric grand piano, ARP Omni, ARP Axxe, Moog-Micro, Wurliizer electric piano, drum set w/8 mounted toms, assor stage effects, Leslie 860 speaker system, much more.

Rates: \$20/hr for 8 track, \$30/hr for 16 track. All jobs are quoted prices by appointment only. All quoted jobs are finished regardless of time consumed.

Extras: Full production capabilities, lounge, coffee, refrigerator, cassette duplication, studio musicians.

Direction: Augustwolf, Inc. is an independent record company with a very talented staff. We record, press, distribute and promote our own products. We work by appointment only, not by the clock! We specialize in record projects and care about them all.

*** JOHN ALTMANN RECORDING

1310 20th Ave., San Francisco, CA 94122
(415) 584-4910

Owner: John Altmann

Studio Manager: Colette Salaun.

Engineers: John Altmann, Steve O'Hara, Phil Crescenzo, Woody Simmons

Dimensions of Studios: 23' x 15' x 11 1/2' high, including vocal booth, piano booth, and drum booth.

Dimensions of Control Rooms: 15' x 15' x 11 1/2'

Tape Recorders: Ampex MM1000, 16 & 8 track; Otari MX 5050 2 track, Revox A77 2 track; custom modified TEAC 4 track, (2) Aiwa cassette 6900

Mixing Consoles: Custom built console

Monitor Amplifiers: BGW 250

Monitor Speakers: 1 pr. JBL 4313's, 1 pr. JBL 100's, Auratones, 2 pair Ed Long MDM4's, Bi-Amp third octave room equalization.

Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Parasound 111 reverb, Lexicon Prime Time digital delay, Marshall Time Modulator analog delay

Other Outboard Equipment: SAE, Soundcraftsmen and Bi-Amp equalizers, UREI LA4 compressors; Conn Strobotuner; UREI 1176 limiters, ADR Vocal Stresser; Symetrix noise gates; Symetrix D'Esser; ADR spectrum analyzer.

Microphones: Neumann U-87s; E-V RE-20s, RE-15s; Shure SM-58s, SM-56s, 566s; AKG D-50s, C-451s, D-202; Sony 33Ps; Beyer 101; Sennheiser MD-421s; RCA 44BX.

Instruments Available: Steinway upright grand 1905 (a great instrument, very well liked).

Extras: Kitchen, delicious & free coffee, easy parking
Rates: \$40/hr for 16 track, \$30/hr for 4 and 8 track. Discounts available and vary with job.

Direction: We are perfectionists in our art, honest, and we love our work. We sincerely care about your work as well. Our continued success depends on it. We've put together a completely professional yet relaxed and comfortable studio. We've tried to create an environment where musical creativity is encouraged, not stifled. We invite you to give us a call to discuss your recording needs, or stop by to check us out. We specialize in working with groups on a continuing basis throughout their development, i.e. demos to albums. We offer full production service and assistance as well.



John Altmann Recording
San Francisco, CA

*** BEGGARS BANQUET RECORDING STUDIOS

also REMOTE RECORDING
7738 Elphick Rd., Sebastopol, CA 95472
(707) 823-7185

Owner: Warren Dennis

Studio Manager: Warren Dennis

Engineers: Warren Dennis

Dimensions of Studios: 600 sq. ft.

Dimensions of Control Rooms: 150 sq. ft.

Tape Recorders: (2) Tascam 85-16 (2) w/dbx 16 track; Tascam 40-4 w/dbx 4 track, Tascam 25-2 w/dbx 1/2 track; (2) Aiwa 6550 Dolby cassette decks, Sony TCK-75 3 head Dolby cassette deck.

Mixing Consoles: Sound Workshop, 24 in x 26 out

Monitor Amplifiers: Nikko Alpha 1 power amp 220 watts/channel, Symetrix HA-10 headphone amplifier, Accuphase C-200 pre-amplifier.

Monitor Speakers: JBL 4311s, JBL 4313s, Auratone Cubes, 10-pr AKG 140 earphones, 4-pr Sennheiser earphones.

Echo, Reverb, and Delay Systems: Master-Room SL-305 chamber, Eventide Digital Delay (stereo), Korg Deluxe tape echo

with multiple taps.

Other Outboard Equipment: Eventide H949 Harmonizer delay, Eventide Instant Flanger, UREI LA-4 compressor/limiter, dbx 162 stereo compressor/limiter, (2) Bi-Amp stereo 10-band graphic EQs, electronic Click metronome, MXR phaser, Roland Cube 60 amp, Countryman & Sescam direct boxes, Sony direct drive turntable.

Microphones: Sennheiser 441; AKG D224Es, D-202Es, D-200Es; Shure SM-57s.

Instruments Available: Yamaha acoustic piano (beautiful!), full set of Slingerland drums w/Zildjian & Paiste cymbals, Gibson L9-S "Ripper" bass guitar, Fender Rhodes 73 electric piano, Korg 3100 synthesizer (at extra cost), assorted percussion instruments.

Extras: Beautiful country environment, indoor basketball, fully air conditioned.

Rates: 16 track \$28/hr. Bulk rates available upon request. *Special rates for "spiritually" oriented projects.

Direction: Beggars Banquet is very proud to announce its expansion to 16 tracks. We are most grateful to the many clients and friends that have supported the studio through its 4 year growth. This year, the demand for the studio has been unbelievable! The reason for this demand is that Beggars Banquet provides, for a fraction of the normal studio rate, tapes that sparkle; atmosphere that is relaxed but efficient; attitude dedicated to professionalism, honesty and attention to detail; and production and performance assistance that satisfies the most demanding requirements. *We also write and produce jingle advertisements

*** BIG PINK WEST

507 Browning St., Mill Valley, CA 94941
(415) 388-2987

Owner: Dick Darling D.D.S.

Studio Manager: Ken Wagner

Engineers: Ken Wagner, Kirk Schreil, David Lenchner.

Dimensions of Studios: 27' x 20' with 10' x 8' isolation/drum booth

Dimensions of Control Rooms: 11' x 13'

Tape Recorders: Tascam 85-16, 1", dbx, 16 track; Tascam 80-8, 1/2", dbx, 8 track; Otari MX 5050B, stereo 1/2 track; Aiwa 6900 II, metal/Dolby, cassette.

Mixing Consoles: Speck SP 800C, 16 in x 16 out.

Monitor Amplifiers: Yamaha PZ100, Crown D-150A, Crown D-60 Control room balanced with White 3500 23-band equalizers.

Monitor Speakers: JBL L-100's, Auratone Reference speakers.
Echo, Reverb, and Delay Systems: AKG BX-10 stereo reverb, Roland Space Echo

Other Outboard Equipment: Eventide H910 Harmonizer/digital delay line, UREI LA-4 compressor/limiter; UREI 1176 peak limiter; (2) Shure M688 stereo mix mixers

Microphones: Neumann U-87, KM-84s; Electro-Voice RE-11, RE-15s, RE-20; Beyer M-101N, X-1N, M-500N; Sony ECM 33P, ECM 280s; AKG D-200Es; Shure SM-57s; other condensers and dynamics

Instruments Available: ARP Odyssey, Roland 101, Yamaha CS60 polyphonic synthesizer, Roland String Ensemble, 360 Systems guitar synthesizer, Ludwig/Rogers drums, Zildjian cymbals, timbales, various percussion instruments, Baldwin-Hamilton piano.

Extras: Kitchen, living room, repair shop, comfortable environment at the foot of Mt. Tamalpais.

Rates: We are the lowest priced studio in the world. Always under \$25/hr 16 track. Always under \$20/hr 8 track. Watch for our advertised specials!

Direction: We are a young and aspiring studio staffed with professionally trained engineers. Our pricing policy is to enable musicians who might not be able to afford a lot to record their music professionally at the lowest cost. We have recorded: Van Morrison, S.V.T., the Toils, X-ray Ted, One-O One, Minimal Man, Blake Quake & the Tremors, Farallon, Impulse, Elements of Style, Spellbound. All styles welcome

*** COPPERWOOD RECORDING STUDIOS

also REMOTE RECORDING
2818 Garfield Ave., Carmichael (Sacramento), CA 95808
(918) 485-7999, 972-1894

Owner: Jim Hibbard, Scott Welch

Studio Manager: Scott Welch

Engineers: Jim Hibbard, Scott Welch

Dimensions of Studios: Main room: 17' x 21'; drum room: 8' x 15'; vocal room: 6' x 11'

Dimensions of Control Rooms: 13 1/2' x 18 1/2'

Tape Recorders: Ampex MM1100 16 track; Otari MX 5050 8 track, Ampex 440C 2 track; TEAC 25-2 2 track; Dokorder 1140 2 track (2) Sansui SC110 cassettes

Mixing Consoles: Tangent modified 3216, 20 in x 20 out, solo in place, group muting, custom 2 bus pre set effects and muting 16 effects returns and sends.

Monitor Amplifiers: Yamaha, Crown, Phase Linear.

Monitor Speakers: JBL 4313, JBL 4311's, Auratones.
Echo, Reverb, and Delay Systems: DeltaLab Acoustic-computer, modified Urban stereo reverb 1-11B, Ibanez analog delay/flanger AD230, Echoplex

Other Outboard Equipment: (2) UREI LA4 compressor/limiters, dbx 160 limiter, dbx 154 limiter, dbx noise reduction 4 channels, Furman parametric, Neptune 27-band EQ, TEAC effects mixer, noise gates.

Microphones: AKG 414; Beyer M-500; E-V RE-20's; Sennheiser 441, 421, Shure SM-58, SM-56, SM-57, SM-76; RCA DX77.

Instruments Available: Baby grand piano, custom studio Rickenbacker bass, Moog and Prophet synthesizers.

Rates: 16 track \$40/hr; \$35 block rate.

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 3003-A S.E. Division, Portland, OR 97202
 (503) 232-8806
 Owner: Douglas Durbrow, Joe Perez, David Harrison, Michael Demmers.
 Studio Manager: Douglas Durbrow.

... **DUSK RECORDING STUDIOS**
 2217 The Alameda, Santa Clara, CA 95050
 (408) 248-3875
 Owner: The Dusk Corporation.
 Studio Manager: Robert Langlie.
 Engineers: Robert Langlie, plus independents.
 Dimensions of Studios: 16' x 28' x 16'.
 Dimensions of Control Rooms: 16' x 14' x 12'.
 Tape Recorders: MCI JH114-16 w/Auto Locate III 16 track; Tascam 80-8 w/dbx 8 track; MCI JH-10 w/dbx 2 track; Tascam 25-2 w/dbx 2 track; JVC KD-65 cassette.
 Mixing Consoles: Soundcraft Series II w/weep EQ, 16 in x 16 out.
 Monitor Amplifiers: SAE 2400L, BGW 100.
 Monitor Speakers: UREI 813 Time Align, JBL 4311, Auratone Cubes.
 Echo, Reverb, and Delay Systems: Lexicon Prime Time DDL, AKG BX10, tape delay.
 Other Outboard Equipment: UREI 1176 LN, LA3A; dbx 161 compressor/limiters; Orban/Parasound parametric EQ & D'Esser; Systech flanger; UREI 1/2 octave room EQ.
 Microphones: AKG 414, 451, D1000; E-V RE-20; Sennheiser MD-421; Shure SM-56, 57, 58; direct boxes.
 Instruments Available: Grand piano, studio drum set, other instruments available w/notice.
 Rates: \$25/hr 2 track; \$30/hr 8 track; \$50/hr 16 track. Block rates available.

... **EASTERN WASHINGTON UNIVERSITY RECORDING STUDIOS**
 Fine Arts Complex, Radio-Television Building, Cheney, WA 99004
 (509) 359-2228
 Owner: Eastern Washington University
 Studio Manager: Dave Woolson.

... **PHIL EDWARDS RECORDING**
 also REMOTE RECORDING
 1338 Mission St., San Francisco, CA 94103
 (415) 861-4439
 Owner: Phil Edwards
 Studio Manager: Jill Warren.
 Engineers: Phil Edwards, Ron Davis, Dennis Staats, Jim Hilson.
 Dimensions of Control Rooms: Mobile II: 15' x 8' x 7' LWH (inside dimensions).
 Tape Recorders: (2) 3M 79 16 track; Studer A80 2 track; Ampex 440C (servo) 2 track; ITC 3-D card.; Sony 206SD cassette.
 Mixing Consoles: Custom DiMedio, 24 in x 16 out; API 1604, 16 in x 4 out.
 Monitor Amplifiers: McIntosh 2100 (2); Crown DC 300A.
 Monitor Speakers: (2) Altec 604-8G; (2) Auratone 5C.
 Echo, Reverb, and Delay Systems: AKG BX-10.
 Other Outboard Equipment: UREI 1176 (5), Pultec MEQ 5 (2); UREI LA3A (2); Orban/Parasound D'Esser, Orban/Parasound parametric EQ, SMPTE Timecode, Dolby.
 Microphones: Neumann U-87s, U-47s (FET), KM-84; AKG 414s, 451s; Sennheiser 421s; Shure 53s, 56s, 58; RCA 77s; E-V RE-15s, 1778s; Sony 22Ps.
 Rates: Remote: \$1650/day (approx.). 16 track mix: \$75/hr. 2 track edit \$40/hr.
 Extras: Convenient downtown location; Studio A, 16 track mix-down, Studio B: edit and copy.
 Direction: Besides being involved in remote work, our studios are also involved in spot production, multi-media production, remix for video, and album projects, one of which was nominated for a Grammy this year (Best Engineered).

... **FEATHERSTONE RECORDING**
 also REMOTE RECORDING
 6998 Fruitridge Rd., Sacramento, CA 95828
 (916) 381-5243
 Owner: Featherstone Recording Studio, Inc.
 Studio Manager: Tom Conrad, Gary Wolton.
 Engineers: Tom Conrad, Gary Wolton, Mike Botta, Gene Pneau, Ken Nicholson.
 Dimensions of Studios: 25' x 22' main room, 12' x 12' isolation, 12' x 12' drum room under construction.
 Dimensions of Control Rooms: 22' x 12' x 13'.
 Tape Recorders: Ampex MM1000 16 track; Tascam 80-8 with dbx 8 track; TEAC 6100 2 track; Akai 250-D 2 track; Pioneer 2121 cassette.
 Mixing Consoles: Tangent 3216, 24 in x 16 out; Tascam Model 5, 8 in x 4 out; Tascam Model 3, 8 in x 4 out.
 Monitor Amplifiers: Peavey, Crown, McIntosh.
 Monitor Speakers: JBL 4311, LRS 600, Auratones.
 Echo, Reverb, and Delay Systems: Tapco 2200 reverb, MXR digital delay, 2 track tape delay.
 Other Outboard Equipment: Eventide Harmonizer, dbx 160 compressors, any thing else needed on a small rental fee.
 Microphones: Neumann U-87; Sennheiser 421s, 441; Beyer 500, 160, 260; RCA 44D; Shure SM-53s, 57s, 565s; Electro-Voice RE-10s, RE-15s; Altec 641s; Sesscom direct boxes.



