

SEPTEMBER 1982
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THE RECORDING INDUSTRY MAGAZINE

Interview: Bill Porter

Mix

Listings:
Southern
California
Recording
Studios

Sound Effects
for Film

The Dregs

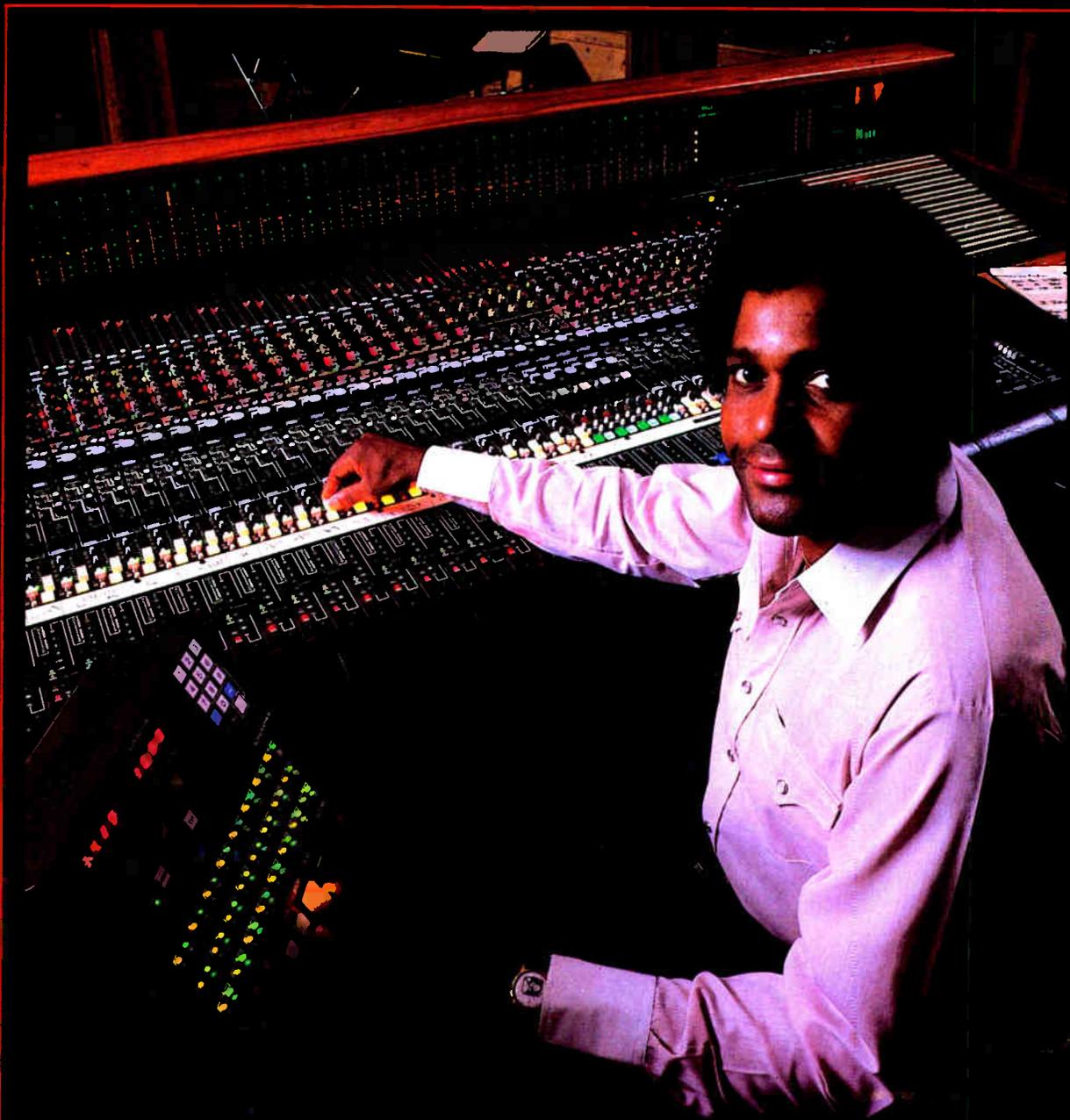
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Digital Discussions, Part 1



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Cover: Canyon Recorders' audio/video post production suite, specifically designed for editing rock and roll and musical video specials, with emphasis on visual effects.

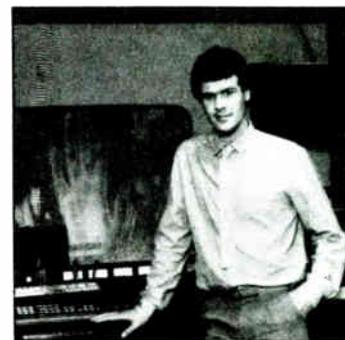
Photo by: Christopher A. Dow

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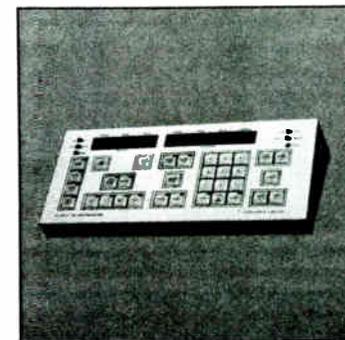
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VOLUME SIX, NUMBER NINE

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INSIDE

L.A. has long been the bellweather for the recording industry. With its intense commitment to the entertainment art forms, Southern California has generally been the first and the strongest to react to changes in the science of the recording art. In the last two years these reactions have been painful for many. Not prepared for the combination of a bum economy and record sales undermined by consumer technology, as well as a drifting demographic of record buyers, most people in the business of making records were forced to test their own commitment to this business.

The dust is beginning to settle now and it's starting to look like things are becoming fresher and more promising than they have been for quite a while. The brilliant minds of our industry have been at work and nowhere more than in L.A. have the results become more obvious. Diversified operation, video partnerships, film sound facilities, and an overall spirit of exploration mark the changes we are seeing in the L.A. recording scene. Much of this issue of Mix is devoted to those who are doing the groundwork for what we hope will be the beginning of a great new era in the recording arts. There has never been a better time to take advantage of opportunity.

• • •

We'd like to welcome Ken Pohlmann to our pages. Currently head of the Audio and Recording Department at the highly acclaimed University of Miami, Ken will be presenting a multipart discussion of digital technology with an accent on the theoretical.

TRACKS

Coming Soon

OCTOBER:

North Central Recording
Monitor Forum
Cable TV Update
Artist/Producers

NOVEMBER:

AES New Products
Maintenance Guide
Special Interviews
not to be missed!

DECEMBER:

Tape-to-Disk Special
Mastering, Pressing
and Duplication



Dear Mix,

I am interested in starting up a mobile light and sound company. I need to know where is the best market for such a business, and what is the demand for a high quality sound system? Thank you.

Sincerely,
James Green
704 Mott St.
Kendallville, IN 46755

Dear James,

In our June issue we listed sound reinforcement companies throughout the U.S. Although this is certainly not a complete list, it may give you some indication as to geographic coverage density and possibly areas not being effectively served. You might also contact some of these companies (preferably ones that you would not be competing against) to find out ways they have successfully marketed their operations. And last but not least, keep reading our Sound on Stage column, where Pat Maloney maintains his monthly commentary on the concerns of sound reinforcement engineers.

Ed.

Dear Mix,

Why do the recording schools that you advertise discriminate against handicapped students? This is a question that has baffled me for

a long while. The reasons that they give for this refusal are, they say, that a person in a wheelchair would not be able to do all the things it takes to do the job. How dare they judge us because we are in wheelchairs! How can they turn us down without even giving us a chance to prove ourselves?

I tried to go to (a certain L.A. recording school) about 3 years ago. My rehab counselor talked to them about me and they said that I could come to a seminar, but that I wouldn't be able to "lift things," so it wouldn't be good for me to go into this field for that reason. I got lucky and got a job at a studio. They hired me to learn. They also hired a teacher to teach me. I got paid for learning, and he got paid for teaching; we both got to do sessions. It was lots of fun!

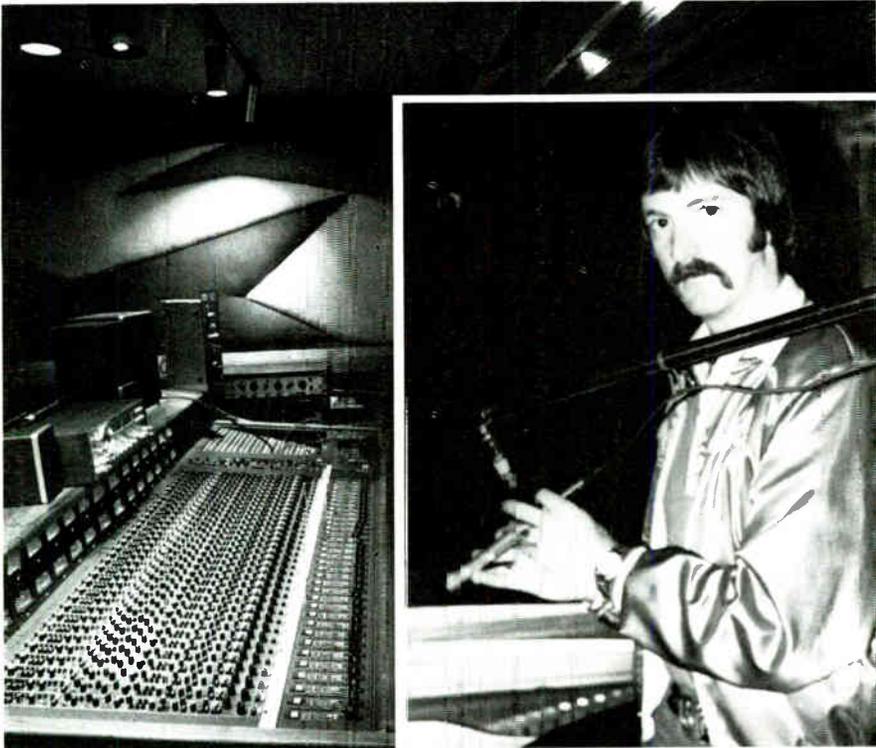
So when they say that I can't do something, it makes me want to prove them wrong. And I did. I was able to run an entire session from start to finish. I will admit that I did need *some* help but for the most part I did everything from setting up mics to mixing for a master. I recorded over 50 demos myself. These schools are just flat wrong. I just hope they will look at this problem and not be so hasty to judge a person just because they see a handicap.

Thank You
Harold L. Trenier

Mix is your one-stop reference guide to the recording industry. In addition to providing the most complete guide to recording studios in the U.S., Mix also presents directories of remote recording operations, sound reinforcement companies, video production and post production, record manufacturing facilities, recording arts schools, independent engineers and producers, and more and more listings all the time. Catch them in the Mix.

fact:

“I listened to them all...
and nine times out of ten,
with our artists, the best
microphone was the SM81”



*Criteria
Recording Studios,
Miami, Florida*

Dennis Hetzendorfer

**Dennis Hetzendorfer,
Staff Engineer**

“The true sign of a really excellent microphone is that it can *maintain* its high performance, session after session after session. Here at Criteria, when the situation permits, several different microphones are set-up at each instrument, without the engineer knowing which mike is exactly where. We then fade from mike to mike and let our ears find out which is best for each application. Nine times out of ten, with our artists, the best microphone has been the SM81.

“The switchable bass rolloff and pad (a built-in 10 dB attenuator) gives the SM81 incredible versatility. We can use it with bass drums and cymbals, as well as with acoustic guitars. In fact, all the acoustic guitar segments on the Bee Gees’ *Spirits Having Flown* album were recorded with the SM81.

“The SM81 really changed our minds about the ruggedness of condenser microphones. It’s a precision piece of equipment, but it’s durable. You don’t always think about a studio microphone needing durability... after all, we don’t have the rough handling problems encountered in concert recording. But, when you have a reputation as one of the most technically exacting studios in the country, you appreciate how *many* little things can subtly affect the sound of a delicate condenser microphone. The SM81 sounds good *every* time we use it... and, at Criteria, as in any good studio, we just can’t afford to have a microphone we can’t depend on.

“We’ve used the SM81 on recording sessions with the Bee Gees and Kenny Loggins and you can be sure there will be more.

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CURRENT

Multichannel TV Sound Report Published

Publication of the Electronic Industries Association (EIA) Multichannel Sound Subcommittee Report has been announced by its chairman, Thomas B. Keller, Senior Vice President for Science and Technology of the National Association of Broadcasters (NAB).

This report's comprehensive technical record is considered necessary in reaching decisions regarding transmission standards for multichannel television sound. The Electronic Industries Association of Japan (EIAJ), Telesonics Systems, Inc., and Zenith Radio Corporation have demonstrated viable systems capable of transmitting stereo, a separate audio program and an auxiliary service multiplexed on the aural carrier.

The two-volume report represents over three years' effort. Volume 1 contains all the essential information, while Volume 2 contains the test data, studies and background information. Complimentary copies of Volume 1 are available to interested parties with instructions for obtaining Volume 2.

Comments on the relative merits of the three proposed systems in the report will be considered when making the decision on which system to recommend for adoption by the FCC.

Requests for Volume 1 and comments should be addressed to Ed Tingley, Staff Vice President/Engineering, Consumer Electronics Group, 2001 Eye St. NW, Washington, D.C. 20006.

notes

Harrison Systems, Inc., the Nashville-based mixing console manufacturer, has recently announced the addition of **Ken Fay** to administer sales and support of all Harrison broadcast, music recording and live performance products on the West Coast of the U.S. and Canada. Harrison has also picked **AVC Systems, Inc.**, in Chicago and Minneapolis as their North Central sales rep. the **Professional Entertainment Production Society (PEPS)** will be holding its Third Annual Convention in Los Angeles at the Sheraton La Reina Hotel, from January 14-16. Contact Deborah Houtsma at 213/760-8857 for more details. **Leo's Pro Audio**, Oakland, CA, has recently announced the appointment of **Bob Ulius** as manager, and **Jimmy Mathews** as in-house salesmen. Ulius and Mathews were formerly with Sound Genesis. **Syn-Aud-Con** will be offering Sound Engineering Seminars in the Chicago, Washington D.C., Nashville, Orlando and San Juan Capistrano, CA, areas during the months of September and October. For more information, write Syn-Aud-Con, P.O. Box 669, San Juan Capistrano, CA 92693.

Ken Baker, of Ken Baker Publicity Services, will instruct "The Complete Music Business Publicity Course" at San Francisco State University from Sept. 7 - Dec. 14. Call 415/469-1372 for information. About 500 musical performers, studio musicians, record producers and engineers attended the **Midwest Music Exchange** 3-day July conclave at Chicago's Bismarck Hotel, where highlights included **Mitsubishi's** digital taping of five performers. **Sound Workshop's** ubiquitous **Michael Tapes** has recently completed a tour of the nation's recording centers to demonstrate **Diskmix**, S.W.'s new floppy

disk-based automation storage/editing system...

Ampex Corp. has announced that the General Services Administration has awarded the company two contracts valued at \$10 million to provide recording tape in support of all facets of the government's magnetic tape requirements. **Stephen F. Temmer**, President of **Gotham Audio Corporation**, was the guest of honor at a banquet hosted by **The Neumann Company** in Berlin August 29. **Altec Lansing** President **William Fowler** recently announced the hiring of **Mr. William Chambers** as new Vice President of Marketing and Strategic Planning for the Anaheim-based manufacturer of commercial and home sound system products. **BGW Systems** has expanded its national sales network, adding the independent sales representatives **Bob White Associates**, based in Solon, OH; **Technical Systems Reps.**, based in Chamblee, GA; **RM Associates Ltd.**, Shawnee Mission, KN; and **Steffey Marketing Associates**, Northbrook, IL. **Klark-Teknik Electronics Inc.** has appointed four new rep. firms: **Dimension Marketing**, Dallas, TX; **A-V Marketing** in Carmel, IN; **Audio Resources** in Westmont, IL, and **Darmstedter and Associates** in Baldwinsville, NY. **Sonny Borja** has been appointed National Sales Manager for San Luis Obispo-based **Nautilus Recordings**, it was announced by **Richard Baccigaluppi**, Vice President of Marketing and Sales for **Nautilus Entertainment, Inc.** **Margarite Sweeden** has joined **European Audio Distributors** as National Sales Coordinator for the Audiotrack line. **Sanley M. Tremayne**, for the past two years Vice President of Operations, has been named company President of **Biamp Systems, Inc.**

72nd AES Convention "Audio in a Changing World"

The past two decades have seen an AES convention both in the eastern and western portions of the United States. Starting in 1982, the conventions have been consolidated, and this year's convention, the 72nd, will be held in Anaheim, California at the Disneyland Hotel, from October 23 to 27.

The 72nd Convention has as its theme, **Audio in a Changing World**. This changing world is reflected in many new special sessions dedicated to Psycho-acoustical Illusions, Acoustics and Sound Reinforcement and Reinforcement for the Hearing Impaired. An expanded Workshop Program will include information sessions on Stereo TV, Stereo AM Broadcasting, the World of Satellite Transmissions, Live Entertainment Reinforcement, Enhancement of Audio for Visual Applications and Calculator and Computer Applications for Audio.

Saturday, Oct. 23, has been designated "Exhibits Only Day," so that attendees can view the more than 260 displays of audio industry equipment and services without missing any technical or workshop sessions.

For more information on the convention, contact AES at 212-661-8528.

Center for the Media Arts

The Center for the Media Arts, a unique complex of schools dedicated to refining skills in the interrelated fields of television production, advertising art and design, computer graphics, photography and audio recording, has purchased a 10-story, 100,000 sq. ft. building at 226 West 26th St. on Manhattan's West Side. The \$4 million acquisition, with an additional \$1 million earmarked for renovation currently in progress, is the realization of a concept inspired by the needs of a continually expanding media community. Robert MacFarlane, president of the Center for the Media Arts, envisions 50% of the renovation to be completed by early September to coincide with the Center's fall semester.

The Center for the Media Arts is comprised of four divisions: The School of Television Arts, the Pels School of Advertising Art and Design, The German School of Photography and the School of Audio Arts. Audio Arts, the newest addition to the Center's complex, provides extensive hands-on training in totally professional recording studios, designed and directed by Harry Hirsch, veteran recording studio owner, designer and first vice president of NARAS (National Association of Recording Arts & Sciences). This unique school provides students with individual work stations for music recording, mixing, editing and sweetening, and for equipment maintenance.

The face is young, but the credentials show fifteen years of experience in the industry. In seven years with A&R Recording and eight years as an independent engineer and producer, Elliot Scheiner has worked with the finest: Jimmy Buffet, Donald Fagin, Roberta Flack, Foghat, Billy Joel, Olivia Newton John, Ricki Lee Jones, Phoebe Snow and Steely Dan. With two Grammys as proof of his engineering skills, he now spends about a third of his time producing.

ON METHOD

"All of my recordings have basically been very, very clean. I like everything that's on tape to be heard, without strain to one's ears. My method is to clean up everything and make sure that everything that was intended to be heard is heard. I guess that's carried over to production. I don't really want to be categorized as... 'Oh yeah, his stuff is real clean, it always sounds good.' I want to be able to make really good records of all types."

ON COMING UP

"I still feel the best way to learn about the industry is being in the industry. The recording schools teach basic fundamentals and that's OK. But it doesn't really apply. You have to go in there and experience it and get in trouble and work it out yourself. That's sort of how I grew up in the industry. I learned everything I know from Phil Ramone. But basically I started at the bottom and it was really the only way to go. It's a long process now days, but you learn a lot."

ON DIGITAL

"Well the first time I recorded in a studio with it, we were doing an overdub on a piano track and it was this wonderful grand piano, that sounded unbelievable in the room. We recorded it and I played it back for the first time digitally and it was like having my head under the cover of the piano. It's so real. It will have to get a lot more inexpensive to replace analog totally, but I definitely think that it's the future."

ON BAD EXPERIENCES

"There was a moment not too long ago when I got into the studio, producing and engineering, and I was really happy with what everybody was playing. The room sounded amazing that day. And when it came up to the first play back I was thrilled. We reeled back the tape and it starts to roll and it sounded terrible. There was no top end on the tape, the bottom end was ill-defined and I was embarrassed. We had a serious tape problem."

ON TAPE

"One of the maintenance engineers suggested that I try 226. The first playback just astounded me, I was amazed. The top end, the bottom end, everything sounded exactly the way I was listening to it when it went through the console. And I became a 226 freak after that. I can't be bought, so if I say I like 3M 226 it's because I believe in it. I really feel strongly about the tape and what it's done for me."

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World Radio History

SOUTHERN CALIFORNIA

At Sunset Sound in Hollywood, CA, S & L Management artist Dave **Mason** is in St.1 doing tracks. Produced by **Alan Pasqua**. Engineered by **Andy Johns**. Assisted by **Stephen McManus**. Currently recording at **Overland Recording Studio** in Costa Mesa, CA, as well as penned and produced by its owner **Iren Koster**, are **Carl Weathers**, **Apollo Creed** in the "Rocky" trilogy, **Al Wilson** (Show and Tell) and **Danielle Brisebois** of "Archie Bunker's Place"... **The Enactron Truck**, the forty-eight track remote audio truck (North Hollywood, CA), recorded Warner Bros. recording artist **Emmylou Harris**, at a series of nine concerts in the Northern California and Los Angeles areas, for an upcoming live LP. **Brian Ahern** producing, **Stuart Taylor** engineering... **The Hollies** have finished laying down tracks for their forthcoming album at **Rudy Records**, Hollywood, CA. Original members, **Allan Clarke**, **Tony Hicks**, **Bobby Elliot**, and **Graham Nash** worked with engineers **Stanley Johnston** and **Jay Parti**. At **Wizard Recording Studios** in Los Angeles, CA, producer **Kathy Kurasch** is in recording new jingles for radio station **KNX FM** with such featured artists as **Abbie Rubin**, **Lauren Wood**, **Christopher Cross**, **Leonard Allen**, and **Jimmy Speheris**. **Karat Faye** and **Glen Holguin** are engineering... At **Skip Saylor Recording** in Los Angeles, CA, MCA Record's producer **Leon Tsilis** is mixing **Spittin Image's** LP with engineer **Skip Saylor**... Currently at **Spindletop Recording Studios** in Hollywood, CA is **Transworld Rock** working on their debut album for **Rickshaw Records**. **Bob Kinsey** is engineering with **Steve Thume** assisting. At **Evergreen Recording Studios** in Burbank, CA, producer **Richard Einhorn** is working on an album of **Scott Joplin** rags with **Jean-Pierre Rampal**, **Shelly Manne**, **John Steele Ritter** and **Tommy Johnson**. The engineer for the **CBS Records-Masterworks'** project is **Rick Riccio**. Assisting is **Mike Hatcher**...

NORTHWEST

At **The Nova Music Group** in Seattle, WA, Seattle rockers **The Cowboys** just completed their latest single. Nova would like to thank **Michael Fisher** for his superb mixing talents. Singer-songwriter and multi-instrumentalist **Robert Puff** is laying down tracks for master-demos on two original songs... At **Russian Hill Recording** in San Francisco, CA, **The Tubes** are working on a "top secret" project with **J. Walter Thompson Advertising Co.** **Paul Christianson** producing, **Jack Leahy** engineering, **Marnie Moore**

assisting... At **Music Annex** in Menlo Park, CA, **The Ian Dogle Unit** is doing an LP with **Mel Martin** producing, **Russell Bond**, engineer... **The Ironics** recording a single with **Dan Newson** sharing production, **Roger Wiersema**, engineer... At **Mobius Music Recording** in San Francisco, CA, **Kraus & Remal** have recently completed the sound track for the anti-nuclear movie "Dark Circle" to be premiered at the New York Film Festival. Project engineered by **Oliver DiCicco**, assisted by **Annette Olesen**... The fabulous **Sylvester** is at **Starlight Sound Studio** in Richmond, CA laying down some scorching vocal tracks for his new album, tentatively titled "Tell Me." The project is being produced by **James Werrick** and **John Hedges** and engineered by **Peter Brown**.

SOUTHWEST

Reelsound Recording's remote 24 track bus, out of Austin, TX, provided audio support and SMPTE time code recording for the "Best Little Special in Texas." The special was produced by **Thompson-Booker Productions** for **MCA TV**. **Video West** and **Starfax** handled the video. Audio engineering was **Scotty Moore**, **Conrad Jones**, **Malcolm Harper**, **Mason Harlow** and **Greg Klingensmith**. **Bow Wow Wow** recently recorded a new single "Baby Oh No," at **Kludgit Sound** near Santa Fe, New Mexico. Produced by **Kenny Laguna** for **RCA Records**... At **Rivendel Recorders** in Pasadena, TX, recent activity includes **Peristyle** completing their latest project with **Mark Studdard** producing and **Paul Mills** engineering... **Chaton Recordings** 24 track audio truck "The Cat," out of Scottsdale, AZ, pounces on the opportunity to record the 13 week syndicated television series "Nashville on the Road," due to air on **NBC** September 5th. The taping took place at **Rawhide** in Scottsdale, and other locations around Arizona... At **Crystal Clear Sound** in Dallas, TX, **Otis Connor Productions** has cut radio and TV spots for **Swenson's Ice Cream**, **Paul Masson Wines**, **Televisa**, and many more. Engineering was done by **Keith Rust**.

NORTH CENTRAL

The Michael Stanley Band on **EMI Records** finished recording their album at **The Recording Connection** in **Beachwood, OH**. **Don Gehman**, producer for **John Cougar's** latest album, produced and engineered this album for **MSB** which will be titled "MSB." Second engineer is **Jim Carroccio**. The band is managed by **Belkin Production**... At **The Disc, Ltd.**, in East Detroit, MI, In-

ternational **Travler**, **Eddie Burns**, **Jerry Warren**, **Greg Corbin**, **Walter Hamilton**, **Hot Tip**, **Gregory Johnson**, **Sam Spano** and **VanChepus** are producing **Chuck & Joey**. **Greg Reilly**, **Bob Dennis**, **John Jazz**, and **Dave Baker**, engineering... **Bruce Michaels** is finishing "No Easy Cool," an up tempo rockabilly/new wave release, on **Body Records**. **Ivy Hunter** and **Greg Dokes** are producing for **Probe, Inc.** the group, **Empulse**.

SOUTHEAST

At **Creative Workshop** in Nashville, TN, engineer **Ron "Snake" Reynolds** with **Ed Hudson** as backup have been putting the finishing touches on **Merle Haggard** and **George Jones'** new album for **CBS Records**. **Billy Sherril** is producer on the project... In the studio at **Audio Media** in Nashville, TN are: **Gary Morris** (Warner Brothers) with **Marshall Morgan/Paul Worley** producing and **Judy Taylor** (Warner Brothers) with engineer **Pat McMakin** and producer **Bud Logan**... Currently at **Bullet Recording** in Nashville, TN, **Keith Stegall** is self-producing his album for **EMI America** - Engineer is **Billy Sherrill**, backed up by **Danny Mundhenk**. Producer **Steve Buckingham** is working on the **Alton McClain** album project for **CBS Records** with engineer **Pat McMakin**, backed up by **Jim Baird**... At **The Soundshop** in Nashville, TN, **Jimmy Sturr** and his polka band were in the studio cutting tracks for their 44th (that's right, 44th) LP. **Tom Pick** engineered for the album sessions... At **Ardent Recording, Inc.**, Memphis, TN, **Gary Chapman** was in to mix a live album for **Lamb & Lion Records**. **Ed DeGarmo** and **Dana Key** are engineering and producing the album. **Al Green** overdubbing his new album with engineer **William Brown**.

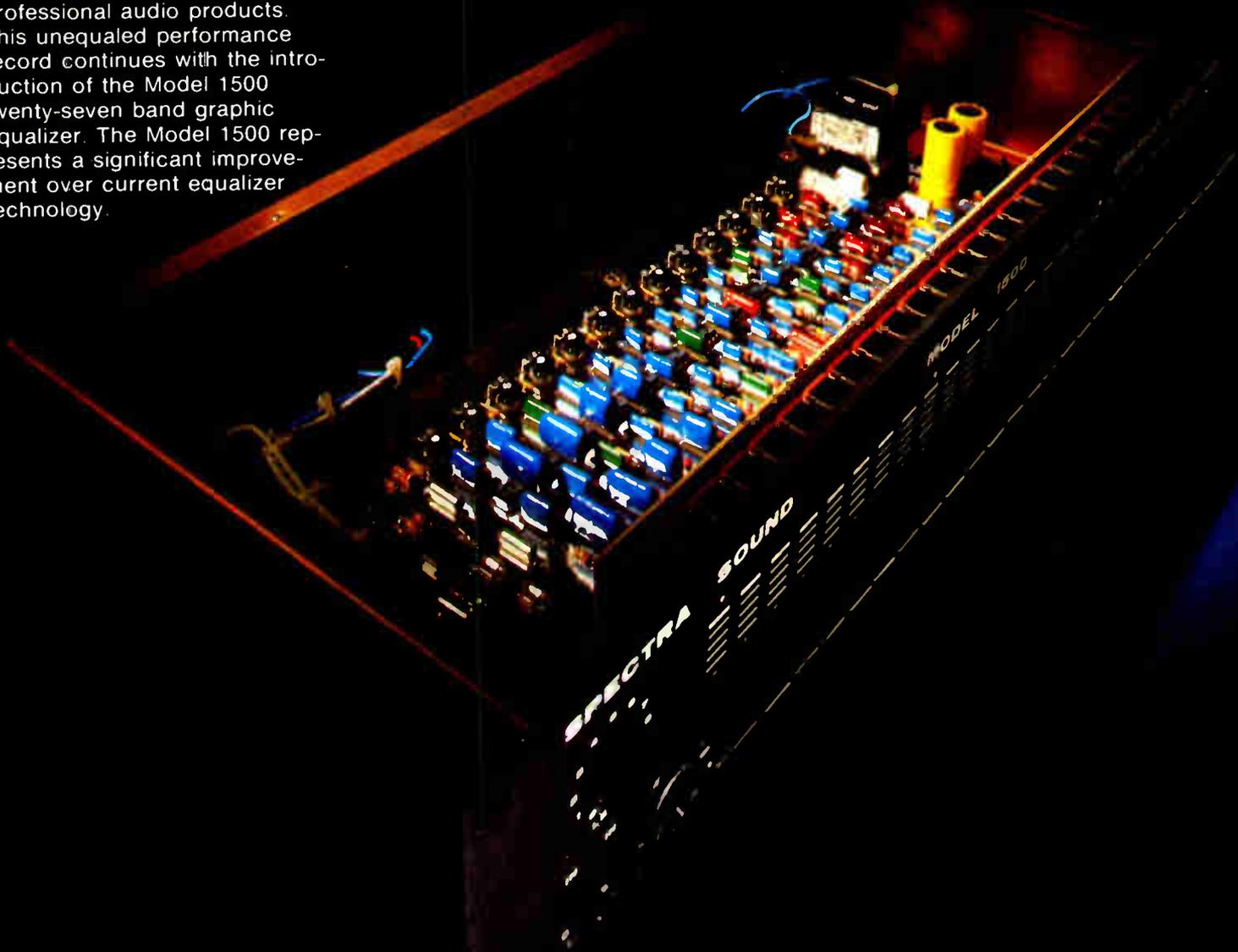
NORTHEAST

At **Squires Productions** in **White Plains, NY**, **The Metropolitan Brass Quartet** completed an album produced by **Gregory K. Squires** and engineered by **Digital by Dickenson**, using the **J.V.C. Digital System**... **Omnimusic** in **Port Jefferson, NY** is pleased to announce the release of two new albums of production music: **OM 121 "Grooves"** contains 14 up-beat jazz/rock tracks, and **OM 122 "Technology 2000"** utilizes synthesizers and traditional instruments to create background music appropriate for computers and other high-technology subjects... **The Young Turks** single, "Baby Doll" on **Unstoppable Records**, was recorded at the **Barge Sound Studio** in **Wayne, NJ**. **Billy Snow** handled the guitars, while **Tony Shanahan** and **Jeff Fisher** assisted on bass, keyboards, backing vocals and

The inside story.

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The market today is overflowing with low-priced consoles, many of which look just great. So, you may be excused for becoming tired and totally confused by the vast selection of desks continually placed before you from all the five corners of the earth. And so, allow us to introduce a little light into your darkness and place before you a supreme console, designed by AMEK, and

produced under their close supervision – the very same in fact whose products are turning out gold with embarrassing regularity all over the world.