Instruments Available: Ivers and Pond grand piano, Guild 1953 electric bass, Ovation acoustic, various percussion instruments, any other available on small rental fee.
Rates: 16 or 8 track from \$30/hr to \$10/hr!!! Call us for our are flexible.



Freeway Recording Studios
 Oakland, CA

... **FREEWAY RECORDING STUDIOS, INC.**
 2248 East 14th St., Oakland, CA 94608
 (415) 532-3700
 Owner: Bernie Rivera, Billy Rivera and Peggy McDonald.
 Studio Manager: Peggy McDonald, David Hartzheim assistant manager.
 Engineers: Jan Waling, Reed Aslaby, Bud Osterberg, Beecher Rintoul III.
 Dimensions of Studios: Studio A: 16 track with isolation chamber and control booth 46' x 37' x 12'; Studio B: 4 track 20' x 30' x 16'; Rehearsal Studios, 22' x 32' x 16' w/storage space available.
 Dimensions of Control Rooms: Control Room A: 24' x 15' x 10'; Control Room B: 15' x 17' x 12'.
 Tape Recorders: 3M M-55 16 track; (2) 3M Series 410 2 track; TEAC 3340 4 track; Pioneer CTF 900 cassette.
 Mixing Consoles: RCA Custom (Studio A) 8900, 24 in x 16 out; Yamaha (Studio B) PM 700, 12 in x 4 out.
 Monitor Amplifiers: McIntosh 2300s, 2100s, 60s; Crown DC 300A's.
 Monitor Speakers: Altec 604-E's; JBL 2315's; close-field Targa ESS 210s; Quad Electrostatics; Cubes and three types of headphones.
 Echo, Reverb, and Delay Systems: Acoustic reverb chamber, Orban Parasound 105-C, Lexicon Prime Time digital delay as needed.
 Other Outboard Equipment: 16 channel dbx noise reduction, Audio Design Recording F769R Vocal Stresser, Spectra Science compressors, UREI digital film sync metronome; UREI 550 filter. Multi-Sync MDA IB variable speed tape drive, UA 1176 LN stereo limiters, RCA 8A6A tube limiters, Gates broadcast transcription turntable.
 Microphones: Neumann, Sennheiser, Electro-Voice, AKG, Sony ECM series, MBC, and Shure.
 Instruments Available: ARP 2600 synthesizer, ARP String Ensemble, Baldwin grand piano, Hammond B-3 organ, Ludwig drums, Zildjian cymbals, Hohner D-5 clavinet, Celeste keyboard, congas. Sound systems for rehearsal or performance: biamp/tri amp Community Light and Sound speakers, Altec, and JBL's powered by McIntosh and Crown amps with Yamaha mix boards.
 Rates: \$70-\$40/hr. Call for block rates and availability.

... **FUNKY FEATURES/RUSSIAN HILL RECORDING**
 142 Central, San Francisco, CA 94117
 (415) 821-2846
 Owner: Jack Leaky and Bob Shotland

... **HOLDEN HAMILTON & ROBERTS, INC.**
 also REMOTE RECORDING
 2227 N. 56th, Seattle, WA 98103
 (206) 832-8300
 Owner: Holden, Hamilton & Roberts, Inc.
 Studio Manager: Herb Hamilton Jr., Miriam Hamilton.

... **HUN SOUND**
 also REMOTE RECORDING
 847 Irwin St., San Rafael, CA 94901
 (415) 454-2911
 Owner: HUN Sound Inc.
 Studio Manager: Tom Harney.

... **MAGIC SOUND**
 also REMOTE RECORDING
 1780 Chanticleer Ave., Santa Cruz, CA 95062
 (408) 475-7505
 Owner: Alan Goldwater.
 Engineers: Alan Goldwater, Merle Sparks.
 Dimensions of Studios: 16' x 20' x 12' (asymetric wedge ceiling) 12' x 14' isolated drum room; 5' x 6' x 7' booth.
 Dimensions of Control Rooms: 12' x 14' x 16'.
 Tape Recorders: MCI/Inovonics JH 10-16 15/30 ips 16 track; Ampex/Inovonics 300/375 8 track; Ampex 440B 2 track.
 Mixing Consoles: (2) Magic Devices custom 16x8, 32-8-16 fully equalized monitor sect.
 Monitor Amplifiers: Dynaco 150 and Phase Linear 400.
 Monitor Speakers: Altec 604E, UREI Horns, JBL LE 14, 2420 (studio PB).
 Outboard Equipment: MXR delay/flanger, MXR limiters, UREI LA4, Roland Space Echo.
 Microphones: Shure SM-57's, 58's, 81; Sennheiser 421's; Beyer XLN's, M260; AKG C414s, C451, D160; Altec 29A tube.
 Instruments Available: Cable upright piano, Yamaha electric grand, Rhodes 73, ARP String Ensemble, Odyssey, Guild F30, Fender Princeton & Deluxe amps, Polytone bass amp, CB drums w/Zildjian cymbals.
 Rates: \$35/hr 16 track; \$25/hr 8 track; 1 hour free set-up, free rehearsal time with 3 hours or more recording.

... **MOBIUS MUSIC RECORDING**
 1583 Sanchez St., San Francisco, CA 94131
 (415) 285-7888
 Owner: Oliver DiCicco.
 Studio Manager: Oliver DiCicco.
 Engineers: Oliver DiCicco, Ken Kessie, Andy Narell.
 Dimensions of Studios: 25' x 15'.
 Dimensions of Control Rooms: 16' x 12'.
 Tape Recorders: 3M 56 16 track; Ampex MR 70 4 track; Ampex 351 2 track; Revox A77 HS 2 track; Nakamichi 600 2 track.
 Mixing Consoles: Quantum 168, 16 in x 16 out. New console being installed June 1980.
 Monitor Amplifiers: Crown D-150, D-60.
 Monitor Speakers: UREI Time Aligned, Auratones, EPI 100, Sennheiser HD414.
 Echo, Reverb, and Delay Systems: Master-Room reverb, Lexicon 92 DDL.
 Other Outboard Equipment: Orban 622B parametric EQ, UREI 530 graphic EQ, UREI LA4 limiters, dbx 160 limiters, dbx noise reduction, Moog Model 12 synthesizer.
 Microphones: Neumann U-87s, KM-84s, KM-85s; Sennheiser 421's, 402; Beyer M-500; Electro-Voice RE-15, RE-11, 635; Shure SM-57; AKG D-200E, D-160; Sesscom direct boxes.
 Instruments Available: Yamaha C-3 grand piano, Slingerland Radio King drums, Guild electric guitar, custom bass, King tenor sax, Fender amps, various percussion and esoteric instruments.
 Rates: 16 track: \$45/hr. 2 and 4 track: \$25/hr. Block booking discount available.

... **MOON RECORDING STUDIO**
 158 Otto Circle, Sacramento, CA 95822
 (916) 392-5840
 Owner: David L. Houston.
 Studio Manager: Tom Romano.

... **PARVIN STUDIOS**
 P.O. Box 18191, San Francisco, CA 94118
 (415) 359-1653
 Owner: M.B. Eads Co.
 Engineers: Lee Parvin and Henry Parvin.
 Dimensions of Studios: 22' x 16'.
 Dimensions of Control Rooms: 12' x 13'.
 Tape Recorders: Ampex MM-1000 16 track; Ampex 440-B 8 track; Ampex 440-B 4/2 track; Ampex AG500 1/2 track; Akai GX-630D stereo 1/4 track; Akai 950-B stereo cassette.
 Mixing Consoles: Audiotronics 501-26, 18 in x 16 out.
 Monitor Amplifiers: Marantz 15, Crown DC300.
 Monitor Speakers: Altec 604-8G, Auratone 5Cs, JBL 4311.
 Echo, Reverb, and Delay Systems: Master-Room Stereo C Series reverb, Orban/Parasound reverb.
 Other Outboard Equipment: UREI Model 1176 LN limiters, UREI Model LA4 compressor limiters, Orban/Parasound parametrics, UREI 530 equalizer, dbx noise reduction, Eventide Harmonizer, El-Tech take finder.
 Microphones: Neumann U-87, U-47, KM-86, KMS-85; Sennheiser 421, 441; AKG 1000; Shure SM-81; AKG D-200; Shure SM-58, MB 301 ribbon, Shure 549; Electro-Voice RE-20.
 Instruments Available: Emerson bab grand piano, Hammond B-3 organ, Fender Rhodes piano.
 Rates: Call for rates.

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... PRAIRIE SUN RECORDING STUDIO

925 E. Cotati Ave., Cotati, CA 94928
(707) 795-7011

Owner: Mark E. Rennick.

Studio Manager: Mark E. Rennick.

Engineers: Chief Engineer: Steve C. Peterson; Engineers: Mooka Rennick, Chet Connick; Maintenance Engineer: Rick Davis.

Dimensions of Studio: Approx. 21' x 29'; separate rooms: 13' x 20', 12' x 12', 12' x 9'.

Dimensions of Control Rooms: Approx. 11' x 15'.

Tape Recorders: Scully 100 16 track; Ampex 350-2 2 track; Tandberg 3300X 1/4 track stereo; Sony TC 159 cassette; Aiwa cassette.

Mixing Consoles: Clover Systems 30 in x 16 out; 24 ch. mon., 1,000 point patch bay.

Monitor Amplifiers: Yamaha, Kenwood (phones).

Monitor Speakers: JBL 4313s, Altec 604Es, Auratones, Ed Long MD44's.

Echo, Reverb, and Delay Systems: Master-Room C (2 chambers), Furman, Intersound, Multi-Vox tape delay, other tape delays.

Other Outboard Equipment: Logical Systems peak limiters, Allison Gain Brains, Sesscom and Countryman directs, Rhythm Master.

Microphones: Neumann U-47, U-64, KM-84; PML; AKG 414EB, 412, D-12, D-190; Beyers M-500, M-160; Sony ECM 22P; Shure SM-57, SM-58, SM-56; Electro-Voice RE-20, RE-15, 666, 665.

Instruments Available: Music Man Sabre bass, full drum set, Fuller (custom-made) acoustic guitar, Fender and Acoustic amplifiers, more available on request.

Rates: \$28/hr. Free set up. Special block rates. Call for more information and/or appointment to four facilities.

... PYRAMID RECORDING

Office and mail 617 Stendhal Lane, Cupertino, CA 95014
(408) 988-2592

Owner: Jess and Hermie Meek.

Studio Manager: Jess Meek.

Engineers: Jess Meek.

Dimensions of Studio: 24' x 22'.

Dimensions of Control Rooms: 14' x 18'.

Tape Recorders: Ampex MM1100 16 track; Ampex 351-2 2 track; Ampex 350/440-2 2 track.

Mixing Consoles: Pyramid Audio A2008, 20 in x 8/16 out.

Monitor Amplifiers: Phase Linear.

Monitor Speakers: (2) Altec 604E plus 515 LF biamped driving an acoustically tuned and flat environment.

Echo, Reverb, and Delay Systems: (2) Quad Accutronics springs, plate, Lexicon delay.

Other Outboard Equipment: Spectra Sonics compressors (2).

Microphones: Neumann, Sony, E-V, Shure, AKG.

Instruments Available: Piano.

Rates: 16 track demos: \$25/hr. 16 track masters: \$40/hr.



Kelly Quan Recording
San Francisco, CA

... KELLY QUAN RECORDING

Business address: 55 White St., San Francisco, CA 94109
(415) 771-8718

Owner: Kelly Quan

Engineers: Steve Bettcher, Kelly Quan, Joe Tarantino.

Dimensions of Studio: 320 sq. ft. with isolation booth 7' x 8'.

Tape Recorders: Ampex MM-1000 16 track; Ampex AG-350 2 track; Ampex 354 2 track; Ampex PR-10 2 track; Tandberg TCD-310 2 track.

Mixing Consoles: Custom Cetec/Electrodyne console with 24 inputs.

Monitor Amplifiers: All monitor amps by Crown.

Monitor Speakers: All monitor speakers by JBL.

Echo, Reverb, and Delay Systems: EMT Plate Reverb, Multi-Track stereo spring reverb, MXR DDL, Eventide DDL.

Other Outboard Equipment: Allison Research Kepex, UREI 1176 limiters, MXR phase shifter, Eventide Harmonizer, UREI 550 recording filter, MXR flanger, Furman PEQ-3 parametric equalizers.



Microphones: Yes we have microphones like Neumann & E-V & AKG & others to numerous to mention.

Instruments Available: 6 ft. Yamaha grand piano, Hammond B-3, Fender guitar amps, also string synthesizer available for rental.

Rates: \$48/hr. Block time discounts available (rates double after midnight).

Extras: Complete studio rhythm section with well known Bay Area musicians including: Steve Gurr: guitars, harmonica, vocals; Robin Sylvester: bass (acoustic & electric), vocals; Scott Lawrence: multi-keyboards, vocals; Tony Johnson: drums & percussion; demo tapes & arrangements available in all styles.

Direction: Several film soundtracks, LPs & 45's released to date as well as many of the jingles you hear on the radio today. Steve Bettcher, an engineer with many years experience has now joined our staff. His background includes the production of soundtracks for radio & TV advertising, film, video, & multi-screen slide presentations. Steve will be working primarily with ad agencies & A-V producers.

... RANCHO RIVERA RECORDING

Rivera & 22nd Ave., San Francisco, CA 94118
(415) 681-8977

Owner: Tom Sharples, Michael Ward.

Studio Manager: Gary Mankin

Engineers: Gary Mankin, Yves Gautschu.

Dimensions of Studio: Approx. 16' x 20', irregular acoustically correct design.

Dimensions of Control Rooms: Approx. 8' x 10'.

Tape Recorders: Ampex MM1000 16/8 (15/30 ips); Otari MX 5050B 2 track; Ampex 300-1 1 track; (2) Nakamichi D-600 2 track cassette.

Mixing Consoles: Cetec/Electrodyne 1604, 16 in x 4/16 out.

Monitor Amplifiers: SAE, Dynaco, Crown, McIntosh.

Monitor Speakers: JBL 4310, Auratone 5Cs (control room), Altec 7 II w/Gauss woofers (studio).

Echo, Reverb, and Delay Systems: URSA Major Space Station digital reverb, Eventide 1745A Digital Delay; MXR digital delay; Sennheiser/RCL spring reverb; Sound Workshop vocal doublers.

Other Outboard Equipment: UREI LA 3A compressors; Allison Gain Brain; MXR auto flanger; Furman parametric EQ; Altec graphic EQ; Tapco graphic EQ; Russco and QRX turntables.

Microphones: Tube condensers: Neumann U-47, U-67, U-64, KM-64, KM-56, KM-54 and Schoeps CM-51U; Neumann KM-85; AKG C451 EB, D-12, D-202, E-V CS-15, RE-20; Sennheiser MKH-405, MD 421; Sony ECM-377, ECM-22P, ECM-51; Beyers M-500, M-66, M-67; RCA 77DX; Shure SM-57 and custom direct boxes.

Instruments Available: Grand piano, Hammond B-3 w/Leslie, Fender Vibrolux, Super Reverb and Bassman; Gallien Krueger 212G amp.

Extras: Client lounge with refrigerator and free coffee, redwood bathroom.

Rates: 16 track \$35/hr; block rate \$30/hr; 1" 8 track \$25/hr. Editing \$20/hr. Real-time cassette copies \$4.00 each for 22 min. or less.

Direction: Rancho Rivera is one of the most attractive small rooms in the Bay Area, incorporating hardwoods, stone and natural light. It's a comfortable place in which to make music. Our microphone selection emphasizes European tube condensers, prized for their warmth and natural sound. Our staff is easygoing without being terminally mellow, and we work fast. We have experience with all types of sound recording, from jazz to new wave to advertising soundtracks. Check us out.

... REMOTE RECORDING TECHNIQUES

also REMOTE RECORDING
4724 S.W. Vacuna, Portland, OR 97219
(503) 248-8478

Owner: Mark Kaltman, Alan Marston.

Studio Manager: Mark Kaltman.

... REX RECORDING CO.

1931 S.E. Morrison, Portland, OR 97214
(503) 238-4525

Owner: Russell E. Gorsline.

Studio Manager: Chris Ackerman.

... SIERRA SOUND LABORATORIES

1741 Alcatraz Ave., Berkeley, CA 94703
(415) 855-7838

Owner: Robert C. De Sousa.

... SOUND CELLAR

831A W. 4th Ave., Anchorage, AK 99501
(907) 277-4334

Owner: Massound Inc.

Studio Manager: Dave Molletti.

... SPECTRUM STUDIOS, INC.

also REMOTE RECORDING
905 S.W. Alder St., Portland, OR 97205
(503) 248-0248

Owner: Michael Carter, Lindsey McGill.

Studio Manager: Michael Carter.

Engineers: Michael Carter, Lindsey McGill, Chris Douthitt, Dave Mathew, Mark Gottwig, Alan Phillips.

Dimensions of Studio: A: 19' x 34'; B: 18' x 14'; C: 14' x 16'.
Dimensions of Control Rooms: A: 22' x 15'; B: 17' x 15'; C: 12' x 16'.

Tape Recorders: Ampex MM-1100 16 track; (2) Scully 280 B-4 4 track; (5) Scully 280 B-2 2 track; (8) Scully 280B mono; Negra (2) 4.2 mono; Nagnasync (5) Series 2000, 1 each (in 16mm interlock system).

Mixing Consoles: Custom (manufactured in-house) Spectrum 1616, 16 in x 16 out; (2) Custom Spectrum 1608, 16 in x 8 out.

Monitor Amplifiers: McIntosh, Crown.

Monitor Speakers: E-V Sentry II, Auratone.

Echo, Reverb, and Delay Systems: AKG BX-20E, Eventide Harmonizer.

Other Outboard Equipment: dbx limiters and 187 noise reduction, Harmonizer, Eventide Flanger, UREI 1/2-octave EQs, UREI notch filter, Orban D'Esser, Allison Kepex, Gain Brains, Countryman FET direct boxes, Eiki interlock projector, Magnasync interlock distributor, AVL Eagle computerized programmer, AVL Doves.

Microphones: Neumann U-87, U-47 FET; E-V CS-15, RE-16, RE-50; AKG D-1000E, D190, D200; Shure SM-54; Sennheiser 815, Sony ECM 50.

Instruments Available: Yamaha G-3 6' grand piano.

Rates: Record: 16 track \$70/hr; 4 track \$50/hr; 2 or 1 track \$45/hr. Mix: 16 track \$60/hr; 4 track \$45/hr; 2 or 1 track \$45/hr.

... STUDIO "C" AT THE ANNEX

970 O'Brien Drive, Menlo Park, CA 94025
(415) 321-7774, 494-9344

Owner: Amusex Corp., Dennis Reed/Recording Etc. Productions.

Studio Manager: Dennis Reed.

... TEWKSBURY SOUND RECORDERS

8026 Bernhard, Richmond, CA 94805
(415) 232-7833, 232-7818

Owner: Dan Alexander.

Studio Manager: Christa Corvo.

Directions: We have great sounding equipment!! Credits include: S.V.T., Little Roger, Psycotik Pineapple, Jack Miller, Soul Syn-dicate, etc. etc. We offer the lowest price available in Northern California for 16 or 24 track recording. And an assortment of outboard toys and tube microphones equal to any!!! See our equipment and rates listed in the 24 track section of this magazine. Laird.

... THUNDER OAK AUDIO

23717 Bothell Way S.E., Bothell, WA 98011
(206) 487-2177

Owner: Thunder Oak Audio, Inc.

Studio Manager: Larry Netzger.

Engineers: Vic Coupez, Larry Netzger.

Dimensions of Studio: 600 sq. ft.

Dimensions of Control Rooms: 180 sq. ft.

Tape Recorders: MCI JH 16 16 track; Otari MX 5050B 8 track; Ampex ATR 100 2 track; (2) Revox A-77 2 track; (2) cassette recorders.

Mixing Consoles: Neve 8014, 16 in x 16 out.

Monitor Amplifiers: Crown DC 300A, D150, D60.

Monitor Speakers: UREI Time Align, JBL 4310, Auratones, 3 styles of headphones.

Echo, Reverb, and Delay Systems: Master-Room C Series stereo reverb, DeltaLab and MXR digital delay.

Other Outboard Equipment: Neve and dbx compressor/limiters, Eventide Instant Flanger, Technics parametric EQ, Delta-Graph 10-band graphic EQ, Scamp noise gates, dbx noise reduction (8 channels).

Microphones: Neumann, E-V, AKG, Shure, Sennheiser, Beyers, Sony, various models of each.

Instruments Available: Yamaha 7' concert grand piano, Hammond B-3 with JBL Leslie, Crumar Orchestrator, guitar amp, trap set. Any other instrument available on a rental basis.

Extras: Full production services available, kitchen facilities, guest bedroom, studio windows overlooking 36 acre meadow.

Rates: \$30/hr to \$60/hr. Discounts for block bookings.
Direction: Thunder Oak Audio is in its 3rd year of providing the highest quality master and demo tapes. As we expand and grow,

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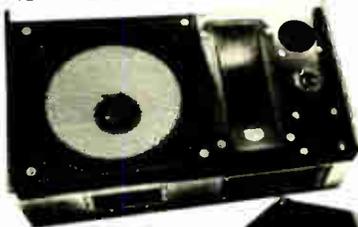
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16 TRACKS

so do our services. Thunder Oak Audio and Paul Speer Productions now offer a truly complete recording package that assists you from pre-recording production through pressing. Call us for details and rates.

••• **TIOGA RECORDING STUDIO**
P.O. Box 205, Allegany, OR 97407
(503) 267-2330

Owner: Jim Flanagan.

Studio Manager: Jim Flanagan.

Engineers: Jim Flanagan.

Dimensions of Studio: 25' x 23' with drum cage and isolation booth.

Dimensions of Control Rooms: 13' x 17'

Tape Recorders: Ampex MM1100 16 track; Ampex AG 440 4 & 2 track; Magnacord 1022 2 track; TEAC 2300 ¼ track; Nakamichi 500 cassette.

Mixing Consoles: MCI JH 428, 18 in x 18 out.

Monitor Amplifiers: Crown DC 300A, D-150, (2) D-60's.

Monitor Speakers: Altec 604E in Big Reds with Mastering Lab crossovers, JBL's and Auratones.

Echo, Reverb, and Delay Systems: AKG BX-20E, Eventide Harmonizer digital delay.

Other Outboard Equipment: 18 channels dbx, Orban 2-channel parametric EQ, Omni-Craft 4-channel noise gate, UREI 1176 LN compressors.

Microphones: Neumann, Sennheiser, Sony, Shure, Electro-Voice.

Instruments Available: Knabe baby grand piano, Hammond B-3 organ with Leslie, Peavey guitar amp, Rickenbacker bass guitar, Fender Telecaster guitar, stand up double bass.

Rates: \$25/hr. \$1500.00 for 6 days, unlimited hours.

Extras: Band house available for rent \$20 per night per band. 1 mile from studio.

Direction: We are located 20 miles east of Coos Bay, Oregon, up in the coastal hills of Oregon. It's peaceful with the Millicoma River you can fish or swim in. If you look at our price you'll see we are making recording your song(s) affordable but not giving up quality.

••• **TRES VIRGOS STUDIO**
1925 Francisco Blvd., Suite G, San Rafael, CA 94984
(415) 4587-8868

Owner: Allen Rice, Mike Stevens, Robin Yeager, Jerry Jacob.

Studio Manager: Robin Yeager, Allen Rice.

Engineers: Rob Yeager, Allen Rice, Richie Moore.

Direction: We project an early fall 1980 opening of our new facility now under construction in San Rafael. Designed by Chps Davis (The Music Place, Heider #4, Las Vegas Recording), the new Tres Virgos is being built to satisfy all of the criteria for LEDE™ certification. The main studio (850 sq. ft. w/17' ceiling), the control room (450 sq. ft. w/14' ceiling), and drum booth have been designed using TDS™ and TEF™ measurement techniques to assure maximum control, predictability and accuracy of your finished master tapes. Separate production, dubbing and voice/over facility, along with numerous creature comforts will make your sessions at Tres Virgos both creative and productive. For more specific details, call (415) 4567-6666. (LEDE, TDS and TEF are trademarks of Syn-Aud-Con.)

••• **WARTHOG STUDIOS**
also REMOTE RECORDING
43125 264th S.E., Enumclaw, WA 98022
(800) 824-7888 ext. M-485; In CA: 1-(800) 852-7777 ext. M-485
Owner: Sam Longoria and Barbara Vetter.
Studio Manager: Barbara Vetter.

••• **(XANDU) POP-A-GROOVE RECORDING**
1050 Geneva Avenue, San Francisco, CA 94112
(415) 239-1812

Owner: Joe Tarantino.

Engineers: Joe Tarantino, Karl Derfler and various independents.

Direction: Under new management, Pop-A-Groove Recording puts it all together for the client who is serious about his music and product. Utilizing MCI multi-track equipment in a relaxed and creative atmosphere, we are able to cut high-quality masters and master-quality demos at a reasonable price. Please call for more information and special introductory rates.

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24 TRACKS



Santana & Hancock working on *Swing Of Delight LP*, the first digital album recorded in N. Cal. The Automatt



Journey at the Automatt Studio A

**** THE AUTOMATT[®]
829 Folsom St., San Francisco, CA 94107
(415) 777-4111

Owner: David Rubinson
Studio Manager: Gail Brodkey Studio Administrator: Julia Jones Receptionists: Michelle Meisner, Britta Stensland
Engineers: Fred Catero, Leslie Ann Jones, Ken Kessie, Wayne Lewis, recording & mixing engineers, Michael Larner, chief engineer, Michael Fusaro, consulting engineer, Chris Becker, maintenance engineer, Paul Stubblebine, disc mastering engineer, Terry Van Zandt, set-up
Dimensions of Studios: A: 1500 sq ft.; B: 500 sq ft.; C: 750 sq ft.; D: 1200 sq ft
Dimensions of Control Rooms: A: 320 sq ft.; B: 320 sq ft.; C: 500 sq ft.; D: 1200 sq ft

Tape Recorders: (4) MCI (MCI Autolock provides 48 track capability w/each) 24 track; MCI 2 track; TEAC 8 4 track; Nakamichi cassette.

Mixing Consoles: C: Harrison w/Allison 65K automation interfaced w/the Z-80 computer system (patented by The Automatt[®]), Autopunch, 40 in x 32 out; A: Trident TSM w/Allison 65K automation, 40 in x 32 out (32 monitor); B: Harrison w/Allison 65K automation, 36 in x 24 out; D: Tascam Model I.

Monitor Amplifiers: McIntosh and Pioneer
Monitor Speakers: JBL 4350, 4311; UREI 813; Big Reds w/Mastering Lab crossovers; Auratones.

Echo, Reverb, and Delay Systems: (3) EMT echo chambers, remote controlled; Prime Time digital delay; Lexicon digital reverb.

Other Outboard Equipment: Prime Time; Sennheiser Comm. System; Marshall Time Modulator; ADR Complex-limiter; In-ovonics 201 limiter; Eventide Omnipressor & Harmonizer; UREI digital metronome; Orban parametric EQ; EMT compressor; MXR Phaser & Flanger; Kepez (2); Auto-correlator; Orban D'Esser; Countryman phaser.

Microphones: AKG 414, 452, C-12; Beyer M-160; Electro-Voice RE-15, RE20; Shure SM-56; Sony C-37, 377; Sennheiser 421, 441, 805; Neumann U-67, U-87, KM-84, M-49, KM-88; Telefunken U-47

Instruments Available: CP-70; Yamaha drums; Quad bass; acoustic guitar and bass, clavinet, ARP Odyssey, Rhodes electric piano, Wurliizer organ, Cry Baby wah-wah, Vocoder, Prophet 5 Voice synthesizer; Princeton amp, Music Man amp, Wehr bass amp, Super Reverb amp, Echoplex I & II, Maestro synthesizer system, filter, sample & hold, fuzz, sustainer, full range booster, percussion kit, Compu-rhythm drums; Rhythm King, Maestro, Mutron II, Jet Phase phase shifters.