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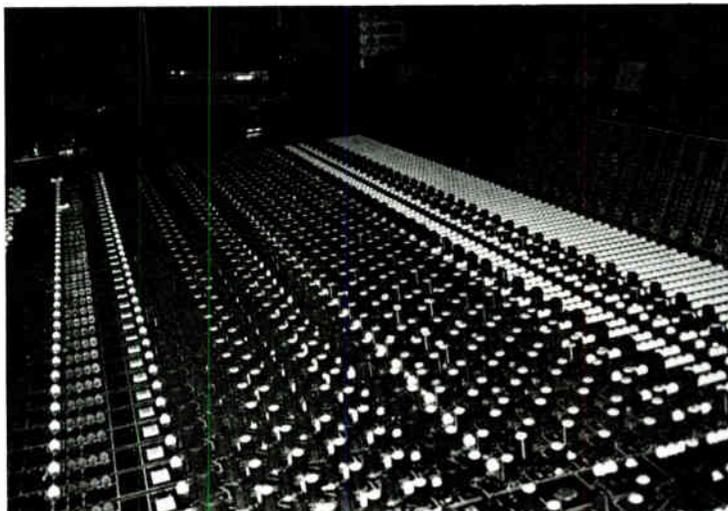
percussion respectively. The record was self-produced by Tony Shanahan and Billy Snow with engineering by **Jim Barg**. **Soundmixers** in New York recently hosted two 3M digital projects in conjunction with **Digital by Dickenson**. Engineer **Roy Halee** brought in **Paul Simon** for overdubs on his forthcoming digital LP; producers were **Lenny Waronker** and **Russ Titelman**. **Ted Neeley** (Meatloaf, Jesus Christ Superstar) recording at **Rose Hill Studios** in Marcellus, NY, **Vincent Taft** and **Mark Doyle** producing, **Cliff Kent** engineering. **Right Track Recording** in New York, NY reports a major project under way by **Rick Derringer** for Bellaphon Records in Germany and Polydor Records in Japan. The album is being produced by **Rich Derringer**, engineered by **Michael Young** and assisted by **Steve Kahn**. At **Audio Innovators** in Pittsburgh, PA, **Scott Bender** recording a single with producer **Mike Frenchik**. **Members of Thrills** providing instrumental backup. **John Struthers** engineering; **Dan Ferrero** assisting.

studio news

Geoff Daking, a leading commercial and pop music recording engineer/producer, has announced the completion of **Nimbus Nine**, an intimate 24 track recording studio located in New

York City. They have installed a 24 track Trident Series 80 console, MCI tape machine, JBL 4430 studio speakers, a wide range of SMPTE Code hardware for film and video mixing, Bryston amps, API limiters, etc. They are also providing EMT and AKG reverb and a full complement of esoteric 'goodies,' including the new French Publison... **Recording Associates Studios** of Charleston, SC has upgraded to 16 track with a Tascam 85-16B recorder with auto-locator, and a Tascam Model 16 console. New outboard gear additions include two BGW 250D power amps, a Sonic Rainbow Labs cue system, an Omni-Craft GT-4 noise gate, a Valley People Dynamite stereo comp/limiter and Auratones. Installation was handled by Allen Rumbaugh and George Juodenas of Audio Architects, Nashville, TN. Recording Associates is managed by **Ronald E. Clifton**, with **Michael J. Harbin** as Chief Engineer... **Record Technology, Inc.** in Camarillo, CA has added an audio cassette duplication department to its existing processing and pressing facilities. **Cetec Gauss** equipment has been installed for duplicating and quality assurance... **Kingdom Sound**, Syosset, NY, is now in full operation with their newly installed Trident TSM Console. The console is not only large physically, at twelve feet long, but the 40 input - 32 monitor desk has a total remix capability of 72 channels all with EQ, aux sends, and full throw faders. Owners are **Clay Hutchinson** and **Bill Civitella**. **Sheffield Recordings Ltd., Inc.** in Baltimore, MD, has just added a new Studer auto-

locator remote control and a Valley People 4-channel Dyna-Mite to its fully automated 24 track music studio... **Boogie Hotel Studios** of Port Jefferson, NY, in celebration of their first anniversary, proudly announces the installation of a custom Neve Console Series 8108, featuring NECAM II automation. The new console complements the Studer A-80 24 track machine already on-line at the facility. Half inch mastering capability has also been added with the installation of 1/2" heads on the Studer A-80 2 track machine... **Motown/Hitsville**, in Los Angeles, CA, one of the nation's largest and most successful recording studio complexes, has purchased multiple digital systems from Sony. **Motown/Hitsville** presently has three studios, each equipped with Neve consoles and Necam automation. The studio offers a full range of audio post-production services for film and television, as well as recording an average of fifty major albums each year. The studio's disc mastering operation is interfaced with the new Sony system for the mastering of records from digital tapes... **Sound Emporium Recording Studios**, formerly Nashville's most expensive state-of-the-art recording facility, will lower rates for all services effective immediately. The new rates, which reflect reduction of \$10-50 per hour of studio time, were instituted after "thoughtful consideration of economic conditions and a comparative look at the rates of other studios," according to studio president **Jim Williamson**. Other changes in rates and policy were also put into effect.



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by Tom Lubin

Los Angeles has played a major role in setting the mood of the times, leading both musical and economic trends for the rest of the recording industry. And though things aren't what they once were, and certainly there are those who have not weathered the music industry's recent economic storms in the best of shape, for most it's been a matter of shifting gears. Facilities have changed hands, as top management or hit product has come and gone. In most cases the key to successful commercial operations has been diversification into other areas. Many studios that have fallen on tough times have been picked up by those more able to continue. And everyone involved is being more creative about rates and other arrangements.

Video has become an important part of many operations. Film sound facilities have become a strong source of income for those who had resources to make the initial capital investment. For Chris Stone's Record Plant, this year was a major step in that direction.

Record Plant for the past few years has used their largest studio (Studio C) for music recording in conjunction with video. In some cases the room has become a shooting set. In the last year Record Plant has added to their 3rd Street Facility Studio D, which has full video and film lock-up capabilities to the SSL console, along with an entire film sound chain. There are several MTM magnetic film recorder/reproducers, and a 35mm projection system. Studio D was designed with a screen opposite the control room, and adjacent Studio C was also outfitted with similar screen. From the central booth either studio can be provided with a film projection. Record Plant has also taken over a sound stage at the nearby Paramount Film Studios. The room has been totally renovated and outfitted with a state-of-the-art audio film system. This room can hold over a hundred players for major film scoring projects.

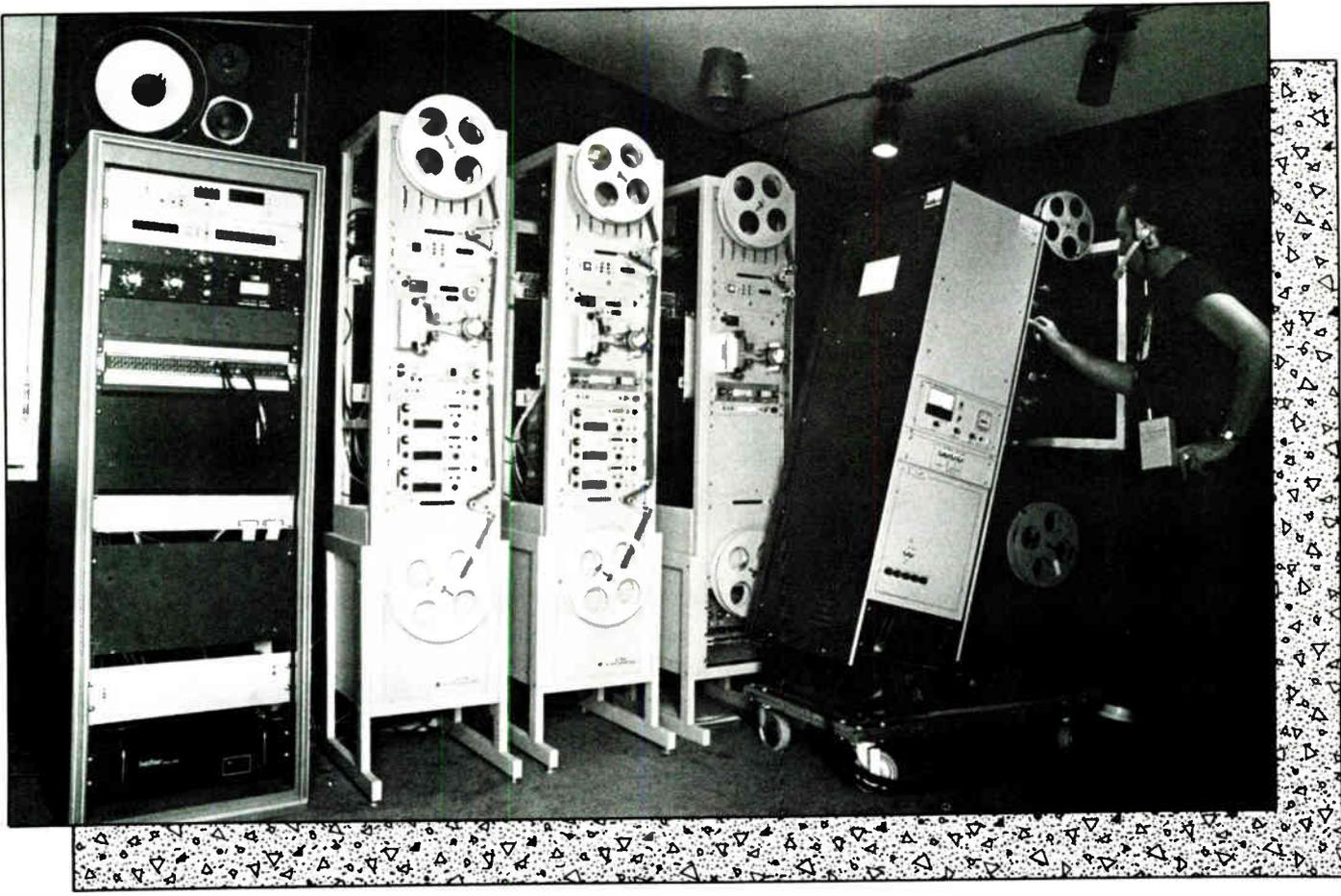
Chris Stone continues, "Diversification is the key to continued success in the recording industry. Ours is toward film sound which is undergoing extensive re-vamping. The film industry has

traditionally considered sound secondary to imagery, but this has changed. For us that means more than just installing interlocks and video reproducers. The film industry has special requirements that call for facilities that have been designed with film in mind. That's the need that we're going to supply."

Kendun's Kent Duncan also expresses their commitment to the industry. "We don't intend to pull back on our record recording business, but we do have plans to build new facilities specifically suited for film and video sweetening. In our audio studios, we have recently purchased new Studer A800 multi-tracks, and we have within each room half-inch two-tracks. We found that 90% of our business now is not using noise reduction and at least 60% of it is using the half-inch two-tracks. About 15% is digital recorded. We've also installed new monitors, the SM-8's. We have a strong commitment toward our audio business; in fact, we've been heavily booked over the last several months, and the future looks the same."

Sunset Sound, which celebrates

Projection room between Record Plant's Studios C and D



its twentieth year on Sunset Boulevard, has acquired the Sound Factory over the last year. This is a facility with almost as long a history as Sunset. Sunset had the enviable problem of never quite having enough studio facilities. Warren Salyer, studio manager at Sunset, continues: "Our clients were using about 200 to 300 hours per album. Of that time 25% of it was tracking, 50% of it was spent overdubbing, and 25% of it was mixdown. Many of our clients were doing their over-dubs in smaller, less expensive studios. Sunset acquired the Sound Factory as a lower-priced alternative to our Sunset Blvd. location. Sunset Sound Factory has been renovated, and all the maintenance has been brought up to snuff. It has Sunset Sound caliber maintenance at a more competitive rate.

"We've also been providing clients with first engineers from our staff. I wouldn't say that there is a trend away from the independent engineers, but there are many sessions where the client requests that we provide an engineer."

Sunset has also recently installed a new 56-input custom console that features Neve Necam automation. This is probably the only non-Neve board to have it. This console is one of many that have been built in-house by several of the studios in Southern California. Barry Ober, chief engineer at Crystal Studios, describes why they also chose to build a board from scratch. "We weren't able to find any console that satisfied both our philosophical and performance requirements; we felt that having another company build a board that would meet all our needs would have been prohibitively expensive, so we elected to design and build our own. It's worked out very well."

Another custom electronic design can be seen at the Cutting System, which features a reproduction and cutting amplifier chain that is totally transformerless and uses discrete class "A" amplifiers. The 1/2"-1/4" Studer 2-track transport and the Neumann lathe and cutting head are the only elements of the cutting system that are stock. The entire reproduction amplifiers, equalizers, cutting amplifiers, and variable pitch computer have been designed by the Cutting System. Kevin Grey, owner of The Cutting System, had an additional observation about 2-track mixdowns. "There is an increasing number of producers that are going to 2-track 1/2" formats. The S/N is significantly better than the 1/4" 2-track, and the top end sounds better than digital."

(continued on page 16)

Chateau East A Small Studio Finds Its Niche

by Tom Lubin

These days almost everyone in the recording business is talking about diversification. (Film, multimedia, commercials, etc.) Even the smallest of studios is trying unique ways of increasing its revenues from other sources.

Chateau East Recording studio in Orange County (60 miles south of L.A.) was started about six years ago through the part time efforts of three partners Steve Hager, Joe Truxaw, and Wally Younger. They opened the studio in a warehouse space, and made a small booth at one end of the 35 foot square room. The control booth was fitted with a TEAC 3340 4 track, and a TEAC model 2, 6 in x 2 out mixer. As time passed the studio and control booth were acoustically corrected and progressed to a TEAC 80-8, 8 track, and a model C-mixer. Then, about three years ago, the owners started to worry that their rate for 8 track might not stay competitive with the many home and commercial 8 track studios. The cost of buying a 16/24 track set up didn't seem to be the answer since many existing 16 and 24 track studios were lowering their rates to Chateau's price range.

So what to do? The studio had for some time been arranging complete pressing packages for artists who wanted to get their recordings pressed. They began to believe a small pressing plant cater to short runs could be successful in Orange County. To substantiate this view they turned to nearby Cal State Fullerton's senior marketing research class. After submitting a proposal, the class chose Chateau's pressing plant as a business class project and went on to do a complete market study that explored all possibilities.

Concurrently Joe, Wally, and Steve worked up the costs on building a small plant. Four brand new Finebuilt presses (the industry standard) were priced. They also spent many hours at the plants they were using to press their record

orders. They found out that Award manufacturing was prepared to sell four presses. They were able to get a great deal since most of the cost in a new press is for metal hardware and fittings which won't wear out. The dies and gaskets, water and steam hoses, steam pipes, headers, and valves needed replacement.

Meanwhile the class report concluded that the plant would be viable in Orange County, and that the primary market was for quantities under 5000 units, the very market that Chateau was interested in! The decision was made to proceed. The guys began to purchase equipment. It was suggested they contact Jim Wright, a pressing plant consultant who had been organizing plants worldwide for over 40 years. He came out and advised them how a small plant should be laid out and outfitted. They found few books about recording pressing, so much of their information came from Jim, the people they had talked to at Finebuilt, and the experienced pressing plants.

The next eight months were spent re-building the presses, and installing the plumbing, electrical pipes and fixtures. Typically, the most difficult part of the installation was dealing with the various government inspectors. Since high-pressure steam is used in the manufacturing of records the installation had to conform to codes and be inspected by federal, state and local officials. The studio contracted plumbing and electrical contractors to assist them and satisfy requirements that all plumbing and power be supervised by licensed contractors. Much of the work was done by the three partners.

Chateau now offers a complete package that can include studio time as well as pressings, labels, jackets, and sleeves, and they can arrange for art work. All printing, graphics, mastering and plating is farmed out with Chateau overseeing the quality. As to the 8 track studio? It continues to do well. ■

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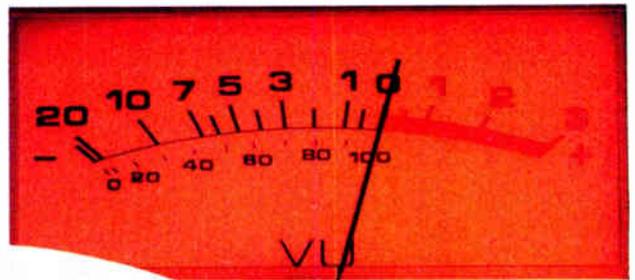
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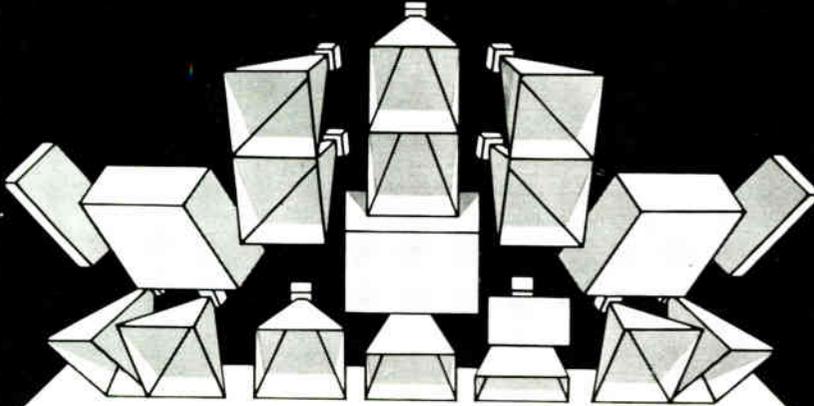
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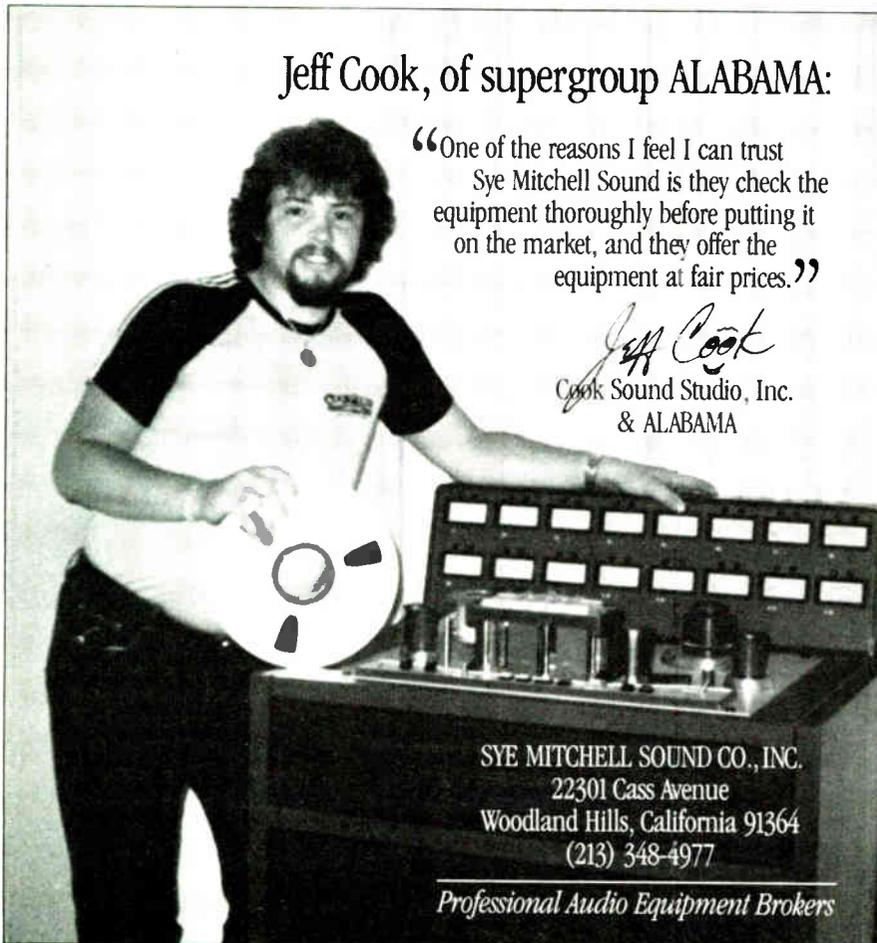
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At the JVC Cutting Center, a facility that earned its reputation by specializing in half-speed mastering, the facility now finds that they are doing considerable real-time cutting on their two lathes. Only about 20% of their current business is half-speed mastering, and in general their business is up 30%. It is also home for the JVC Digital recording and editing systems. Many music projects have been done using this digital system, but the most unique projects have been for Wally Heider's Hindsight label. Here there are elements of beauty and the beast. The young lady who was hired to run the front office at the Cutting Center, Terri Fiyalko, had to frequently demonstrate the digital editor to prospective clients when the cutting engineers were busy mastering. She found she liked it and began to spend considerable time using the machine. Larry Boden, JVC studio manager and chief engineer, picks up the story. "When Wally Heider inquired if the digital editor could be used to remove clicks and pops from his archival series of recordings, I told him we'd give it a go. Wally left the recordings and Terri, who is an accomplished pianist, worked on them. On hearing the results, Wally was pleased and wanted to continue the process. When she filled out his bill, he inquired as to who had done the work and was surprised to find out that she had. Terri's job at the front desk may soon become available—since she is finding herself in the editing room more and more." (One might also remember that Wally Heider started his career at the front desk at United/Western and got into the studios by running copies for people when there were no engineers available.)

VIDEO & DIGITAL

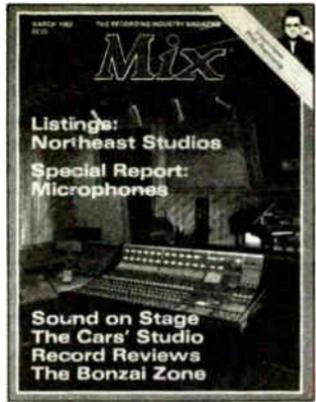
Actual video production has become an important part of the income for many studios. International Automated Media (IAM) has become the largest video house in Orange County, just 50 miles south of L.A. And Sunwest studios in Hollywood has been successful in creating in-house video productions as well as providing facilities for other producers. Music Lab studios in Hollywood has also opened video editing rooms and has the ability now to mass produce video and audio cassettes. Upwards of 100 video cassettes can be made at one time at Music Lab. Chaba Mehes, Music Lab owner, continues, "Our video business was supporting the audio studios when they were slow, but now we are seeing better and better bookings in our music rooms, with May being the best month we've ever had.

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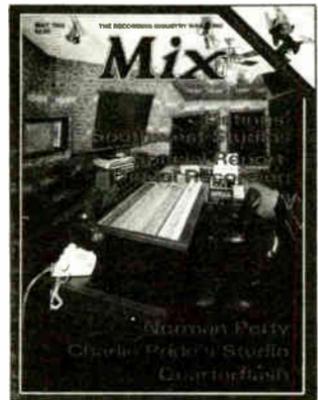
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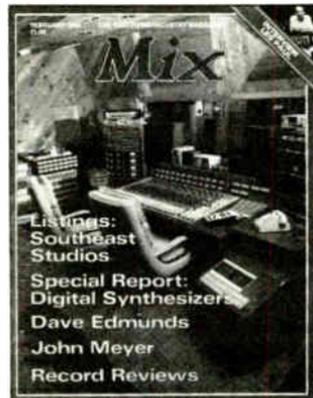
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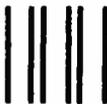
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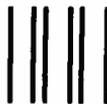
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It's also interesting to see how many of our audio engineers have taken the opportunity to learn video editing and production. Installing the video equipment not only has increased the studios' net earnings, but it has also created a means for our staff to branch out. Our school has also done well, and many of our graduates are working in both video and audio studios in Southern California. A few in fact have come from overseas and are doing well there."

Digital audio has not significantly set the audio world ablaze, but it hasn't been the disaster of quad. Most feel digital is the future but not as immediate as manufacturers would prefer. The same case has been true for large-scale automation in music recording. There are those who swear by both, and there are those who have no use for either. Fader automation and sub-grouping has become an accepted part of most consoles, and there is not much talk anymore about VCA distortion. But not many feel there is a need for automation of every whistle and bell on the board. However, film and video re-mix facilities have welcomed large-scale automation with open arms. For them, automation almost eliminates the need for pre-dubbing and significantly saves time when different formats are required for overseas releases or different viewing formats, i.e. 6-track releases, 4-track releases, mono, Dolby optical, Dolby magnetic, etc. Almost every major dubbing facility in Hollywood has installed new, fully-automated consoles to replace the boards that in most cases had been used since the fifties. Universal Pictures has completed a new building to house their latest dubbing stages, and Glen Glenn has begun construction of what will be the most ambitious film sound facility since the 40's.

Jack Phillips, who has been with Glen Glenn for over twenty years, describes the new facilities. "Glen Glenn and C.F.I. (a film processing laboratory), our next-door neighbor, are both owned by the same parent corporation. Over the years, both operations have grown to where neither could expand. A couple of years ago Republic (the parent company) began to acquire parcels of a city block behind the existing facilities. On completion of the new 40,000 square foot building, the entire Glen Glenn operation will be moved. Most of the vacated buildings will be used by C.F.I., and a few will be torn down for needed parking. The new building will have three large dubbing stages, a 70mm 6-track stage and two 35mm 4-track stages, a large transfer facility, two videotape sweetening

rooms, and two ADR Foley stages. All of the offices will be moved, and all of the maintenance. Most of the equipment will also be new, some of which we've already acquired. One of the new consoles has already been delivered, and we've been using it. It was designed by Glen Glenn Engineering and built by ADM Electronics. It's fully automated, including the entire patching matrix. Patching that once took a half hour now is completed instantaneously. We're getting three such boards. The one we have now has 65 inputs and 4 channels out. The next to be delivered will have as many inputs and 6 tracks out. Before the boards were actually built, our engineering department built a full-scale mock-up of the board with all the front panel knobs and legends so that everyone who uses it could have a good idea of its ease and layout."

CREATIVE ALTERNATIVES

Although rate cutting has run rampant over the past two years, several studios have found ways to compete, without lowering their rates. Westlake Audio's Shari Dub explains "We have a 3M digital machine that we've been keeping busy renting to various outside clients. For our own clients who are willing to pay full rate card we've thrown in the digital recorder for no extra charge."

Many studios have become active in production in an effort to increase their studio business, with hopes that successful acts will also mean royalties. The number of studios that are getting involved in spec time production situations are too numerous to mention. David Coe, owner of Salty Dog, explains what many are doing. "About a year ago I came to the realization that there was no future in continuing to operate just a studio since rate competition has become an overriding factor in getting business. No matter how good a deal on time you give the client he will tell you how they can get a better deal somewhere else. Some studios have offered their rooms below their nut just to keep them busy, and they probably won't be around next year. Others, including myself, have gotten involved in spec time deals where the payment comes on selling the product. All and all we've done O.K. on those deals but all we end up with is the cost of the time. What I realized was that if I was going to spec the time I might as well be the executive producer. I also discovered that a lot of top acts had been dropped from labels, and many fine producers were looking for production deals, so I became a



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production manager. I provide a complete package including the studio time and materials, engineering, production, and talent. We charge the label so much per cut and in addition receive a

royalty. Labels are willing to get involved when they can see an entire package and their risk is specifically defined, particularly if the act is a known act such as Billy Preston."

At Indigo Ranch, high in the Malibu mountains, Michael Hoffman, a partner in Indigo, has been going to labels and explaining their unique operation. "What we're doing now is a lot of out-of-town acts. I went to the labels and showed them that since our rates included accommodations at the ranch, we could give a block rate that was less than the total cost of housing an act recording at a less expensive Hollywood studio. We provide both accommodations and recording facilities on a daily, weekly, or monthly basis."

MRI Opens in Hollywood



MRI president, Gary Ulmer (left), demonstrates the new AMEK M4000 Cinema console to L.A. Mayor Tom Bradley

Motionpicture Recording Inc. (MRI), the first new dubbing company in Hollywood in the past ten years, officially opened in January with a dedication by the Mayor of Los Angeles, Tom Bradley. Garry Ulmer, president, founder, and chief engineer was presented with a citation by the Mayor commemorating Ulmer's excellence in the motion picture industry.

A complete Dolby stereo surround system is enhanced by the aesthetic setting: salt water bubble fish tank through the halls of black Pirelli floors and stainless steel doors into the stage. The interior designer, Philip Campbell, was contracted in the pre-construction phase in order to lend his expertise

in lighting, walls, shapes, and room layout.

The technical design, acoustic design, and equipment interface were furnished by Everything Audio and its president, Brian Cornfield, who supervised its construction through all phases. The four-mixer, computerized, Dolby console, built to specifications of MRI's chief engineer, Garry Ulmer, took almost one year from design to delivery by AMEK, an electronics console manufacturing company in England.

The highspeed projection system and film recorders and reproducers were built by RCA Photophone. ■

ARTIST OWNED STUDIOS

The past year has also seen an increasing number of artist-owned studios. Many are 24-track master-quality basement or garage studios. A few artists have made major purchases, such as Kenny Rogers becoming the owner of the original three ABC studios. As Reggie Dozier, chief engineer of the new Lion Share studio explains, "When you record as much as Kenny does there comes a time when having your own studio makes good economic sense. Here Kenny can work in one of the rooms and two of the other rooms are available for billing sessions and occasionally in-house productions."

Many artists have taken studio ownership one step further by learning the technical aspects of recording. Artists such as David Gates, the Beach Boys, Larry Carlton, and Ray Parker Jr. have become as adept at recording music as playing it.

Technically the year has seen a few new equipment suppliers falter, and used equipment dealers prosper. The attitude that good sounding audio gear will continue to sound good is apparent. Updates and modification has become the rule rather than the exception. There is a definite return to tube microphones, amplifiers, and outboard gear. Cosmetically, studios are refurbishing old rooms and acoustically livening them to meet the current desire for more reverberant rooms.

All in all, things are alive and improving on the West Coast and California hasn't fallen into the sea. The economic climate of the industry has caused many of those who were in it just for the money to become disenchanting and divest their interest. However, most enter this business as a result of the love of the art. When big profits were the norm so much the better. But now that, for most, happiness is breaking even, the reasons for being in the studio business are returning to a simple love of making and recording music. ■

Before you invest in new studio monitors, consider all the angles.

No one has to tell you how important flat frequency response is in a studio monitor. But if you judge a monitor's performance by its on-axis response curve, you're only getting part of the story.

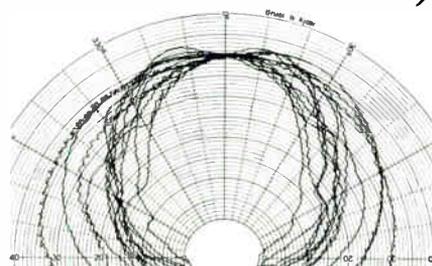
Most conventional monitors tend to narrow their dispersion as frequency increases. So while their on-axis response may be flat, their off-axis response can roll off dramatically, literally locking you into the on-axis "sweet spot." Even worse, drastic changes in the horn's directivity contribute significantly to horn colorations.

Introducing the JBL Bi-Radial Studio Monitors.

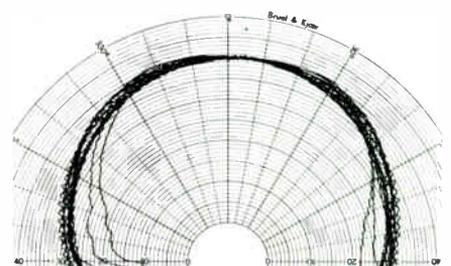
At JBL, we've been investigating the relationship between on and off axis frequency response for several years. The result is a new generation of studio monitors that provide flat response over an exceptionally wide range of horizontal and vertical angles. The sweet spot and its traditional restrictions are essentially eliminated.

The key to this improved performance lies in the unique geometry of the monitors' Bi-Radial horn.¹ Developed with the aid of the latest computer design and analysis techniques, the horn provides constant coverage from its crossover point of 1000 Hz to beyond 16 kHz. The Bi-Radial compound flare configuration maintains precise control of the horn's wide 100° x 100° coverage angle.

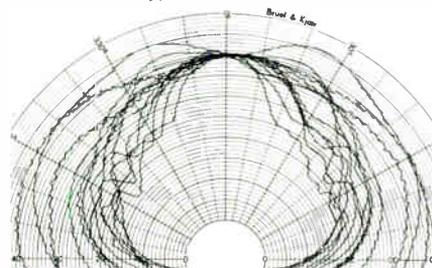
1. Patent applied for.



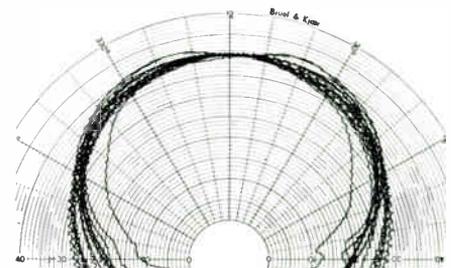
Typical horizontal



JBL 4430 horizontal



Typical vertical



JBL 4430 vertical

And the Bi-Radial horn's performance advantages aren't limited to just beamwidth control. The horn's rapid flare rate, for instance, dramatically reduces second harmonic distortion and its shallow depth allows for optimal acoustic alignment of the drivers. This alignment lets the monitors fall well below the Blauert and Laws criteria for minimum audible time delay discrepancies.

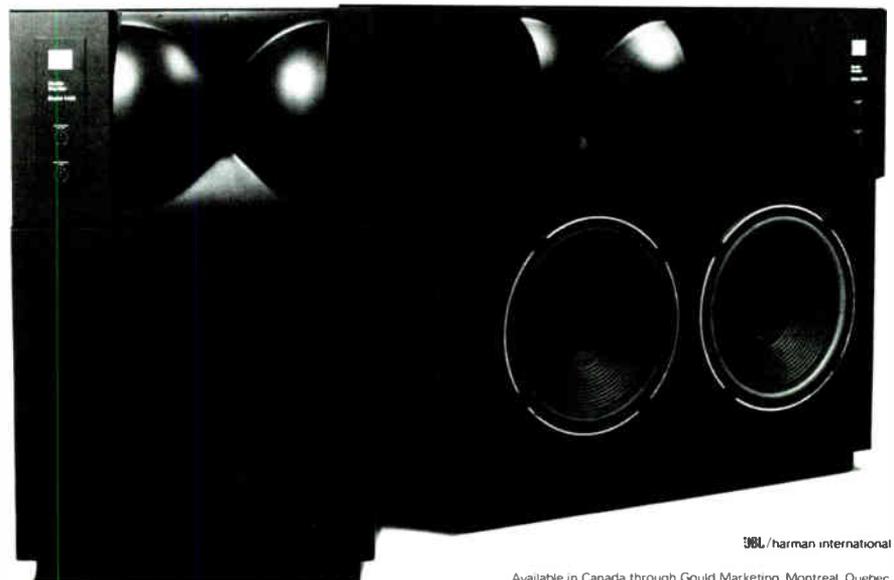
But while the Bi-Radial horn offers outstanding performance, it's only part of the total package. The new monitors also incorporate JBL's most advanced high and low frequency transducers and dividing networks. Working together, these

components provide exceptionally smooth response, high power capacity, extended bandwidth, and extremely low distortion.

Judge For Yourself

Of course, the only way to really judge a studio monitor is to listen for yourself. So before you invest in new monitors, ask your local JBL professional products dealer for a Bi-Radial monitor demonstration. And consider all the angles.

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FILM SOUND EFFECTS

New Tools of Technology

by **Wolf Schneider**

In Los Angeles, long-regarded as the entertainment capital of the world, film editors are looking over their shoulders for inspiration. They're setting their sights towards San Jose's Silicon Valley, towards Orange County, CA., even towards Houston, TX. The reason? That's where computer manufacturers and aerospace engineers are developing new high-technology equipment which can dramatically aid in audio production.

Synchronization techniques like the NASA-created SMPTE (Society of Motion Picture and Television Engineers) time coding system facilitate sound editing on multiple audio/video tape machines, while Atari's home computers may be just perfect for logging and organizing a library of special effects. Synthesizers like the Fairlight and Prophet 5 come equipped with built-in computer memories, and once you get the hang of it, there's no telling what kind of custom computer genius you can build. An example is ACCESS (Automated Computer Controlled Editing System), a one of a kind multifaceted editing and dubbing tool for music, dialogue, and special effects.

For a look at the state of the film and video sound editing art, we visited two leaders in the field: Frank Serafine of Serafine FX and Larry Neiman of Neiman-Tillar Associates. With different specialties, each man offered a unique perspective, as well as a variety of forward-looking thoughts. Both individuals agreed that computer technology was the way to go today, as well as the way to prepare for tomorrow.

Serafine, specializing in innovative special effects for films like "Star Trek—The Motion Picture," "The Fog," "The Sword and The Sorcerer," and the recently released "Tron," is known for his powerful imagination in creating organic sound effects, electronic sound effects built with syn-

thesizers, and electronic editing.

Across town, Neiman-Tillar Associates is enjoying their 11th year as a complete post production service organization, specializing in post production sound for television and film. The oldest independent post production house of its kind, Neiman-Tillar's credits qualify them as possibly the most experienced of such firms. Their projects include "Roots" (Parts I and II), "The Amityville Horror," the Cousteau shows, the National Geographic shows, "The Buddy Holly Story," "Centennial," "Days of Heaven," and "Sorcerer." Throughout his over-twenty years in the business, president Larry Neiman has often yearned for a better sound editing tool. He conceived of and financed the construction of the ACCESS computer in the late seventies, spent the past five years perfecting its programs, and is now presenting it to his peers.

SERAFINE FX: Forging New Frontiers

The twenty-nine-year-old Frank Serafine has always been intrigued by audio and sonic possibilities. In 1975 he began using synthesizers and syncing sound effects to slide projection devices for experimental planetarium shows in Colorado. In Southern California, Disneyland was impressed enough to hire him for the grand opening of their Space Mountain exhibit in 1977, and once he arrived on the West Coast, Serafine decided to stay and join creative forces with the film industry.

Serafine's latest project, "Tron," tells the story of a young wiz kid who develops video games on a computer system. When another programmer

Below: Frank Serafine in the Serafine FX Sound Design Studio



steals the credit for the programs, the young man breaks into the computer system to prove that he was the inventor. He becomes a captive of the program, with powers beyond his belief, since he enters the system as a "user." Although the \$24 million "Tron" was financed and distributed by Walt Disney Productions, it was independently produced at locations like the Lions Gate sound facility in West Los Angeles, where Serafine FX is located.

Serafine's process for creating special effects has become systematized. "First I listen to tape libraries," he explains. "Then I go out and record sounds. I bring them back, listen to them, process them, and study the science or amplitude in which the sound works. Motorcycles, for instance, have a Doppler effect. You learn these things after a certain time. You know what to look for—it starts high and goes low. Suction, for example, is a backwards impact sound." (At this point, Serafine provides some uncannily accurate aural demonstrations of both a sucking noise, and a clap of his hands for an impact sound.)

For "Tron," Serafine taped a variety of on-location organic, or acoustic sounds, with Nagra and Stellavox recorders. Some of these sounds included monkey screams at the San Diego Zoo and motorcycle racing. But that was only the beginning. He elaborates: "I create most of my sound effects and sample them into a digital memory and perform them back, which saves a great deal of time, especially on "Tron" where you have the same scene maybe 20 times. Instead of editing it in manually everytime it comes by, you just watch it. The Fairlight is a digital synthesizer which means that it has no real sound generating oscillators in it. It starts from scratch, or whatever you sample into its digital memory. It works on a light pen."

The Fairlight may be the most remarkable of Serafine's synthesizers, but it is not the only such tool he uses. Another of his favorites is the Prophet 5 synthesizer. A hard wire synthesizer of the analog technology, it also has a computer memory to recall sounds.

Then there's the trusty old Moog. "The Moog is basically the Prophet without any memory control," says Serafine. "I have one of the first Moogs built. It was built about 1965—it's original wood from Robert Moog's land back in Alabama, and I haven't had any problems with it except the oscillators drift. There are things that I do on that Moog that I can't do on the Fairlight. It generates detailed sounds in a very short

Serafine FX Studio Equipment

AUDIO EQUIPMENT

TEAC Model 15 Mixing Console
TEAC AQ85 Auto Cue Unit
Sony Digital Audio Processor
PCM-F1
TEAC 85-16 16 Channel Recorder

SYNTHESIZERS & SIGNAL PROCESSORS

Emulator Digital Synthesizer
Fairlight Computer Musical Instrument
Prophet 5 Synthesizer
Vako Orchestron
Roland CSQ-100 Digital Sequencer
Roland Vocoder SVC350
Roland Pitch-to-Voltage Synthesizer
Moog Synthesizer
Lexicon 1200 Audio Time Compressor/Expander
Lexicon 224 Digital Reverb
EXR Exciter
Polyfonic Digital Delay
Maxon AD 230 Analog Delay Flanger
Quad 8 AM-23B
Audio & Design Scamp Rack
DeltaLab Harmonicomputer
DeltaLab DL2 Acousticcomputer
DeltaLab Memory Module

VIDEO & SYNC EQUIPMENT

BTX Model 4600 SMPTE Tape Controller
BTX Model 4500 Edit Code Synchronizer
Sony VO 5850 & 2600 Video Cassette Recorders

SPEAKERS & AMPS

Apt-Holtman Amps & Pre-Amps
Eastern Acoustic MS50 Speakers
Auratone 5C "Super" Speakers

COMPUTER EQUIPMENT

Atari 800 Computer
Apple II Computer
Votrax Versatile Speech Module
Votrax Type 'N' Talk Speech Synthesizer
Mountain Hardware
Olympia ES100RO Printer
Epson Line Printer
Telegenics Projector

MICROPHONES

Electro-Voice RE-20's
Shure SM-80's
AKG D224E's & D20's
Audio-technica 9-52V's
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amount of time. Just one little beep is easy to do. It dissects sound and can get right to the point. But it only does that one thing. And it's only monophonic, as opposed to the Prophet and Fairlight."

Serafine and his systems consultant and engineer, Jeff Harris, did much of the special effects editing for "Tron" on a BTX 4600 electronic editing system with a Shadow controller. For storage of the effects, they used Ampex analog tape machines which were interfaced to video. "The film is transferred to video," Serafine explains, "and we interlock the machines with SMPTE time code so they all run the same. One advantage of the system, using the video, is that you can play the sound effects to the picture instead of editing. We do electronic editing with synchronizers and so on, but a lot of the time you don't have to edit—you can just play the sound effects to the picture, as if it were music. The audio tape is always in sync with the picture. SMPTE is the master pulse code that tells everything where to be, what time locations to be at. If you turn on the video, the audio

machines will move at exactly the same rate.

"Michael Fremmer, the music and sound supervisor, and the executives at Disney had faith in the process. They wanted to research and develop this area. They knew it would be a higher standard in audio quality because you have less transfers. Sounds are recorded directly onto the tape so it's first generation. Traditionally, tapes are transferred at least three to five times before they get on the dubbing stage. Here it's first or second generation, so the audio quality is superior over 35 mm magnetic sprocket-driven systems. We had a tremendous time crunch at the end, so we did end up doing the last part of the film on mag, cutting and editing the traditional way. The rest, though, is electronically edited BTX SMPTE time code."

Another of Serafine's innovatory processes for "Tron" was the use of the Atari 800 home computer as a logging system to organize the special effects. With Laurent Basset, who designed the character field and file

(continued on page 22)

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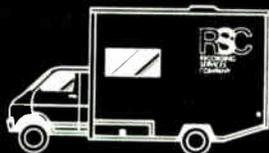
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management system, Serafine spent close to two months storing and planning on the Atari. He was enthusiastic in his praise of the computer: "If you remember a bell sound, for instance, you type in BELL and within 1.5 seconds it searches out all the bell sound effects. It gives you the SMPTE time code description of where it is on your tapes. You go to the tapes, dial the number, and it searches it out and parks right there on the sound for you."

The successful application of the Atari 800 computer and electronic editing with SMPTE time coding are more than a personal victory for Serafine. He elaborates on how these systems can affect the entire sound editing industry: "What I'm doing is standardizing. I'm applying existing technology so that every facility will be able to just buy an Atari 800 for \$1,000 and hook it up to their recording system. If you have a tape you'll be able to do your work at any studio. Now you're confined to less than ten dubbing stages that can do motion picture sound. There's about a thousand recording studios in the L.A. area. Why can't they all be converted to outrageously complex and high quality motion picture sound? All they need is a good video machine, synchronization equipment, a computer, and they're in business."

It will be an environment, Serafine promises, "where producers can create with more flexibility, less labor intensiveness, more interaction with the sound, and greater cost effectiveness." And who could turn that down? As for other special sound effects trends, Serafine predicts that major recording groups will use them increasingly on video projects as these projects become more sophisticated in nature. He also sees special effects assuming a more important role in motion pictures as movie producers recognize "the affect sounds have on the emotions of people—to be able to scare them, to make them relax, to create an ambiance in the theatre. I think," he continues, "the sound quality of special sound effects is going to be noticeable, especially once digital on location recorders come into effect. You'll hear the clarity of an actor walking, or a cannon firing. It'll be more real."

With "Tron II" looming on the horizon, as well as a video disk project and several high tech television commercials, and plans to purchase the new Sony FY1 digital processing system, Serafine intends to remain right in the forefront of all the

developments in his field.

NEIMAN-TILLAR: Creating Custom Computers For Post Production

At Neiman-Tillar Associates, housed in a comfortable red brick building adjacent to L.A.'s Farmer's Market, a staff of 23 individuals works hard to live up to their well-earned reputation for highly skilled post production sound editing. It's not often easy, because as Larry Neiman is quick to point out, "By post production, they've (the producers) run out of time, run out of money, and probably run out of patience. You're constantly trying to achieve quality and effect, and you've got to be economical and fast. Speed is sometimes a great deterrent to quality and to creativity. It's unfortunate. ACCESS is a boon to that, because with the speed it allows us, more creativity is possible."

ACCESS, the brainchild of the Larry Neiman and Jack Tillar, as well as designer Bill Deitrich and software programmer Jim McCann, was first germinated as an idea seven years ago. After two years of construction and \$1.5 million in financing, it became operational. During the past five years, the staff at Neiman-Tillar has worked on honing the computer's programs for sound effects, music, and dialogue editing. With a projection screen, CRT terminal, and console, it is significant that the ACCESS system performs all its in-computer work digitally, preserving the original sound quality quite intact.

What exactly is ACCESS? According to Neiman, "ACCESS is a sound editing tool that allows a sound editor to take any sound and call it from the library in a 1/20th of a second, lock it to the visual in sync, and play it back. He can then modify it, or do any editorial process to it. He colors the picture, and becomes very creative. ACCESS digitally samples the sound at faster or slower rates, at different volumes, and is equipped with a parametric equalizer. It is not synthesized sound. It is true, real sound. Most of the sound effects come from our (analog) tape library, which has 750 hours of cataloged sound effects.

"As soon as the editor cuts a sound effect he likes, he stores it in ACCESS' memory, and moves on to the next one. The sound department, through ACCESS, later transfers the information to a floppy disc for

(continued on page 24)

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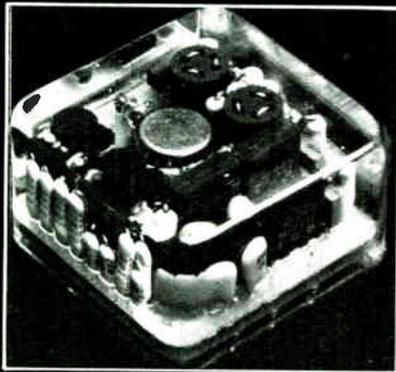
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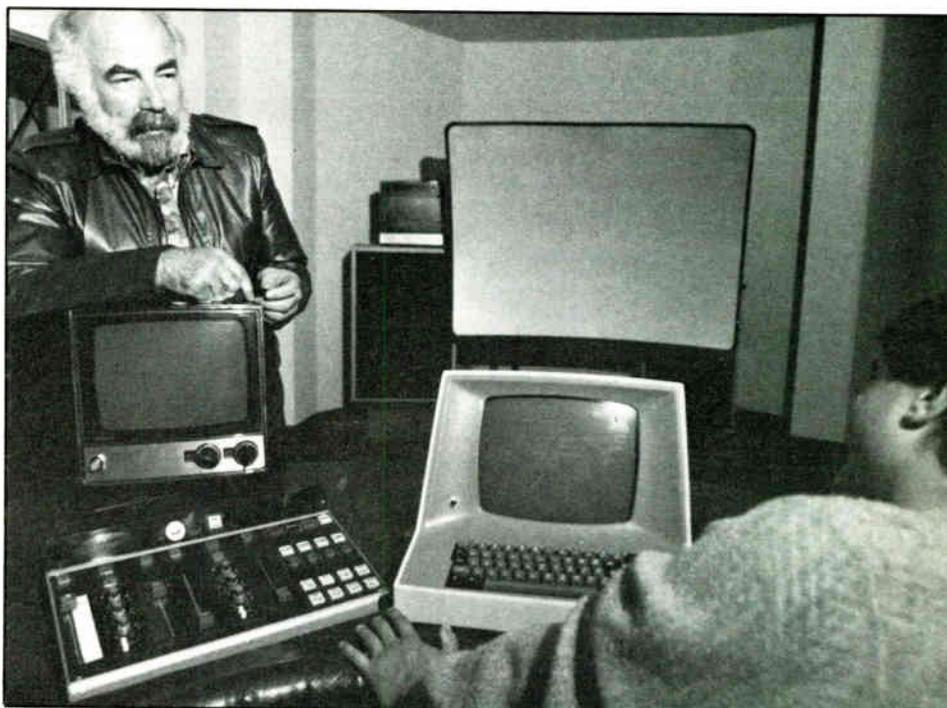
storage.

"ACCESS' primary design was as an editing tool. But sound recordists, sound mixers, sound people in general, can use it to transfer sound to other mediums—35 mm, 16 mm, quarter-inch, multitrack, two-inch, one-inch, whatever. At that point, it converts the digital information into analog. Utilizing ACCESS, there is no degeneration of sound, no signal-to-noise build up. We would hope eventually ACCESS will be made directly accessible to a mixing

"The Amityville Horror" and "Sorcerer."

The outstanding benefits of ACCESS, according to Neiman, are "speed, creativity, and economics." As for its drawbacks? As Neiman sees it, "The only drawback is the seeming fear of people who don't know how to

Below: Neiman-Tillar's president, Larry Neiman, stands by the ACCESS system, consisting of console, projection screen, and CRT console



console, so you don't even have to transfer the sound off for the mixers."

Neiman asserts that ACCESS "is totally unique in that it works in digital form—it converts analog sound effects into digital information. It stores and utilizes that digital information in its own in-house work. On demand (for playback or transfer), it converts that digital information back into analog sound." A remarkable machine, ACCESS is, understandably, very popular at the office. Its typical work-day runs for 24 hours, and it rarely has a day off.

ACCESS uses the SMPTE time code as a sync reference. It is particularly well-suited to television series work, where certain backgrounds and soundtracks occur again and again—these can easily be recalled, and remain perfectly preserved. However, it has also been used to tremendous acclaim on films with such wide dynamic range as

use it. People are afraid of computers in general because of the whole sense of losing jobs, losing control. That's a problem."

Finding a capable sound editor to control ACCESS is also something of a thorn for Neiman, who has found that individuals trained in both sound effects editing and computer operations adapt most successfully to this new medium.

Although ACCESS was built five years ago, and a second such machine was constructed two years ago for Reeves Sound Shop in New York, it has heretofore remained somewhat of an enigma. Has Neiman been making a deliberate attempt to conceal his creation? His response is to the contrary: "Relatively few people were involved and knew about ACCESS. We didn't feel that our programs were completed. Until we got to what we call system C, the basic system, we didn't really feel we should

promote it, or try to sell or produce them. We did win an Academy Award for the creation and development of ACCESS two years ago.

"Ultimately, we see this as the sound editing tool for the future worldwide. We would continue on as far as the sales, the promotion, and the production—the further enhancement of ACCESS. We're not trying to put a corner on the market at all—we're trying to say we've got tomorrow's tool today, so come on and utilize it."

As for the future, Neimann predicts, "The world of tape—by which I mean projects shot in videotape—is coming into its own more and more. It's something we should be aware of and get behind and use more. There's a great many advantages to tape. For a long time no one knew how to interlock sound effects with tape. We in sound effects used sprocketed material, tape was all capstan. Now, using SMPTE time coding, we can give tape people everything that film people can get. We can Foley for them, we can ADR (Automatic Dialogue Replacement) for them, we can tailor sound effects for them on ACCESS, we can do music."

"Computer technology has advanced tremendously over the past few years, and is still advancing," Neiman observes. "The shelf hardware we bought seven years ago has drastically changed. We paid \$100,000 for a small chip, whereas today the same chip costs \$15,000 and does probably a hundred times more than the original one. Certainly the utilization of computer technology in our industry, whether it be in sound or visual, is something not only to contend with, but something to be welcomed, to be utilized, to enhance creativity.

"We're trying to apply sound editing techniques to a new technology," Neiman concludes. "It's a time of experimentation for us. Sound editing has to evolve into something higher than working on a bench with a moviola synchronizer, a splicer, a couple of rewinds, and some magnetic striped film. There are hundreds of other sound companies using the old ways. Less than a dozen are experimenting with the new ways—digital, new computer-assisted, or computer-edited sound. There's so much more there. Why be bound in by all the noise around you when you're trying to do sound? The majority of sound people utilize what I consider 20-year-old technology, instead of what is available to them now."

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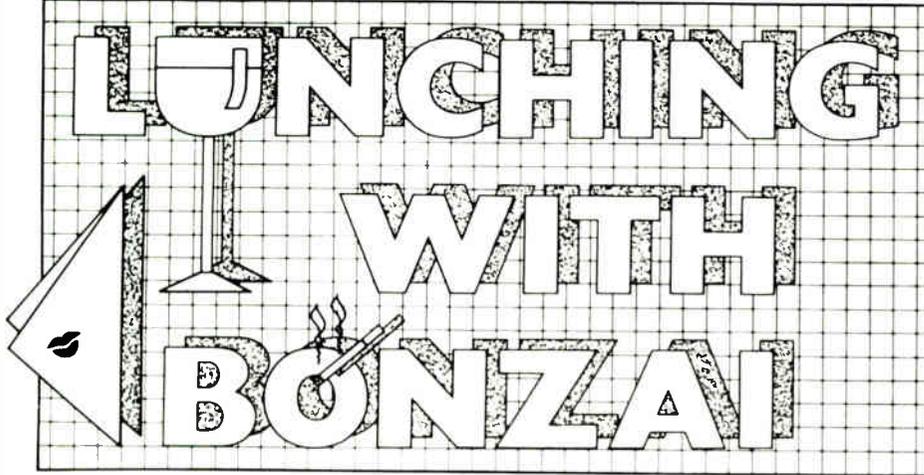
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VAN DYKE PARKS

A SOUTHERN GENTLEMAN IN HOLLYWOOD

by Mr. Bonzai

A self-described “wounded veteran” of the music business, we join Van Dyke Parks for lunch at his home in Hollywood—a rambling, overgrown estate thick with lemon trees, grapefruit, persimmon (“pride of the South”), quince, fig, and a gigantic avocado tree planted in 1917. A diminutive and charming Southern Gentleman, he strolls around his garden in bib overalls and T-shirt and offers me a glass of Beaujolais.

Van Dyke’s credits are impressive: producer and/or arranger for Randy Newman, Little Feat, Ringo Starr, Carly Simon, Jackson Browne, Judy Collins, and the “Popeye” soundtrack; co-writer with The Beach Boys on “Surf’s Up”, “Heroes and Villains”, and “Sail On Sailor”; co-writer on the “Goin’ South” soundtrack; a number of solo albums, among them “Song Cycles”, which was called a “masterpiece in American music” by The New Yorker.

His speaking voice is cultured—a languid drawl with professional vibrato.

What is your strongest characteristic as a human being?

That I am a musician, and I’ve taken the line of greatest resistance to health and happiness. I am not a mathematician, but I realize that music is the highest math and I would like to learn the language. My strongest characteristic is the application of what has been called virtue in playing that role. In the words of the bard, “the play’s the thing”.

When did you first notice you were

destined for the big time?

I have never felt that. I’ve never had that sudden surge. I’ve never wanted it because the big time to me



suggested fame and the dangers and excesses of fame.

Who is your best friend?

My wife, absolutely, because she likes me when I’m broke—which is most of the time. Although I have many new and decent friends, I still prefer the old and indecent variety.

Do you have a personal habit that would identify you to your close friends?

I expectorate when I get nervous. That can clear a room right

there.

It fits in with your southern past...

That’ll spook the locals anywhere—doesn’t matter where you go. It’s almost like you said something, but you’re not sure what. Excuse me. Let me go get Elizabeth and put her in this tub out here where she can splash.

(Van Dyke helps his two-year-old daughter into a little outdoor tub.)

It’s quite a little plantation you’ve got here.

Quite a wonderful situation, in the middle of a ghetto.

Why do people have pets?

Pets are a training ground as beneficiaries, a way to get adjusted to the idea of having offspring. People like to squeeze their loins.

Can you remember your worst experience in a recording studio?

No, I have never had a bad experience in a recording studio—in spite of what people may say.

(Sally, Van Dyke’s wife, brings their son outside and places him in his rocker on the picnic table.)

Van Dyke: This is Richard the Third—Richard Hill Parks, the Third.

Sally: He’s not going to make any

fuss. He loves it out here. See how happy he is looking at the trees?

Van Dyke: How much was this wine?

Richard Hill Parks—will people call him Dick?

Not while Richard Perry is alive.

What was the first piece of music you wrote?

I wrote down my first piece of music when I was seven, and it was called “March”. There were two sections to the march, one was like a lion and one was like a lamb.

Ah—you were dealing with big themes...

I never told anybody about that...so that's a piece of news.

Who is the Van Gogh of music?
Van Halen.

Who is the Norman Rockwell?

I think I am. (pauses) It's important to try to find a way of answering that question. It may not be important, but it's inspiring.

We may look back and wonder how important it was.

That's alright. I'd rather look back and wonder than look ahead and wonder.

Who is the Humphrey Bogart of music?

In terms of self-possessed romanticism? In that case I would say Harry Nilsson—a guy who really knows how to die.

What did Aristotle mean when he said that all great souls suffer from a form of madness?

This reminds me of my wife's mother's admonition to her daughters when their hair was being combed: "You have to suffer to be beautiful", and I believe that.

Why do people think you're a bit of a crackpot or a genius?

(he pauses) Salvador Dali said in bringing to focus the imaginary line between insanity and genius, "The difference between myself and a madman is that I am not mad."

Do you believe that people can levitate?

Absolutely. I do it in the morning before I vomit in the sink. It is the triumph of will.

When do you plan on buying "Smidget", the world's smallest horse?

That's out of the question right now with the advances they're giving for record deals these days. One is lucky to get an old black Buick with black sidewalls. I'm glad I haven't taken a dive. I think the record business needs more wounded veterans.

Who has affected you most musically?

I think Schumann... but maybe Schubert or perhaps Spike Jones.

Who is your favorite human being?

Pending the reading of his will, my father.

Do you have a fantasy lover?

Absolutely. I'm in love with the muse.

What is your favorite way of making love?

You're terrible. It involves a horny basset, a church lawn, and a family reunion.

If you could be any woman, who would it be?

Eleanor Roosevelt.

What did you think when you first discovered puberty?

I thought I was late.

Are children philosophers?

No. Children know better. Their basic problem is one of vocabulary, but they know better.

Do different musical instruments have different personalities?

Every instrument has a character. Instruments have in their invention the nature of a character and it is usually a national character. I use them very circumspectly, trying to observe the values that are in instruments. This is perhaps a very important question, because instruments have been very good to me. Everybody is aware of the posture that the spirit provided in the invention of instrumentation, whether it be something that is born of a caste system, as you find with the steel drum—the way joy was triumphed—or whether it is instruments born of rustic masculine character that you find in the horns of chase—French horns for instance. Instruments sound masculine or feminine, or neuter. The flute has always been a great eunuch, but you find that it takes on new character with the language it employs. It is an elastic instrument. It's interesting to me how instruments take on a character representative of the collective personalities that gave birth to them.

Are there any points that we've missed, Van Dyke?

We are working on them. To me this is a ridiculous development, and you deserve better, but you're not going to get it today. I think you did a real good job asking these lousy questions, and I'm doing my best to hold on to my accordion.

As I polished off the last of the brie, Van Dyke played a sentimental old French tune on the accordion, backed up by nature's songbirds and gurglings of Richard the Third. Afterwards, he invited me inside and played six songs at his baby grand piano. He recently completed the music for a series of fairy tales for cable TV produced by Shelley Duvall. His new material is a translation of the Uncle Remus "Songs of the South" stories and he sang all the parts created for the stage, but the part of Mr. Rabbit was closest to his heart. His singing voice is higher and tentative, human and hesitant. His posture is like Eubie Blake's and, as he touches the keys, his hands often rest on the keyboard, in no hurry to hit the notes, more caressing the friend of a lifetime.

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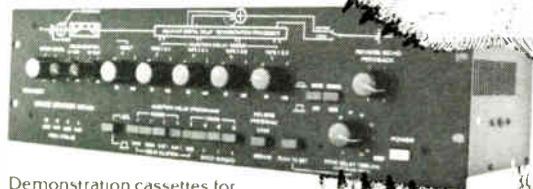
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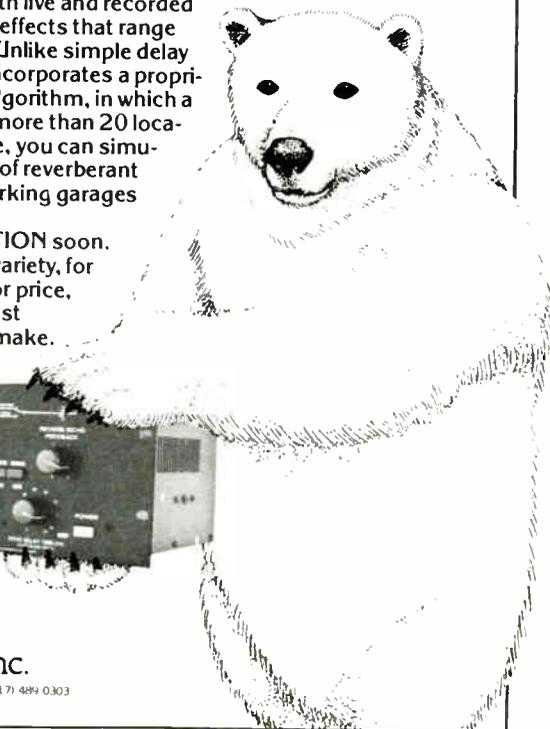


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ATTENTION: INDEPENDENT ENGINEERS AND PRODUCERS

Watch for your directory listing questionnaire coming in next month's Mix.

SOUTHERN 408 TRACK CALIFORNIA

•• ADAMO'S AUDIO

16571 Higgins Circle, Huntington Beach, CA 92647
(714) 842-2668
Owner: Jerry Adamowicz

•• ALL STAR SOUND & RECORDING

also *REMOTE RECORDING*
1070 E. Front St., Suite I, Ventura, CA 93001
(805) 653-6661
Owner: Bob Spittle
Studio Manager: Kirk Reeves

•• ASCOT RECORDING STUDIO

5904 Sunset Blvd., Hollywood, CA 90028
(213) 466-8355
Owner: James Rayton
Studio Manager: James Rayton
Engineers: James Rayton
Dimensions of Studios: 18' x 25'
Dimensions of Control Rooms: 12' x 15'
Tape Recorders: Stephens 8 track, Ampex 4 track, 3M & Tascam 2 tracks, Pioneer 1/2 & 1/4 stereo, TEAC & Pioneer cassettes (4)
Mixing Consoles: Opamp Labs 1204, 12 in x 4 out plus 12 direct
Monitor Amplifiers: Opamp 423s
Monitor Speakers: Altec 604E's w Mastering Lab crossovers
Echo, Reverb, and Delay Systems: Fairchild reverb; Eventide Harmonizer w/digital delay
Other Outboard Equipment: Orban parametric EQ Orban stereo synthesizer, UREI tube limiters, Teltronix LA3A leveling amps, Gramham/Cotham disk cutting system
Microphones: AKG C 414, C 451, C 60, D 200, D 1000, F 224, Neumann U 87, U 67, Shure SM 58, 430, E V 666, RCA 77, 44, Altec 639, 633, misc. Stephens and direct boxes
Instruments Available: Grand piano, Lowrey organ w synthetizer and strings
Rates: \$24/hr 2 track, \$30/hr 4 and 8 track, add 1/4 after 6pm

•• AUDIO & VIDEO ARTS

also *REMOTE RECORDING*
2432 N. Cedarwood Circle, Simi Valley, CA 93063
(805) 583-0540
Owner: Paul Gardocki
Studio Manager: Paul Gardocki

•• AUDIO RECORDERS

3843 Richmond, San Diego, CA 92103
(714) 296-6355
Owner: J A Mullen
Studio Manager: J A Mullen

•• BARR RECORDERS

5238 Laurel Canyon Blvd., N. Hollywood, CA 91607
(213) 506-0100
Owner: Barry Schuler Barron Abramovitch
Studio Manager: Barron Abramovitch

•• BERKENS SOUND RECORDING LABS

also *REMOTE RECORDING*
1616 W. Victory Blvd. #104, Glendale, CA 91201
(213) 246-6583
Owner: William Berkuta
Studio Manager: William Berkuta

•• BLACK WIDOW TRACKS

also *REMOTE RECORDING*
P.O. Box 1988, Corona, CA 91720
(714) 735-0155
Owner: Jerry West
Studio Manager: Jerry West

•• CALIFORNIA COMMUNICATIONS

also *REMOTE RECORDING*
6900 Santa Monica Blvd., Los Angeles, CA 90038
(213) 466-8511
Owner: Bill Muster
Studio Manager: Tim Huckle

•• CANTRAX RECORDERS

also *REMOTE RECORDING*
1720 Park Ave. # L, Long Beach, CA 90815
(213) 498-6492
Owner: Richard Cannata
Studio Manager: Nancy Cannata

•• CHATEAU EAST SOUND PRODUCTIONS

also *REMOTE RECORDING*
1040 N. Grove St. Suite R, Anaheim, CA 92806
(714) 630-0145
Owner: Truxaw, Hager, Younger
Studio Manager: Joseph G. Truxaw

•• CLASSICAL MUSIC ONLY—IN PERFORMANCE™

also *REMOTE RECORDING*
(213) 276-8441
Owner: Tony Beecher

•• THE CONTROL CENTER

128 No. Western, Los Angeles, CA 90004
(213) 462-4300, & 786-7380, (213) 994-6696
Owner: Bernie Shekland, Aseley Otten, Rick Altschuler
Studio Manager: Aseley Otten, Rick Altschuler
Engineers: Aseley Otten, Rick Altschuler, Michael Kenney
Dimensions of Studios: 18' x 24' main room, 7' x 12' live room
Dimensions of Control Rooms: 11' x 16'
Tape Recorders: Otari 50 50 8 track w/VSO, Otari 50 50 B 2 track w VSO, TEAC A4010S 1/4 track, Technics M 45 cassette,
Mixing Consoles: Sound Workshop 1280 12 in x 8 out w super EQ and meter bridge
Monitor Amplifiers: BGW Crown
Monitor Speakers: JBL 4413s Auratones
Echo, Reverb, and Delay Systems: Ursa Major Space Station Digital reverb and delay, MXR digital delays (2), Spring reverb

(tube) tape delay

Other Outboard Equipment: dbx 161 compressors (2), stereo chorus, MXR flanger, patchbay, pinball timer
Microphones: AKG 414 EB 451, Neumann U 87, Sennheiser 441, Shure SM 57, SM 77, Sony ECM 11, P 80A 77 DX ribbon
Instruments Available: Baldwin raymond Hammond B 3 wireless Fender Holton system, Stratocaster, Fender drums, Fender, electric bass
Rates: \$15/hr with engineer

•• R E COPSEY RECORDING

also *REMOTE RECORDING*
2021 Buena Vista Dr., Camarillo, CA 93010
(805) 484-2415
Owner: Ross E. Copsey
Studio Manager: Ross E. Copsey

•• CREATIVE MEDIA

7271 Garden Grove Blvd., Suite E, Garden Grove, CA 92641
(714) 892-9469
Owner: Tim Keenan
Studio Manager: Tim Keenan
Extras: In addition to professional Ampex and equipment, we operate a 4 color two camera video production studio for commercials or promos. Other extras include an extensive sound effects and production music library and a pool of male/female narrators.
Direction: Since 1970 we have provided Orange County with professional audio production for radio spots, sound tracks for A/V presentations, films and TV as well as syndicated radio programs, demo tapes and other narration projects. Our staff has extensive background in both radio and music production and our rates are the lowest around for our professional services.