Rates: Studio A: \$150/hr; Studio B: \$135/hr; Studio C: \$135/hr for 24 track. Add \$25 for automation.

Direction: Credits: "Apocalypse Now" soundtrack, Gato Barbieri, Elvin Bishop, Blue Oyster Cult, Bread & Roses, David Bromberg, Capt. Beefheart, Chick Corea/Herbie Hancock, The Clash, Con Funk Shun, Dueros, Tenn. Ernie Ford, Greg Kihn Band, Grateful Dead, Guess Who, Herbie Hancock, Headhunters, Eddie Henderson, Journey, Van Morrison, Maxine Nightengale, the O'Jays, Roy Orbison, Pearl Harbor & The Explosions, the Ready-mades, Santana, Pharoah Sanders, Boz Scaggs, SVT, Tazmanian Devils, the Tubes, Sarah Vaughan, the Waters, Tony Williams, Cris Williamson, Neil Young, among others

**** AYRE STUDIOS
458-A Reynolds Circle, San Jose, CA 95112
(408) 279-AYRE, 279-2973

Owner: Richard Nebel
Studio Manager: Richard Nebel
Engineers: Richard Nebel, Tom Anderson, Tom Paddock (independent engineers welcome)
Dimensions of Studios: 26' x 23' x 14' high.
Dimensions of Control Rooms: 16' x 15' x 11' high.
Tape Recorders: MCI JH-114-24 w/Autolocator III 24 & 16 track, Ampex AG-440B Servo 2 track, Nakamichi 700II cassette; Revox A77 2 track; TEAC cassette.
Mixing Consoles: MCI JH-636 Automated, 32 in x 28 out.
Monitor Amplifiers: McIntosh MC2205; Crown D60's & D40; Nakamichi 620.
Monitor Speakers: Altec 604-E Big Reds w/Mastering Lab crossovers; JBL 4311's, Auratones.
Echo, Reverb, and Delay Systems: EMT 140 stereo plate (tube type); Lexicon DDL (2 out); Eventide Harmonizer (2 delay outputs); MXR DDL (full memory); tape echo; digital reverb coming!

Other Outboard Equipment: EXR Psychoacoustic Exciter; UREI LA2A's, LA3A & LA4, Eventide Flanger & Omnipressor, In-ovonics 201 compressor/limiters Bi-Amp 1/2-octave & octave graphic EQ's; EMS signal processing synthesizer & much more (anything with notice)

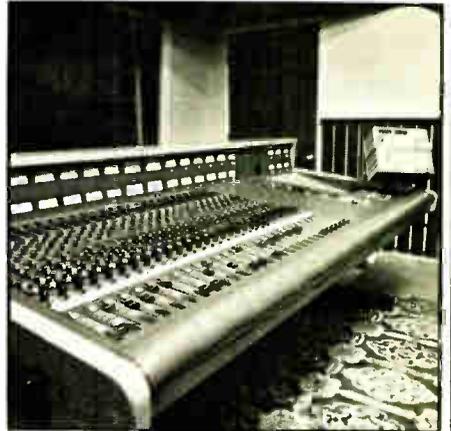
Microphones: Neumann U-87's, U-47's, KM-84's; AKG C-414 EB's, 451's, 452's; Sennheiser 421's, 441's; Electro-Voice RE-20's, Shure SM-57's; Beyer's, Sony's, Countryman & Socom direct boxes, and much more

Instruments Available: Chickering "Masterpiece" 7' grand piano; ARP 2600 synthesizer, EMS "Hi-Fi" synthesizer, Gibson, Fender & Rickenbacker guitars and basses; Boogie Amp; 360 Systems "Spectre" guitar synthesizer, other instruments and devices on request.

Rates: \$50 to \$85/hr. Please phone for quote

Extras: Production, arranging & pressing available. Free coffee, refrigerator, lounge area & great atmosphere. Game room coming! (We're 5 minutes from many hotels, 24 hr. restaurants and the San Jose airport)

Direction: Ayre Studios, Northern California's first MCI Automated 24 track studio, now has the pleasure to offer you a very private, highly creative "One on One" alternative. We offer only the finest in both new & vintage equipment in a very comfortable environment designed for you. In addition to many contemporary West Coast artists, our engineers have worked with "greats" such as Paul McCartney & Wings, Supertramp, Pablo Cruise, America, Bo Diddley, George Martin & Brian Eno. You need it. We have it. Give us a call.



Ayre Studios
San Jose, CA

**** BEAR CREEK STUDIO
6313 Malby Rd., Woodinville, WA 98072
(208) 481-4100

Owner: Joe & Manny Hadlock
Studio Manager: Manny Hadlock

**** BEAR WEST STUDIOS
915 Howard St., San Francisco, CA 94103
(415) 543-2125

Owner: Ross J. Winetsky and Chuck Vincent
Studio Manager: Ross J. Winetsky

Engineers: Chief engineer, Mark Needham; engineers: Doyle Williams, Vance Frost, Steve Andraetta, 2nd engineers: La'Ertes Muldrow, Susan Gottlieb

Dimensions of Studios: Studio A: 50' x 30' x 25' ceilings, 3 isolation booths. Studio B: 30' x 20' x 15' ceiling, 1 isolation booth
Dimensions of Control Rooms: Studio A: 25' x 20' Studio B: 15' x 15'

Tape Recorders: Ampex modified MM 110C 24 track; 3M M56 16 track, Tascam Model 70 with dtx 8 track, Ampex AG 350 2 track, Ampex 350/354 2 track

Mixing Consoles: DiMedio custom, 32 in x 24 out, TEAC (2) Model 5's, 16 in x 8 out

Monitor Amplifiers: Studio A: McIntosh, BGW Studio B: McIntosh

Monitor Speakers: JBL 4332 biamped, JBL 4311, Auratone
Echo, Reverb, and Delay Systems: Live chamber, Multi-Track reverb, MXR DDL

Other Outboard Equipment: UREI 1176 compressor (two), (two) dbx compressor, 24-channels API EQ's, Furman parametrics, Gain Brain compressor, Symetrix noise gate, Ashly Audio parametric, Soundcraftsmen graphic, EXR Aural Exciter at \$45/day

Microphones: Neumann 87's, 84 Electro-Voice; Shure; Sennheiser AKG

Instruments Available: Specially built Yamaha C-3, Steinway grand

Rates: Studio A (24 track) \$85/hr. (16 track) \$65/hr; Studio B (16 track) \$45/hr. (8 track) \$30/hr.

**** COAST RECORDERS
1340 Mission St., San Francisco, CA 94103
(415) 884-5200

Owner: United Recording Corp

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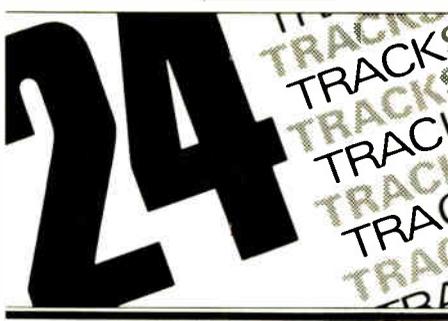
Studio Manager: Steve Atkin.
Engineers: Steve Atkin, Bob Lindner, Gary Dominguez, Sol Weiss.
Dimensions of Studios: A: 25' x 40'; B: 12' x 18'; Dialogue: 6' x 12'
Dimensions of Control Rooms: A: 18' x 20'; B: 16' x 18'; Dialogue: 10' x 12'; Production: 14' x 14'.
Tape Recorders: MCI 24 track; 3M 16 track; 3M, Ampex 8 tracks; Ampex, Scully 4 tracks; Ampex, Westlake, MCI 2 tracks & mono.
Mixing Consoles: MCI automated JH-428B, 28 in x 24 out; Bushnell, 20 in x 12 out, Quantum, 20 in x 4 out
Monitor Amplifiers: Crown, United Audio
Monitor Speakers: UREI 813, JBL 4320, 4311, L-65, Auratone
Echo, Reverb, and Delay Systems: EMT (4), MICMIX.
Other Outboard Equipment: UREI LA-3A, 1176LN, 527, 530, 537, 545, 565T, Orban D'Esser, Kepex, UREI DDL, UREI digital metronome
Microphones: Neumann U-87, U-67, U-47, E-V RE-20, RE-15; Sennheiser 405, AKG 451, 414; RCA 44, 77, Shure SM-56, 57
Instruments Available: Steinway, A B Chase grand pianos, Hammond C-3 w/Leslie, Celeste
Rates: \$40 to \$100/hr
Extras: Hi-speed open reel and in cassette recording. Total tape mailing service. Direct remote phone lines.
Direction: The leader in audio services geared to the advertising industry. Total service except film and location



*Different Fur
San Francisco, CA*

**** DIFFERENT FUR
 also REMOTE RECORDING
 3470-19th Street, San Francisco, CA 94110
 (415) 864-1967.
Owner: Patrick and Patty Gleeson.
Studio Manager: Patty Gleeson.
Engineers: Staff: Stacy Baird, David Blossom, Don Mack, Howard Johnston, Independents: Don Cody, Jim Gaines, Steve Mantoani, Tech Chief: Tom Paddock
Dimensions of Studios: 25' x 35' x 12' plus isolation booths
Dimensions of Control Rooms: 17' x 21' x 12'
Tape Recorders: MCI JH 16 16/24 track; MCI JH 100A 2/4 track; MCI JH 100A 2 track, (4) Technics M85 cassettes (4)
Mixing Consoles: Harrison 4032, 35 in x 32 out, w/Allison 65K automation (completely modified for digital recording).
Monitor Amplifiers: BGW, Crown, Spectra Sonics.
Monitor Speakers: Westlake double 15's, 604E's, JBL 4310's, 4313's, Little David's, Auratones (all pushbutton switchable)
Echo, Reverb, and Delay Systems: Lexicon 224 programmable, EMT 240 Gold Foil, Eventide DDL programmable, Pandora, Lexicon Prime Times (2).
Outboard Equipment: Kepex's, Gain Brains, MXR, 28 channels Dolby, 28 channels dbx, 1176's, LA4-A's, Harmonizer, White 1/6 octave spectrum analyzer w/software processing, digital metronome
Microphones: Neumann, AKG, Beyer, Sony, Sennheiser, E-V, PZM, Shure All current models, plus some oldies.
Instruments Available: Yamaha C-7B, Mini Moog, Vocoder, amps, String Machine, snare, etc. Lots of effex and pedals. Strobe tuner
Extras: Showers, sauna, lounge w/kitchen, TV, sleeping accommodations, catered meals, production office, parking
Rates: Call for rates, engineer availability, block booking and demo rates
Direction: Custom service for your needs. We have a state-of-the-art studio, very private atmosphere, designed by John Storky of Sugarloaf View. We have a reputation for quality service, honest business dealing, and the best coffee available in any studio, anywhere. Accommodations arranged for out-of-town clients

**** FANE PRODUCTIONS
 115-B Harvey West Blvd., Santa Cruz, CA 95060
 (408) 425-0152
Owner: Fane Productions Inc
Studio Manager: Rex Stemm
Engineers: Fane Opperman, Dave Luke, Corie Anastasion, David Green.



Dimensions of Studios: 30' x 16'
Dimensions of Control Rooms: 29' x 12'
Tape Recorders: MCI JH 114 transformerless 24/16 track; MCI JH 110B transformerless 2 track; Tascam 80-8 8 track; Tascam 25-2 2 track; Sony 1/4 track; TEAC A-800 cassette; Technics M-63 cassette.
Mixing Consoles: Harrison w/Allison automation, 32 in x 32 out
Monitor Amplifiers: Crown, DC-300A, Yamaha P2100, Symetrix HD-10
Monitor Speakers: Tannoy Berkeleys, JBL 4311's, Altec A7's, Auratones.
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, URSA Major Space Station digital reverb system, Orban/Parasound 111B dual reverb, Eventide Harmonizer and DDL, DeltaLab DL-2 Acoustcomputer, Ibanez AD-230 analog delay and multi-flanger
Other Outboard Equipment: 36 channels of dbx noise reduction, EX3 Aural Exciter, dbx Model 160 compressor/limiters, UREI 1176 peak limiter, Symetrix CL-100 compressor/limiters, Symetrix noise gates, UREI parametric EQ's, Bi-Amp graphic EQ's
Microphones: Neumann U-87, AKG 414, 452EBs, D-224, D-1000E, Beyer M500, Sennheiser 421s, Electro-Voice RE-20s, RE-11s; Shure SM-57s, SM-58s.
Instruments Available: Hammond B-3 with Leslie, acoustic piano; Sequential Circuits Prophet 5 synthesizer; Polymoog; Micro-Moog; Roland digital sequencer; Wurliizer electric piano; Guild Jumbo 12-string, Fender Stratocaster; Fender Jazz bass; Fender Twin Reverb amp; Ludwig 6 pc drum set with timbales; Syndrum drum synthesizer. Mary Latin percussion instruments.
Extras: Studio musicians, arrangers and jingle writers are available. A restaurant/bar with pool tables and pinball is next door. The studio has a redwood geodesic dome lounge. Free coffee and tea.
Rates: 24 track \$55/hr \$55/hr 16 track; \$30/hr 8 track; \$25/hr track, block rates are available. *free set-up time
Direction: Fane Productions Studio has rapidly progressed from an 8 track studio to a 24 track facility. We offer excellent equipment in a comfortable, professional environment. Santa Cruz is a sunny, scenic community which many artists find creatively stimulating. Our engineers and producers are creative, efficient and easy to work with. We look forward to each project whether it's a first demo or a seventh album.



*Fane Studios
Fane Opperman engineers as Brubeck looks on
Santa Cruz, CA*

**** FANTASY STUDIOS
 10th & Parker, Berkeley, CA 94710
 (415) 549-2500
Owner: Fantasy Records.
Studio Manager: Roy Segal.
Engineers: Bill Austin, Wally Buck, Richard Corsello, Eddie Harris, Mike Herbeck, Danny Kopelson, Nyaya Lark, Steve Toby and George Horn
Dimensions of Control Rooms: Mastering Facilities: Neumann cutting system custom mastering

Tape Recorders: Studer A800 24 track; Ampex MM1200 24/16 track; Scully 8 track; Studer A80 2 track; Ampex ATR 2 track.
Mixing Consoles: Neve 8108, 56 in x 48 out; DeMedio custom, 24 in x 24 out, Quad/Eigh; 2082, 20 in x 16 out.
Monitor Amplifiers: McIntosh 2100, Crown DC 300.
Monitor Speakers: Hidley; UREI Time Align; 604E, JBL 4311, 4310; MEM; Auratone.
Echo, Reverb, and Delay Systems: EMT 250, EMT 140's, Echoplex, live chambers.
Other Outboard Equipment: Lexicon DDL; Dolby; dbx; LA2A, LA3A, LA4A; DeltaLab DL-2; EXR Exciter; Scamp; Allison; P;tec; Eventide; 1176's and more.
Microphones: E-V, Sony, Sennheiser, Neumann, Telefunker, AKG, PML, RCA, Shure, PZM.
Instruments Available: Yamaha grand, Baldwin grand, Steinway grand, Hammond C-3, Hammond B-3, Yamaha CP-3C, Rhodes, Yamaha electric grand, Syndrums, Rogers, Gretsch drums, and more
Rates: Call manager or Andrea Salter for bookings and rates.