•• CUSTOM AUDIO RECORDING

also *REMOTE RECORDING*
929 California Ave., Bakersfield, CA 93304
(805) 324-0736
Owner: Trent Houston

•• CUSTOMCRAFT RECORDINGS

also *REMOTE RECORDING*
5440 Ben Ave., N. Hollywood, CA 91607
(213) 766-1298
Owner: Dean Talley
Studio Manager: Thomas D. Talley

•• EMERALD CITY RECORDING

1050 Griffin, Grover City, CA 93433
(805) 489-9455
Owner: Bruce Sahroian, Brian Dunn, Ted Martin
Studio Manager: Bruce Sahroian
Engineers: Bruce "Lumpy" Sahroian, Brian "Lake" Dunn, Ted "Theo" Martin, Independents available
Dimensions of Studios: 30' x 20' x 9' with 10' x 10' isolation room and 10' x 10' drum area, all areas acoustically variable
Dimensions of Control Rooms: 10' x 17' x 8'
Tape Recorders: TEAC 80 B 8 track, TEAC 3300S 2 track, TEAC 3300S 2 track, TEAC A 150 cassette
Mixing Consoles: Modified Kelsey Pro Tour 84 24 in x 8 & 4 & 4 & 2 & 1 out
Monitor Amplifiers: Cerwin-Vega M 200, AB Systems 205 A, A&R AU50, Yamaha EM 70, Heathkit 15 watt
Monitor Speakers: JBL 4313's, Hot Spots, Sunn Model 8's
Echo, Reverb, and Delay Systems: Deltalab DL 2 customized Variable Multiple Spring Array
Other Outboard Equipment: Bi Amp Quad Limiter, TEAC DX 8, dbx 150 Type I noise reduction, dbx 119 comp/exp, various effect units
Microphones: AKG 414, 451's 501's D 12, D 1000, 4) Sennheiser 421's, Shure SM57's and similar. Others available
Video Equipment & Service: Through VIDEO 15 we have a mobile van featuring: (2) Hitachi HR 200B 1" studio tape recorders, Hitachi HR 100 portable 1" tape recorder, (2) Hitachi SK-81 cameras for studio and field use, each with 10 140mm lens, 2x extender, macro focus, 300 foot cables, Crosspoint Latch 6112 switcher with 2 effects buses and encoded chroma keyer, Knox character generator with 4 high resolution fonts, portable lighting, wireless microphone, and Otari 6.5 KW generator
Instruments Available: Story & Clark grand piano, Baldwin Electro pianos, ARP 2600, Roland SH 3A Mellotron 400 flute violins, cello, 8 voice choir, Hammond B 3 Leslie 147 and 23 (organ or instrument), Hammond Solovox Farbus Compact 23 organ, Ludwig drums (no cymbals), various amps, various percussion. Others available with notice
Rates: Audio \$22.50/hr, 10 hour blocks \$20/hr, 20 hour blocks \$17.50/hr, up to 1 hr free set up. Video \$17.50/hr with crew

•• FULLERSOUND—AUDIO VISUAL RECORDINGS

P.O. Box 65051, Los Angeles, CA 90065
(213) 660-4914
Owner: Mike Fuller
Studio Manager: Mike Allen

•• THE GARAGE AUDIO & VIDEO

W Covina, CA
(213) 337-7943
Owner: Patrick Woertink
Studio Manager: Patrick Woertink

•• GEORGE'S RECORDING STUDIO

also REMOTE RECORDING
4375 Highland Place, Riverside, CA 92506
(714) 682-8942
Owner: George Williams

•• GOLDMINE RECORDING STUDIO

1393 Callens Rd., Ventura, CA 93003
(805) 644-8341
Owner: Tim Nelson
Studio Manager: Tim Nelson
Engineers: Jeff Cowin, Tim Nelson
Dimensions of Studios: 500 sq ft
Dimensions of Control Rooms: 250 sq ft
Tape Recorders: TEAC 80-B 8 track, Otari 5050B 2 track, TFAC 440 4 track
Mixing Consoles: Two Dot 4016, 30 in x 16 out
Monitor Amplifiers: Quate
Monitor Speakers: Altec 604E
Echo, Reverb, & Delay Systems: (2) MXR DDL multi track reverb
Other Outboard Equipment: UA175 limiter, LA2A limiter, dbx 161 Ashly parametric EQ Omnicraft noise gates
Microphones: Sony Neumann AKG Shure, PZM E.V. Senn heiser, Telefunken EIA M251
Instruments Available: Grand piano
Rates: \$25/hr

•• HARK'S SOUND STUDIO

1041 N. Orange Drive, Hollywood, CA 90038
(213) 463-3288
Owner: H. Harlan Harker
Studio Manager: H. Harlan Harker

•• HIT SINGLE RECORDING SERVICES

also REMOTE RECORDING
College Grove Center—Lower Ct. #4,
San Diego, CA 92115
(714) 265-0524
Owner: Scott Miller
Studio Manager: Hank Bohman

•• HOT MIX RECORDING STUDIO

5892 Los Molinos Dr., Buena Park, CA 90620
(714) 761-2621
Owner: Bob Clark
Studio Manager: Bob Clark

•• IMAGINARY STUDIOS

971 Indiana Ave., Venice, CA 90291
(213) 396-3973
Owner: Steve B. Lelche
Studio Manager: The Imaginary Man

•• J.E.R. STUDIO

485 South Kellogg Way, Goleta, CA 93117
(805) 964-4512
Owner: J.E.R. Entrop rises
Studio Manager: Derrita Espinoza
Engineers: John J. Espinoza, independents
Dimensions of Studios: 60 x 19 (use room) / 7 x 8
Dimensions of Control Rooms: 12' x 15'
Tape Recorders: Tascam Series 80 8 track, Tascam Series 70 4 track, Tascam 35 2 track, Technics MH5 MK2 cassette, Sanyo HD 5340 cassette
Mixing Consoles: Tascam Model 10, 8 in x 8 out, Custom Cue Mixer, 10 in x 10 out
Monitor Amplifiers: Crown DC 400A, D150A
Monitor Speakers: IHL 4 11, Auratone 5C, Yamaha
Echo, Reverb, and Delay Systems: Roland echo chorus, B. Amp SH 240 stereo reverb, Lexicon PCM 41 digital delay
Other Outboard Equipment: MXR patch transformer, Ender doubler, dbx 162 compressor limiter, dbx 8 track, 4 track, 2 track noise reduction, Technics SH 9010 outboard EQ, Technics SU 9070 pre-amp, Pioneer PL 120 turntable
Microphones: Electro Voice 666, BE 15, BE 20, AKG 414 EB, D12E, Sennheiser MD 421, MD 441, Sony ECM 22, ECM 150, Shure SM 57, SM 58, TFAC MF 80
Instruments Available: 54 Kawai grand piano, Rhodes 88 Holmer D 6 clavinet, Roland strings, Kora rhythm machine, Guild and Martin Acoustic guitars, percussion instruments
Rates: Rates negotiable
Extras: J.E.R. Productions 16/24 track production, consultation, session & budget planning, musicians, vocalists, instrument rentals
Direction: Now in our third year J.E.R. Studio has provided excellent sound & service to those residing in the Santa Barbara and surrounding areas. J.E.R. Studio is truly an artist's studio and your needs are our philosophy, your comfort is our desire. J.E.R. Studio is a comfortable, professional atmosphere lending itself to the creative artist.



•• J.R. WEST SOUND RECORDERS

also REMOTE RECORDING
1025 N. Ferndale, Fullerton, CA 92631
(714) 997-3513
Owner: Jack Roberts
Studio Manager: Jack Roberts

•• JOEL PRODUCTIONS

also REMOTE RECORDING
29613 Trotwood Ave., San Pedro, CA 90732
(213) 833-8647
Owner: Rick Crowell, Hayden Jones
Studio Manager: Rick Crowell
Engineers: Rick Crowell, Hayden Jones
Dimensions of Studios: 25 x 15'
Dimensions of Control Rooms: 11' x 11'
Tape Recorders: TEAC 3340 4 track, Hevox A-77 2 track, TEAC A106 cassette
Mixing Consoles: Tascam Model 10, 8 in x 4 out
Monitor Amplifiers: Marantz Philips (built into control room monitors)
Monitor Speakers: Altec, Philips 532s (rational teetbank in-amp)
Echo, Reverb, and Delay Systems: Sound Workshop 242 stereo
Other Outboard Equipment: dbx RM 157 noise reduction

MXR compressor dbx 161 comp/limiter, MXR noise gate, MXR stereo chorus, Audioarts 4200 parametric equalizer
Microphones: AKG 451 E, Shure SM 7, SM 54, SM 57
Instruments Available: Chickering baby grand (2) Martin D 14s, Fender Precision bass, Ibanez musician electric guitar, cello drums—aux mixers and other instruments available on request
Video Equipment & Service: Available upon request
Rates: \$15/hr

•• FRED JONES RECORDING SERVICES

6515 Sunset Blvd. Suite 205, Hollywood, CA 90028
(213) 467-4122
Owner: Fred L. Jones
Studio Manager: Mark Davis

•• KING RECORDING STUDIO & SERVICE

P.O. Box 2183, Camarillo, CA 93034
(805) 484-1144
Owner: Don King
Studio Manager: Geoff King

•• KINGSOUND STUDIOS

7538 1/2 Woodley Ave., Van Nuys, CA 91406
(213) 997-1353
Owner: Eddie & Mari King
Studio Manager: Mari King

•• KOALA STUDIO

also REMOTE RECORDING
601 North Buena Vista St., Burbank, CA 91505
(213) 848-1569
Owner: Shirley Adams
Studio Manager: Jack Adams

•• MAXTRAX RECORDING STUDIOS

1303 Belleview Avenue,
Cardiff by the Sea, CA 92007
(714) 942-9817
Owner: Jeff Stein
Studio Manager: Jeff Stein

To save you time and money we've just spent over 546 hours training your next employee!

When money and time are tight, you can't afford to train an employee from scratch. Our graduates have spent a full year in an intensive study of Audio Engineering, Music Production, Studio Electronics, Music Business and Finance, Copyright Laws and Entertainment Contracts. They're young, knowledgeable, and—because they're well trained—effective from the start. Graduates and referrals among the Majors!

If you are in need of someone already possessing the basic knowledge and skills of the industry, we might just have the person to fit your situation.



So call or write us at:

College for Recording Arts
665 Harrison Street, San Francisco, California 94107
Phone: (415) 781-6306

P.S. If you know a promising and talented person that you'd like to help along, why not let us train them for you!

Eligible Institution—Guaranteed Student Loan Program.

The school is accredited by the Accrediting Commission of the National Association of Trade and Technical Schools (NATTS), approved by the Calif. Superintendent of Public Instruction, approved for Veteran training, and is authorized under Federal law to enroll non-immigrant alien students. It is also endorsed by the National Academy for Recording Arts and Sciences Training Institute.

•• **MEL'S SOUND OF MUSIC**
3148½ E. Colima Rd., Hacienda Heights, CA 91745
(213) 961-2475
Owner: Mel Arakelian
Studio Manager: Tom Manasian

•• **DON MESSICK SOUND STUDIO**
P.O. Box 5426, Santa Barbara, CA 93108
(805) 969-6926
Owner: Don Messick
Studio Manager: Don Messick

•• **MOFFETT MANOR RECORDERS**
2152 Canyon Dr., Costa Mesa, CA 92627
(714) 646-3838 or 774-0660
Owner: Robert Moffett, Dale Miller
Studio Manager: Mike Dowling

•• **MOSER SOUND PRODUCTIONS**
1923 W. 17th Street, Santa Ana, CA 92706
(714) 541-6801
Owner: Richard Moser
Studio Manager: Richard Moser

•• **MUSIC BOX RECORDING STUDIO**
1146 N. Western Ave., Los Angeles, CA 90029
(213) 462-7761
Studio Manager: Edward Perry

•• **NOUVEAU STUDIO**
1258 E. Broadway, Anaheim, CA 92804
(714) 956-0695
Owner: E.J. Warmack, Servando
Studio Manager: Servando

•• **ORIGN RECORDING, LTD**
636 Baker St., Costa Mesa, CA 92626
(714) 546-5718
Owner: Larry Travis
Studio Manager: Lisa Sawyer

•• **PADDED CELL STUDIOS**
also *REMOTE RECORDING*
2251 Montgomery Ave.,
Cardiff By The Sea, CA 92007
(714) 436-7443
Owner: George A. Saer
Studio Manager: George A. Saer

•• **PHUSION**
REMOTE RECORDING ONLY
P.O. Box 7981, Newport Beach, CA 92660
(714) 751-6670
Owner: Mark Paul
Studio Manager: Mark Paul, Sylvia Waack
Engineers: Mark Paul
Dimensions of Control Rooms: 20' x 12'
Tape Recorders: TEAC A3440 4 track, Technics HSM 65
cassette, Sony 4 track, others if required
Mixing Consoles: TEAC Tascam Model 4 4 in x 4 out, 8 in x 2
out, 4 in x 2 out, others if required
Monitor Amplifiers: Carver M400 (magnetic field power amp)
Monitor Speakers: 4 JBL 4311 (mix down)
Other Outboard Equipment: Soundcraftsmen Model RP2201B
or phic EQ dbx Model 1.4 noise reduction, Kora Model SD 400
analog delay—if you need it, we'll get it
Microphones: Sennheiser MK 80/II, Shure SM 57, SM 58, AKG
D 1000F, D 19CF, Pearl CM 4000 condenser Peavey Sony
F 100s
Instruments Available: ARP Odyssey acoustic 150 guitar amp
or amps MESA Boogie
Rates: Reasonable rates will be tailored to suit your personal
project needs

•• **PIPER RECORDING STUDIO**
305 Torrance Blvd. Suite B, Carson, CA 90745
(213) 516-1269
Owner: Ben Piper
Studio Manager: Allen Kaufman
Engineers: Allen Kaufman, Ben Piper (plus additional qualified
engineers on call)
Dimensions of Studios: Studio A 22' x 25' w 8 x 8 drum
booth and 2 isolation areas, 5' x 9' and 4' x 6'. Studio B (live
room) 27 x 40
Dimensions of Control Rooms: 14 x 14
Tape Recorders: Tascam Series 80 8 (w/dbx) 8 track TEAC
441 4 track Tascam Series 25 2 4 track Marantz 5030B
(stereo) cassette, Sanyo HDR (stereo) cassette, 3M cassette
duplicator, Milova 8 track recorder
Mixing Consoles: Sound Workshop 1280A plus expander 24 in
x 8 out (24 direct outputs) and full patchbay
Monitor Amplifiers: Marantz 300 DC, Dynaco 80, Scott (head-
phones)



Monitor Speakers: JBL 4333's, Auratones, Sennheiser 414's
(phones)
Echo, Reverb, and Delay Systems: AKG BX 10 echo unit tape
delay
Other Outboard Equipment: UREI LA 3A limiter, Quantum
dual limiter, dual noise gates, Lexicon Prime Time
Microphones: Neumann U87, AKG 452, Calrec 21C, Senn-
heiser 421's, Shure SM 57's, SM 56's, (and additional dynamics)
Instruments Available: Kawai 6' grand piano, Hammond organ
(M 7), Gibson Les Paul Deluxe, 1200 acoustic 6 string, ES 1275
Double Neck (12 & 6), Ovation 6 string, Marshall, Fender amps
available on special request. Also OBX a 6-voice and various
other electronic keyboards with adequate advance notice
Rates: \$25 hr. Musicians and additional outboard equipment also
available

•• **RAG RECORDING**
8152 Manitoba St. #6, Playa del Rey, CA 90291
(213) 822-7543
Owner: Richard Grea
Studio Manager: Billy Sprocter

•• **THE REEL THING**
11197 Tudor, Ontario, CA 91761
(714) 628-3024
Owner: Robert & Georgia Hill
Studio Manager: Robert Hill

•• **SHOOTING STAR STUDIO**
Venice, CA 90291
(213) 399-5617 or 822-9986
Owner: Planet Productions
Engineers: Don Tittle
Dimensions of Studios: 19 x 19
Dimensions of Control Rooms: 10' x 10'
Tape Recorders: Pioneer HT 2044 4 track, Pioneer RT 2022
2 1/2" track, Tascam 122 cassette, JVC cassette
Mixing Consoles: TEAC/Tascam Model 5 8 in x 4 out, TEAC
Model 2 6 in x 4 out. Soon to have 16 track board
Monitor Amplifiers: Phase Linear 400 control room monitors,
Spectro Acoustics 202C headphones
Monitor Speakers: JBL 4311's
Echo, Reverb, and Delay Systems: Orban Paraisound reverb
Other Outboard Equipment: dbx 157 noise reduction, dbx 118
synth. range enhancer, Bussing, Phasor EQ
Microphones: Sennheiser 421's, Shure SM 58's, 57's, Sony ECM
280 electret condensers
Instruments Available: Kawai studio upright piano, Fender
Rhodes, RMI computer keyboard
Rates: \$15 hr. \$5 session instrument rental

•• **SOUNDSATIONS RECORDING STUDIO**
also *REMOTE RECORDING*
5644 Kearny Mesa Rd. Suite F, San Diego, CA 92111
(714) 560-6214
Owner: Glenn Taylor, Mike Benelli
Studio Manager: Mike Benelli

•• **SOUNDSTREAM DIGITAL RECORDING/EDITING**
also *REMOTE RECORDING*
5555 Melrose, Los Angeles, CA 90038
(213) 871-8028
Owner: Soundstream Inc.
Studio Manager: James Wolvinton

•• **SOUNDTECH RECORDING STUDIOS**
3567 Front St., San Diego, CA 92103
(714) 296-3451
Owner: Mike Ewing
Studio Manager: Mike Ewing
Tape Recorders: TEAC/Tascam 80-8 8 track recorder (highly
modified) w/Tascam VSK 88 VSO and full function remote con-
trol w/push-in TEAC/Tascam 7030 CSI, half track recorder
reproducer, Sanyo plus D64 programmable cassette decks, dbx
noise reduction for all machines
Mixing Consoles: Tangent Soundtech 32 in x 8 out

Monitor Amplifiers: Heath AA 1600 power amp (125 watts/8
ohms per channel), Heath AP 1800 control pre amp, and Heath
AD 1701 graphic output indicator
Monitor Speakers: JBLCTS 4.356's, Trans Audio 808's, and
Auratone 5 C's
Echo, Reverb, and Delay Systems: Ibanez AD 230 Tapco
4400
Other Outboard Equipment: Countryman 968 Phase Shifter
production devices step frequency generator, Shure Mh15 room
analyzer & pink noise generator
Microphones: Shure Electro Voice Sennheiser Sony TEAC
Neumann U 87's available for rental
Instruments Available: Hammond B 3 w/Leslie 1919 Braumul-
ler upright grand, ARP Omni strings & synthesizer, Camco dou-
ble bass drum set. Other instruments available for rental
Rates: \$20/hr—live recording and mixdown. Three hour
minimum. Tapes, supplies, and other services are extra. Complete
record fabrication is available

•• **JAY STAGGS CASSETTE DUPLICATION**
also *REMOTE RECORDING*
7332 Florence Ave., Suite D, Downey, CA 90240
(213) 928-7516
Owner: Jay Staags
Studio Manager: Jay Staags

•• **KRIS STEVENS ENTERPRISES, INC.**
also *REMOTE RECORDING*
14241 Ventura Blvd. Suite 204,
Sherman Oaks, CA 91423
(213) 981-8255
Owner: Kris Erik Stevens
Studio Manager: Ken Rayzor

•• **THE STUDIO**
1612 Ocean Park Blvd., Santa Monica, CA 90405
(213) 452-3930
Owner: Vincent Fitch
Studio Manager: Muzz Haberman

•• **STUDIO 23**
22725 Califa St., Woodland Hills, CA 91367
(213) 704-8634
Owner: Bryan Cumming

•• **STUDIOHOUSE**
also *REMOTE RECORDING*
6565 Sunset Blvd. Suite 120, Hollywood, CA 90028
(213) 464-1133
Owner: George Gilbreath
Studio Manager: Bob Luttrell

•• **SUNBURST RECORDING AND PRODUCTIONS**
10313 West Jefferson Blvd., Culver City, CA 90230
(213) 204-2222
Owner: Bob Wayne
Studio Manager: Bob Wayne
Engineers: Bob Wayne, Dave Starns, Richard McAndrew
Dimensions of Studios: 22' x 18', ceiling 12' 14"
Dimensions of Control Rooms: 18' x 15', ceiling 10' 12"
Tape Recorders: Tascam 80 B 5 8 track VSO 20%, Tascam
25 2 1/2" (half track) 2 track VSO 5%, TEAC A 3440S 14"
(quarter track) 4 track TEAC C 3 cassette 2 track (2 machines)
Marantz C 205 cassette 1 track VSO 20%
Mixing Consoles: Sound Workshop 1280 B-8 EQ (Super EQ),
12 in x 12 out, direct 8 buss outputs
Monitor Amplifiers: BGW Dynaco, Sony
Monitor Speakers: Control room, Electro Voice Sentry V's,
Auratones, Recording room, Altec A 7's
Echo, Reverb, and Delay Systems: Orban 1118 stereo reverb
with parametric EQ, MXH digital delay—all four delay modules
Other Outboard Equipment: dbx noise reduction (ten
channels), 165 compressors, 161 compressor, MXB Stereo
Chorus, 41 band Graphic EQ's, Noise Gates, Flanger, Phase-
90 Distortion + Mutron III 5 direct boxes, Dual turntable elec-
tronic metronome
Microphones: Neumann U 87, KM 84, AKG 414 451's, 100's,
Electro Voice RE 20's, RE 15's, n76, Crown P2M 30 GP, Sony
ECM 33P, ECM 21, Sennheiser 421, Shure 56's
Instruments Available: Keyboards: Kawai 74" grand piano—
Model K700C, Hammond 1958 B 3 org. w/Leslie 122, Schiller
upright piano, Fender Rhodes 74, ARP String Ensemble, Casio
MT 40 organ, Yamaha C 15 synthesizer, Hohner D 6b drumset,
Drums. Complete studio trap set, Amps: Fender Pro reverb and
Phonose, Misa. Various percussion and mext. instruments
Rates: \$25 hr.—includes engineer and all equipment
Extras: Full central air conditioning, rear 10' x 10' loading
door—no steps, complete lounge facilities with refrigerator, coffee-
maker, oven, hot plate and Sparkletts water. Lounge overlooks
country room from rear window and is wired for headphone and
microphone inputs
Direction: Founded in 1976, Sunburst has just moved to a three-
year old industrial park in Culver City. The studio was constructed
from the ground up and incorporates both acoustic and aesthetic
design features to rival the best 24 track.

•• SUPERSOUND STUDIO
8946 Ellis Ave., Los Angeles, CA 90034
(213) 836-4028
Owner: Frank Gillette Morris Golodner
Studio Manager: Frank Gillette Morris Golodner

•• SYMMETRICAL SOUND LAB
15713 Horace St., Granada Hills, CA 91344
(213) 368-9577
Owner: Richard S. Burner
Studio Manager: Richard S. Burner



Underground Studio
Inglewood, CA

••• UNDERGROUND STUDIO
also REMOTE RECORDING
652 West Arbor Vitae, Inglewood, CA 90301
(213) 671-6108, 463-8191
Owner: Richard Sandford
Studio Manager: Richard Jalle



Engineers: Richard Santer, Richard Jalle plus various independent
Dimensions of Studios: 14 x 20' 5 x 7' isolation booth
Dimensions of Control Rooms: 14 x 9'
Tape Recorders: Tascam 808 8 track TEAC A-3405 4 track
Technics AS1500US 2 track Wollensak 1520 mono Sanyo
Sony cassette machines
Mixing Consoles: Shure mixer 16 in x 8 out Shure-Mb8 5 in x
2 out
Monitor Amplifiers: Marantz 240s 80W
Monitor Speakers: JBL 4411 Auratone Sound Cubes, custom
built speakers, extensive head phone systems
Echo, Reverb, and Delay Systems: Eventide Digital Delay MIT
MIX Master Room XI 405 stereo echo chamber synthesizer Roland
BF 201 Alvarez Chorus Echo tape echo and delay
Other Outboard Equipment: Eventide Omnirescator Audhears
stereo parametric equalizers, URHEIA 3As, 12 channels of pro-
fessional series flux noise reduction, rhythm machine, many vari-
ous "doo" boxes
Microphones: Neumann KM 84, AKG C 451 D202E, Senn-
heiser MD 441 MD 421 Electro Voice RE 20, Sony ECM 33P
Shure M 57, Boyer MN160C
Instruments Available: Piano, Ludwig, Gretsch, Slingerland
trums, string ensemble, electric guitars, acoustic guitars, bass, guitars,
amplifiers, percussion devices, rhythm machines, Musser
orchestra bells
Rates: 8 track \$20/hr. 10 hrs for \$150.00 4 track \$14/hr or 10

hrs plus 10 1/2" reel of tape for \$100.00 rehearsals \$5/hr or 50 hrs
for \$200.00

•• WATTEVER RECORDERS
also REMOTE RECORDING
14815 Oxnard St., Van Nuys, CA 91401
(213) 785-2733 or (213) 882-6030
Owner: Michael Bromer Steve McDonald Michael Sincletary
Studio Manager: Steve McDonald
Engineers: Michael Bromer Steve McDonald Michael
Sincletary
Dimensions of Studios: 20 x 20
Dimensions of Control Rooms: 15 x 10
Tape Recorders: Otari 5050 HSD 8 track TEAC A-3405 4
track Boyer B77 2 track TEAC 5 Turners 4 track Akai Kon-
wood & Technics cassettes
Mixing Consoles: Sound Workshop 1280 12 in x 8 out
TEAC Tascam Model 5 5 in x 4 out auxiliary mixers 12 in x
2 out
Monitor Amplifiers: Ampzilla Crown D150 Toshiba
Monitor Speakers: Aes-604F 602D Voice of the Theatre Electro
Research, IMF Super Compact, Rola Mini RSL 300
Echo, Reverb, and Delay Systems: MXR Digital Delay Taped
4400 Sound Workshop 4:1 tape delay
Other Outboard Equipment: AD&R Gemini compressor limiter
MXR Flanger MXR Phaser modified SAE analog graphic EQ
Symetrix noise gates (mix II 8 channels)
Microphones: Altec N 21, AKG 451 190 202 Boyer 260 500
101 900 EV 96 6 BE 10 1496 Sennheiser 4 1 11 Shure
SM 57 Superscope ECM & others
Instruments Available: Guitars amps synthesizer rental
available
Rates: \$20/hr. Block rates available

•• YOUR RECORDING STUDIO
16824 Saticoy St., Van Nuys, CA 91406
(213) 786-1683
Owner: David Lee
Studio Manager: Ted Andrews

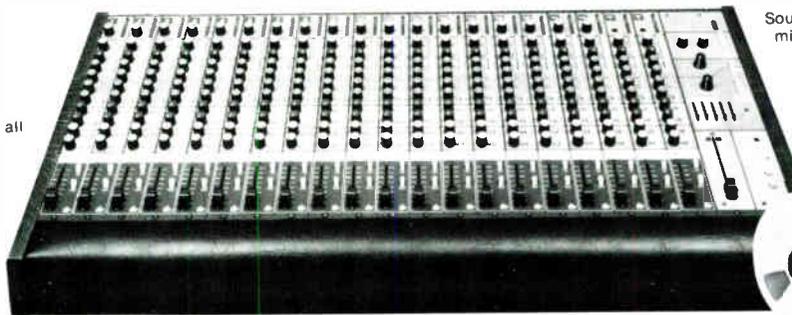
Subscribe to Mix
See page 16

We've Got Something New For You!

Suntronics is pleased to announce the hottest-ever mixer/recorder package for the small production facility—the new Logex 8 console from Sound Workshop and the 80-8 recorder/reproducer by TEAC. The tried-and-true 80-8 needs no introduction.

The Logex 8 offers features and flexibility as never before in a moderately-priced console:

- 12 or 20 inputs
- Fully Modular
- Inline Input/Output format
- Low noise ICs used throughout
- Transformerless design on all inputs and outputs
- Three band EQ with fully sweepable midrange
- Comprehensive Control Room/Studio facilities including: Slate/Talkback/Cue, Echo Return to Monitor, Echo Return to Cue, Solo, Internal talkback mic.
- LED Metering of Output busses, tape returns, and aux. busses
- Pre and post fader patch points
- Nominal interface level of +4 dBu (adjustable to other operating levels)
- Solid oak cabinetry
- External power supply



Sound Workshop Logex 8 mixing console



TEAC/Tascam 80-8 Recorder/Reproducer



7560 Garden Grove Blvd., Westminster, CA 92683, (714) 898-6368; 898-9036

7760 Balboa Blvd., Van Nuys, CA 91406, (213) 781-2537; 781-2604

1620 West Foothill Blvd., Upland, CA 91786, (714) 985-0701; 985-5307

11151 Pierce St., Riverside, CA 92515, (714) 359-5102; 359-6098

SOUTHERN NO TRACE CALIFORNIA

••• ACCUSOUND & VIDEO STUDIOS
also REMOTE RECORDING
4274 1/2 El Cajon Blvd., San Diego, CA 92105
(714) 281-6693

Owner: John A. Meiner
Studio Manager: Nino V. Desnoyers
Engineers: John Hiltebrand, Paul Murphy
Dimensions of Studios: 20' x 20'
Dimensions of Control Rooms: 13' x 20'
Tape Recorders: Otari 5050 2 track, TEAC 4044 4 track, TEAC 6018 8 track, Ampex 440 2 track, Stephens 811 16 track
Mixing Consoles: Tancent 4216, 16 in x 16 out, Tascam, 12 in x 8 out
Monitor Amplifiers: BGW 500, Crown D150
Monitor Speakers: JBL, custom
Echo, Reverb, and Delay Systems: Master Room reverb (2) Lexicon Prime-Time DDLs, Bi Amp digital reverb
Other Outboard Equipment: (4) LA 3A limiter/compressor, 12 Epeoxis, (2) Cam Brain's Bi Amp 10 band graphic EQ
Microphones: Sennheiser, Boyer, Shure, AKG, Neumann, RCA Instruments Available: Cable Doby grand, Fender Rhodes BR Hammond B-3 with Leslie, congas, timbales, Pearl trap, clavinet, ARP Omega
Rates: Call for rates

••• ANNEX STUDIOS
1032 N. Sycamore, Hollywood, CA 90038
(213) 464-7441
Owner: Thorne Nozair
Studio Manager: Thorne Nozair

••• APOLLO RECORDING STUDIO
6142 Beach Blvd., Buena Park, CA 90621
(714) 994-3761
Owner: Ace Simpson, Ron Brady, John Giacoma, Tom Chusholm
Engineers: Ace Simpson (chief), John Giacoma, Ron Brady
Dimensions of Studios: 24' x 20'
Dimensions of Control Rooms: 17' x 20'
Tape Recorders: 3M 5616 track, 3M 248 track, Tascam 25 2 track, TEAC 4401s 4 track, TEAC 420 Stereo cassette
Mixing Consoles: Tancent Series 16 (expanded)
Monitor Amplifiers: Marantz 1050 & 1070 plus two boost amplifiers
Monitor Speakers: JBL 4411s control room, JBL 1100s studio, Auratone Mixtur Cubes
Echo, Reverb, and Delay Systems: Tascam 4400 reverb, variable pitch tape delay, tape phasing (VSO)
Other Outboard Equipment: Teletronix compressor/limiter, SE 30 compressor, ADC graphic EQ, Moog synthesizer, EQ stereo synthesizer
Microphones: AKG D 200E, D 190, D 119, Sennheiser MD 421H, Alms 659 A, Shure SM 57, Electro Voice 627B, RCA 77D, BX 11A, Sony E 121, various condenser, ribbon, microphones
Instruments Available: Acoustic piano (no fee), Fender Rhodes, Fave guitar, electric guitar, 25W Fender tube amp, Wal, Wai, pedal and various percussion, large set of Hoopers drums also synthesizer and Wurlitzer electric piano available by special arrangement
Video Equipment & Services: Recording, editing, and distribution

••• AUDIO ENGINEERING ASSOCIATES
also REMOTE RECORDING
1029 North Allen Ave., Pasadena, CA 91104
(213) 798-9127
Owner: Wes Dooley & Sara Booth
Studio Manager: Ron Strohner
Engineers: Wes Dooley, Ron Strohner, Pat Kinsolanti, Barbara Korynow, Zenta, a Maser
Dimensions of Studios: 40' x 23' x 14' h, isolation booth 10' x 7' x 8' h
Dimensions of Control Rooms: 17' x 11' x 12' h
Tape Recorders: Soundcraft 702 24 16 track, Studer A 80 17 (40 input) 2 track, Otari 5050 MK III 8 track, (3) Studer B 67 (40 input) 2 track
Mixing Consoles: Soundcraft Series 1600 24 x 8 x 2 PB, Quantium QM 12A 12 in x 4 out, (2) Gately Isomberg SPM 6 6 in x 2 out
Monitor Amplifiers: Haler DH 500, Haler DH 200
Monitor Speakers: KEF 105 MK II, KEF 204, KEF 104AB
Echo, Reverb, and Delay Systems: Echoplex I & II steel plate reverb, Lexicon Prime-Time & Super Prime-Time, Denon and DL 2 DDLs, variable speed tape delay
Other Outboard Equipment: (4) x 900 series de-essers, two compressors, expansion noise gates, 2 parametric EQ, duck 165, tone processors, Dolby A, B, & C, and dbx noise reduction, SAE & Clark Teknik graphic EQ, Ashly Audio parametric EQ & tone processors, limiters, and microphones
Microphones: Sennheiser, AKG C 414 P48, C 451, D 12E, C 412 etc., Crown 12M, Sennheiser, Boyer M 160, M 500, M 69, M 88, M 101, etc., RCA 77, Neumann KM 84, U87, Shure, Electro Voice, others
Instruments Available: Steinway M grand piano, Martin D12, D28 & 00 28C, Fender Tele FT 90 (1960), guitars, Vox W100 electric guitar, and Tascam 248 and 2480s, Dobry etc.
Rates: from \$20 to \$65/hr (facilities). Block rates and evening discount available. All equipment, except musical instruments, are available for rental only.