*Wally Heider Recording
San Francisco, CA*

**** WALLY HEIDER RECORDING
 also REMOTE RECORDING
 245 Hyde Street, San Francisco, CA 94102
 (415) 771-5780
Owner: Filmways, Inc.
Studio Manager: Ginger Mews
Engineers: Ashley Bragdale, David Coffin, Susie Foot, Dave Frazer, Ann Fry, Jeff Melby, Marnee Moore, Jeffrey Norman, Jesse Osborne, Cal Settles.
Dimensions of Studios: A: 31' x 17'; C: 16' x 29'; D: 27' x 14'; E (media studio): 13' x 15'
Dimensions of Control Rooms: A: 15' x 17'; C: 14' x 12'; D: 16' x 15'; E: 8' x 15'.
Tape Recorders: Ampex MM 1200 24 track; (2) 3M M79 24 track; (2) 3M M56 16 track; 3M M23 8 track; (2) 3M M64 4 track; Ampex ATR 4 track; Ampex ATR (2) 2 track, various 3M and Ampex 2 tracks; Ampex 350 mono, (2) Ampex 440 mono.
Mixing Consoles: Neve 8058, 28 in x 28 out; Neve 8068, 32 in x 32 out; MCI JH 428, 28 in x 24 out.
Monitor Amplifiers: Yamaha P 2200's in all three music studios; McIntosh 2100's in Studio E (Media Studio)
Monitor Speakers: Studio A Aitec 604E's with JBL 2220's; Studio C and D: UREI 813 Time Aligned; Studio E (Media Studio): Klipsch Hersey
Echo, Reverb, and Delay Systems: Lexicon, Eventide DDL, Pandora Timeline, Cooper Time Cube, 4 live stereo echo chambers and 3 EMT's.
Other Outboard Equipment: Dolby and dbx noise reduction, Eventide Flanger, Eventide Phaser, Kepex's, parametrics, Gain Brain, vocal Leslie and preamp, VSO, SMPTE reader/synchronizer/generator; video cassette record and playback, and color monitor, various EQ's, music library and sound effects library.
Microphones: One of California's largest selections.
Instruments Available: Mini Moog, 7' grand Steinway, 6' grand Steinway and C-7 grand Yamaha pianos
Rates: Call for quotes

**** KAYE-SMITH STUDIOS
 2212 Fourth Ave., Seattle, WA 98121
 (206) 824-8851
Owner: Lester M. Smith, Danny Kaye.
Studio Manager: Rick Fisher

**** MUSIC ANNEX
 970 O'Brien Dr., Menlo Park, CA 94025
 (415) 328-8338
Owner: Music Annex Inc.
Studio Manager: David Parter, Traffic: Cathy Roy.
Engineers: David Parter, Harn Soper, Roger Wiersma, Russ Bond, Dennis Reed, Alison Ballard
Dimensions of Studios: A: 34' x 28'; isolation: 10' x 8'; B: 16' x 12'; C: 30' x 20'.

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San Leandro, CA 94577 (415) 569-2866



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Dimensions of Control Rooms: A: 28' x 25'; B: 22' x 18'; C: 14' x 12'; D: 14' x 12'

Tape Recorders: (2) MCI JH-114 24/16 24 track; Ampex MM-1000 8 track; MCI JH100A 2 track; (3) Ampex 440 2 track; (2) Otari 5050 2 track.

Mixing Consoles: (2) Ameik 2824, 28 in x 24 out; Tascam Model 10 (modified), 12 in x 8 out; Sound Workshop 1280, 12 in x 8 out.

Monitor Amplifiers: A: BGW 750, 100, Crown D-150, D-60; B: BGW 750, D-100, Crown D-60; C: Yamaha FET 2200; D: Crown D-150.

Monitor Speakers: UREI Time Aligns, Studios A & B: JBL 4311, 4333 available on request. C: JBL 4311; D: JBL 4311. Auratones in every room.

Echo, Reverb, and Delay Systems: EMT 240, EMT 140ST, AKG BX-20, Harmonizer, (2) MXR delays, Lexicon Prime Time.

Other Outboard Equipment: (4) UREI 1176 LN limiters, (4) In-ovonics 201 limiters, (4) Roger Mayer gates, ADR Vocal Stresser, ADR stereo EQ, ADR Scamp Racks with sweep, octave and parametric EQ's and gates and pan module, Eventide Flanger, dbx and Dolby.

Microphones: Neumann U-87, KM-84; AKG 452, C-60 (tube) D-224, D-1000; Sony 377, 22P, 33P; Sennheiser 421, 441; Shure 57, 53; E-V RE-20, RE-16; Beyers 500 ribbon; Calrec condensers, PZM's and Countryman directs.

Instruments Available: Yamaha C-3, C-5 conservatory grands; misc percussion, String Ensemble, Ampeg bass amp, special equipment by request.

Extras: Lounge area, Coke and candy machines, coffee, rehearsal space, drive-in loading, parking for 40 cars.

Rates: \$125-85/hr 24 track; \$850/day. \$85-60/hr 16 track; \$750/day. \$50-35/hr 8 track; \$25-50 2 track, depending on studio. Block rates available on multi-track time.

Direction: We have 4 studios in Menlo Park, each designed to meet individual requirements and budgets. We have completed projects for The Tubes, Snail, Todd Rundgren, YBS, Bill Withers, William Ackerman, Harvey Fuquaas as well as commercials and demo projects with local producers and engineers. In addition to our staff engineers we want to encourage independent engineers to use our facilities and to supply them with the best technical support available.

**** PACIFIC WEST RECORDERS
4572 150th Ave. N.E., Redmond, WA 98052
(206) 882-0948

Owner: John Frechette.

Studio Manager: John Frechette.

Engineers: Dave Perry.

Dimensions of Studios: 24' x 38', plus 10' x 10' drum room.

Dimensions of Control Rooms: 18' x 22'.

Tape Recorders: MCI JH 114-24 24 track; (2) MCI JH-114-110 2 track; (2) Technics M-65 2 track cassettes.

Mixing Consoles: MCI JH-428B, 28 in x 28 out.

Monitor Amplifiers: BGW's.

Monitor Speakers: JBL 4343's, JBL 4311's, Auratone 5C's.

Echo, Reverb, and Delay Systems: MICMIX Master-Room Super C, Lexicon, MXR.

Other Outboard Equipment: UREI compressors and limiters, dbx 161 compressors, Orban parametric, Orban D'Esser, Roger Mayer and Kepex noise gates.

Microphones: Neumann U-87, U-47, KM-84; AKG 414EB, 451; Beyers M-160; Electro-Voice RE-20, Shure SM-57's; RCA 77-DX; Sennheiser 421's, 441's; Sony ECM 50P's, Entertech MA-25's.

Instruments Available: 7' Chickering grand piano, B-3 Hammond organ with 147 Leslie, Rogers drums, Zildjian and Paiste cymbals, LP bongos and conga drums, African log drums, misc. toys.

Rates: Call for current rates.

**** PRODUCERS STUDIO
975 Oak St., Suite 650, Eugene, OR 97401
(503) 683-1400

Owner: Michael S. Dilley.

Studio Manager: Steve Diamond.

**** RECORDING ASSOCIATES
5821 S.E. Powell Blvd., Portland, OR 97206
(503) 777-4621

Owner: Jay Webster, Bob Stoutenburg.

Studio Manager: Jay Webster.

**** RUSSIAN HILL RECORDING
1520 Pacific Ave., San Francisco, CA 94109
(415) 821-2648

Owner: Jack Leahy and Bob Shotland.

Studio Manager: Bob Shotland.

Engineers: Jack Leahy, Richard Greene, Neil Schwartz.

Dimensions of Studios: A: 20' x 30'; B: 18' x 28'

Dimensions of Control Rooms: A: 15' x 24'; B: 13' x 22'

Tape Recorders: MCI JH-114-24 24 track; 3M 560 16 track; MCI JH-110B 2 track; Ampex 440-B/24 track; Technics 1506 15 2 track.

Mixing Consoles: Helios/GSM, 32 in x 24 out; Neotek Series III, 28 in x 24 out.

Monitor Amplifiers: Yamaha P-2200, McIntosh 2205.

Monitor Speakers: UREI 813, Control Rooms A & B: JBL 4313, Control Rooms A & B: Auratones, Control Rooms A & B: JBL 4313, Studios A & B.

Echo, Reverb, and Delay Systems: Lexicon 224, EMT stereo plate, Master-Room reverb, Lexicon Prime Time delay, ADR delay, URSA Major "Space Station."

Other Outboard Equipment: Complete Scamp Rack, Eventide Harmonizer, UREI LA-4, 1176 LN, graphic and parametric EQ. Microphones: Full complement Neumann, AKG, Sennheiser, Shure, RCA, E-V, etc.

Instruments Available: Steinway pianos, Hammond B-3 w/Leslie, Fender Pro, Princeton Super Reverb.

Extras: 32 track capability, video production, complete kitchen, large roof deck with bay view, convenient to restaurants, bars, motels, Muni, off-street loading.

Rates: On request.

Direction: After 10 years of recording in San Francisco, Funky Features has moved to Russian Hill and built two new studios from the ground up to state-of-the-art acoustical specs. We will continue our tradition of low rates, great sound, and skilled personnel, with the new dimensions of the latest in technical equipment, spectacular location and elegant ambiance. We offer our facilities proudly for record, media, demo and film production. Opening Summer 1980.

**** SAUSALITO RECORD PLANT
also REMOTE RECORDING
2200 Bridgeway, Sausalito, CA 94965
(415) 332-8100

Owner: Laurie Nicholas.

Studio Manager: Nina Urban.

Engineers: Tom Flye.

Dimensions of Studios: 20' x 40' (Studios A & B)

Dimensions of Control Rooms: 15' x 20' (Studios A & B).

Tape Recorders: 3M Model 79 2, 4, 24 track; Ampex ATR 100 (2 track) 2 and 4 track.

Mixing Consoles: API w/Allison automation, 32 in x 24 out.

Monitor Amplifiers: Crown.

Monitor Speakers: Westlake, JBL, 604E's w/Mastering Lab crossovers, Visoniks, Auratones.

Other Outboard Equipment: Limiters, phasers, Dolby, Harmonizer, digital delay, Marshall Time Modulator, Kepex, flangers. Microphones: AKG, Neumann, Shure, Sennheiser, Sony, Electro-Voice, RCA.

Instruments Available: Each recording studio has a Yamaha grand piano. The pre-production room has a Steinway grand and we have a Hammond B-3 organ.

Extras: Pre-production room, full kitchen, game room, conference room, patio w/barbeque, jacuzzi w/shower, basketball, 2 large homes near studio for out-of-town clients.

Rates: Please call for quote.

Direction: In addition to our two recording studios and pre-production room, we have available three remote recording trucks. With our hillside homes for our clients, and studios with their extras, we can offer the artist a complete recording environment that has become the standard of excellence in the Bay Area.

**** SEA-WEST STUDIOS/HAWAII
also REMOTE RECORDING
P.O. Box 30186, Honolulu, Hawaii 96820
(808) 293-1800

Owner: Rick Keefer, President & Chief Engineer.

Studio Manager: Donna-Alexa.

Extras: Located on the beautiful North Shore of the Island of Oahu, Sea-West Studios/Hawaii offers 24 and 32 track recording in a Polynesian Paradise! Extras include deluxe beach villas, full kitchen, outdoor hot tub and bamboo grove, large selection of musical instruments available without charge.

Direction: Sea-West has a wall of Gold & Platinum records by such artists as Heart and Bell & James. Marvin Gaye is currently in the studio completing his new LP for Motown with Rick Keefer at the board. With the recent arrival of our new MCI JH-24-24 & Autolocator IV in April 1980, Sea-West Studios/Hawaii takes its place among the finest of the 'Hit Vacation' type studios. For studio bookings or more information, phone Donna-Alexa at (808) 293-1800.

**** SONOMA RECORDING
Cotati, CA 94928
(707) 584-0699

Studio Manager: Joann Corona.

Engineers: Paul Stubblebine, Nancy Evans, Dana Chappelle.

Dimensions of Studios: 20' x 20'

Dimensions of Control Rooms: 12' x 12'

Tape Recorders: MCI JH 114 24 track; MCI JH 110 2 track.

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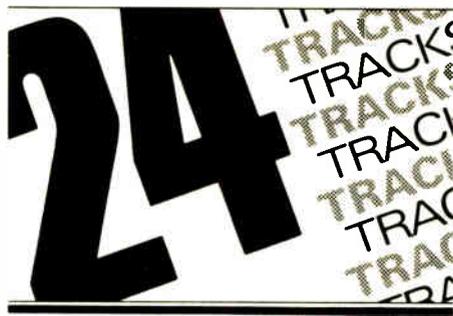
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Mixing Consoles: Neve 8016A (modified), 24 in x 24 out.
Monitor Amplifiers: McIntosh, Crowns.
Monitor Speakers: JBL 4315's, Auratones, Altec 604's.
Echo, Reverb, and Delay Systems: Stereo EMT plate, Scamp Time Shape, Ampex 440, Scully 2 track.
Other Outboard Equipment: UREI and Neve limiters, Scamp noise gates, parametric EQ's, White EQ's, real time analyzer.
Microphones: Neumann U-87s, KM-86s, U-47; Sennheiser 421s; Beyers, Electro-Voice, Shure.
Instruments Available: Apollo grand.
Rates: 24 track \$65/hr; 16 track \$50/hr; demo 16 track \$35/hr.

**** TEWISBURY SOUND RECORDERS

6026 Bernhard, Richmond, CA 94805
(415) 232-7933, 232-7918

Owner: Dan Alexander.

Studio Manager: Christa Corvo.

Engineers: Independents: Richard Van Dorn, Yves Gautschi, John Cuniberti, Second: Christa Corvo.

Dimensions of Studios: 32' x 23'.

Dimensions of Control Rooms: 20' x 15'.

Tape Recorders: Ampex MM 1000 16/24 track; Ampex AG440 2 track; Revox A-77 1/2 track; Revox A-77 1/4 track.

Mixing Consoles: Helice 2808, 28 in x 28 out.

Monitor Amplifiers: GAS Son of Ampzilla, BGW 750C, McIntosh MC30, Dynaco 70, Southwest Technical Model 207.

Monitor Speakers: JBL 4310; Tannoy Studio Golds; Auratones.

Echo, Reverb, and Delay Systems: EMT echo reverb plate, Lexicon Delta T 102 stereo digital delay with VCO module, 2800 cubic ft. acoustic chamber, Marshall Time Modulator.

Other Outboard Equipment: (2) Teletronix LA2A, UREI 1176, Eventide Omnipressor, Lang PEQ1, Lang PEQ2, (2) API 554 parametric EQ, API 550 EQ, UREI parametric EQ, MXR auto flanger, MXR auto phaser, Roger Mayer keyable noise gates.

Microphones: Neumann U-47 tube, KM-53, KM-54, U-64, U-67, KM-84, U-87; AKG C-12A, C-61, C-28A, D-224E, D-24, D-25; Sony C-500; Beyers M160, M88; Schoeps CMT 56, CMH 32; Sennheiser 441, 421; Electro-Voice RE-20, 666; Shure MS-57, 545.

Instruments Available: 9' Mason Hamlin concert grand piano, Hammond CV organ, Martin D18 guitar, Ampeg B18 bass amp, Ludwig timpani w/pedal, MESA/Boogie amp, Chamberlin, misc. percussion instruments.

Rates: (Including engineer): 16 track: \$25/hr/10 hours. 24 track: \$40/hr/10 hours. Call for more info. See our listing in the 16 track section of this Mix.

**** TIKI SOUND STUDIO INC.

792 East Julian St., San Jose, CA 95112
(408) 288-8840

Owner: H. Tomm, B. Tallamadge, G. O'Neal.

Studio Manager: Gracie J. O'Neal.

**** TRI-AD RECORDING STUDIOS, LTD.

1825 Oak St., Eugene, OR 97401
(503) 887-9032

Owner: Gene P. Moritz, Peter Lorinez.

Studio Manager: Gene P. Moritz.

Engineers: Peter Lorinez, Don Ross.

Dimensions of Studios: 22' x 24'; vocal booth 5' x 8'.

Dimensions of Control Rooms: 14' x 16'.

Tape Recorders: Ampex MM 1200 24 track; Otari 3090 4 track; Studer B67 2 track; Revox A77 1/4 track; Nakamichi 582 cassette.

Mixing Consoles: Tangent 3216, 24 in x 24 out.

Monitor Speakers: (4) JBL 4311's, Auratones.

Echo, Reverb, and Delay Systems: EMT 140 plate reverb, Master-Room Super C reverb, Klark-Teknik DN-36, DeltaLab DL-2 Acousticcomputer.

Other Outboard Equipment: EXR Exciter, (2) dbx 160 comp/limiters, dbx 119 comp/expander, (2) Roger Mayer RM 68 noise gates, VSO, 20 pt. search to cue.

Microphones: Neumann KM-84s, U-87s, U-47; AKG 414s, 501,

200, 1000s; Shure 53a, 57a, 58a, 55, 330; E-V RE-20s, RE-16s; Sennheiser MD 441, 421; Sony 22P.

Instruments Available: Yamaha grand piano, synthesizers, String Ensemble, Fender Rhodes, Pre CBS Fender Super reverb, Martin, Fender, Gibson guitars. Also available on request: Mellotron, clavinet, current and vintage amps and instruments, various percussion instruments.

Extras: Coffee, tea, refrigerator, 24 hr market across the street, high speed cassette duplicator, dbx noise reduction, Jensen transformer direct boxes, Koss, AKG, and Sennheiser headphones, house record label, Custom LPs and singles.

Rates: 24 track \$90/hr; 16 track \$70/hr; 8 track \$50/hr; 2 track \$50/hr. Advertising, voice overs, mix, dubs \$40/hr. Block rates available.

Direction: Our recent recordings have included the Hotz, Jonny and the Distractors, the News, Don Siegel Album for Inner City Records. Tri-ad also has been active for over 4 years in the commercial advertising field, and work is currently being broadcast in over 5 states and B.C. Present plans include automation to facilitate ease of operation and musical creativity. We take the extra effort to make our recordings clean and hot. Being only 1 1/2 hrs from L.A. by air has made it easier for independent producers and out of area groups to record in the clean and progressive atmosphere of Eugene, Oregon.

**** VILLA RECORDERS

3013 Shoemaker, Modesto, CA 95351
(209) 521-1494

Owner: Fred Eichel, Scott Snider.

Studio Manager: Fred Eichel, Scott Snider.

Engineers: John Wright.

Dimensions of Studios: 30' x 32'. Isolation booths: 12' x 12' and 13' x 12'.

Dimensions of Control Rooms: 25' x 25'.

Tape Recorders: Ampex MM 1200 24 and 16 track; (2) Ampex ATR 102 2 track.

Mixing Consoles: Trident, 28 in x 24 out.

Monitor Amplifiers: Spectra Sonics, Yamaha, Crown, Phase Linear, BGW.

Monitor Speakers: UREI Time Align, Altec 604, JBL 4311, Tannoy, Auratones.

Echo, Reverb, and Delay Systems: AKG BX-20, Marshall Time Modulator, live chamber with 3 second delay and 5 millisecond delay.

Other Outboard Equipment: (2) UREI LA3A, (2) UREI 1176 LN, Kepex's, Gain Brains, dbx 160 limiters, Scamp sweep EQ, Scamp noise gates, Eventide Harmonizer with keyboard, 2 channels Trident parametric EQ, 4 channels Orban parametric EQ, White 1/2-octave EQ, 26 channels of Dolby noise reduction.

Microphones: Neumann U-87, KM-84; Sennheiser 421, 441; Electro-Voice RE-20; AKG 414, 452, D200, D202; Calrec 1050, 654; Beyers M-500; Sony C-22; Shure SM-56; Countryman direct boxes.

Instruments Available: Baldwin 9' grand piano, Fender Rhodes electric piano, Ampeg bass amp, Fender Twin reverb amp, MESA/Boogie amp, Oberheim 2 voice synthesizer, ARP Odyssey, Slingerland drums, Fender bass guitar.

Rates: 24 track \$95/hr; 16 track \$65/hr; 2 track \$50/hr.

**** WOMACH RECORDING STUDIOS

also REMOTE RECORDING
East 122 Montgomery, P.O. Box 5378,
Spokane, WA 99205

(504) 327-7784

Owner: Merrill P. Womach.

Studio Manager: Neil Craig.

Engineers: Bob Zat.

Dimensions of Studios: 50' x 30' x 20'.

Dimensions of Control Rooms: 28' x 20'.

Tape Recorders: MCI JH-24 with Autolocator III 24/16 track; Scully 280 B track; Ampex AG440 4 track; Ampex AG440 2 track.

Mixing Consoles: Audiotronics 501, 24 in x 24 out, with Allison Faxex System.

Monitor Amplifiers: BGW 750B, Crown DC 300A.

Monitor Speakers: UREI 813 Time Align, Auratones, Stephens.

Echo, Reverb, and Delay Systems: Natural acoustic reverberation chamber.

Other Outboard Equipment: UREI LA4 compressor/limiters, Pultec Program EQ, UREI 535 stereo graphic EQ, UREI 559 room EQ, Allison Faxex Automation with 65K Programmer, Fairchild compressor/limiter.

Microphones: Neumann U-67's, Sony C-37A; AKG, Electro-Voice, Shure, RCA 77-DX.

Instruments Available: Hammond RD-2, Kawai grand piano, additional instruments may be rented through the studio at cost plus a small service charge.

Rates: 24 or 16 track \$80/hr; 8 track \$45/hr; 4 track \$35/hr; 2 track \$30/hr; mono \$25/hr; block rates available.

**** ZOETROPE STUDIOS

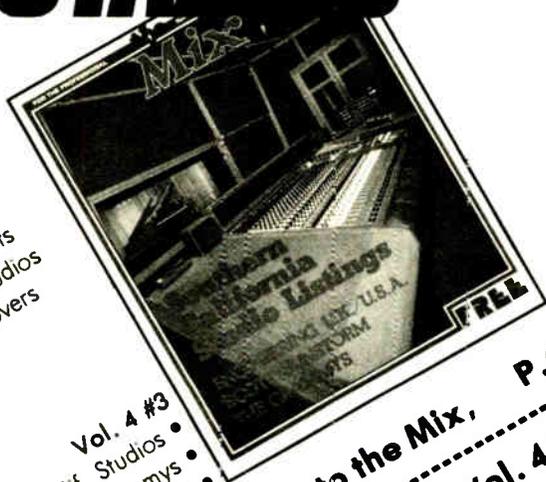
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(415) 788-8345

Owner: Francis Coppola.

Studio Manager: Richard Beggs.

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DAN ALEXANDER—PRODUCER/COMPOSER/ENGINEER
6026 Bernhard, Richmond, CA 94805
(415) 232-7933

Experience: 7 years engineering/producing. 15 years musician/songwriter. Wrote "Can't Keep A Good Man Down," "Gambler Man" by Eddie Money, "Night After Night" Greg Kihn. Have worked with Psycoptic Pineapple, Ron Rhoades, The Readymades, etc.
Direction: Creative tyrant, I don't like jazz.

STUART PAUL BARNUM—PRODUCER/ENGINEER
512 Shadow Mt. Pl., San Ramon, CA
(415) 820-6323

Experience: I have been engineering and producing local bay area bands for the last 4 years. Most of the work has been putting together original music for local musicians.
Direction: To put together inexpensive 4 track demos. Our specialty is rock, jazz, and fusion, although we do all music. Our goal is to move on to bigger and better productions.

WILLIAM (B.D.) BASSETT—PRODUCER/ENGINEER
109 Virginia St., Bellingham, WA 98225
(206) 671-4254

Experience: I'm currently producing music tracks for "Country Northwest," a half hour country music show on KSTW TV, Tacoma, Seattle. The show has enabled my partner and me to build Reynardyne Audio Productions in Bellingham. We have produced albums, demos, singles and commercials. Including the regional hit single "I Can Tell" by Susan Falconer.
Direction: To develop Reynardyne Audio and continue to produce tracks for radio and TV ads as well as work toward record action in local markets and, if the breaks are right, national markets.

BOB BERRY—PRODUCER/ENGINEER
792 E. Julian, San Jose, CA 95112
(408) 286-984C

Experience: 6 years as chief engineer at Tiki Sound Studios. Play and understand most instruments. Have recorded all types of music. I have worked in production and have played on 15 album releases and 50 single releases. As a producer I have had a pick of the week in the major trade magazines. Have written and produced the score of a full length film.
Direction: To work with local musicians who haven't had the chance to work with pros from L.A. or Nashville and share my experience and understanding of their instrument and how it applies to the recording process. I started locally at the bottom and have now worked with some of the best. Top grade references available.

CARLTON PRODUCTIONS—PRODUCER
10648 Sales Rd., Tacoma, WA 98444
(206) 582-5414 or 722-7847

Experience: 20 years in music, writer, publisher, singer, instr. & arranger. Worked as producer in Hollywood, CA (2 yrs). Have produced about 8 singles (45's) and just released a new LP of 95% new songs authored by myself and sung by myself also.

Direction: No certain direction. I write a wide variety of material and attempt to have it recorded in the concept that I wrote them. We just try to produce good quality material with a commercial sound and sell it or release it on our label. (Emcee Records—Macar Music)

C.M. RECORDS—PRODUCER
P.O. Box 335, Elmira, CA 95625
(707) 447-2141

Experience: Have produced a single by Partner. Co-produced a single by Fusion. Presently co-producing an upcoming single by Streamline.
Direction: We are forming our own recording label. And our own production company—CM Productions. We have done work with Copperwood Studios in Sacramento, and Studio C in Stockton, CA. We are trying to accomplish a "versatile" sounding label.

EMMETT COLLINS, JR.—PRODUCER
SYBARITE ENTERPRISES INC.
1059 Bella Vista Ave., Oakland, CA 94610
(415) 534-7474, 532-0770

Experience: B.A. in music education. Extensive academic foundations, empirical experience, musical expertise and creativity. Fourteen years as a performer, concert musician (orchestral and contemporary), studio and stage background musician, writer, arranger, stagehand, choral and orchestral director and asst. engineer experience. Produced 8 and 16 track masters. Six years as a professional educator.
Direction: To work in conjunction with cosmic and celestial forces on earth existing in human form, in the creation of new styles and trendsetters, in, during and of the late 20th century's popular songwriting and music business industry producing new and old talented artists of any race. Some symphonies are unfinished but they are played anyhow.

HEWLETT CRIST—PRODUCER
RED DIRT PRODUCTIONS
5885 Bndle Way, San Jose, CA 95123
(408) 629-9414

Experience: 12 years studio musician including Mercury, Columbia. Sessions with Dr. Hook, Shel Silverstein, Doug Sahm, Chuck Berry, Roy Head, Boz Scaggs, Screamin' Jay Hawkins, others. Production Queen Ida, Joe Richie, others.
Direction: Complete production services, A&R, in-studio production and direction. Also available for sessions: guitar, harmonica.

DAVID CZERWINSKI—ENGINEER
LOVE MESSENGERS STUDIO
P.O. Box 41, Occidental, CA 95645
(707) 874-2195

Experience: 2 years, 8 track Tascam 80-8 and dbx 2 Tascam Model 5 boards, JBL 4311, Freedman reverb, studio piano, Cat Synthesizer, Crumar.
Direction: Rates \$11.00 an hour. Call for appt. Warm home studio.

STEVE DIAMOND—PRODUCER/ENGINEER
975 Oak St., Suite 650, Eugene, OR 97401
(503) 683-1400

Experience: Currently chief engineer at Producers Studio, Eugene, Ore. Several years as an independent in S.F. Many album credits on several labels. Presently co-producing new artists John Powell & the Will Barnes Band. Most recently an album by jazz artist David Friesen.
Direction: To continue to work on improving my art. To turn out high quality product tailored to the artist's personal style and concept. I am easy to work with and very flexible in my technique, however, quality is my #1 criterion.