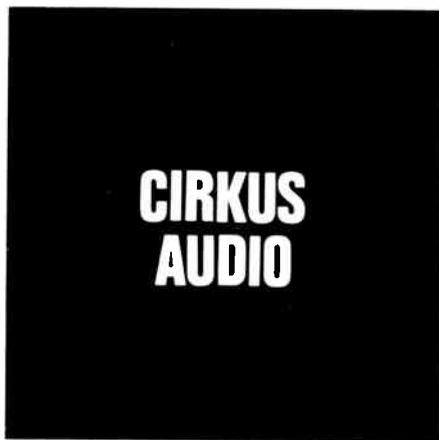
••• B & B SOUND STUDIOS
540 Hollywood Way, Burbank, CA 91505
(213) 848-4496
Owner: Bob Berger
Studio Manager: Warren Kleiman
Dimensions of Studios: 30' x 30' (studio A) 30' x 60' (dub stage)
Dimensions of Control Rooms: 5' x 40'
Tape Recorders: MCI III 16 16 track, Ampex 440 8 track, Ampex 440C 4 track
Mixing Console: Opamp Lars 16 in x 16 out, Opamp Lars A board and B board, 20 in x 20 out, Quantum
Monitor Amplifiers: McIntosh Q3umps
Monitor Speakers: "BI"
Echo, Reverb, and Delay Systems: Opamp
Microphones: Neumann U 47, AKG 202 F1, RE 15, 16, Sennheiser
Video Equipment & Services: IVC & Sony 1/4" video, cassette

••• BUZZY'S RECORDING SERVICES, INC.
6900 Melrose Ave., Los Angeles, CA 90038
(213) 931-1867
Owner: John W. Britt
Studio Manager: Allen Roth

••• CASBAH RECORDING STUDIO
1895 W. Commonwealth, Suite 'N', Fullerton, CA 92633
(714) 738-9240
Owner: Jon St. James, Chaz Ramirez
Studio Manager: Tom Trapp

Audio Kinetics Q lock synchronizer, MCI 501 TV, Sharp & Sony color monitors, Magnasync/Moviola, 3 track insert recorders, Video tape sweetening, 10mm and 35mm dubbing, live record and ADH and 35 & 16mm film, etc.
Rates: Call for rates

••• CASBAH RECORDING STUDIO
1895 W. Commonwealth, Suite 'N', Fullerton, CA 92633
(714) 738-9240
Owner: Jon St. James, Chaz Ramirez
Studio Manager: Tom Trapp



Cirkus Audio Group
Hollywood, CA

••• CIRKUS AUDIO GROUP
also REMOTE RECORDING
923 North Cole Ave., Hollywood, CA 90038
(213) 461-2007, 463-7293
Owner: Cirkus Audio Group
Engineers: Andre Champagne, studio engineer, Jeff M. and
Dimensions of Studios: A 20' x 40' w 11' ceiling, B 20' x 29' w 11' ceiling, Four and two track add services, 12' x 18'
Dimensions of Control Rooms: A 20' x 27' w 10' ceiling, B 18' x 20'
Tape Recorders: Stephens 811 D 16 track, Scully 2808 2 track
Mixing Consoles: Custom 2016 20 in x 16 out
Monitor Amplifiers: SAE 2400s, x100s
Monitor Speakers: JBL 4433 (8, impedance), A1S 2000
Echo, Reverb, and Delay Systems: Eventide Harmonizer HM 80, AKG BX10E
Other Outboard Equipment: Teletronix LA3 LA, A8, UREI LA 3, 1176LN, Lampanders, Custom compressors, SAE 2000B graphic phaser de-esser UREI 527A, 21 UREI BI 40s (2) UREI 545 UREI 530, Eventide Instant Phaser
Microphones: Sennheiser, AKG, Sony, Electro Voice, Boyer, Shure, etc.
Instruments Available: Tuning pipe organ set, Hammond B-3 with Leslie
Rates: Negotiable starting near \$25/hr

••• GARY DENTON STUDIO
15350 Cohasset St., Van Nuys, CA 91406
(213) 786-2402
Owner: Gary Denton
Studio Manager: Melody Carpenter

••• DUCHESS STUDIOS
also REMOTE RECORDING
7923 Duchess Drive, Whittier, CA 90606
(213) 696-5503 & 695-7715
Owner: Chuck & Madeline Minear
Studio Manager: Chuck Minear Sr.
Engineers: Chuck Minear Sr., Greg East & independent
Dimensions of Studios: Studio 5, 9 in x 18' & 12' x 10'
Studio C 10' x 8'
Dimensions of Control Rooms: A 17' x 13' x 10' x 8'
Tape Recorders: Ampex 1100 16 track, Ampex AG 450 2 track, TEAC 8008 8 track, (2) Rev. x A 700 2 track, TEAC C 1 cassette
Mixing Consoles: Amek 2000A 20 in x 20 out, Model 5
Monitor Amplifiers: Opamp Lars, McIntosh 2100 Philips 545
Monitor Speakers: UREI 811s Philips 545, Auratone
Echo, Reverb, and Delay Systems: AKG BX 10, Clark Teknik I.N. 30, Marshall, FXR, Exeter, SP

Other Outboard Equipment: dbx 160 URE1 1176 Symetrix C1 100 & SG 200 Dynamite
Microphones: AKG, Beyer, Neumann, Shure, Sony, Crown, PZM, Sennheiser, RCA, all major mics
Instruments Available: Grand piano, Rhodes, bass, electric guitar, organ. Other instruments available by appointment.
Rates: Call for rates. Block & package rates available.

••• **E.D.B.—AUDIO & VIDEO RECORDING**
 also **REMOTE RECORDING**
 27417 Onlee Ave., Saugus, CA 91350
 (805) 259-0828
Owner: Eric Di Berardo
Studio Manager: Eric Di Berardo

••• **FUTURISTIC SOUND STUDIOS**
 also **REMOTE RECORDING**
 1842 Burlison, Thousand Oaks, CA 91360
 (805) 496-2585
Owner: Randy Dew
Studio Manager: Mike Smith

••• **GOLDEN WEST SOUND STUDIO INC.**
 6429 Selma Ave., Hollywood, CA 90028
 (213) 461-4231-2-3
Owner: Jacob G. Achten
Studio Manager: Jacob G. Achten



Gopher Baroque Productions
 Westminster, CA

••• **GOPHER BAROQUE PRODUCTIONS**
 7560 Garden Grove Blvd., Westminster, CA 92683
 (714) 893-3457
Owner: Michael Mikulka, Steve McLintock
Studio Manager: Michael Mikulka
Engineers: Michael Mikulka, independents
Dimensions of Studios: 4' x 4' with 18' isolation in building & separate isolation area
Dimensions of Control Rooms: 18' x 17'
Tape Recorders: Tascam 85 16 track, Tascam 80 8 track, Tascam 40 4 track, Tascam 25 2 track, (all with VSO) and (all) Technic, M85 cassette
Mixing Consoles: Tascam Model 16 24 x 8 x 2
Monitor Amplifiers: Crown, Haller
Monitor Speakers: JBL 4445s, 4311s, Auratones
Echo, Reverb, and Delay Systems: Foxtex DDL, MICMIX 205, MXR 1201 live chamber (rate in tail of 82)
Other Outboard Equipment: Klark Teknik 27 band room EQ, utx limiters (161, 162), Valley People date de esser, B. Amp graphic EQ, MXR flanger doubler (2), Moog parametric EQ, other effects (in the context of the spot from Suntronics, see text)
Microphones: Neumann U167 (tube), AKG 414, 452, Flair, Voice BE 20, BE 15, BE 10, Sennheiser 421, 406 (shotgun), Sanyo CM 55, 22, Shure SM 57, 58
Instruments Available: Yamaha C7 seven foot grand piano, Fender Rhodes, Hammond B3 (w/ Leslie) clavinet, ARP Omni Strings & Odyssey rack piano, Z-piano Rodgers drum kit, orchestra bells, mace, percussion
Rates: 16 track \$45-\$47 (block) per hour, 8 track \$30-\$35 (block) per hour. Special rate for independent engineers w/ pro rates
Extras: With our 18' ceiling and large hardwood floor we can offer an excellent live sound! We also have 4 isolation areas (w/ floating floors) for max separation. We offer on the spot rental of special outboard gear from Suntronics Westminster store (all under one roof!)
Direction: We are proud of our new facility and invite you to stop by for a look and listen. We at Gopher Baroque were pleased to record (and aid in production of) the grand prize, 1st place professional Top 40 and 1st place professional country award winning songs in the 1981 Song Festival!



••• **HARLEQUIN SOUND/RECORDING STUDIOS**
 19347 Londelius St., Northridge, CA 91324
 (213) 993-4778
Owner: Paul Stillman
Studio Manager: Gary DuLac
Engineers: Gary DuLac, Arthur E. Dyer, Brian McLaughlin, Paul Stillman, Melissa Raynart
Dimensions of Studios: Main room: 20' x 40' x 10' sloped incl. incl. isolation booth: 11' x 9' x 10' sloped incl.
Dimensions of Control Rooms: 15' x 22' x 10'
Tape Recorders: Ampex MM 1000 16 track, Tascam 80 8 track, dbx 8 track, Tascam 3440 4 track, Otari MX 5050 BIK 2 track, TEAC 2000 S 2 track, Akai GX 760 cassette (5 Kenwood 90) cassette
Mixing Consoles: Customized Speck Electronics 8000 16 x 16 x 8 sit
Monitor Amplifiers: BGW 500, BGW 250, Cerwin Vega A 4000 Kenwood 4 not
Monitor Speakers: Altec 604E w/ Gauss subwoolers, JBL 4311, Azapine 901
Echo, Reverb, and Delay Systems: Orban Parasond 111B, MXR Dearth Delay, Holm (Gibson) 401, Eventide Harmonizer Delay
Other Outboard Equipment: Eventide H910 Harmonizer, Lexicon DDL 16 x 16, A. Booth, 4100 parametric EQ, 2 Dyna Graph EQ 10, Bi Amp EQ 270A, 27 band, MXR phaser/flanger, noise gates

Microphones: Neumann, Sennheiser, AKG, Beyer, Shure, Sony, Electro-Voice, RCA
Instruments Available: Gabler 7 grand piano, basses, drums, guitars, synthesizers (Mini Moog, ARP Omni, Prophet 5), Chamberlin M1, percussion of all sorts
Rates: \$45/hr—16 track, \$25/hr—8 track, \$20/hr 4 track. Multiple cassette dup's (asst. prices) "Blocks available" 1 hr. free set up time. Price includes 1st engineer—rehearsal halls \$750 an hour
Extras: Rehearsal halls, lounges, vending machines, free coffee, 2 bathrooms, central air, free parking, multiple cassette duplication, tape rental
Direction: Thanks to Black Sabbath, Michael Jackson, Air Supply, Byron Berline, Chester Thompson, and many other good people and vibes. With our capable and confident staff, you can accomplish anything you have in mind in comfortable surroundings. Harlequin's production staff is now available for your projects—including players, arrangers, writers, producers from singles to soundtracks! New plans—Complete video facilities, 3 color cameras with lots of post production tool! Give us a try, you'll love the price and product!

••• **JEL RECORDING STUDIOS**
 6100 W. Pacific Coast Hwy, #D, Newport Beach, CA 92663
 (714) 646-5134, 631-4880
Owner: Edo Guidotti
Studio Manager: Sandra Gentosi
Engineers: Edo Guidotti, Bill Trousdale, Don Harper, Bob Lamansky
Dimensions of Studios: Studio A 35' x 20' + iso booth 8' x 8', Studio B 11' x 16'
Dimensions of Control Rooms: Studio A 16' x 14', Studio B 18' x 16'
Tape Recorders: Ampex 1100 16 track, (2) TEAC 80 8's 8 track, Ampex 440 B 2 track, Otari 5050 B 2 track, Ampex 350 1 track
Mixing Consoles: Sound Workshop 1600, 20 in x 16 out, TEAC custom 2 & 3 12 in x 8 out
Monitor Amplifiers: BGW, Crown, McIntosh
Monitor Speakers: EV Sentry 3, JBL 4311, Altec Auratones
Echo, Reverb, and Delay Systems: MICMIX reverb, Eventide Harmonizer, Marshall Time Modulator
Other Outboard Equipment: dbx & Allison limiters + Kenex BTX Shallow + Controller, 4" VTR + monitor slide & filmstrip projectors, Pulse generators

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SOUTHERN 16 TRACK CALIFORNIA

Microphones: Neumann, AKG, Sennheiser, Sennheiser, PZM, RCA
Instruments Available: Kawai grand piano, Hammond Electric Mini-
Mog, ARI Odyssey, Bender Hi-Fi
Rates: Video Sweetening \$110/hr., 16-track \$75/hr., 8-track \$45/hr.

••• KITCHEN SYNC RECORDING

5325 Sunset Blvd., Hollywood, CA 90027
(213) 463-2375

Owner: Michael Hamilton, Larry Meneses, Jeff Snyder
Engineers: Michael Hamilton, Larry Meneses, Jeff Snyder
Dimensions of Studios: 12' x 14' (total), 11' x 10' (control)
Dimensions of Control Rooms: 13' x 14'
Tape Recorders: MCI 1544, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 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Laguna Hills, CA

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(714) 951-5052

Owner: Elliot Peters, Walter Peters, Korin Moon
Studio Manager: Elliot Peters
Engineers: Elliot Peters, Walter Peters
Dimensions of Studios: 19' x 28' x 13'
Dimensions of Control Rooms: 16' x 18' x 12'
Tape Recorders: Tascam 85 16 track, TEAC 3440S 4 track
Orion MX-450B 2 track, Sony TC-K44 cassette deck
Mixing Consoles: Tascam modified Model 15, 24 in x 16 out,
Tascam Model 4 8 in x 4 out
Monitor Amplifiers: Philips RGW 7000, Sony
Monitor Speakers: JBL 4411s, JBL 140's, Auratones
Echo, Reverb, and Delay Systems: Audio Pulse DDL, MIC MIX
Master Room reverb, live echo chamber, custom German design
ext. plate reverb
Other Outboard Equipment: UREI 117B limiter, MXR
Phase Filter, dbx noise reduction, Aphex Aural Exciter, direct
boxes, MZH EQ, Allison Kepex and Gain Brain
Microphones: Sony, Sennheiser, Electro-Voice, Shure, Audio
Technica, AKG, Beyer and TEAC
Instruments Available: Yamaha C7 grand piano, Fender jazz
bass, Gibson Les Paul guitar, Fender Twin Reverb amp and
acoustic 146 bass amp
Rates: Call Studio for rates

Direction: THS is dedicated to supplying the excellent sound
quality that producers and artists rightfully demand. The distin-
guishing difference between Twilight and others is the fact that we
believe that during the process of achieving this goal, budgets do
not have to be overrun. Twilight is a veritable paradise for pro-
ducers and artists who love to tinker in the studio, polishing up
their latest song or trying out a new process. Twilight is a place
that producers and artists call "home" and is capable of supplying
24 and 30 track recording, any size job can be handled at very
cost effective rates.

••• WINE TREE VILLAGE RECORDING STUDIO
also REMOTE RECORDING
224 N. Indian Hill Blvd., Claremont, CA 91711
(714) 625-3288
Owner: Robert Dire
Studio Manager: Robert Dire
Engineers: Robert Dire, Michael Coleman
Dimensions of Studios: 27' x 27' x 20', drum cage 8' x 8', iso



Depth 7' x 8'
Dimensions of Control Rooms: 21' x 20' x 20'
Tape Recorders: Tascam 90 16 track, Orion 5050B 2 track
Tascam 1520 2 track, Nakamichi 480Z cassette, Technics M45
1980
Mixing Consoles: Sound Workshop Series 40, 20 in x 16 out
Monitor Amplifiers: Yamaha P2200 (2) Yamaha P2050s
Monitor Speakers: Tannoy M1000 Super Beds, F.V. Sentry
V-Aural, nes, Vexams
Echo, Reverb, and Delay Systems: DeLolab Acoustcomputer
MIC MIX Super C stereo reverb and acoustic echo chamber
Other Outboard Equipment: dbx 160 compressor/limiters
series, Dynatone, mix 104 series compressor, Bi Amp EQs
Dental Harmonic compressor, Aphex Aural Exciter, dbx noise
reduction throughout
Microphones: AKG, Crown, F.V., Sennheiser, Shure
Instruments Available: Upright piano, Fender and guitar, amp
and guitar peripherals
Rates: \$85 hr in the studio, on-tape
Extras: Wine Tree's professionally trained staff offers its clients
complete production services from studio musicians and arrange-
ment engineering services to post production. We have a clean area and kit
rooms. We're very close and according to our air conditioning
facilities. The studio is located in Claremont Village, home of nine
distinctive restaurants.
Direction: Wine Tree was designed and built by Brian Cornfield
of Environmental Architecture and is now open to the public. Record
Producers Magazine. Studio centrally located between Los
Angeles and San Bernardino. Wine Tree is the convenient alter-
native!



Wine Tree Village Recording Studio
Claremont, CA

••• WATERMARK STUDIOS
10700 Ventura Blvd., N. Hollywood, CA 91604
(213) 980-9490 x 250
Studio Manager: Stew Hillier

**For a great deal, shop
the Mix Classifieds.
See page 101.**

Subscribe

Get it at home!
See page 16 for details

SOUTHERN 24 TRACK CALIFORNIA

•••• A&M RECORDING STUDIOS

1416 N. La Brea Ave., Hollywood, CA 90028
(213) 469-2411
Owner: A&M Records
Studio Manager: Deborah Shepard, Lee Hain, Steve
Manser, Frank Boga, May Frank, Manager: Min Tamura
Engineers: Staff (Find your own)
Dimensions of Studios: A 44 x 46 x 15 and vocal booth 15
x 12 x 10, x 10 x 10, x 10 x 10, C 12 x 19 x 10, D 19 x
15 x 24, three control rooms. All studios carpeted, climate
A/M's Club in south wing.
Tape Recorders: MCI 1114 4/4 24 track, MCI 1114 1/4 D
1/4 track, Ampex 110 4/4 track, Ampex ATR 1 track, Tascam
Portastudio Professional 24 track
Mixing Consoles: A Trident BSM Custom 40 24 32 D Trident
with Monitor Amplifier, M. Custom 48 24 32 B&W All
other models
Monitor Amplifiers: UREI, B&W, M-Trach
Monitor Speakers: Custom system & Altec 604B with 1/4 wave
and M-Trach in two rows
Echo, Reverb, and Delay Systems: Two channels, FMT 140,
Lexicon 224, Lexicon Prime Time, Harmonizer DDL, Klark Teknik
DDL, Capper Tape Chaser, Echospace
Other Outboard Equipment: EMI, Crown parametric Equalizer,
Linn, QED Filter, All Approx. Faber, Linnova, UREI 17A
Hesko Linnors, UREI 1176, LAZA, Kojax, Approx. Gain Brain,
Surchild, Other Dolby, dtk Harmonizers, phaser, reverb,
etc. etc. etc. etc.
Microphones: Telefunken, Neumann, AK, RCA, Sennheiser,
Shure Electro-Voice, Sony, Nordex, Altec, Beyer, Full compo-
nent, 1/4 wave solid state compressor, system and ribbon micro-
phones
Instruments Available: 4 Steinway 7 pianos, 1 Hammond B3
organ, 2 Coleco-Tek pianos, Fender Rhodes
Rates: Call for rates
Extras: Tape copy, rehearsal, music stand, lounge, game room,
Mastering available on the premises. Live performance with
one and a half accompaniment on the A&M Sound Studio (80 x 110
x 12) at 1584 N. Hollywood Blvd. control room.
Direction: Our studio and staff are the best in the music pro-
fession and engineers. Our current staff and employed the ex-
perience of Gerry Abernethy and Allen Sides. The results are
always outstanding.

•••• AMERICAN STUDIOS
5719 Lankershim, N Hollywood, CA 91601
(213) 760-8733
Owner: Ray Pargos
Studio Manager: Steve Hain

•••• A&R RECORDING SERVICES
also REMOTE RECORDING
71906 Highway 111, Rancho Mirage, CA 92270
(714) 346-0075
Owner: Steve B. Seely
Studio Manager: Steve Gainer
Engineers: Producer, Nick Marzulli, Steve Seely
Dimensions of Studios: 12 x 18 with vocal room 12 x 4
Dimensions of Control Rooms: 12 x 12
Tape Recorders: Sony 110 4/4 track, Sony 110 1/4 track, Ampex 44 1/4 track, ATR 1/4 track, Beyer A77,
track, Azusa Model GX M50

•••• ARTISAN SOUND RECORDERS, INC
1600 N. Wilcox Ave., Hollywood, CA 90028
(213) 461-2751
Owner: Kent Duncan
Studio Manager: George Blumenthal

•••• AUDIO AFFECTS
PO Box 6327, Beverly Hills, CA 90212
(213) 763-7388
Owner: Victor Hanley
Studio Manager: Darro Shelley

•••• BABY O RECORDERS, INC
6525 Sunset Blvd., Hollywood, CA 90028
(213) 464-1330
Owner: Brian Gillette, Brian Schaefer, Rick Kierney
Studio Manager: Vicky Macnam

•••• BIG TIME RECORDING
326 N. La Cienega, Los Angeles, CA 90048
(213) 659-0688
Owner: Brian & Beverly
Studio Manager: Rick Wilson

•••• BIJOU RECORDING STUDIOS
1520 N. Cahuenga Blvd., Hollywood, CA 90028
(213) 462-0916
Owner: Alan Dickson
Studio Manager: George Hagan
Engineers: David Zeman, Joe Boria
Dimensions of Studios: 21 x 17
Dimensions of Control Rooms: 12 x 12, 4 x 12
Tape Recorders: MCI 1114 1/4 track, Ampex AG44 4
track, Ampex ATR 1/4 track
Mixing Consoles: MKS 401 6 in x 6 in
Monitor Amplifiers: SAE FSS
Monitor Speakers: UREI 4 3/4 1A BK 4 1/2, Tannoy G 12 BK
4 400, Auratone
Echo, Reverb, and Delay Systems: Lexicon 224, AK 15X 201
reverb
Other Outboard Equipment: Lexicon Prime Time, Eventide
Harmonizer, Eventide Flanger, 12 B&B CX1 compressor

•••• BRITANNIA STUDIOS INC
3249 Cahuenga Blvd., W. Hollywood, CA 90068
(213) 851-1244
Owner: Brian Macnamara
Studio Manager: Greg Venturi
Engineers: Greg Venturi, Russ Bracher
Dimensions of Studios: 12 x 40, 10 x 40, 10 x 40
Dimensions of Control Rooms: 10 x 10
Tape Recorders: MCI 1110 A 2 track, MCI 1110 4 track,
MCI 1114 24 track
Mixing Consoles: MCI 1115 6 in x 6 in
Monitor Amplifiers: B&W
Monitor Speakers: JBL custom 8 in Amp, 1 way JBL 441
Aurator
Echo, Reverb, and Delay Systems: Two MCI MIX III two line
series, 1/4 wave, 1/2 wave with parametric equalizers
Other Outboard Equipment: Harmonizer with DDL, UREI
limiter, Orbion parametric EQ, Ori in De Eesser phaser, etc. etc.
etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc.
Microphones: Neumann U87, KM 84, AKG 45, FV R 20,
RE 15, 667, 666, Shure SM 57, Sennheiser
Instruments Available: Steinway B grand piano, Fender
Electric guitar
Rates: \$175 includes two engineers, 24 hours per day 7 days
a week. Also includes all equipment and Dolby: \$150 for first
engineer
Extras: Large lounge with all amenities, an IV, Warm old French
Tuxido atmosphere
Direction: We are now a member of the IATSE and offer
what we look for in the music business.

•••• BRITANNIA STUDIOS INC
3249 Cahuenga Blvd., W. Hollywood, CA 90068
(213) 851-1244
Owner: Brian Macnamara
Studio Manager: Greg Venturi
Engineers: Greg Venturi, Russ Bracher
Dimensions of Studios: 12 x 40, 10 x 40, 10 x 40
Dimensions of Control Rooms: 10 x 10
Tape Recorders: MCI 1110 A 2 track, MCI 1110 4 track,
MCI 1114 24 track
Mixing Consoles: MCI 1115 6 in x 6 in
Monitor Amplifiers: B&W
Monitor Speakers: JBL custom 8 in Amp, 1 way JBL 441
Aurator
Echo, Reverb, and Delay Systems: Two MCI MIX III two line
series, 1/4 wave, 1/2 wave with parametric equalizers
Other Outboard Equipment: Harmonizer with DDL, UREI
limiter, Orbion parametric EQ, Ori in De Eesser phaser, etc. etc.
etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc.
Microphones: Neumann U87, KM 84, AKG 45, FV R 20,
RE 15, 667, 666, Shure SM 57, Sennheiser
Instruments Available: Steinway B grand piano, Fender
Electric guitar
Rates: \$175 includes two engineers, 24 hours per day 7 days
a week. Also includes all equipment and Dolby: \$150 for first
engineer
Extras: Large lounge with all amenities, an IV, Warm old French
Tuxido atmosphere
Direction: We are now a member of the IATSE and offer
what we look for in the music business.

•••• BURBANK STUDIO
4000 Warner Blvd., Burbank, CA 91522
(213) 954-6000

•••• CALIFORNIA RECORDING
5203 Sunset Blvd., Hollywood, CA 90027
(213) 666-1244
Owner: American Music Inc.
Studio Manager: Tom Bracy
Engineers: Tom Bracy, Tom Van Fleet, Tim Garry
Dimensions of Studios: Studio A 25 x 40, Studio B Burbank
at 1584 N. Hollywood Blvd.
Dimensions of Control Rooms: 10 x 10
Tape Recorders: MCI 1114 24 track, Ampex AG 440 2 track,
Ampex 110 4 track, Sony 600 1/4, VHS, cassette machine by
Tascam, TFA 1 Phaser, and AKAI
Mixing Consoles: Neovox Series III 12 in x 12 in, 16 in x 16 in,
18 in x 24 in
Monitor Amplifiers: Yamaha Crown, B&W and SAE
Monitor Speakers: Altec 604B with M-Trach in 1/4 wave covers
in 1/4 wave covers, Auratone
Echo, Reverb, and Delay Systems: FMT 140, Lexicon Prime
Time, Harmonizer
Other Outboard Equipment: LAZA, DTK 1/4 wave, 1/2 wave,
Kojax, Puresh, DTK, M-Trach, Helmut Linnor
Microphones: Telefunken M 25, Neumann U87 tube, U87

•••• CALIFORNIA RECORDING
5203 Sunset Blvd., Hollywood, CA 90027
(213) 666-1244
Owner: American Music Inc.
Studio Manager: Tom Bracy
Engineers: Tom Bracy, Tom Van Fleet, Tim Garry
Dimensions of Studios: Studio A 25 x 40, Studio B Burbank
at 1584 N. Hollywood Blvd.
Dimensions of Control Rooms: 10 x 10
Tape Recorders: MCI 1114 24 track, Ampex AG 440 2 track,
Ampex 110 4 track, Sony 600 1/4, VHS, cassette machine by
Tascam, TFA 1 Phaser, and AKAI
Mixing Consoles: Neovox Series III 12 in x 12 in, 16 in x 16 in,
18 in x 24 in
Monitor Amplifiers: Yamaha Crown, B&W and SAE
Monitor Speakers: Altec 604B with M-Trach in 1/4 wave covers
in 1/4 wave covers, Auratone
Echo, Reverb, and Delay Systems: FMT 140, Lexicon Prime
Time, Harmonizer
Other Outboard Equipment: LAZA, DTK 1/4 wave, 1/2 wave,
Kojax, Puresh, DTK, M-Trach, Helmut Linnor
Microphones: Telefunken M 25, Neumann U87 tube, U87

UREI 1176s, Fairchild 701, tube limiter, B&B Avion parametrics,
B&B Audio groupers
Microphones: Neumann U87, U87 SM, AKG C 414 C 45,
C 12, D 22, D 22, D 1000, D 18, D 11, Sennheiser 441,
421, Shure SM 57, 58, Sony PCM 22, PCM 21, FV R 11,
RE 15, RE 20
Instruments Available: Antigua Steinway or other
Rates: Rates upon request
Extras: Full wet bar, lounge, TV, fireplace, 1/4 wave, all times
table, large bathroom with red tub, and 1/4 wave, room
with rack power, full production services
Direction: I provide an environment where artists can make
their music their talents



Britannia Studios Inc.
W. Hollywood, CA

•••• BRITANNIA STUDIOS INC
3249 Cahuenga Blvd., W. Hollywood, CA 90068
(213) 851-1244
Owner: Brian Macnamara
Studio Manager: Greg Venturi
Engineers: Greg Venturi, Russ Bracher
Dimensions of Studios: 12 x 40, 10 x 40, 10 x 40
Dimensions of Control Rooms: 10 x 10
Tape Recorders: MCI 1110 A 2 track, MCI 1110 4 track,
MCI 1114 24 track
Mixing Consoles: MCI 1115 6 in x 6 in
Monitor Amplifiers: B&W
Monitor Speakers: JBL custom 8 in Amp, 1 way JBL 441
Aurator
Echo, Reverb, and Delay Systems: Two MCI MIX III two line
series, 1/4 wave, 1/2 wave with parametric equalizers
Other Outboard Equipment: Harmonizer with DDL, UREI
limiter, Orbion parametric EQ, Ori in De Eesser phaser, etc. etc.
etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc. etc.
Microphones: Neumann U87, KM 84, AKG 45, FV R 20,
RE 15, 667, 666, Shure SM 57, Sennheiser
Instruments Available: Steinway B grand piano, Fender
Electric guitar
Rates: \$175 includes two engineers, 24 hours per day 7 days
a week. Also includes all equipment and Dolby: \$150 for first
engineer
Extras: Large lounge with all amenities, an IV, Warm old French
Tuxido atmosphere
Direction: We are now a member of the IATSE and offer
what we look for in the music business.

•••• BURBANK STUDIO
4000 Warner Blvd., Burbank, CA 91522
(213) 954-6000

•••• CALIFORNIA RECORDING
5203 Sunset Blvd., Hollywood, CA 90027
(213) 666-1244
Owner: American Music Inc.
Studio Manager: Tom Bracy
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Dimensions of Studios: Studio A 25 x 40, Studio B Burbank
at 1584 N. Hollywood Blvd.
Dimensions of Control Rooms: 10 x 10
Tape Recorders: MCI 1114 24 track, Ampex AG 440 2 track,
Ampex 110 4 track, Sony 600 1/4, VHS, cassette machine by
Tascam, TFA 1 Phaser, and AKAI
Mixing Consoles: Neovox Series III 12 in x 12 in, 16 in x 16 in,
18 in x 24 in
Monitor Amplifiers: Yamaha Crown, B&W and SAE
Monitor Speakers: Altec 604B with M-Trach in 1/4 wave covers
in 1/4 wave covers, Auratone
Echo, Reverb, and Delay Systems: FMT 140, Lexicon Prime
Time, Harmonizer
Other Outboard Equipment: LAZA, DTK 1/4 wave, 1/2 wave,
Kojax, Puresh, DTK, M-Trach, Helmut Linnor
Microphones: Telefunken M 25, Neumann U87 tube, U87

KM 84 RCA 771X 44 AK 4414 B 451 Sony CZA 4450
C42 FET F.V. RE. 11 RE 15 G. S. Schaefer 4. 1. Bower M 100
St. no. 545 52 07

Instruments Available Steinway Piano, Fender Breders, and
amp. Leslie Speaker
Rates Hollywood, CA



California Recording
Hollywood, CA



Canyon Recorders
W. Los Angeles, CA

•••• CANYON RECORDERS
11941 Wilshire Blvd., W. Los Angeles, CA 90025
(213) 479-4466

Owner Fred Lewis
Studio Manager Herbert Tiller
Engineers Richard Newman, Field Service Engineer, Tim Kin-
yer, Research & Development Engineer, Henry Murray, Bill
Guzick, Mixing & Sweetening Engineers
Dimensions of Control Rooms 12' x 14' video control room
audio/video control room
Tape Recorders Audio Ampex 24 MM 1,000 24 track
Studio 20 A 800 24 track Ampex 121 A 800 24 track
Video Ampex VPH 25 1 (C)erman) Sony 5 BVU 800 24
UM 1/2"

Mixing Consoles VLS Switcher and Filter, Criss-Velox
Group, 600 KW MEM F111 computer synthesizer
Monitor Speakers A11, UHF1 Line Array, Video 4 Channel
15" color Sony 90 color 60 Channel 9" B&W

Echo, Reverb, and Delay Systems Video A 1000 24 Har-
ris M 1000 24 frame syntronic 4 Channel reverb positioner
Other Outboard Equipment 1000 watt stereo monitor &
synthesizer

Microphones Neumann M49, EM 98, KM 5
Rates Call for rates and rates
Extras MGS 1000 Q1 2 Channel reverb for studio and
video look up
Direction Audio video production and post-production facilities
video tape editing, sweetening, mixing, Foley & ADH help
production and studio equipment rental. Our facility is spec-
ially designed for outdoor music recording and musical
video studios with emphasis on visual effects. The room also in-
corporates a 114 multitrack stereo mixing system for unparalleled
audio capability. We also provide multitrack synthesizer &
Delay systems for field rentals.

SOUTHERN 24 TRACK CALIFORNIA



Capitol Records Studio
Hollywood, CA

•••• CAPITOL RECORDS STUDIO
1750 N. Vine St., Hollywood, CA 90028
(213) 462-6252—ask for studio
Studio Manager Charles Orndell, Booker Burdette
Engineers Dana Cole, Hal James, Max Gordon, Bob
Norrington, Bud, Bill, Tom, Gene, Woody, Dick,
Mortimer, Wayne, Paul, Joe, Tom, Eric, Eric, Steven,
Eric, May, Eugene, Eugene, Tom, Joe, Joe, Joe,
Tom, Murray, Alberto, Chris, Bill, John, Joe, Walter
Dimensions of Studios A 60' x 40' x 10', B 60' x 40' x 10',
C 18' x 20' x 10', D 18' x 20' x 10', E 18' x 20' x 10',
F 18' x 20' x 10', G 18' x 20' x 10', H 18' x 20' x 10',
I 18' x 20' x 10', J 18' x 20' x 10', K 18' x 20' x 10',
L 18' x 20' x 10', M 18' x 20' x 10', N 18' x 20' x 10',
O 18' x 20' x 10', P 18' x 20' x 10', Q 18' x 20' x 10',
R 18' x 20' x 10', S 18' x 20' x 10', T 18' x 20' x 10',
U 18' x 20' x 10', V 18' x 20' x 10', W 18' x 20' x 10',
X 18' x 20' x 10', Y 18' x 20' x 10', Z 18' x 20' x 10',
AA 18' x 20' x 10', AB 18' x 20' x 10', AC 18' x 20' x 10',
AD 18' x 20' x 10', AE 18' x 20' x 10', AF 18' x 20' x 10',
AG 18' x 20' x 10', AH 18' x 20' x 10', AI 18' x 20' x 10',
AJ 18' x 20' x 10', AK 18' x 20' x 10', AL 18' x 20' x 10',
AM 18' x 20' x 10', AN 18' x 20' x 10', AO 18' x 20' x 10',
AP 18' x 20' x 10', AQ 18' x 20' x 10', AR 18' x 20' x 10',
AS 18' x 20' x 10', AT 18' x 20' x 10', AU 18' x 20' x 10',
AV 18' x 20' x 10', AW 18' x 20' x 10', AX 18' x 20' x 10',
AY 18' x 20' x 10', AZ 18' x 20' x 10', BA 18' x 20' x 10',
BB 18' x 20' x 10', BC 18' x 20' x 10', BD 18' x 20' x 10',
BE 18' x 20' x 10', BF 18' x 20' x 10', BG 18' x 20' x 10',
BH 18' x 20' x 10', BI 18' x 20' x 10', BJ 18' x 20' x 10',
BK 18' x 20' x 10', BL 18' x 20' x 10', BM 18' x 20' x 10',
BN 18' x 20' x 10', BO 18' x 20' x 10', BP 18' x 20' x 10',
BQ 18' x 20' x 10', BR 18' x 20' x 10', BS 18' x 20' x 10',
BT 18' x 20' x 10', BU 18' x 20' x 10', BV 18' x 20' x 10',
BV 18' x 20' x 10', BW 18' x 20' x 10', BX 18' x 20' x 10',
BY 18' x 20' x 10', BZ 18' x 20' x 10', CA 18' x 20' x 10',
CB 18' x 20' x 10', CC 18' x 20' x 10', CD 18' x 20' x 10',
CE 18' x 20' x 10', CF 18' x 20' x 10', CG 18' x 20' x 10',
CH 18' x 20' x 10', CI 18' x 20' x 10', CJ 18' x 20' x 10',
CK 18' x 20' x 10', CL 18' x 20' x 10', CM 18' x 20' x 10',
CN 18' x 20' x 10', CO 18' x 20' x 10', CP 18' x 20' x 10',
CQ 18' x 20' x 10', CR 18' x 20' x 10', CS 18' x 20' x 10',
CT 18' x 20' x 10', CU 18' x 20' x 10', CV 18' x 20' x 10',
CV 18' x 20' x 10', CW 18' x 20' x 10', CX 18' x 20' x 10',
CY 18' x 20' x 10', CZ 18' x 20' x 10', DA 18' x 20' x 10',
DB 18' x 20' x 10', DC 18' x 20' x 10', DD 18' x 20' x 10',
DE 18' x 20' x 10', DF 18' x 20' x 10', DG 18' x 20' x 10',
DH 18' x 20' x 10', DI 18' x 20' x 10', DJ 18' x 20' x 10',
DK 18' x 20' x 10', DL 18' x 20' x 10', DM 18' x 20' x 10',
DN 18' x 20' x 10', DO 18' x 20' x 10', DP 18' x 20' x 10',
DQ 18' x 20' x 10', DR 18' x 20' x 10', DS 18' x 20' x 10',
DT 18' x 20' x 10', DU 18' x 20' x 10', DV 18' x 20' x 10',
DV 18' x 20' x 10', DW 18' x 20' x 10', DX 18' x 20' x 10',
DY 18' x 20' x 10', DZ 18' x 20' x 10', EA 18' x 20' x 10',
EB 18' x 20' x 10', EC 18' x 20' x 10', ED 18' x 20' x 10',
EE 18' x 20' x 10', EF 18' x 20' x 10', EG 18' x 20' x 10',
EH 18' x 20' x 10', EI 18' x 20' x 10', EJ 18' x 20' x 10',
EK 18' x 20' x 10', EL 18' x 20' x 10', EM 18' x 20' x 10',
EN 18' x 20' x 10', EO 18' x 20' x 10', EP 18' x 20' x 10',
EQ 18' x 20' x 10', ER 18' x 20' x 10', ES 18' x 20' x 10',
ET 18' x 20' x 10', EU 18' x 20' x 10', EV 18' x 20' x 10',
EV 18' x 20' x 10', EW 18' x 20' x 10', EX 18' x 20' x 10',
EY 18' x 20' x 10', EZ 18' x 20' x 10', FA 18' x 20' x 10',
FB 18' x 20' x 10', FC 18' x 20' x 10', FD 18' x 20' x 10',
FE 18' x 20' x 10', FF 18' x 20' x 10', FG 18' x 20' x 10',
FH 18' x 20' x 10', FI 18' x 20' x 10', FJ 18' x 20' x 10',
FK 18' x 20' x 10', FL 18' x 20' x 10', FM 18' x 20' x 10',
FN 18' x 20' x 10', FO 18' x 20' x 10', FP 18' x 20' x 10',
FQ 18' x 20' x 10', FR 18' x 20' x 10', FS 18' x 20' x 10',
FT 18' x 20' x 10', FU 18' x 20' x 10', FV 18' x 20' x 10',
FV 18' x 20' x 10', FW 18' x 20' x 10', FX 18' x 20' x 10',
FY 18' x 20' x 10', FZ 18' x 20' x 10', GA 18' x 20' x 10',
GB 18' x 20' x 10', GC 18' x 20' x 10', GD 18' x 20' x 10',
GE 18' x 20' x 10', GF 18' x 20' x 10', GG 18' x 20' x 10',
GH 18' x 20' x 10', GI 18' x 20' x 10', GJ 18' x 20' x 10',
GK 18' x 20' x 10', GL 18' x 20' x 10', GM 18' x 20' x 10',
GN 18' x 20' x 10', GO 18' x 20' x 10', GP 18' x 20' x 10',
GQ 18' x 20' x 10', GR 18' x 20' x 10', GS 18' x 20' x 10',
GT 18' x 20' x 10', GU 18' x 20' x 10', GV 18' x 20' x 10',
GV 18' x 20' x 10', GW 18' x 20' x 10', GX 18' x 20' x 10',
GY 18' x 20' x 10', GZ 18' x 20' x 10', HA 18' x 20' x 10',
HB 18' x 20' x 10', HC 18' x 20' x 10', HD 18' x 20' x 10',
HE 18' x 20' x 10', HF 18' x 20' x 10', HG 18' x 20' x 10',
HH 18' x 20' x 10', HI 18' x 20' x 10', HJ 18' x 20' x 10',
HK 18' x 20' x 10', HL 18' x 20' x 10', HM 18' x 20' x 10',
HN 18' x 20' x 10', HO 18' x 20' x 10', HP 18' x 20' x 10',
HQ 18' x 20' x 10', HR 18' x 20' x 10', HS 18' x 20' x 10',
HT 18' x 20' x 10', HU 18' x 20' x 10', HV 18' x 20' x 10',
HV 18' x 20' x 10', HW 18' x 20' x 10', HX 18' x 20' x 10',
HY 18' x 20' x 10', HZ 18' x 20' x 10', IA 18' x 20' x 10',
IB 18' x 20' x 10', IC 18' x 20' x 10', ID 18' x 20' x 10',
IE 18' x 20' x 10', IF 18' x 20' x 10', IG 18' x 20' x 10',
IH 18' x 20' x 10', II 18' x 20' x 10', IJ 18' x 20' x 10',
IK 18' x 20' x 10', IL 18' x 20' x 10', IM 18' x 20' x 10',
IN 18' x 20' x 10', IO 18' x 20' x 10', IP 18' x 20' x 10',
IQ 18' x 20' x 10', IR 18' x 20' x 10', IS 18' x 20' x 10',
IT 18' x 20' x 10', IU 18' x 20' x 10', IV 18' x 20' x 10',
IV 18' x 20' x 10', IW 18' x 20' x 10', IX 18' x 20' x 10',
IY 18' x 20' x 10', IZ 18' x 20' x 10', JA 18' x 20' x 10',
JB 18' x 20' x 10', JC 18' x 20' x 10', JD 18' x 20' x 10',
JE 18' x 20' x 10', JF 18' x 20' x 10', JG 18' x 20' x 10',
JH 18' x 20' x 10', JI 18' x 20' x 10', JJ 18' x 20' x 10',
JK 18' x 20' x 10', JL 18' x 20' x 10', JM 18' x 20' x 10',
JN 18' x 20' x 10', JO 18' x 20' x 10', JP 18' x 20' x 10',
JQ 18' x 20' x 10', JR 18' x 20' x 10', JS 18' x 20' x 10',
JT 18' x 20' x 10', JU 18' x 20' x 10', JV 18' x 20' x 10',
JV 18' x 20' x 10', JW 18' x 20' x 10', JX 18' x 20' x 10',
JY 18' x 20' x 10', JZ 18' x 20' x 10', KA 18' x 20' x 10',
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KE 18' x 20' x 10', KF 18' x 20' x 10', KG 18' x 20' x 10',
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KV 18' x 20' x 10', KW 18' x 20' x 10', KX 18' x 20' x 10',
KY 18' x 20' x 10', KZ 18' x 20' x 10', LA 18' x 20' x 10',
LB 18' x 20' x 10', LC 18' x 20' x 10', LD 18' x 20' x 10',
LE 18' x 20' x 10', LF 18' x 20' x 10', LG 18' x 20' x 10',
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MK 18' x 20' x 10', ML 18' x 20' x 10', MM 18' x 20' x 10',
MN 18' x 20' x 10', MO 18' x 20' x 10', MP 18' x 20' x 10',
MQ 18' x 20' x 10', MR 18' x 20' x 10', MS 18' x 20' x 10',
MT 18' x 20' x 10', MU 18' x 20' x 10', MV 18' x 20' x 10',
MV 18' x 20' x 10', MW 18' x 20' x 10', MX 18' x 20' x 10',
MY 18' x 20' x 10', MZ 18' x 20' x 10', NA 18' x 20' x 10',
NB 18' x 20' x 10', NC 18' x 20' x 10', ND 18' x 20' x 10',
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NH 18' x 20' x 10', NI 18' x 20' x 10', NJ 18' x 20' x 10',
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NQ 18' x 20' x 10', NR 18' x 20' x 10', NS 18' x 20' x 10',
NT 18' x 20' x 10', NU 18' x 20' x 10', NV 18' x 20' x 10',
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OB 18' x 20' x 10', OC 18' x 20' x 10', OD 18' x 20' x 10',
OE 18' x 20' x 10', OF 18' x 20' x 10', OG 18' x 20' x 10',
OH 18' x 20' x 10', OI 18' x 20' x 10', OJ 18' x 20' x 10',
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OV 18' x 20' x 10', OW 18' x 20' x 10', OX 18' x 20' x 10',
OY 18' x 20' x 10', OZ 18' x 20' x 10', PA 18' x 20' x 10',
PB 18' x 20' x 10', PC 18' x 20' x 10', PD 18' x 20' x 10',
PE 18' x 20' x 10', PF 18' x 20' x 10', PG 18' x 20' x 10',
PH 18' x 20' x 10', PI 18' x 20' x 10', PJ 18' x 20' x 10',
PK 18' x 20' x 10', PL 18' x 20' x 10', PM 18' x 20' x 10',
PN 18' x 20' x 10', PO 18' x 20' x 10', PP 18' x 20' x 10',
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SB 18' x 20' x 10', SC 18' x 20' x 10', SD 18' x 20' x 10',
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SH 18' x 20' x 10', SI 18' x 20' x 10', SJ 18' x 20' x 10',
SK 18' x 20' x 10', SL 18' x 20' x 10', SM 18' x 20' x 10',
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SV 18' x 20' x 10', SW 18' x 20' x 10', SX 18' x 20' x 10',
SY 18' x 20' x 10', SZ 18' x 20' x 10', TA 18' x 20' x 10',
TB 18' x 20' x 10', TC 18' x 20' x 10', TD 18' x 20' x 10',
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UV 18' x 20' x 10', UW 18' x 20' x 10', UX 18' x 20' x 10',
UY 18' x 20' x 10', UZ 18' x 20' x 10', VA 18' x 20' x 10',
VB 18' x 20' x 10', VC 18' x 20' x 10', VD 18' x 20' x 10',
VE 18' x 20' x 10', VF 18' x 20' x 10', VG 18' x 20' x 10',
VH 18' x 20' x 10', VI 18' x 20' x 10', VJ 18' x 20' x 10',
VK 18' x 20' x 10', VL 18' x 20' x 10', VM 18' x 20' x 10',
VN 18' x 20' x 10', VO 18' x 20' x 10', VP 18' x 20' x 10',
VQ 18' x 20' x 10', VR 18' x 20' x 10', VS 18' x 20' x 10',
VT 18' x 20' x 10', VU 18' x 20' x 10', VV 18' x 20' x 10',
VV 18' x 20' x 10', VW 18' x 20' x 10', VX 18' x 20' x 10',
VY 18' x 20' x 10', VZ 18' x 20' x 10', WA 18' x 20' x 10',
WB 18' x 20' x 10', WC 18' x 20' x 10', WD 18' x 20' x 10',
WE 18' x 20' x 10', WF 18' x 20' x 10', WG 18' x 20' x 10',
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XB 18' x 20' x 10', XC 18' x 20' x 10', XD 18' x 20' x 10',
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XK 18' x 20' x 10', XL 18' x 20' x 10', XM 18' x 20' x 10',
XN 18' x 20' x 10', XO 18' x 20' x 10', XP 18' x 20' x 10',
XQ 18' x 20' x 10', XR 18' x 20' x 10', XS 18' x 20' x 10',
XT 18' x 20' x 10', XU 18' x 20' x 10

TEAC A1705 cassette (2) TEAC 440 3405 1/4 track
Mixing Consoles: MCI JH 5, H 2E in x 3, out (with JH 50 auto mutator)
Monitor Amplifiers: Crown M-Intech Phase Linear
Monitor Speakers: Altec 604 F Super Red System Mastering Lab Cross-over Network w/6 Gauss subwoofers JBL 4413S & A1000s

Echo, Reverb, and Delay Systems: Lexicon 224 digital AKG BX-0 Lexicon Prime-Time Eventide Digital Cooper Time-Cube
Other Outboard Equipment: LA As LA 4As UA 177 & 178 (4) Krell's 117's Krell's V4 Gain Brains Bullec Limiters EQ Crown parametric Crown TelePar Harmonizer Phasor Phaser Omnipressor & much more (and if we haven't got what you want, we'll get it for you)

Microphones: Sony AKG Neumann & Neumann Linnex plus a full selection of Neumann Sennheiser AKG Sony Electro Voice-Alexander units

Instruments Available: Steinway 7 B Hammond with Leslie
Rates: \$120/hr

Extras: Twenty seven years of Hollywood & Vine capturing the energy of the city in a remarkable creative recording environment. We are always striving for perfection.

Direction: Richard Rossington Studios founded in 1954 is one of the nation's largest studios in the recording industry. Started with a 2000 sq. ft. studio in Hollywood, it has since grown to include the Sam Cooke Recording Studio, the 1000 sq. ft. studio in Hollywood, and the 1000 sq. ft. studio in Burbank. Recent projects of interest include: Herbie Hancock, Norberto and Walter, Carole King, etc.



Eldorado Recording Studio
 Hollywood, CA

the ENACTRON TRUCK

48-Track Mobile Recording—Neve Console

Enactron Truck/Magnolia Sound
 N. Hollywood, CA

**** THE ENACTRON TRUCK/MAGNOLIA SOUND
 also REMOTE RECORDING
 5102 Vineland Ave., N. Hollywood, CA 91601
 (213) 761-0511

Owner: Brian Ahern
Studio Manager: Stuart Taylor
Engineers: Stuart Taylor, Donovan Cowart
Dimensions of Studio: Truck has overdub room, Studio 40' x 30' + isolation booths
Dimensions of Control Rooms: Truck 40' x 8', Studio 20' x 24'
Tape Recorders: Stephens MCI Ampex Scully
Mixing Consoles: Truck Neve, 28 in x 16 out, Yamaha PM1000 16 in x 24 out, Studio Sphere 40 in x 24 out, fully automatic (Allison)
Monitor Amplifiers: BGW, SAE, Bryston Pro 2



Monitor Speakers: JBL 4413S UREI 1500 Cartmel, Klipsch Belle & LeSueur, Auratones

Echo, Reverb, and Delay Systems: ANGLE 20, AMN Digital Harmonizer, Eventide DDL, Lexicon Prime-Time, Spatialization, Lexicon 224, digital delay

Other Outboard Equipment: 12db compressor EQs, mix console processor, Orban De-esser, UREI Amplifier, EQ, UREI 117A, TelePar, UA LA 4, Krell's MXR, MXR, and much more. Also stereo noise gate

Microphones: We have a selection of microphones including a full Neumann, EMI, AKG, Electro Voice, Sennheiser, Shure, and Sony

Instruments Available: Yamaha, Fender, Gibson, electric, acoustic, and pipe organ

Rates: \$120/hr
Direction: REMOTES: Peter Sabatelli, James Hester, Jay Fogel, Fred Hampton, Emme Lou Harris, Wylene Ginnard, Charles Lane, Keith Wilson, Norman B. Jones, Bob STYER, The Walsh MOVIES: A. Curtis Brown, The Boss, Horvath, Ken Rose, The Lou Waly

**** EVERGREEN RECORDING STUDIOS, INC
 4403 West Magnolia Blvd., Burbank, CA 91050
 (213) 841-6800

Owner: Steve Fox, Artie Brown
Studio Manager: Studio Director, Norman Smart, Bob Henson, Chris Henson

Engineers: Rick Brown, Murray M. Brown, Gary Lewis, Mike Halber, Matt Moroni, Kevin Emmer, Ted Schermerhorn, Dennis M. Gray, Christopher G. Galt, Mike Brown, Steve Henson

Dimensions of Studios: Studio A 10' x 10', Studio B 10' x 10', Studio C 10' x 10'

Dimensions of Control Rooms: Studio A 10' x 10', Studio B 10' x 10', Studio C 10' x 10'

Tape Recorders: Ampex 1000 24 track (2), Ampex 5 ATB 102 1/4 track Ampex 5 ATB 104 4 track Mastering 4 full track single strip, 1/4 inch 2 track stereo

Mixing Consoles: Harrison 48 (2), 48 in x 16 out, Harrison 4052 41 in x 16 out

Monitor Amplifiers: Crown PSA 2 in each control room and for playback studios

Monitor Speakers: UREI Time-Alien
Echo, Reverb, and Delay Systems: (2) tube phasers, 2 EMI Space 4, 2 BX 20 stereo, 224 Lexicon

Other Outboard Equipment: Marshall Tube Modulators, Eventide w/Harmonizers, UREI InnoVox, Lexicon, Dolbys dbx, HCO tube eqs, SMPLE

Microphones: Neumann, AKG, Sennheiser, Sony, E.V., Sennheiser
Instruments Available: 2 Yamaha grand and uprights
Rates: Record rates and film rates call for information

**** EXCALIBUR STUDIOS
 11324 1/2 Ventura Blvd., Studio City CA 91604
 (213) 761-0759

Owner: Stephen Singer, Heyward Collins
Studio Manager: Stephen Singer
Engineers: Heyward Collins & various independent

Dimensions of Studios: 40' x 25' isolation booth, 10' x 10' vocal booth, 8' x 8'

Dimensions of Control Rooms: 20' x 16'

Tape Recorders: MCI JH 16 (w/ Autolocator), 4, 24 track, Technics 1500 2 track, MCI JH 111A 2 track (2), TEAC C24 cassette decks, Sony TC640 1/4 track

Mixing Consoles: MCI 528 26 in x 32 out
Mixing Amps: Crown PSA 2, SAE
Monitor Speakers: UREI Time-Alien monitors, JBL 4411, Auratones

Echo, Reverb, and Delay Systems: EMI Stereo Mastering Room echo, Lexicon Prime-Time Eventide Harmonizer, MXH digital delay

Other Outboard Equipment: UREI limiters, vocal stressor, Gain Brains Krell's Orban parametric EQ, A1000s dbx limiter, Soundcraft Kex (Omni-rail noise gate), Eventide Instant Phaser

Microphones: Neumann U 47, U 87, KM 4, AKG 414, Sony B 77, Sony ECM 22, Shure SM 57, Sennheiser 421, 441, Electro Voice RE 20, RE 16, RE 145, RCA 77DX, other assorted mics
Instruments Available: Yamaha grand, Fender Rhodes, Pro phet

Rates: \$65/hr
Extras: 1 into good people (close to restaurants, hotels, etc.)
Direction: We are involved as a production company in over 50 projects. We also have done many commercials, film scores & many records this year. We believe the artist needs a satisfactory creative maybe with that if acts as an example for the rest of the world.



Excalibur Studios
 Studio City, CA



Fanfare Studios
 El Cajon, CA

**** FANFARE STUDIOS
 (div. of Rondel Audio Ent. Inc.)
 Studio: 120 E. Main St.,
 El Cajon (suburb of San Diego), CA 92020
 (714) 447-2555

Owner: Ronald L. Compton
Studio Manager: Carol A. Compton

Dimensions of Studios: 25' x 30' Isolation room #1, 10' x 12' Isolation room #2, 7' x 7'

Dimensions of Control Rooms: 17' x 20'

Tape Recorders: MCI JH 24 24 track, MCI JH 16 16 track, MCI JH 100 2 track, Ampex 44 1/4 track, Ampex 440B 4 & 2 track (2), Revox A77 2 & 1/4 track, Nakamichi 1700 B cassette

Mixing Consoles: MC 1636 full mixing automator, trans amp in pairs, 40 in x 36 out

Monitor Amplifiers: BGW & Crown
Monitor Speakers: JBL Auratones, Altec, Sennheiser, AKG head phones

Echo, Reverb, and Delay Systems: EMI Stereo Plate, Lexicon 224 with all programs and non-volatile memory, Eventide Harmonizer, Deltalab digital delay

Other Outboard Equipment: (4) Orban parametric EQs, (4) UREI LA4A compressors, (1) 76 LM limiters, (2) Gain Brains, (4) Krell's Orban Sibilance controller, UREI digital metronome, Bullec EQ, Orban stereo synthesizer, EXR Exciter, (2) dbx 124 compressors, Dolby noise reduction

Microphones: Neumann U 87, KM 86, KM 84, U 47, AKG 414, 202F, 119, Shure SM 56, Electro Voice RE 15, RE 10, Sony 337 (4), Altec 13B, RCA 44HX

Instruments Available: 7 Yamaha conservatory grand piano, Hammond B3 organ with tube type Leslie speaker, Fender Rhodes electric piano, Ludwig drums w/concert toms, Syn drum AEP Omni and ARP Odyssey synthesizers, congas, orchestral brass, timpani, percussion devices

Rates: 40 track (24 & 16 synch'd) \$95/hr, 24 track \$85/hr, 16 track \$75/hr

Microphones: AKG Neumann E.V. Shure Sennheiser Beyer Sony RCA PZM. All mics rare and common available.

Instruments Available: 5 Steinway grands, 3 Yamaha grands, clavinet.

Rates: Call for rates.

Extras: Herbie Serrano Service, media services, film dubbing, remote recording, 24-hr maintenance, tape effects library, lounge, conference room, kitchens w/ microwave, restaurant, near-by.

Direction: Wally Heider is one of the only studio complexes in the world that can supply any and all needs for all types of sound reproduction. Our aim is to provide specialized service to our clients. We intend to maintain the long-lived legacy of Wally Heider Studios by providing the most complete, highest level of service available. Within our 7 studio environment, we maintain the highest versatility as well as 24-hour maintenance personnel. The seven studio complex can handle anything from simple commercial voice overs to 140 person orchestras to movie scoring. We will continue to provide a trouble-free, creative, comfortable environment equipped with the current state of the art to its



take into much more.

Microphones: Over 250 to choose from including AKG Altec-Beyer Calrec Electro-Voice Neumann RCA Sennheiser Sony Shure etc. with over 100 tube type condensers and 100 studios.

Instruments Available: Steinway grand piano, Fender Rhodes 88 Clavinet D.J. Fartisa Mini guitar amps and accessories.

Extras: 60 acre mountain lot with kitchen and 3 bedrooms.

Rates: Please call for rates.

Direction: In the Heart of the West in the environment conducive to musical productivity in the like but professional setting. Located in the Malibu Hills overlooking the Pacific Ocean, Indigo Service, top recording artists from all over the world. The sixty acre ranch offers lodging and accommodations, kitchen facilities and a gourmet rock club. The ranch is fully equipped state of the art studio are beautifully maintained by an experienced and conscientious staff doing its utmost to make clients feel welcome and comfortable.

Microphones: Neumann U87's KM 84's Beyer M 50C's AKG 414's 452's 224's Sennheiser 411's Electro-Voice RE 20's FF 16's Shure SM 57's.

Instruments Available: 9 Yamaha concert grand, Hammond B 3 with Leslie 122's and 900 Fender Rhodes 74 EP, Hebler clavinet 140, Clavinets, percussion.

Rates: Studio A Mono 2-4 track \$1,500/hr. 2-4 track \$1,750/hr. 2-4 track \$1,500/hr. Rate rates include all movies day or night. Mastering \$100/hr. please call for additional information.



Hit City West
Los Angeles, CA

**** HIT CITY WEST
6146 West Pico Blvd., Los Angeles, CA 90035
(213) 852-0186
Owner: Jason Bell & Ken Kravitz
Engineers: Avi Kipper, Robert Baradich, Susan Whipple, numerous independent engineers.
Dimensions of Studios: 17' x 20' - Studio A, 12' x 7' - Studio B.
Dimensions of Control Rooms: 16' x 14' - Studio A, 12' x 12' - Studio B.
Tape Recorders: MCI JH 114 (transformerless) 24 track w/ Autolocator III, Ampex ATF 102 2 track, Ampex 440C 2 track, Akai GX625 4 track, Aiva 200, 1,300 cassettes.
Mixing Consoles: Soundcraft Series 2400 w/ barograph and spectrum analyzer, 28 mic in x 52 line in x 24 out.
Monitor Amplifiers: Crown SAE Technics White.
Monitor Speakers: Custom JBL, Auratone 5C, JBL 433B.
Echo, Reverb, and Delay Systems: Lexicon 224 dbx 165 overeasy comp limiter, ADH Vocal Stressor EMI 240 Jrsu Ma or SST282 Spare Station MIC MIX Master Room Super C reverb Lexicon Prime Time DDI Delatlab Acoustic comp per DLI, Eventide 949 Harmonizer.
Other Outboard Equipment: dbx 160 comp limiter, Allison Fun Brans Kepex's UREI 117's, Eventide Instant Flanger Countryman 568 Phase Shifter Orban De Esser UREI 954 digital metronome. All other outboard equipment available as rental.
Microphones: Telefunken, Neumann, AKG, Sennheiser, Electro-Voice, Beyer, Shure, RCA, Crown PZM.
Instruments Available: 1890 Seaway grand piano, Cable & Sons upright piano, all other instruments available for rentals.
Rates: Please call for information.

**** INDIGO RANCH RECORDING STUDIO, MALIBU
P.O. Box 24A-14, Los Angeles, CA 90024
(213) 456-9277
Owner: Richard Kaplan, Michael Hottman
Engineers: Chris Brun, Richard Kaplan
Dimensions of Studios: 25 x 20 - plus isolation room
Dimensions of Control Rooms: 18 x 20
Tape Recorders: 3M M79 24 track, 3M M79 2 track, Studer Beyer 2 track.
Mixing Consoles: Aenous lenser custom, 32 in x 4 track.
Monitor Amplifiers: McIntosh, Crown, E.A.
Monitor Speakers: Custom JBL's, Visonik Little Davids, Auratone Braun.
Other Outboard Equipment: 32 channels of dbx noise reduction, dbx 160's, UREI 1176 LN UA 175's 176's Altec 400C limiter, Teltronix LA1, LA2, LA-A's, Kepex's, Harmonizers, phasers, UREI 550 Little Dippers Orban/Parasoundi parametric EQ, EMT echo, MXR digital delay, ADH stereo Corpeil limiters, Marshall Time Modulator, Pultec and Lina EQ's all models, Selco



Indigo Ranch Recording Studio
Malibu, CA

**** INTERNATIONAL AUTOMATED MEDIA
17422 Murphy Ave., Irvine, CA 92714
(714) 751-2015
Owner: IAM Corporation Jerry Shirar
Studio Manager: Debbie Jenkins
Engineers: Jerry Shirar, Willie Harlan, Paul Freeman, Richard Donaldson, Don Dirsey, Brook Johnson, Jeremiah Snider.
Dimensions of Studios: Studio A 34' x 24' with 34' x 14' isolation room and 12' x 8' drum booth, Rehearsal Room 26' x 18'.
Dimensions of Control Rooms: Studio A 21' x 19', Master room 12' x 20'.
Tape Recorders: 3M 79 24 track, 3M79 16 track, 3M 79 4 track, (2) 3M79 2 track, Beyer 2 and 4 track, Nakamichi 1000 cassette, 3M Selectake II computer location, Studer A80 master no machine.
Mixing Consoles: Studio A Harrison 40x2 w/ Allison Memory plus automation, 40 in x 32 out, Mastering custom built mastering console w/ Neumann SX 70 cutting system and SX 74 cutter head.
Monitor Amplifiers: Crown DC 300A's Crown DC 150's Crest P 4051.
Monitor Speakers: Studio A Westlake Audio TM 1 Mastering UREI 813 Time Aligned studio monitors. Also available JBL 4411's Auratone's Electrostatic Acoustics.
Echo, Reverb, and Delay Systems: Ewntide DDI with pitch change Marshall Time Modulator EMT 140 and 240 AKG BX 20.
Other Outboard Equipment: Allison Kepex, Gain Brain, Delby A UREI LA 4's, 1176's Pultec PIEO, Eventide Flanger, Orban Parasound De Esser Scamp System EPCO SMPTE time code synchronizer Lexicon 224 Davatron SMPTE code generator Ambr 4550 spectrum analyzer, IAM SMITE code offset and insert editor, dbx noise reduction, Burwen 1000 dynamic noise filters, PSE 26A stereo limiters, compressors, expander, Senter mastering EQ's.