TOM DONALD—PRODUCER/ARRANGER/ENGINEER
767 Filbert St., San Francisco, CA 94133
(415) 434-4055

Experience: I've been involved in music production since 1970 on virtually all levels, including commercials, records and demos. I am also an arranger and musician and have worked on large and small budget productions, I know the value of economy in the studio.
Direction: I plan to continue developing and refining my craft. I take great pride in what I do and look forward to working on new and exciting projects.

NARDY ENRIQUEZ—ENGINEER
1209 Kirkham St., San Francisco, CA 94122
(415) 692-1351, 566-1367

Experience: 7 years as a musician (bass player), 2 years apprentice as a recording engineer.
Direction: I want to be a studio musician as well as a performer and have plans to go to school as a full time recording engineer this summer with emphasis on recording techniques and promotions.

BOB FREDMAN—PRODUCER/ENGINEER
485 Gates St., San Francisco, CA 94110
(415) 826-4692

Experience: BFA-filmmaking, 3 years road exp. doing PA systems. Have composed theme music for one TV show and several independently produced films, as well as engineering on several movies.
Direction: Total production of film soundtracks, music, effects, etc. Creation of total audio environment through the use of quadrophonic electronic sound. Available on a freelance basis for any type of audio work.

VANCE FROST—PRODUCER/ENGINEER
229 Shupley St., San Francisco, CA 94107
(415) 546-6464

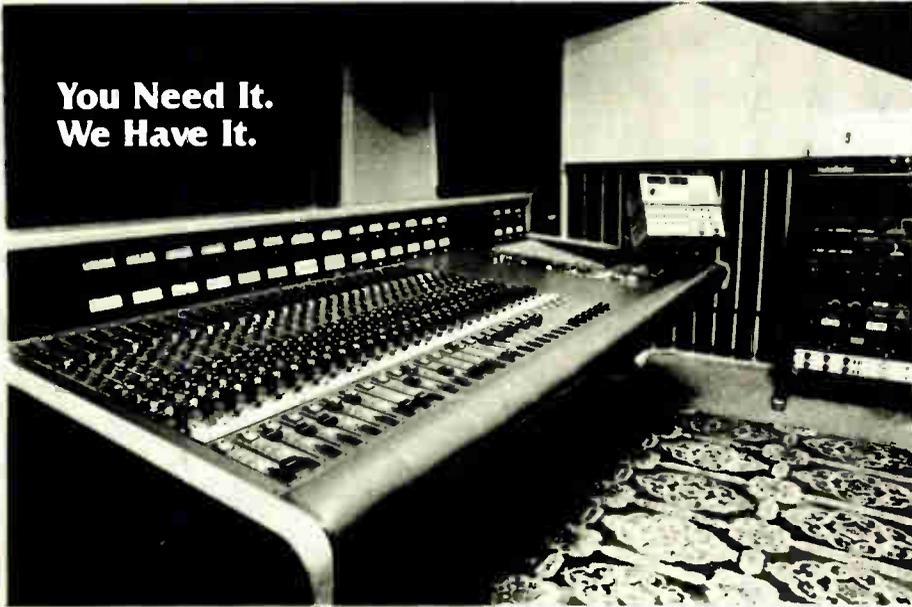
Experience: Albums, demos, radio & TV spots, television and film soundtracks, and A/V shows. 10 years.
Direction: We feature full engineering and production services. Personnel: Steve, Susan and Vance.

YVES GAUTSCHI—ENGINEER
1109 Page St., San Francisco, CA 94117
(415) 665-9056

Experience: Multi-track recording (2, 4, 8, 16, 24)
Direction: Multi-track recording and production

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MTR-90: The Machine You Helped Design.

After extensive consultation with you, the people who depend on professional audio machinery for their livelihood, we found that a new generation of two-inch master recorder was required to meet your demands. You wanted better tape handling, increased performance, greater creative flexibility; you needed adaptation to multi-machine interlock, compact design, better serviceability and the number one priority—greater reliability. You felt that contemporary technology could be incorporated into an affordable machine. We felt the same way.

Here is the result of a collective vision—our engineering and your current and future needs—THE OTARI MTR-90.

The OTARI Optimal Tape Guidance System

Research has proven that impeccable tape handling can be achieved by a servo-controlled, symmetrical, and uniformly distributed constant tension tape path utilizing a wide diameter (60 mm) pinch-rollerless capstan. This elegantly simple method of controlling tape movement eliminates the problems of stretch and wear, which are generic to many conventionally designed 2" pinch-roller type transports. With the MTR-90 the only tape drive contact is on the tougher tape backing, thus allowing for the first time, virtually unlimited safe passes with your valuable 2" master tape.

The OTARI Unitized Transport

The integrity of the entire tape machine is dependent on the long-term stability of the top plate, its supporting frame and the integration of its head assembly. OTARI engineers felt it essential

to mate a super-rugged, precision top plate directly to a unitized, welded steel chassis to make it strong enough to withstand the most rigorous studio or remote work.

Electronics

By engineering single card circuitry, OTARI has refined "state-of-the-art" electronics by reducing the complexity and expense of multiple card assemblies. Active mixing of audio and bias in the record circuitry and proper utilization of high slew rate integrated op-amps and discrete components at critical stages are your best assurance of aural success.

The modular approach of the MTR-90's digitally controlled transport logic achieves a higher level of reliability along with the "real world" considerations for rapid diagnosis and serviceability.

The Man/Machine Interface

Included with every MTR-90 is the CB-104 Remote Session Controller. Offering total flexibility while pro-

viding immediate understanding on your first session, the CB-104 accomplishes mode selection faster than any other remote available. There's "positive feel" switching—important under session pressure; flexible standby mode monitoring, master switching, single control simulated punch in/outs and more.

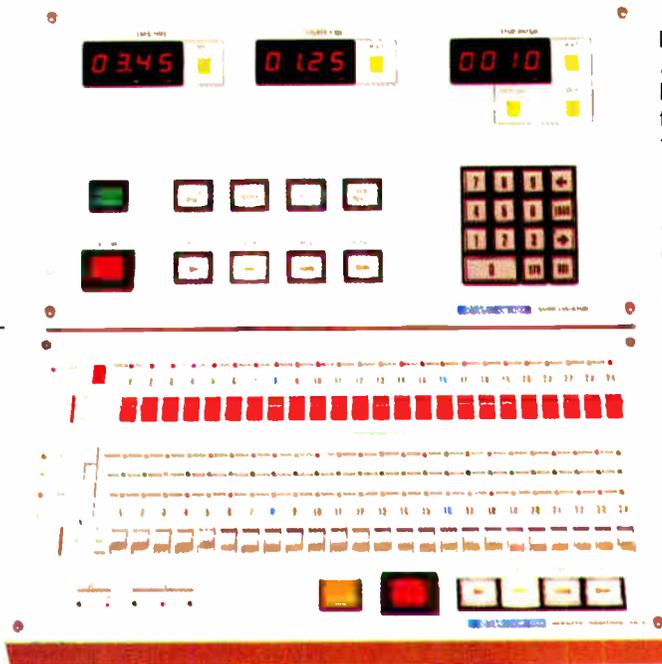
The optional CB-107 Memory Locator, which physically mates with the CB-104 Session Controller maximizes your efficiency and creativity with your clients' time. It features ten keyboard assignable memories, shuttle function, and independent, built-in stopwatch.

Factory support through a large domestic parts inventory, thorough documentation and communicative personnel versed in all aspects of studio equipment, are integral parts of the MTR-90's presentation to the professional. A network of the finest and most experienced audio dealerships is the final link in your assurance of OTARI's comprehensive approach to the professional recording community.

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The CB-107 Memory Locator and the CB-104 Remote Session Controller.

The New Workhorse



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Engineers & Producers

STEPHEN JARVIS—ENGINEER/PRODUCER

3622.C Mt. Diablo Blvd., Lafayette, CA 94549
(415) 820-8880, 837-7959

Experience: Twelve years in the professional business of producing and engineering on the West Coast. Business and personal management of professional act for 5 years. Studio and traffic manager of 24 track facility for 1 year. President and owner of Akashic Records independent label; tube microphone rental business; music business and consultation service since 1977.

Direction: This is a business. If you're not interested in working and don't expect to pay for professional advice, assistance, and studio time, please don't call. All engineering is charged at an hourly rate, in advance, and production is only done under written contractual agreement. Because you have money, backers, or a record label, it does not guarantee my involvement. If the music and personal chemistry are correct, we'll work together. I will travel, and love to do live remotes. References are available upon request. Only serious inquiries please

KEN KESSIE—PRODUCER/ENGINEER

1335 9th Ave., San Francisco, CA 94122
(415) 665-1982, (213) 784-1572

Experience: Staff engineer/Automatt: "Apocalypse Now," Journey, Mistress, Herbie Hancock, Con-Funk-Shun, Rock Island, Pearl Harbor & the Explosions and others

Direction: Hot bands, hot sounds, record deals only.

HARRY KOOL—ENGINEER

1932 1st Ave., #1004, Seattle, WA 98101
(206) 682-4162

Experience: Producer: Dishrags, Vancouver, B.C., 45. Producer: Macs Band, 45, Seattle, WA. Producer: Ice 9, 45, Portland, OR. Producer: Count Verigo, 45, Portland, OR. Owner: Cool Records, Warren Publishing

Direction: To produce state of the art, new wave, and avant garde jazz, but not giving up the artists and my own creativity and integrity to sell records or make a fast dollar.

BERNE KRAUSE—PRODUCER/ENGINEER

680 Beach St., #414, San Francisco, CA 94109
(415) 673-4544

Experience: Nearly twenty years of producing experience including six Beaver & Krause albums, over 200 commercials, film score work such as "Apocalypse Now," "Performance," & "Invasion Of The Body Snatchers." Also worked with the Tubes, Van Morrison, and John Mayall as synthesizer sideman.

Direction: More focus on album production and film score composing and producing. Emphasis currently on PhD study program in marine bio-acoustics. Developing new hydrophone for recording marine mammals, as well as peripheral processing equipment for studio use.

ROBERT LAUNER—ENGINEER

255 Harbor Way, S. San Francisco, CA 94080
(415) 952-7744

Experience: Design and implementation of computer systems for communications and sound systems.

GARY MANKIN—PRODUCER/ENGINEER

727 Edge #2, Los Altos, CA 94022
(415) 968-7837 or 661-6977

Experience: 7 years engineering in 4-16 track studio. Presently managing a 16 track studio in S.F., but available for outside work. Musician for 20 years. BA in broadcast communications.

Direction: I'm not here to change your sound—just to help you hone it. I'll give you a lot of feedback if you want it, or keep my mouth shut and put it on tape. I've recorded all types of music, though the majority has been rock and jazz. If I have a "sound," it's crisp without getting super real.

STAN V. MARCUM—PRODUCER

c/o 804 A St., San Rafael, CA 94903
(415) 472-0663

Experience: Managed and produced Santana for 8 years until 1973, awarded 8 gold and 7 platinum albums, plus gold singles. Have done TV shows, concerts, jazz festivals, demos, tours and other albums throughout the world. Credits include albums by Buddy Miles, Luis Gasca, Bolasete, Richie Walker and Santana.

Direction: To continue a high quality standard in the state of the art tradition. Knowledgeable in every line of work in the industry. Total of 15 years experience, including recording video, concert staging, etc. Interested in all types of music.

MEL MARTIN—ENGINEER/PRODUCER

BIG EAR PRODUCTIONS
50 Grande Vista, Novato, CA 94947
(415) 892-5911

Experience: Twenty years exp. as pro musician. Founded Big Ear Productions early 1979 w/Susan Mascarella's "Rainclouders." Produced two "Listen" albums. (1st album won Grammy for best locally produced jazz album. Also, produced for Azteca.

Direction: Big Ear Productions was founded to fill the gap in producing/engineering for artists that need someone with a better than average musical slant and the ability to translate their art into technical and coherent terms (record product). Being a professional instrumentalist (woodwinds) and arranger, I can also offer these services. Technically, I have been studying engineering and studio methods for the last year and am using my own facilities for demos (Big Ear North).

HILLEL RESNER PRODUCTIONS— PRODUCER/ENGINEER/MANUFACTURER

530 Chenery St., San Francisco, CA 94131
(415) 333-1369

Experience: Began producing in 1968. In 1972, founded Tulp Records, one of Bay Area's first independent labels. Produced over a dozen albums and singles of jazz, rock, country, soul. As owner of Perennial Music recording studio (1976-78), engineered countless demo tapes and independent records for local artists. Credits: David Brown (Santana), Mike Brown & Country Jam, Sandy Bull, Dierdre Di Corsa, Herman Ebertzsch, David LaFlamme, Frank Loverde, Mile Hi, Barry Melton, Will Porter, Billy Roberts, Success, Sylvester, Sandy Welch, others.

Direction: We specialize in complete production of independent record and tape projects—from engineering and session supervision to album design and manufacturing. We are the only company in Northern Cal. offering reasonable prices on high quality record pressing and packaging services. If you're just starting to make your own records (or even if you've been doing so for a while), don't waste hard-earned capital. Give us a call.

DENDERPHIL RICE—ENGINEER

3535 Ardley Ave., Oakland, CA 94619
(415) 530-2206

Experience: Doobies, AC/DC, Boz Skaggs, Bee Gees, Greg Kuhn, Stepmam Guessman, J. Conman, Libby Owens, C. Boner

Direction: Mix direct, keep together, and interface w/nation-wide contact service pre-production facilities, post production

JOHN ROBINSON—ENGINEER

7203 Steil Blvd., S.W. Tacoma, WA 98499
(206) 588-0471

Experience: I have engineered and produced all of the Sherker/Rocker fusion tapes. I hold a third class radio telephone operators license.

Direction: I have directed Sherker through two performances at Fort Steilacoom Community College, Tacoma, WA.

MARK ROSENGARDEN—ENGINEER/PRODUCER

406 Arlington St., San Francisco, CA 94131
(415) 333-8412

Experience: Recently produced (and some engineering) VivaBrasil for Sugarloaf Records. Engineered at Secret, Media, MBA, and Fine (all N.Y.C.) and Music Annex (S.F. area).

Direction: Latin, Brazilian, jazz, some rock & funk, country swing/anything good.