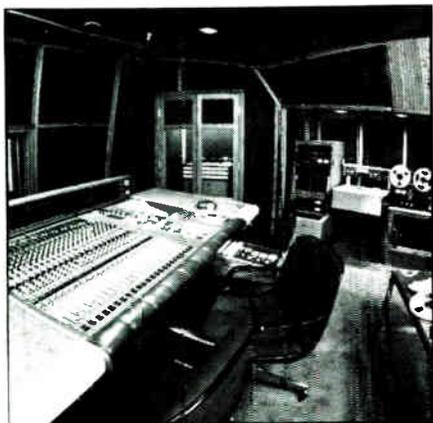


International Automated Media
Irvine, CA

**** JUNIPER RECORDING
11285 Laurie Dr., Studio City, CA 91604
(213) 980-6644
Owner: Glen & Jeanne Stephen Sharp
Studio Manager: Jane Polnhouse
Engineers: Stephen Sharp (chief), Jim Emrod, Jim Stewart
Dimensions of Studios: 20' x 20' x 12' vocal, 16' x 16' x 9' x 4' x 8'
Dimensions of Control Rooms: 12' x 9' x 8'
Tape Recorders: MCI JH 116 w/ Autolocator II, 24 track, Otari 5050B 2 track, TRAC A 440S 4 track, TRAC A 400SX 2 track, Akai and Pioneer cassette decks.
Mixing Consoles: Quantum 168 custom, 40 in x 28 out, Valley People Trans amp, transformerless preamps, 32 in x 9 out.
Monitor Amplifiers: Quate HGW Harmon Kardion.
Monitor Speakers: Tannoy Golds, JBL 433, Auratone.
Echo, Reverb, and Delay Systems: Lexicon 224X digital reverb, Master Room XI 405 MXR digital delay, Roland DX 40 analog delay and chorus.
Other Outboard Equipment: Aphex Aural Exciter, MXR Pitch Transposer, UREI LA 4A limiters, Avidio's Limiter, Orban Furwen noise filter, UREI digital metronome, Valley People Dyna Mite limiter gates, Nisco 10 band graphic EQ, Moog parametric EQ, Orban soft noise gates.
Microphones: Neumann U87, AKG 414, 45, 414EB, D55, Sennheiser 411, 441, Electro-Voice, Sony UREI 954, E-M 50P, ECM 33, 22P, 94, Crown 17M, Shure SM 56, SM 57.
Instruments Available: Prophet 5 synthesizer, Mini Moog synthesizer, Crumar Orchestrator, Steinway A grand piano, Boardman kit, Roland drum machine, EMI Emulator digital synthesizer.
Rates: 24 track \$55/hr. 16 track \$2750/hr. Rates include engineer.

**** KENDUN RECORDERS
619 and 721 S. Glenwood Place, Burbank, CA 91506
(213) 843-5900
Owner: Kent F. Dunham
Studio Manager: Lois Greenstone, General Manager: William F. Rogers
Engineers: Chaf Fincher, Vencil Wells, Gregory Fulem, Steve Marshall, Les Cooper, Dan Bates, Carolyn Blake, Jim Farney, Perkins, Kaye Duncan, Tom Cummings, Bill Winters.
Dimensions of Studios: Studio 1 40' x 50', Studio 2 40' x 40', Studio D 15' x 40'.
Dimensions of Control Rooms: Studios D 1, 2, 3 and 5 26' x 26'.
Tape Recorders: Studer A80 24 track, 3M M79 24 track, Studer custom preview machines, Studer A80 24 track, MCI JH 110 4 track.
Mixing Consoles: Studio 1 SSI SI 4000E, 40 in x 42 out, Studio 2 Automatic Processes 28/4 42 in x 24 out, Studio D SSI SI 4000, 40 in x 42 out, Studio 5 Sierra Analog disk mastering.
Monitor Amplifiers: Studer A6B.
Monitor Speakers: Sierra Hidylo SM 8 biamp'd monitor system, Sierra Hidylo SM III tri-amp'd monitor system, JBL 4331, Auratone Sierra Hidylo TM 7 playback systems.
Other Outboard Equipment: Eventide DDL, Ha mouzer Phaser, Flanger, Orban De-Esser, Dolby dbx Neve expander, EDM limiter, 171 parametric EQ 1 and program EQ, EMT 240 EMT 140, MICMIX, Sierra Avadio acoustic flanger, UREI 1176

•••• LOCATION RECORDING
 also REMOTE RECORDING
 2201 West Burbank Blvd., Burbank, CA 91506
 (213) 849 1321
 Owner: Steve Guy, Al Fruhaberg
 Studio Manager: Michael Veranck



Lyon Recording
 Newport Beach, CA

•••• LYON RECORDING
 2212 Newport Blvd., Newport Beach, CA #2663
 (on the Balboa Peninsula)
 (714) 675 4790
 Owner: Chris Lyon
 Engineers: Curt Lyon, Marvin, McNeil independent
 Dimensions of Studios: 35' x 45' plus 20' x 18' iso air drum booth and 15' x 8' relation booth
 Dimensions of Control Rooms: 25' x 25'
 Tape Recorders: Ampex MM110 w/sear-hits true 24, 603 track Studer B67 2 track, Technics 1500 2 track, TEAC 3340 4 track, Uher 4200 report stereo 2 track portable, Technics and Nakamichi cassette
 Mixing Consoles: MCI 558C automation 28 in x 32 out
 Monitor Amplifiers: JBL Ice Cube, Crown DC 50, Crown DC-60s
 Monitor Speakers: UREI Time Align, JBL 4711s Auratones
 Echo, Reverb, and Delay Systems: AKG, EMT, Lexicon 224 digital reverb
 Other Outboard Equipment: UREI 1176 limiters, Delta 77 digital delay, Sennheiser noise gate, Orban Parasound parametric EQ, Dolby noise reduction (2 channels) phaser, and
 Microphones: Neumann U87s, U84s, 167s, AKG C28A, 414s, 45s, 452, D22's, Shure SM57s, Electro-Voice RE 20s, RE 20 F, Sony ECM 280, Sennheiser 47's
 Instruments Available: Kawai grand piano 74', some Fender Rhodes, Hohner clavinet, Mini Moog ARP String Ensemble, Guild acoustic guitar, Rickenbacker electric guitar, Bardenbacker bass, Rayn 14s drum full percussion complement
 Rates: 1h 24 track \$85/hr

•••• MARTINSCUND RECORDING STUDIOS
 1151 W. Valley Blvd., Alhambra, CA 91803
 (213) 283 2625
 Owner: Joe Martinson
 Studio Manager: Annette Martinson

•••• MASNENBURG STUDIOS
 2323 Corinth Ave., Los Angeles, CA 90064
 (213) 477 1938
 Owner: The Comp Box, Inc.
 Studio Manager: Richard Salvato

•••• MCA WHITNEY RECORDING STUDIO
 1516 W. Glendale Blvd., Glendale, CA 91201
 (213) 245-6801
 Studio Manager: Frank Kaimar

•••• MONTEREY SOUND STUDIOS
 230 S. Orange St., Glendale, CA 91204
 (213) 240-9046
 Studio Manager: Jackson Schwartz
 Engineers: Marvin Hall, David Goldstein, Paul Lan, Rick Clifton, Dan Haverly, Jackson Schwartz
 Dimensions of Studios: 29' x 40' live area and 20' x 25' dead room, floor is ceiling studio room divider, opens for 1500 sq ft total studio area
 Dimensions of Control Rooms: 20' x 40' enclosed
 Tape Recorders: Ampex 200 24 track with input transformers removed and fast punch in mode, Ampex ATR 100 2 track Technics RS 1500HS 2 track
 Mixing Consoles: Sphere Eclipse C, 63 in x 24 out with all



transmitters removed and equipped with Allison 65K automation
 Monitor Amplifiers: BGW 750C, 750D 100B
 Monitor Speakers: JBL Ausparque custom design, JBL 4411 Yamaha NS10M Auratones
 Echo, Reverb, and Delay Systems: EMT 140, BX 20, Lexicon Prime Time digital delay
 Other Outboard Equipment: UREI 1176, LA4 Inovonics 201, Orban Country VS-1, Eventide Flanger Harmonizer, Kepelex II
 Microphones: AKG 452 414, Sony C 77 C 22, Shure SM 57 545, Sennheiser 421, Neumann U 87, KM 84, F V RE 20, 665 666, Beyer M 88, M 500
 Instruments Available: Yamaha C7 grand piano, Fender Rhodes, Linn drum synthesizer
 Rates: Please call

•••• MOTOWN/HITVILLE
 7317 Romaine, Hollywood, CA 90046
 (213) 850-1510
 Owner: Motown Records
 Studio Manager: Guy Costa
 Engineers: Guy Costa, Russ Terrana, Jane Clark, Bob Robitaille
 Dimensions of Studios: Sunset 40' x 40'—Sunrise 18' x 25', Dawn—14' x 12'
 Dimensions of Control Rooms: 18' x 25'—Sunset & Sunrise 18' x 20'

Tape Recorders: Otari M60 24 track, 3M 24 track, ATR 2 & 4 track, Sony PCM 1610
 Mixing Consoles: Neve 8078, Neve/Necam Automation
 Monitor Amplifiers: UREI 6500
 Monitor Speakers: UREI 813A's, JBL 4311, Auratones
 Echo, Reverb, and Delay Systems: (7) Acoustic Chambers, EMT Plate, Lexicon 224, Prime Time DDI, EMT 156
 Other Outboard Equipment: Dolby Noise Reduction, dbx noise reduction, LA3A limiters, 1176 limiters, Kepelex, Stressors, dbx 160 limiters
 Microphones: Neumann, AKG, Sennheiser, Altec, Sony Electro Voice (over 150 Microphones) etc
 Instruments Available: Steinway pianos, Fender Rhodes, clavinet, B3 organ & Leslie speaker
 Rates: \$150/hr live recording over dubbing, mixing \$225/hr video scoring, sweetening, mixing, \$275/hr film scoring, sweetening, mixing, dubbing, \$100 disk mastering
 Extras: Disk mastering—Neumann console, Sony PCM delay & 1610 Neumann cutting electronics, Sontec CD ROM disk computer, film scoring, video scoring, Q Lock (SMPTE synchronizer) video monitors, sync & time code generator

•••• MUSIC GRINDER STUDIOS
 7460 Melrose Avenue, Los Angeles, CA 90046
 (213) 655-2996
 Owner: Ron Filecia, Gary Skardina
 Studio Manager: Ron Filecia
 Engineers: Gary Skardina, Robert Feist, many independents available
 Dimensions of Studios: Studio A 30' x 15', Studio B 75' x 40' x 20'
 Dimensions of Control Rooms: 15' x 15'
 Tape Recorders: MCI JH 114 16 24 track, MCI JH 100A 2 track, TEAC 80/8 8 track, TEAC 7300 2 track, various 2 track 1/4 track, cassette machines for tape copies
 Mixing Consoles: Trident TSM 32 in x 24 out
 Monitor Amplifiers: JBL 6233 Ice Cube, Crown DC 400 Marantz 240B, Crown D 40
 Monitor Speakers: Custom UREI Time Align system, JBL 4311's, Auratones 5 C's
 Echo, Reverb, and Delay Systems: Lexicon 224 digital delay reverb, (2) EMT 240 echo, Lexicon Prime Time digital delay
 Other Outboard Equipment: Eventide Harmonizer, UREI 1176, LA2A dbx 160 limiters, Orban/Parasound parametric EQ, Orban De Essers, Kepelex noise gates, MXR flanger, Eventide Omnipressor, Yamaha grand piano, Aphex Aural Exciter, UREI digital metronome

Las Vegas

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Microphones: Neumann M 49 tube U 47 tube U 47 FFT U 87, AKG C 414 s C 441EB 452 s, Sennheiser MD 441 MD 421 s, Sony C 77P ECM 22 s, Shure SM 56 s, SM 57 s, SM 54 s Electro Voice RE 20, RCA 44, P24 s pressure zone microphones Telefunken ELM 250 250 tube
Instruments Available: Yamaha grand piano Rhodes
Rates: Please call

**** **MUSIC LAB**
 also **REMOTE RECORDING**
 1831 Hyperion Ave., Hollywood, CA 90027
 (213) 666-3003
 Owner: Chaba Mehcs
 Studio Manager: Alex S. Trnell



Natural Sound Recording Studio
 Santee, CA

**** **NATURAL SOUND RECORDING STUDIO**
 9851 Prospect Ave., Santee, CA 92071
 (San Diego County)
 (714) 448-6000
 Owner: Louis Mattazaro
 Studio Manager: Jeff Mattazaro

**** **NEW WORLD**
 also **REMOTE RECORDING**
 4877 Mercury St., San Diego, CA 92111
 (714) 569-1944

Owner: New World Audio Inc.
 Studio Manager: Charles DeFazio
 Engineers: Jim Scott, Charles DeFazio, Steve Conrad
 Dimensions of Studios: 27' x 27'
 Dimensions of Control Rooms: 14' x 16'
 Tape Recorders: Soundcraft Autolocate SCM 24 24 in track (Orban Mark III 8 track, Studer AH10 2 track, Ampex 451 2 track, Orban 5050B 2 track)
 Mixing Consoles: Soundcraft 2402 24 in x 24 out with full auto mix
 Monitor Amplifiers: Crown DC 100 A, PS400, D156 A, D75
 Monitor Speakers: JBL 4445 by, JBL 4411 & 4411
 Echo, Reverb, and Delay Systems: Lexicon 224 Super Prime Time, DeltaLab MIXMIX, AKG
 Other Outboard Equipment: dbx 160X, 165, MIC MIX, Dynaco MXR flanger, EXB Exotter, dbx 900 rack w/ de-esser, noise gate, parametric EQ, compressor, dbx 180, 150
 Microphones: AKG C414EB, C452, C451, C535, Sennheiser 441, 421, Shure SM 81, SM 53, SM 57, SM 17, SM 85, E V RE 20, Countryman, Audio-technica, Beyler
 Instruments Available: Grand piano, Fender Rhodes 73, Fender bass, Bassman amp, Ampex B 15 amp
 Rates: 24 track \$85/hr, 16 track \$75/hr, 8 track \$45/hr, 2 track \$45/hr, cassette duplication \$1.5/hr

**** **NSP STUDIOS**
 6362 Hollywood Blvd., Suite 216, Hollywood CA 90028
 (213) 462-6521

Owner: Nonstop Productions Inc.
 Studio Manager: Marlene Wright
 Engineers: Kevin T. Wright, Brent V. Thompson, plus location
 Dimensions of Studios: 17' x 21' x 17' plus drum booth, 11' x 9' x 10'
 Dimensions of Control Rooms: 17' x 13' x 12'
 Tape Recorders: MCI JH 116 24 24 track, MCI JH 110 A 2 track, T-AC A6100 2 track, TEAC 3400 2 track, Sony cassette, Marantz cassette
 Mixing Consoles: A&W Electronics 301, 24 in x 24 out
 Monitor Amplifiers: Yamaha P2200, A&W Electronics D104's and D104's
 Monitor Speakers: AVS 412HI, Auratones, BS Minimus 7s, Alto 104F's
 Echo, Reverb, and Delay Systems: A&W Electronics Synthesizer 301, also available Lexicon 224, AKG Eventide



Other Outboard Equipment: Eventide Harmonizer, Phaser Flanger, UREI LA4, LA2's, NSP 1114, A&W Electronics, UREI A1X' graphics EQ's
Microphones: AKG 414 s, 452 s, E V RE 15 s, RE 20 s, 670 s, Shure SM 545 s, Neumann KM 84 s, also available U 87 s
Instruments Available: Wuritzer acoustic, various electronic keyboard instruments available through rental services
Rates: Competitive—please call for rates. Special discounts on block bookings



Ocean Park Studios
 Santa Monica, CA

**** **OCEAN PARK STUDIOS**
 3015 Ocean Park Blvd., Santa Monica, CA 90405
 (213) 450-2288
 Owner: Media Masters Inc.
 Studio Manager: Melody Shepherd
 Engineers: Chief Engineer, David Epstein
 Dimensions of Studios: 3' x 30'
 Dimensions of Control Rooms: 25' x 15'
 Tape Recorders: Ampex 1200 24 track, Ampex ATH 102 2 track, Studer Revox A77 2 track, Studer Revox A77 1/4 track
 Mixing Consoles: Sphere custom 34 in x 24 out
 Monitor Amplifiers: Crown, BGW
 Monitor Speakers: UREI 813 Time-Align monitors, JBL 4411's Auratone cubes
 Echo, Reverb, and Delay Systems: 1000 cubic ft live chamber, Lexicon 224, AKG BX 10, Roland 401, tape delay
 Other Outboard Equipment: Allison Kepexos and Gain Brains, Eventide H910 DDL/Harmonizers, Dolby M24 (24 channels), Orban parametric EQ's, Systech phase shifters and flangers, UREI LA 4A's, UREI 3rd octave EQ
Microphones: Special set up assortment of Neumann, AKG, Sennheiser, and Shure mics
Instruments Available: Bush and Lane 9 concert grand, Hammond organ w/ Leslie, Baldwin harpsichord w/ stereo organ ups, Mini Moog, Chroma String Ensemble, Fender Rhodes 73, electric piano, Wuritzer 200 electric piano, Ludwig Slingerland drum set
Video Equipment & Services: Three multi-line syn with computer control, dia. monitors and 1/4 video playback, Diavoice replacement, SFX, scoring and final mixing
Rates: Please call
Extras: Triple remote machine, perenn. Audio Kinetics XT 24 interlaced, Audio Design, Vis-S, in studio eyed metering system. Our special recording materials, freshly assured, extremely clean tracks and superb transient response
Direction: The Doors, Van Morrison, Barry Manilow, Fleetwood Mac, The Beach Boys, Shaun Cassidy, Jim Photocello, Star Trek I, Lou Grant, Pierre Cossette Productions - Hit Music Deserves Hit Sound

**** **ONE STEP UP RECORDING STUDIO**
 8207 W. Third St., Los Angeles, CA 90048
 (213) 655-2775
 Owner: Allan H. Goodman

Studio Manager: Debra I. Prusa
Engineers: Mark Curry, Jimmy Ashwill, Bill Stanbridge, James Simcik, Scott Sincer
Dimensions of Studios: 50' x 26' x 17' arched ceiling
Dimensions of Control Rooms: 20' x 19'
Tape Recorders: MCI JH 114 24 track, Studer, MCI JH 110 2 track, TEAC 3340S 1/4 track, ElectroSound 505 2 track, Hitachi cassette recorder D900 2 track, Yamaha 1000 cassette recorder
Mixing Consoles: MCI JH 528 28 in x 28 out with B&B Audio VCA's (transformerless)
Monitor Amplifiers: Phase Linear 700 Type II's, Crown—DC 300, DC 150, DC 60, BGW 5000
Monitor Speakers: Custom High Power System w/UREI H 44 Time Aligned crossover, JBL 4411 & 4411 Auratone Sansu, Yamaha NS-10M's
Echo, Reverb, and Delay Systems: FMI 140's Gold Fo., AKG BX-0
Other Outboard Equipment: 16 in x 15 in amplifiers, Kepex Gain Brains, MXR phaser & flanger, Eventide DDL, w/patch change, Eventide Harmonizer, Eventide Orban, Plesser, Para sound De-Esser, Parametric De-Esser, MultiTrack parametric EQ, Electrodyne CA 702 comp, auto, and Dolby for 2 track, 24 trk, MX Dolby 1/4 track
Microphones: Shure SM 57, SM 58, Sennheiser 211, 421, Electro Voice RE 15, RE 20, RE 50, 635, AKG C452EB, PZM's, Neumann U 87, KM 84, KM 86, Specialty Neumann & AKG tube mics
Instruments Available: Kawai (1947) grand piano, Fender Rhodes Mini Moog, Holmer Avenue D6, Hammond B3 Organ
Rates: Please call for rates



One Step Up Recording Studio
 Los Angeles, CA

**** **OVERLAND RECORDING STUDIO**
 also **REMOTE RECORDING**
 3176 Pullman St. Suite 123, Costa Mesa, CA 92626
 (714) 957-0633
 Owner: Iren Koster, Teddy Handazzo
 Studio Manager: Karen Koster
 Engineers: Bruce Galloway, John Kovarek, Eric Newman and "The Bug"
 Dimensions of Studios: 30' x 25' with 10' x 5' isolation booth, 6' x 9' vocal booth, 7' x 12' drum booth
 Dimensions of Control Rooms: 16' x 20' floated
 Tape Recorders: MCI JH 24 24 track, Ampex ATH 100 master 2 track, TEAC 40 4 track, Technics cassette deck
 Mixing Consoles: Sound Workshop 1600, 28 in x 24 in including ARMS automation
 Monitor Amplifiers: BGW 250's, 100's, 750's, Unisync 250
 Monitor Speakers: JBL custom Auratones, E V Sentry 5, UREI crossover
 Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, MXR digital delay line, MIC MIX CS live chamber
 Other Outboard Equipment: UREI LA 4A limiter, dbx compressor/limiter, EXB Exotter, Allison BM 160, 700 Gain Brain, 500 Kepex, Orban parametric EQ, MXB noise gate, Eventide Flanger
Microphones: Neumann, Sennheiser, AKG, Shure, Unisync direct boxes
Instruments Available: Yamaha 73 grand piano, Fender amps, Mossman and Martin guitars, Rhodes piano, Hammond organs, ARP Odyssey plus any other instrument or device can be acquired
Rates: 24 track (including engineer) \$100/h. Block bookings available

**** **PARAMOUNT RECORDING STUDIOS**
 6245 Santa Monica Blvd., Hollywood, CA 90038
 (213) 461-3717
 Owner: Brian Bruderlin
 Studio Manager: Don Schloegel
 Engineers: Larry Hirsch, Dan McIntire, Roger Dollarhide, Larry Williamson, John Pooley, Dennis Moody, Chris Huston
 Dimensions of Studios: A 45' x 37', B 15' x 20', C 45' x 38' x 22'

Dimensions of Control Rooms: A 19' x 26', B 18' x 38', C 28' octagon
Tape Recorders: Dual 3M 79 24 track lock up, Studer A-80 2 and 4 track
Mixing Consoles: B API Model 2 188, C Harrison 4032 automated
Monitor Amplifiers: Crown, BGW
Monitor Speakers: C UREI 815, B UREI 813, A Westlake TM 1
Echo, Reverb, and Delay Systems: Three live chambers, stereo EMT 140's
Other Outboard Equipment: EMT 250 digital delay Harmonizer, flangers, phasers Dolby Teletronix, LA2A's, UREI 1176LN, Cooper Time Cubes, Kepex Gain Brain, HTX 4500 & 4600 synchronizers and complete video capability
Microphones: AKG C 24 414 451 452 E.V. RE 15 RE 20, Sennheiser 441, RCA 77DX, Neumann U 47 U 67 U 87 KM 84 KM 86 M-49, Sony ECM 22 C 47A C 500 Shure 546 Synchron 510
Instruments Available: 9 concert grand, Fender Rhodes 88 Hammond B 3 with Leslie ARP 2600 misc. percussion
Rates: Upon request. Substantial discount to first time clients.
Direction: Andrea Crouch "Thinking Of You" Grammy Award George Duke "Reach For It" Johnny Guitar Watson "A Real Mother For Ya" and "Ain't That A Bitch" Diana Ross "Love Hangover" Frank Zappa "Overnight Sensation" and "Apostrophe" Also Kim Carnes, Mac Davis, Bob Dylan, Chris Hillman, Billy Joel, Donna Summer, Steve Wonder and more. Paramount is striving to be the most welcome place to record in.



Paramount Recording
Hollywood, CA

**** PASADENA (SOUND) RECORDERS
276 N. Raymond Ave., Pasadena, CA 91103
(213) 796-3077
Owner: James M. Jones
Studio Manager: Gil Jones

**** THE PASHA MUSIC HOUSE
5615 Melrose Ave., Hollywood, CA 90038
(213) 466-3507, 466-1609
Owner: Spencer D. Proffler
Studio Manager: Larry Marks

Perspective Sound

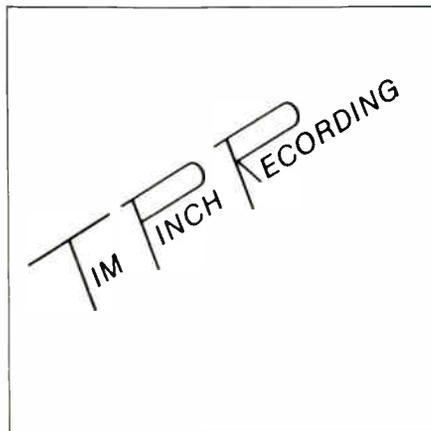
Perspective Sound
Sun Valley, CA

**** PERSPECTIVE SOUND
also REMOTE RECORDING
11176 Pentose St. #4, Sun Valley CA 91352

(213) 767-8335, 767-8579
Owner: Vince Devon, Devon Enterprises Inc.
Studio Manager: Gene Nash
Engineers: Greg Heap, Rick Hart, Thom Wilson, Video Director Steve Angus
Dimensions of Studios: .35' x .26' x 16' plus 15' x 18' live str. ing/echo chamber, plus 12' x 10' and 8' x 6' isolation booths, 12' x 12' drum booths, and 60' x 30' x 18' live room
Dimensions of Control Rooms: 24' x 18'
Tape Recorders: Otari MTR 90 24 track, Otari MTR 10 2 track, Otari MX5050 2 track, Technics RS M85 cassette
Mixing Consoles: Sound Workshop 16 46 transformerless 28 in x 24 out
Monitor Amplifiers: H H 500D H H 50, Uni Sync 100
Monitor Speakers: UREI 813 Time Aligned, Auratones
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Lexicon 93 DDL, Eventide H910 Harmonizer, Yamaha ME1010 analog
Other Outboard Equipment: (2) dbx 165 compressor limiter 41 Scamp F300 gate exp & (2) S01 compressor limiters (2) UREI 1176 peak limiters
Microphones: Neumann U 87 KM 84 AKG 414 C 452EB D100E Sennheiser 441 421 Electro Voice RE 20 666 Shure SM 57 Beyer M101, Sony ECM50 direct boxes, Countryman FET UREI 315 Shure Passive
Instruments Available: Mason & Hamlin 9' grand piano Yamaha piano CP 30, ARP Omni 2 ARP Odyssey
Video Equipment & Service: (3) IVC KY2000 color cameras, (2) Panasonic 4" VTR model 9200 & 9500, IVC 1 1/2" VTR model 4400 w power supply, (2) Video Tek color monitors, (3) Setchell Carlson monitors, Sony & IVC monitors, ISI 902 switcher w effects bank, Apple II computer, all housed in 1978 GMC video truck
Rates: Please call

**** TIM PINCH RECORDING
also REMOTE RECORDING
6600 San Fernando Rd., Glendale, CA 91201
(213) 507-9537
Owner: Tim Pinch
Studio Manager: Tim Pinch
Engineers: Tim Pinch
Dimensions of Studios: 15 x 20 ft. mono track, 15 x 15 ft. studio
Dimensions of Control Rooms: 8 x 8 x 8
Tape Recorders: Ampex MM 1000 4 track, Technics 500 2 track, Ampex 440B 2 track 2 Aka CSMO1A cassette
Mixing Consoles: Remote truck, Spectra Series 28 in x 24 out studio, Amek, 28 in x 24 out
Monitor Amplifiers: BGW 250B, BGW 100, BGW 750A

Monitor Speakers: Remote truck, Altec 604E w Mastering Lab cross-overs, Auratones, studio 813 Time Aligned
Echo, Reverb, and Delay Systems: Echoplate
Other Outboard Equipment: (4) dbx 160 limiters, video monitor w/camera, AKG K140 & K240 headphones, (3) Station Clear Com 1176 limiters
Microphones: Sennheiser MD 421, Shure SM 81 SM 57, AKG 414EB, 451EB, PZM's. All others available on request
Instruments: Kawai upright piano, Fender Rhodes stereo piano
Video Equipment & Services: Video sweetening and mix to picture
Rates: Please call for rates
Extras: Our remote recording truck is specifically designed for live 24 track recording, Video & Film production, live broadcasts, stationary album production and anywhere there is a need for high quality audio on location.
Direction: We have high standards of quality, in addition to reasonable rates, the same quality that is demanded by such artists as Al Di Meola, John McLaughlin and Paco Delucia, Merle Haggard, Humble Pie, The Jacksons, The Go-Gos, Tom Johnston, Little Feat, DEVO, The Police, Crosby, Stills and Nash, Mac Davis, Roseanne Cash and Johnny Van Zant. We have recorded every thing from stand up comedians to huge outdoor festivals at the Rosebowl, Anaheim Stadium and the Hollywood Bowl.



Tim Pinch Recording
Glendale, CA

ANDRÉE CROUCH AND BARBARA MANDRELL COULD TELL YOU ABOUT OUR NEW 24 TRACK RECORDING FACILITY, ALL ABOUT OUR 500 SQ. FT. CONTROL ROOM AND 1200 SQ. FT. LIVE ROOM. ALL ABOUT OUR MCI 600 SERIES AUTOMATED CONSOLE, OUR JH24 TRANSFORMERLESS 24 TRACK TAPE MACHINE AND OUR PAIR OF AMPEX 102's.

THEY COULD LET YOU IN ON OUR VAST SUPPLY OF OUTBOARD EQUIPMENT, INCLUDING A LEXICON 224 DIGITAL REVERB AND PCM41 DIGITAL DELAYS, ECHOPATE II, AND UREI COMPRESSOR/LIMITERS. AND THEY COULD GO ON TO TELL YOU ABOUT OUR LARGE COLLECTION OF MICROPHONES, INCLUDING OVER 20 VINTAGE TUBE TYPES.

BUT WHAT WE'D REALLY LIKE TO TELL YOU ABOUT IS OUR NEW BLOCK BOOKING RATES:

PRIME TIME HOURS ... 10:00 AM - 1:00 AM

100 HR. BLOCKS	@ ...	\$65.00 PER HR.
73-99 HOURS	@ ...	70.00 PER HR.
49-72 HOURS	@ ...	75.00 PER HR.
19-48 HOURS	@ ...	80.00 PER HR.
6-18 HOURS	@ ...	100.00 PER HR.

NON PRIME TIME HOURS ... 1:00 AM - 9:00 AM - \$45.00 PER HR.

Weddington Studio

A DIVISION OF PACIFIC ENTERTAINMENT GROUP
1128 WEDDINGTON ST. NORTH HOLLYWOOD, CA 91601
.. (213) 508-5660 ..



Poiera Studios
Camarillo, CA

**** **POIEMA STUDIOS**
also **REMOTE RECORDING**
P.O. Box 651, Camarillo, CA 93010
(805) 482-7495
Owner: Bill and Marsha Cobb
Studio Manager: Marsha Cobb
Engineers: Bill Cobb and independents
Dimensions of Studios: 17' x 18' inc. booth 8' x 9'
Dimensions of Control Rooms: 12' x 14'
Tape Recorders: Stephens 821B 16 & 24 track, Scully 280 4 & 2 track, Technics 1520 2 & 4 tracks, Technics RM45 cassettes
Mixing Consoles: Soundcraft Electronics Series 1624, 24 in x 24 out, transferrable with 50 input mix capability
Monitor Amplifiers: AB Systems Series 720, 811, 740, Spectra Series 200 (840 watt) (14 cords)
Monitor Speakers: IBL 4332A's triamplified with Spectra Series electronic crossovers, IBL 4311 Auratones
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb system, Lexicon Prime Time digital delay, DeltaLab A reverb computer, Marshall Time Modulator, MXR digital delay
Other Outboard Equipment: dbx 900 Series noise gates, compressors & de-essers, Eventide Harmonizer/DDL, Eventide Instant Flanger, dbx 160 compressor/limiter, Orban/Purisound 622B parametric EQ, Multi-Track VSC, 26 channels of dbx noise reduction, 0.5 bit stereo synthesizer
Microphones: Shure SM 7, SM 53, SM 81's, Neumann U 87's, Sennheiser 421U's, AKG 451's, 501's, 202's, Electro Voice RE 20 Crown PZM's, Sony ECM 221's
Instruments Available: Mason & Hamlin 7' grand piano, Steinway 32 voice digital synthesizer, 2 Polytone Mubrate II quantum comp., Prophet 5 synthesizer, Com Stroke Timer
Rates: Rates available upon request
Extras: Full kitchen facilities, overnight accommodations easily arranged, Sync interlock to 40 tracks available by special arrangement
Direction: Poiera Studios provides an alternative to the hustle and high pressure of the city, but yet maintains a state of the art recording environment. Situated on a half acre in the countryside just 45 minutes north of L.A., the studio provides a relaxed creative atmosphere. We custom-tesserve artists and producers with affordable rates without compromise to quality

**** **POLARIS SOUND**
1614 N. Argyle Ave., Hollywood, CA 90028
(213) 467-1614
Owner: Polaris Productions
Studio Manager: Richard Scavia
Engineers: Stel and independents
Dimensions of Studios: 23 x 16' 2' x 12' isolation booth
Dimensions of Control Rooms: 16 x 14
Tape Recorders: Otari MTR 90 24 track, Otari MX 5050B 2 track, TEAC 10X 14 track, Ampex & Scully 2 tracks, Technics RS M05 cassette
Mixing Consoles: Tangent 32 in, 24 in x 24 out (custom)
Monitor Amplifiers: BGW 750D, BGW 750C, Fender headphone amp
Monitor Speakers: UREI Time Alkan 511, IBL 4311 Auratone 5's
Echo, Reverb, and Delay Systems: Ursal Space Station SST 282 MIC MIX Master Room XI 805 tape echo
Other Outboard Equipment: Dynaflexer 265, UREI 549 graphic EQ's, dbx compressor/limiters, UREI limiters
Microphones: Neumann U 87, KM 84's, Sennheiser MD 421's, AKG 414's, C 412's, Beyers M 400's
Instruments Available: Kawai grand piano, ARF synthesizer, various percussion instruments
Rates: Please call for rates. Block rates available

**** **PRANAVA**
Hollywood, CA (Please call for appointment.)
(213) 464-8489 or (serv.) 464-0300
Studio Manager: Gianpatti
Engineers: Independents



Dimensions of Studios: 18 x 15 10' x 10' booth: 6 x 4
booth: acoustically designed
Dimensions of Control Rooms: 15 x 10' acoustically design
ed
Tape Recorders: Stephens 821B w/ VSO 24 track, Stephens 811 w/ VSO 16 track, Dokorder 1140 4 track, Studer Revox HS77 2 track, Awa 1800 cassette
Mixing Consoles: Speck Electronics SP800C 32 in w/ analog parametric EQ, modified w/ 5534 amps and Jensen transformers
Monitor Amplifiers: BGW 210 Bozack Yamaha
Monitor Speakers: IBL 4311 Auratones
Echo, Reverb, and Delay Systems: Echoplate (large EMT 140's type), Eventide Harmonizer w/2 out DDL, DeltaLab 3 out DDL, MXR doubler/flanger analogue delay, Sound Workshop 242 reverb, Roland Space Echo, and tape delay
Other Outboard Equipment: Teletronix LA2 (tube) limiter (2) UREI 1176L.N. (2) dbx 161 dbx 154, (4) channels Omnitrack gates, Eventide Instant Flanger, MXR Auto-Flanger, Furman parametric EQ, SAE graphic EQ, Phase Linear 1000 Auto Correlator, Aphex Aural Exciter, Orban 3 channel De-Esser, Valley People Dyna Mite
Microphones: Neumann U 87's (3), KM 84's (2), KM 85, AKG 414EB's (2), 451EB 451E, D1000E, D190E(2), RCA 77DX (ribbon), Sony C 37A (tube), ECM 22's (2), Sennheiser 441, 421's (2), MK 40, Electro Voice RE 20, RE 15's (2), 666, Shure SM 57's (6), Telefunken 251, Crown PZM's (2)
Instruments Available: Steinway grand (6'4"), AHP 2600 synthesizer, on request, Farfisa Mini Compact, & others
Rates: 24 track - \$25/hr., 16 track - \$20/hr.