ED SPENCER—ENGINEER

3520 N. Alaska Place, Portland, OR 97217
(503) 289-8556

Experience: I've been recording music off and on since 1966. Working whenever I can through those years at any possible studio I got as far as most. In 1979 at Recording Associates Inc. in Portland Oregon I took a recording seminar in technical and basic orientation in modern studio recording. This course basically revealed the problems and rewards in professional engineering. Using such equipment as MCI 24 track console and Ampex's 16/24 channel recorder to record and mix down music in group session to expand my knowledge in the recording enterprise. And preparing a local group for session through Recording Associates to develop my recording and technical skills in professional engineering.

Direction: It's to go the farthest limits music can be recorded. The music is more—much more—to make it live, to live in the minds as immortal as Beethoven's Fifth Symphony. The deepest movement of engineering excellence, to bring depth and a distinction of sound quality of the highest frequency of recording responses.

SETH STAGER—ENGINEER

ZACK ZACCORIA—PRODUCER
ACE TUNEL

9944 S.W. 37th, Portland, OR 97219
(503) 246-5046 after 5 pm

Experience: 3 years experience doing demos for local bands and musicians.

Direction: If you're serious about your dreams, Ace Tunel will take your dreams seriously.

ROBIN SYLVESTER—ENGINEER

296 Bonview, San Francisco, CA 94110
(415) 821-7244

Experience: Independent engineer in London 69-74; worked at most major London studios: Trident, Marquee, Abbey Rd., et al. Many rock and British jazz albums, including Rory Gallagher, Caravan, John Surman (Melody Maker jazz album of the year, 1970), Mike Westbrook. Since moving to U.S. have combined pro bass playing with freelance engineering, most recently at the Automatt in S.F.

Direction: Recently moved to S.F. and working hard as bass player/arranger; would love to find engineering projects with some musical involvement, particularly jazz or rock.

KEN WAGNER—ENGINEER

30 Crescent Ave., Sausalito, CA 94965
(415) 332-9368 or 388-2987

Experience: Manager of Big Pink West, 16 and 8 track recording studio. Taught electronic music class at UCSB. Have worked on independent video projects. Have BA in Communication Arts from SFSU.

Direction: I am a musician/engineer interested in recording new styles of music. I love to experiment with electronic gear, especially synthesizer. I can make practical suggestions that can make your music unique. I like to avoid cliché sounds. I can help you with your sound both on a musical and technical level. Call me before you record your next or first record. I also can do remote sound mixing.

ROSS J. WINETSKY—PRODUCER

c/o Bear West Studios
915 Howard St., San Francisco, CA
(415) 543-2125

Experience: 10 years. All types of music. Credits include: Chuck Vincent, Taj Mahal, Wa Wa Watson, Nicky Hopkins, David Bromberg, David Grisman and Pee Wee Ellis.

MICHAEL ZELLNER—ENGINEER

(415) 687-5286

Experience: Chief Engineer, co-manager of California Recording Studio 24 track in Hollywood. Clients include Dick (Daddy Dew Drops) Monda, Raja, Kessler and Grass Management, Interworld and Almo-Irving Publishing. Movie credits for Russ Meyers "Beneath the Valley of the Ultra Vixens" and "Devil's Three"

Direction: To contribute my knowledge and expertise throughout my clients project.

Attention Engineers & Producers

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Ampex MM1100 16T., Ampex 440C-4, Ampex MM1000 16T., 3M 56 Series 16T. and 2T. Call Greg Sargent at 415/635-3831.

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There are 6 lines to the inch and approx. 30 characters to the line. \$50 per inch—1" (min.). Additional lines: \$10 per line.

Bold Type: \$10 per line. 1/16" black border: \$10 extra.

Logos or display advertising up to 4" will be charged at \$75/inch. Multiple insertion rates available.

Deadline: 5th of the month preceding each issue.

Classified ads received after the 5th of the month will automatically run in the next issue. Ads are typeset by Mix Publications.

PAYMENT MUST ACCOMPANY AD.

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feedback

Ed's Note:

The following letter concerns April's Sound Advice column dealing with tape machine alignment. A correction was published in the May issue; however, the following letter contains valuable information that we felt was relevant to pass along.

Dear Mix,

I have thoroughly enjoyed your publication from the beginning, and it is for this reason that I call your attention to an error in the April issue.

The reproduce section of a tape machine is calibrated with a test tape, establishing a set of operating parameters to which the record section can then be aligned. This allows matching the machine's record level and frequency response to the standard on the test tape.

When one has a 185 nWb/m test tape and wishes to operate at 185 nWb/m, the reproduce level is adjusted to produce 0 vu on the machine meters when playing the final (level set), 1 kHz tone on the test tape (machine in REPRO). After loading the tape to be recorded upon and biasing to the machine/tape manufacturer's recommendation, 1 kHz at 0 vu (generally +4 dBv re .775v) from the console is recorded and the record level control is adjusted for 0 vu on the machine meters (machine in REPRO). The recorded signal is playing back at the same level the test tape did; therefore the machine is operating at a flux level of 185 nWb/m.

This matching of zero levels holds for test tapes of any reference fluxivity. The only condition under which the reproduce level should not be set at 0 vu is when the level on the test tape and the level at which you wish to operate differ.

I believe Dr. Moore meant to say: "...when setting reproduce levels with a 185 nWb/m test tape, the machine meters should read 0 vu for a 185 nWb/m operating level, -3 vu for a 260 nWb/m operating level, and -6 vu for a 370 nWb/m operating level."

If the reproduce level is set for -3 vu, the record level will have to be increased 3 dB above this reference level to produce a 0 vu output (machine in REPRO). Therefore the operating level is 3 dB greater than the reference fluxivity of 185 nWb/m:

$$\text{operating level} = 185 \times 10^{\frac{3}{20}} = 260 \text{ nWb/m}$$

$$\text{also: } 185 \times 10^{\frac{6}{20}} = 370 \text{ nWb/m}$$

The following table shows the reproduce

level settings for some popular elevated levels using the equation

$$\text{dB} = 20 \log \frac{\text{flux reference (test tape)}}{\text{flux (op. level desired)}}$$

	Desired Operating Level						
	185	200	250	260	320	370	
Test	185	0	-0.7	-2.6	-3.0	-4.8	-6.0
Tape	200+0.7	0	-1.9	-2.3	-4.1	-5.3	
Level	250+2.6+1.9	0	-0.3	-2.1	-3.4		
	260+3.0+2.3+0.3	0	-1.8	-3.1			
	320		+2.1+1.8	0	-1.3		
	370			+3.0+1.3	0		

Play back the final (level set) 1 kHz tone on the test tape and adjust reproduce level controls as per table for desired operating level (machine in REPRO). After completion of biasing procedure, feed a 1 kHz tone at 0 vu from the console to the machine and record it. Adjust the record level controls for 0 vu on the machine meters (machine in REPRO).

Some points concerning azimuth: I would be wary of turning the azimuth adjustment "several turns" each time an alignment is done. If the machine is in a fixed location and the same test tape is used from day to day, gross misalignment to verify proper operation should not be necessary. It may even loosen the adjustment mechanism to the point where tight tolerances can't be maintained.

Adjusting azimuth for peak output on the tape machine meter while playing back the azimuth tones on the test tape is the only way to do with mono machines, but when dealing with two or more tracks, phase response measured with an X-Y oscilloscope is the best indicator of proper azimuth adjustment.

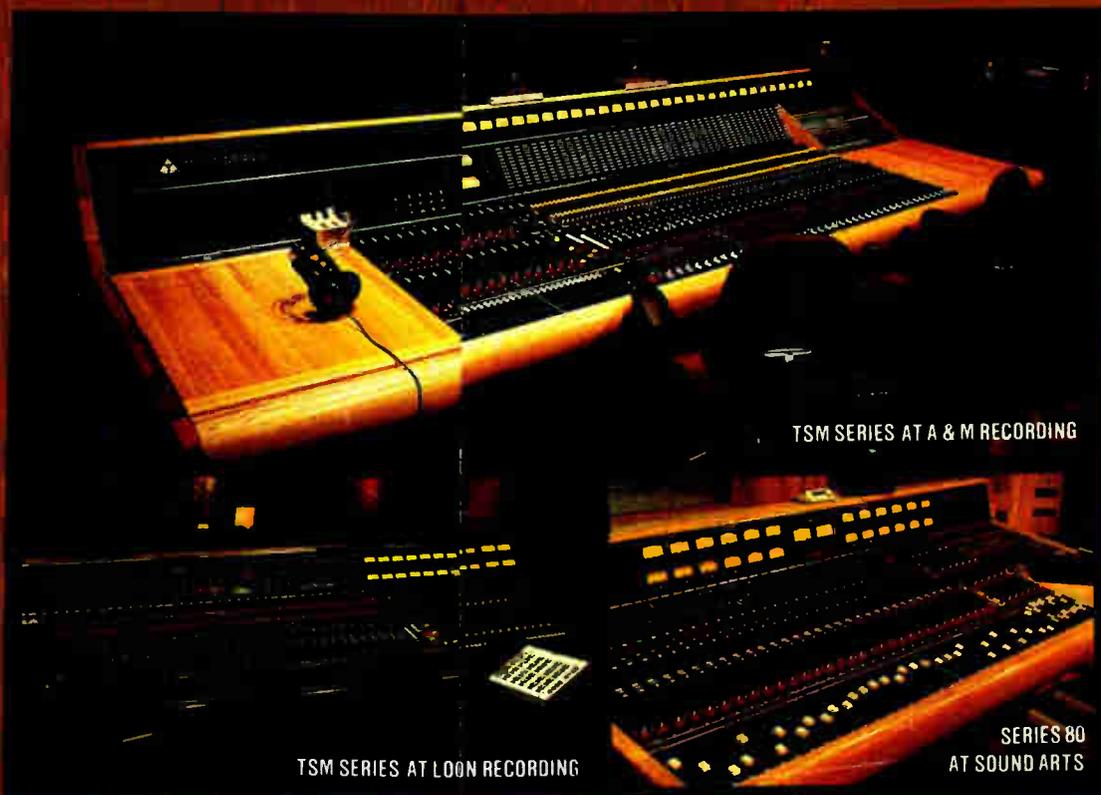
I prefer to patch a scope across the outputs of outside tracks and home in on the azimuth while playing back the test tape announcer's voice. This allows a fairly large band of frequencies to be viewed; therefore false peaks are never a problem. This method also offers first-rate repeatability.

Record head azimuth can also be adjusted in a similar manner by feeding pink noise to the machine, recording it, and adjusting the record head azimuth for a straight line on the scope (machine in REPRO). When laying down the master tones record 60 seconds of pink noise in front of the alignment tones for future playback azimuth adjustment.

Thanks for your time, and may you continue to have a great MIX.

Jim Jorda
Recording Studio Services
New York

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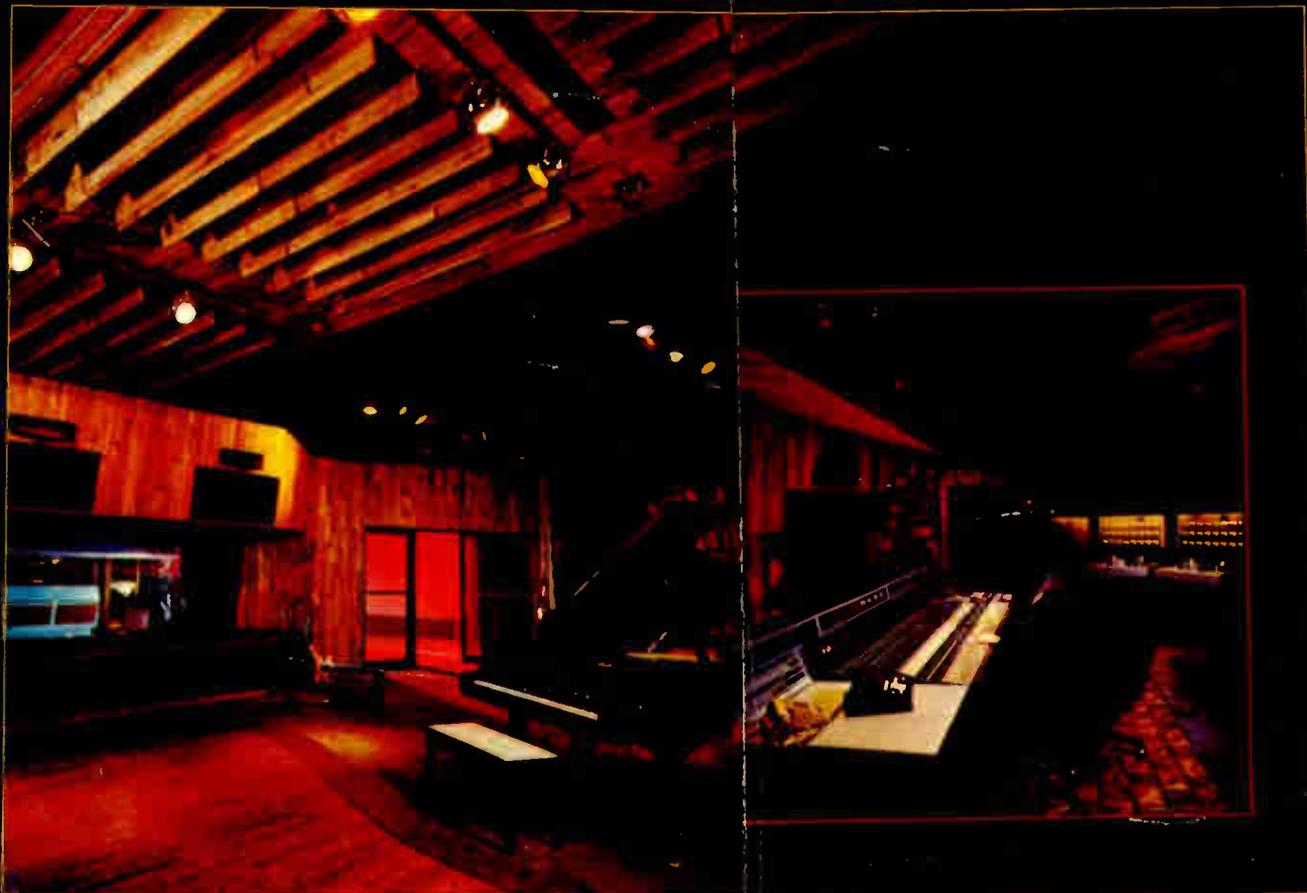
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- EMT 140S
- Ecoplate
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