Preferred Sound
Woodland Hills, CA

**** **PREFERRED SOUND**
22700 Margarita Dr., Woodland Hills, CA 91364
(213) 883-9733
Owner: Scott Borden
Studio Manager: Scott Borden
Engineers: Matthew Spindel, chief engineer, Robert Stamps
Dimensions of Studios: 25 x 20, isolation booth: 10 x 10
Dimensions of Control Rooms: 18' x 16'
Tape Recorders: Otari MTR 90 24 track, Otari 5050H 2 track, Scully 280B 2 track
Mixing Consoles: Amek 2002B 28 in x 24 out
Monitor Amplifiers: BGW Crown
Monitor Speakers: UREI 811's Time Aligned Auratones
Echo, Reverb, and Delay Systems: Lexicon 224 reverb, Master Room XI 395 reverb, Lexicon Prime Time
Other Outboard Equipment: Eventide Harmonizer, Kexep noise gates, dbx 165 compressor/limiter, UREI LA 4A limiters, UREI 1176 limiters, Eventide & Roland Flangers
Microphones: Neumann, Sennheiser, AKG, Electro Voice, Shure, Beyers, Sony, RCA
Instruments Available: Grand piano (Kawai, GS 30), Fender Rhodes, Yamaha CS 60 synthesizer, and vintage guitars available through Norm's Rare Guitars

Rates: Negotiable
Extras: Living accommodations for 6 people, swimming pool, jacuzzi

**** **PRESENT TIME RECORDERS**
5154 Vineland Ave., N. Hollywood, CA 91601
(213) 762-5474
Owner: Bob & Grace Wirster
Studio Manager: Bob Wirster
Engineers: Bob Wirster
Dimensions of Studios: 26 x 17'
Dimensions of Control Rooms: 17 x 14
Tape Recorders: MCI Autolocator IH 100 w/ VSO 24 16 tracks, Tascam 80 B 8 track, Technics 1500 2 tracks
Mixing Consoles: Quantum QA 4000 w/ full patch bay, 24 in x 24 out
Monitor Amplifiers: Harmon Kardon
Monitor Speakers: Altec (balanced) 6x04E with Master Lab crossover Auratones
Echo, Reverb, and Delay Systems: Custom built stereo reverb, Yamaha delay, MXR doubler
Other Outboard Equipment: dbx limiters, MXR flanger, Patch Transposer, Kexep outboard EQ circuit boxes
Microphones: Neumann U 87, AKG 414, 451, 2000, 1000, 202, Sennheiser 421, 416, Beyer 500, Electro Voice RE 20, RE 15, Shure SM 57
Instruments Available: Steinway grand piano & AHP quartet
Rates: 24 track, 5 hr block \$ 40/hr., 16 track, 5 hr block \$ 25/hr., 8 track, 5 hr block \$ 22/hr.

**** **PRODUCERS' WORKSHOP**
6035 Hollywood Blvd., Hollywood, CA 90028
(213) 466-7766
Owner: American Variety International
Studio Manager: Annie Butkiewicz

**** **QUAD TECK STUDIOS**
4007 W. 6th St., Los Angeles, CA 90020
(213) 383-2155
Owner: DCT Recording Corp.
Studio Manager: Hank Warner

**** **RECORD ONE**
13849 Ventura Blvd., Sherman Oaks, CA 91423
(213) 788-7751
Owner: Val Garay
Studio Manager: D. Sommer



Record Plant
Los Angeles, CA

**** **RECORD PLANT**
also **REMOTE RECORDING**
& **film scoring**
8456 West Third St., Los Angeles, CA 90048
(213) 653-0240
Owner: Chris Stone
Studio Manager: Rose Mann
Engineers: Michael Stone, Chief Engineer, Mike Berger, Phil Jimtas, Cary Prinxin, Mike Clark, Ricky Delany, David Bianco, Dan Wallin (Sironia Mixer)
Dimensions of Studios: A 41 x 27 x 15' with isolation booth, B 8 x 15 x 20', C 50 x 45 x 23' with stage & 2 iso-rooms, D 23 x 46' x 22', M 70' x 80'
Dimensions of Control Rooms: A 15 x 15, B 16 x 16, C 16 x 20, D 19 x 22, M 35 x 45
Tape Recorders: 4M digital sound recording system 32 track, 3M 79 4 track, 3M 79 24 track, 4M 64 2 track, 4M 64 4 track, Ampex 441C 4 track, Ampex ATR 100 2 track, Technics RMS 280 cassette decks
Mixing Consoles: Solid State Logic F Series, 48 in x 42 out, API 2146 32 in x 24 out, Solid State Logic 4000E, 40 in x 42 out

w/Rec'd Plant custom 32 in x 8 out (film submix console) SSL E Series 48 in x 42 out custom designed consoles all have automated mixdown and groupers

Monitor Amplifiers: Studer A68, Crown DC 400A, Phase Linear 700B, Hasler DH200, BGW 750

Monitor Speakers: Westlake TM 1, Altec 604E's with Mastering Lab crossovers, JBL 4411's Record Plant custom JBL BM 4 Klipsch M1900, Auratone 5C's anything available by request TAD 2 way system available

Other Outboard Equipment: Any Eventide UREI Phaser, EMT A18 dbx Dolly Allison and Allison 65K computers units in house, including two chamber EMT .51 digital echo EMT 14051 and 240 plus AKG BX 20 Any item on request

Microphones: Neumann AKG Shure Electro Voice Altec Sony Sennheiser Sennheiser Telefunken etc Any microphone

Instruments Available: Hummer Borden and Leslie Yamaha piano and grand piano Piano and organ included in rates

Rates: Call studio manager for rates

Extras: Two game rooms, bar, sauna, private party living room with full bar and TV, Private bedroom with full bath, Projection with multi track magnetic film chain fully equipped Record Plant has opened a new studio facility, Studio M on the Paramount lot at 5555 Melrose Avenue

Direction: Record Plant Studios has diversified music recording into 4 divisions: Scoring, records & remote. We feel in this way we can best service our segment of the video & film audio industry. We remain in the premier state of the art music studio with 4 studios for a recording: new 45mm film chain & 4 recording tracks

•••• ROCSHIRE RECORDING STUDIOS

4091 E. La Palma, Suite S, Anaheim, CA 92807
(714) 632-9452

Owner: Rocshire Records
Studio Manager: Lester Claypool

•••• R.S.C.
ONLY REMOTE RECORDING

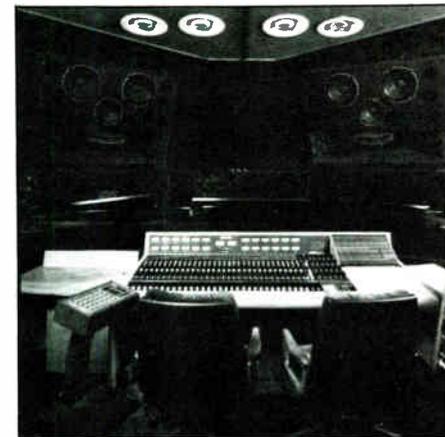
10824 Ventura Blvd., Studio City, CA 91604
(213) 766-7191

Owner: Tom Harvey
Studio Manager: John Streck

•••• RUDY RECORDS

1522 Crossroads of the World, Hollywood, CA 90028
(213) 467-6000

Owner: Graham Nash
Studio Manager: Mark Holbert



Rumbo Recorders
Canoga Park, CA

•••• RUMBO RECORDERS

20215 Satocoy St., Canoga Park, CA 91306
(213) 709-8080

Owner: Daryl Dragon
Studio Manager: Nick Boardin

Engineers: Garry Edward—Chief Engineer, Ian Minnis—Chief Maintenance

Dimensions of Studios: Studio A 2500 sq ft, Studio B 2000 sq ft

Dimensions of Control Rooms: Studio A 500 sq ft, Studio B 450 sq ft

Tape Recorders: 2) Studer A 800 48 tracks, Otari MTR 90 24 track

Mixing Consoles: Studio A Neve 8088, 52 in x 48 out, Studio B Trident TRS 80, 42 in x 24 out

Monitor Amplifiers: Yamaha full studio

Monitor Speakers: Studio A 2 way custom, Studio B Fostex LS 4's

Echo, Reverb, and Delay Systems: Echoplex FMT 140 live chamber, Lexicon 224 digital reverb, 1) Lexicon Prime Times AKG BX 20 AMS p haser



Other Outboard Equipment: (2) UREI LA4, 4) UREI 1.76 Teletronix LA2A (duo), (4) dbx 160, Orban De Esser Harmonizer, Q Lock synchronizer, Vocal Stresser, Newscom processor, (2) Stamp rack

Microphones: A full complement of microphones available with up to 70 to those from

Instruments Available: The keyboards of Daryl Dragon of The Captain & Tennille are available upon request

Rates: Call for rates



Rusk Sound Studios
Hollywood, CA

•••• RUSK SOUND STUDIOS

1556 N. La Brea Avenue, Hollywood, CA 90028
(213) 462-6477

Owner: Betsy Urlik
Studio Manager: Michelle Kalla

Direction: Rusk is a fully equipped state-of-the-art recording facility that recognizes the importance of service, comfort and privacy to our clients. We are equipped to do track, overdub, mixdown and transfer work relating to records, film or video projects. We also transfer 16mm or 35mm film to video cassette for film scoring or duplication. Contact Michelle to receive an introductory package of information or to have one of our recording engineers meet with you personally to discuss your project needs.

•••• SAGE & SOUND RECORDING

1511 Gordon, Hollywood, CA 90028
(213) 469-1527

Owner: James Mooney
Studio Manager: Lisa Verne

Engineers: Jim Mooney, Ron Fair, Jim Sheffield, Jerry Wood

Dimensions of Studios: 20' x 40' with 7' x 11' isolation booth

Dimensions of Control Rooms: 14' x 16'

Tape Recorders: MCI H16 24 track, Ampex ATR 100, 1 track, Ampex AG 440 2 track, Ampex AG 440 4 track

Mixing Consoles: MCI 636, 30 in x 24 out

Monitor Amplifiers: Phase Linear 200, Phase Linear 400, Moth 250, various others

Monitor Speakers: UREI 813 Time Align, Altec 604

Echo, Reverb, and Delay Systems: Live Chamber, AKG BX 20, Harmonizer

Other Outboard Equipment: UREI LA 4A, LA2, 1176 dbx 160 limiters, Eventide Harmonizer, Eventide Phasor, noise gates

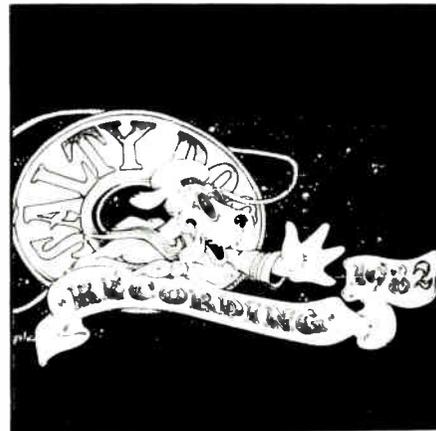
Microphones: Telefunken U47 tubes, U87's, AKG 414EB's, AKG 491's, RCA 77DX's, assorted Beyers, Shure, EV, etc

Instruments Available: Mason Hamlin 7 grand piano, Fender Rhodes

Rates: 24 track \$75/hr



Sage & Sound Recording
Hollywood, CA



Salty Dog Recording
Van Nuys, CA

•••• SALTY DOG RECORDING

14511 Delano St., Van Nuys, CA 91411
(213) 994-9973

Owner: David Coe
Studio Manager: Tina Campbell

•••• SEACOAST RECORDING

926 Turquoise St., San Diego, CA 92109
(714) 270-7664

Owner: Elliott Audio Enterprises
Studio Manager: Jack Elliott

•••• SKIP SAYLOR RECORDING

506 N. Larchmont Blvd., Los Angeles, CA 90004
(213) 467-3515

Owner: Skip Saylor
Studio Manager: Katy Saylor
Engineers: Skip Saylor, Jon Gass, and various independent engineers

Dimensions of Studios: 22' x 20' Main room, Isolation rooms: 15' x 10' and 17' x 4'

Dimensions of Control Rooms: 17' x 11'

Tape Recorders: MCI H114 24 track, Studer A 62 2 track, Scully 280 2 track, TEAC 3340 1/4 track

Mixing Consoles: Trident Spectra Sonics customized 32 in x 24 out, Automation by Roland Compu Editor CPE 800

Monitor Amplifiers: Crown

Monitor Speakers: JBL monitors, Hemisphere, Auratone, Room tuned by George Auerbacher

Echo, Reverb, and Delay Systems: (2) stereo Echoplexes, Eventide Harmonizer 910, Eventide DDL 1745M w patch card, Lexicon Prime Time, Roland digital delay SDE 2000 w/chorus, Roland chorus echo SF-E 555

Other Outboard Equipment: (3) UREI 1.76LN, (2) dbx 160X limiters, stereo UREI LA 4A, Kepex, Roland phase shifter SPH 323, Roland stereo flanger SBF 425, Roland Dimension D SDD 320, parametric equalizers, AKG and Koss headphones, VSO SMPTE generator, etc

Microphones: AKG 414s 452's, D12F, Neumann U 47, Sennheiser 421's, Beyers M 400's, EV RE 50, Shure SM 57's and more

Instruments Available: Steinway grand piano

Video Equipment & Services: Rental equipment available

Rates: \$125/hr with 1st engineer, \$100/hr with 2nd engineer

\$75 hr demo rate with 2nd engineer. Discounts up to 40% for block bookings and/or cash.

Extras: Lounge refrigerator; no comfortable atmosphere and easy access for cartage of instruments.

Direction: In September we will be celebrating our 2nd year in business. We have made a success of our studio by providing a great high quality sound and working within our clients budgets. Set Sail! Here you find one of the tastiest in wine studios in L.A. We've earned our place in the best and market in Los Angeles. We make the kind of deals that are necessary to complete your project. Our clients come back to us. For more information and our then list please feel free to call us.



Skyline Recording
Topanga Park, CA

◆◆◆ SKYLINE RECORDING

1402 Old Topanga Canyon Rd., Topanga Park, CA 90290
(213) 455-2044

Owner: Ron Becker

Studio Manager: Summer B. Lee

Engineers: Ron Becker, Bob Klein, Shannon Harris

Dimensions of Studios: 30' x 26' x 14' Isolation 16' x 20' x 14'

Dimensions of Control Rooms: 22' x 20' x 10'

Tape Recorders: Spitzer AM 14 track, Ampex ATR 102 2 track, MCI H 110 2 track

Mixing Consoles: Automatch M1 600 44 in x 24 out w/ 8 parametrics plasma display

Monitor Amplifiers: (2) BGW 750's, BGW 250's, (4) BGW 50's

Monitor Speakers: URH TA 15, Time Aligned, JBL 4311's, Auratone's

Echo, Reverb, and Delay Systems: Proaram Technology plates w/ remote control, Lexicon 224 digital reverb w/ 4 programs, MIC MIX SL 805 reverb, DeltaLab DL2 digital delay

Other Outboard Equipment: Eventide Harmonizer, Lexicon Frame Time M94, URH 1176 LN ampers, 4 x 160, 161, 162 limiters, Korg rack, URH 5-5 graphic equalizer, URH 545 parametric equalizer, Orban stereo synthesizer, Orban De Esser, MIC MIX flanger, Spectra Sound phaser

Microphones: Neumann U 47, U 87, U 89, KM 84's, AKG C414, D1000's, Sennheiser 441, 421's, Boyer M 500's, Shure SM 57, SM 57, Electro Voice RE 20, RE 20, RE 20, RE 20's, Sanyo 301, Sennheiser

Instruments Available: 74 Kawai grand piano, Ludwig drum kit, Fender guitar, bass, many keyboards

Rates: Please call for rates

Extras: Beautiful lounge kitchen, 1st world lounge. Our advanced control room, custom, other, great meal, rates, and excellent work environment with fun team room and more. Natural late entry every seven

Direction: Our reputation for quality and superb working conditions has attracted our top talent all over the world. Recent artists include: Chaka Khan, Anita Baker, Los Banzai, Grand Slam Band. We have made it in the new Street, Daryl Lindley, Am. New York, Matt, a new

◆◆◆ SOUND AFFAIR RECORDING

also REMOTE RECORDING
2727 Croddy, Santa Ana, CA 92704
(714) 540-0063

Owner: Ron Leeper

Studio Manager: V. Leeper

Engineers: Ron Leeper, Bob Klein, Barry Stewart, Ron Starr

Dimensions of Studios: A 20' x 22' B 18' x 25' C 12' x 18'

Isolation A 11' x 9' B 8' x 5' 12 ft. param. eq.

Dimensions of Control Rooms: A 20' x 18' B 18' x 12'

Tape Recorders: Ampex MM 1200 24 track, Ampex MM 1200 D 2 track, Ampex ATR 100 2 track, TEAC 701 B track, (2) 4050 2 track

Mixing Consoles: MCI automated 36 in x 24 out, Senn Workshop 1600 w/ param EQ, 20 in x 16 out



Monitor Amplifiers: Crown DC 300A, Crown D175, BGW 100
Monitor Speakers: JBL 4311, Electro Voice, Sentry III, Tannoy ShM 12

Echo, Reverb, and Delay Systems: MIC MIX Super C, ADP Time Stamp, Mod. Lexicon 224 digital reverb, Lexicon Prime Time Stamp, rack, Eventide Dera, Power

Other Outboard Equipment: EXB Expander EX2, ADP 5 dbx limiters, URH LA4A, URH LA2A tube limiter, 949 Harmonizer, full Stamp rack, ADH noise gates & expanders, HP visual scope color video

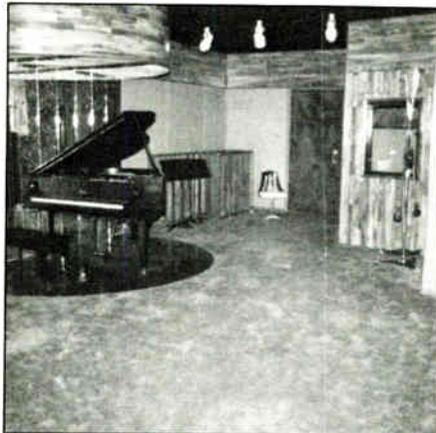
Microphones: Neumann U 87, AKG 414, 451, 46, D202F, Caire, Sennheiser MD 421, Electro Voice RE 20, DS 45, Shure SM 57, SM 57, RCA vintage, Crown P2M

Instruments Available: 7 grand piano, 5 grand piano, Rogers drums, Rhodes piano, BB machines, sound effects library

Rates: Call for rates

Extras: Remote recording, direct to tape amplifier, large room, full kitchen

Direction: The studios success since last printing has been nothing but amazing. We have been active on LP's and 45 releases, demos, commercials and soundtracks for films. Our voice over studio is busy daily—with remote recordings and more, also very active. Gospel has always been very active, especially this year for us. Our new studio and choir room sound is terrific.



Sound Affair Recording
Santa Ana, CA



Sound Arts
Los Angeles, CA

◆◆◆ SOUND ARTS

2825 Hyans St., Los Angeles, CA 90026
(213) 487-5148

Owner: Bob Walter, Dan Wyman, Jim Cypherd, John Berkman
Studio Manager: Bob Walter

Engineers: Jim Cypherd, Rick Howls, Resident Synthesists: Dan Wyman, Jim Cypherd, Rick Howls

Dimensions of Studios: 36' x 22'

Dimensions of Control Rooms: 14' x 22'

Tape Recorders: Ampex MM 1200 24 track, Ampex ATR 102 2 track

Mixing Consoles: Trident Series 80, 32 in x 24 out

Monitor Amplifiers: Crown DC 300's, DC 150's, BGW 250B

Monitor Speakers: Sierra Hadley III's, JBL 4311's, 4311's, Auratone 50's

Echo, Reverb, and Delay Systems: Lexicon 224, AKG BX 10, Eventide DDL, and Lexicon Prime Time

Other Outboard Equipment: Orban Parametric EQ's, URH 1176 LA4A LA2A digital compressor, Eventide 949 Harmonizer, Allan, Gian Bruni, and Kobex's Orban Sibilant Controller, Moog Vocifer, arx 192, Limiter, Ampex VSC 600 Systems and Boce frequency filters, Holant Space Echo w/chorus

Microphones: PMI DC 63, Neumann U 87, KM 84's, E V RE 20, RE 15's, AK 45's, Sanyo 301, D 1000F, RCA 77D's, Shure SM 54's, SM 57, SM 58's, Sanyo C 55P's, Sennheiser 421

Instruments Available: Moog Model 55C expander modular system, Prophet 10 & 5 voices, Yamaha CS80, Oberheim 4 voice, Polymoog, ARP 2600, Mini Moog, ARP String Ensemble, Moog Model 15, Maxi K rack, Roland Jupiter 6, Roland SH 1000, Sequential Circuits analog synthesizer, Baldwin electronic harpichord, Hammond B 3, Hohner clavichord, Seimway grand piano

Rates: Call for rates



Soundcastle Recording
Los Angeles, CA

◆◆◆ SOUNDCASTLE RECORDING STUDIOS

2840 Rowena Ave., Los Angeles, CA 90039
(213) 665-5201

Owner: Barclay King

Studio Manager: Brendan Hunt

◆◆◆ THE SOUND CHAMBER RECORDERS

27 S El Molino Ave., Pasadena, CA 91101
(213) 449-8133

Owner: Richard M. Mollery, Emily L. Lerner

Studio Manager: Richard M. Mollery

Engineers: Emily L. Lerner, Richard M. Mollery, Lisa Hernandez, Paul Biersch

Dimensions of Studios: 18' x 41' x 18' ceiling w/ 12' x 12' drum booth

Dimensions of Control Rooms: 8' x 17'

Tape Recorders: Spitzers MM 14 track, Teac MM 1500 2 track, TEAC 544 4 track, TEAC 2001 2 track, TEAC 7000 4 track

Mixing Consoles: Tangent 210 24 in x 16 in

Monitor Amplifiers: Metron 4000, Crown Vista A1800, BGW 250

Monitor Speakers: URH Time Aligned 8's, JBL 4311, Auratone 50's, MXR digital delay

Echo, Reverb, and Delay Systems: MIC MIX Master Force XI 805, MXR digital delay

Other Outboard Equipment: URH 1176 LN limiter, dbx 160 compressors (2), Bump Quad limiters, Orban stereo parametric EQ, Moog 12 stage phaser, MXR flanger doubler

Microphones: Neumann U 87 (2), AKG C414, C452, D1000F, U 107, Shure SM 57, 54B, 14, Electro Voice, Sennheiser M 421

Instruments Available: Ernst Kapp 62 grand piano, Hammond B 4 Hohner clavichord, Fender Rhodes, Prophet 5 synthesizer, Mini Moog, Rogers drum, Music Man amp

Rates: Please call

Extras: Lounge, refrigerator, 2nd world lounge, complete production services including arranging, conducting of musicians

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Watch for a record crop.



the New

Triad Recorders

Coming harvest time '82

(209) 255-1600

2727 N. Grove Industrial Dr. #105, Fresno, California 93727

A division of PF Communications, Inc.

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World Radio History

See our listing on page 56.

etc. We also specialize in synthesizer programming and production with in-house synthesist Bill Biersach

Direction: We can supply any area of music production and recording for our clients at an affordable price. We have recently remodeled our studio and lounge to provide our clients with the most comfortable surroundings



Sound Chamber Recorders
Pasadena, CA

**** SOUND CITY

15456 Cabrito Road, Van Nuys, CA 91406
(213) 787-3722, 873-2842

Owner: Tom Skeeter and Joe Gottfried

Studio Manager: Duane Scott, traffic manager, Paula Salvatore

Engineers: Duane Scott, Bruce Barris, Bernard Polakow, Ray Leonard, Doug Pakos, chief maintenance, Dave Harrison

Dimensions of Studios: Studio A, 40' x 50'; Studio B, 40' x 40'

Dimensions of Control Rooms: Studio A, 26' x 20'; Studio B, 20' x 20'

Tape Recorders: Studer A800 24 track, Studer A80 MK II 24 track, (8) Studer A80's, B 67's 2 track, Revox/Sony 1/4 track

Mixing Consoles: Neve (Studio A) w/Neucom compator mix, 26 in x 42 out, Neve (Studio B), 28 in x 42 out

Monitor Amplifiers: SAE MK IIIA, Crown DC 300

Monitor Speakers: A & B JBL (custom designed and tuned by George Aucspurger)

Echo, Reverb, and Delay Systems: EMT AKG, low chamber, Cooper Time Cube, Lexicon Delta I, digital delay, Harmonizer, Eventide Flanger, Crivan De Esser, Eventide Digital Delay

Other Outboard Equipment: Pultec EQ's, filters, Teletronix LA2A limiters, Neve limiters, UA 1176, Dolbys

Microphones: Neumann U 47, U 67, U 47, FFT U 84, U 86, U 87, KM 84, KM 86, M 49, AKG 541E, C 451F, C 24, C 12A, Electro Voice RE 20, E 15, 6 5's, Shure 545's, SM 57, SM 58, Sennheiser MD 421, Sony C 37's, EC 50

Instruments Available: Hammond C 3 organ with Leslie, two Steinway grand pianos, Vox Baroque, xylophone, tympani

Rates: Call for rates

**** SOUND CONNECTION

11724 Ventura Blvd., Studio City, CA 91604
(213) 985-3805

Owner: Haim Saban, Shuki Levy

Studio Manager: Theresa Abrook

**** SOUND IMAGE STUDIOS

also REMOTE RECORDING
6556 Wilkinson, N. Hollywood, CA 91606
(213) 761-5205, 762-8881

Owner: M. Paradiso, G. Fledge, M. Eberhardt

Studio Manager: M. Eberhardt

Engineers: Chief Eng. M. Paradiso, many independent engineers available

Dimensions of Studios: 16' x 18'

Dimensions of Control Rooms: 20' x 18'

Tape Recorders: Studer A 80 24 track, Ampex ATR 100 2 track, Ampex ATR 100 4 track, Ampex AG 440 2 track, Revox 1/4 track

Mixing Consoles: Neve 8024, 30 in x 24 out

Monitor Amplifiers: Crown DC 300, BGW 250

Monitor Speakers: JBL 4311, Auratones

Echo, Reverb, and Delay Systems: Lexicon 224, AKG BX 10, Deltalab DDL, Prime Time DDL

Other Outboard Equipment: Flanger, Harmonizer, Kepex, Orban parametric EQ, UREI 1176 limiters, UREI 176 limiters, Altec 436-B compressors, Altec 436-C compressors, RCA BA 6A limiters

Microphones: Neumann U 87's, U 47's, KM 84's, Altec M 20's, M 30's, AKG 414's, 451's, 452's and C 60, Electro Voice RE 20, 6 5's, Sony ECM 22, ECM 989 stereo, Beyor M 160, RCA 77DX ribbon, Shure SM 57's and 58's



Instruments Available: Prophet synthesizer, electric piano, clavinet

Video Equipment & Services: 1/2", 1/4" and 1" video tapino services, video sweetening, mix to picture

Rates: Audio \$75/hr, Video sweetening \$140/hr, Video production rates on request

**** THE SOUND INVESTMENT CO.

also REMOTE RECORDING
1655 S. Compton Ave., Los Angeles, CA 90021
(213) 748-2057

Owner: R.G. Robeson

Studio Manager: R.G. Robeson

Engineers: Enrique Elizondo, Oscar Verdugo

Dimensions of Studios: 40' x 60'

Dimensions of Control Rooms: 25' x 15'

Tape Recorders: MCI 24 track, MCI 2 track, Otari 2 track

Mixing Consoles: MCI 428, 24 in x 24 out

Monitor Amplifiers: Crown DC 300

Monitor Speakers: JBL 4144

Echo, Reverb, and Delay Systems: Master Room III echo

Other Outboard Equipment: UREI graphic EQ's, 41 band EQ, Dolbys 1176 and dbx 160 compressor limiters, Lexicon DDL

Microphones: Neumann U 87's, KM 84's, AKG C 452's, C 414's, Sennheiser MD 421's, Shure SM 57's, SM 7's, Sony ECM 33F's, RE 20's

Instruments Available: Steinway 6' grand piano, Fender Rhodes electric piano, D 6 clavinet, AHP Omni, AHP Odyssey syn, Fender Twin Reverb amp

Rates: Call for rates. We encourage block booking



SoundLabs
Hollywood, CA

**** SOUND LABS

1800 No. Argyle—2nd floor, Hollywood, CA 90028
(213) 466-3463

Owner: Frankie Valli, Bob Gaudio

Studio Manager: John Bruno, traffic manager, Marla Miller

Engineers: Patrick Von Wierandt, Paul Lani, Don Koldon

Dimensions of Studios: I, 10' x 15'; II, 40' x 45'; III, 10' x 12'

Dimensions of Control Rooms: I, 16' x 20'; II, 16' x 20'; III, 16' x 30'

Tape Recorders: (2) Studer A80(VU) MK II 24 track, (2) Studer A80/RC 1/4" & 1/2" 2 track, 3M 79 24 track, (6) Scully 280 4/2 track 3 & mono, 3M 64 4 track

Mixing Consoles: Quad Eight, 32 in x 24 out, Neve/Neucom 8068 MK II, 56 in x 16 out, Trident Series 80, 40 in x 24 out

Monitor Amplifiers: Harmon Kardon Citation 12, Crown

Monitor Speakers: 604 w/Mastering Lab crossovers

Echo, Reverb, and Delay Systems: (5) EMT 140, EMT 240, live chamber, Cooper Time Cube, Lexicon 224

Other Outboard Equipment: UREI limiters, Teletronix limiters, Eventide Harmonizer, DDL, Phaser, Lexicon Prime Time, Aphex Aural Exciter

Microphones: Neumann M 49, U 87, U 47, KM 84, KM 88, KM 54, KM 56, Sennheiser 421, 441, AKG 412, 414, 451, Shure SM 7, SM 56, SM 57, SM 58, 545, SM 53, Sony C-500, RCA 77

Instruments Available: Steinway & Yamaha grands

Rates: Call for rates



Sound Master Audio/Video
N. Hollywood, CA

**** SOUND MASTER AUDIO/VIDEO

RECORDING STUDIOS
also REMOTE RECORDING
10747 Magnolia Blvd., No. Hollywood, CA 91601
(213) 650-8000

Owner: Brian & Barbara Inokolski

Studio Manager: Barbara Inokolski

Engineers: Brian Inokolski, Joe Benesh, Ken Inokolski, James Daly

Dimensions of Studios: 33' x 45' x 14 H plus drum booth and vocal booth

Dimensions of Control Rooms: 21' x 21'

Tape Recorders: (2) MCI JH 16 24 track, (2) MCI JH 110 A 2 track, MCI JH 110 A 4 track, (2) Bvox A77 H 2 track, Ampex AG 440 C 2 track, Pioneer RT 701 1/4 track, (2) Nakamichi cassette 1000 2 track, (4) video recorders 1/2" JBL 8560, video recorder 1" Ampex 1001, (4) video recorders VHS and Beta 7000 & 3700

Mixing Consoles: Quad/Eight Coronado automated compu mix 3, 40 in x 40 out

Monitor Amplifiers: Triampex Ashby crossover, Soundcrafts men Model 5001, BGW 750C and 100B

Monitor Speakers: Custom design Goodman control room quad, Studio L 400 JBL, various auxiliary monitors available

Echo, Reverb, and Delay Systems: AKG BX 20, Quad Eight CPR 16, Soundcraftsmon 262 stereo, Sound Workshop 262 stereo reverb

Other Outboard Equipment: 26 channels of Dolby 32 channels of dbx noise reduction systems, SMPTE Time Code JH 45 Autolocator, 3 Prime Time, Lexicon PCM 41, Harmonizer Eventide D250 Advanced Audio Design 265 Dynalizer, Limiters dbx 165's, UREI 1176's dbx 161's, Quad Eight compressor/expanders, Quad Eight De Essers, Noise gates, 16 Quad/Eight and Kepex, Orban parametric, UREI 57/A, MXR phaser, Eventide Instant Phaser, Marshall Time Modulator, Eventide DDL 1245

Microphones: Shure Bros. complete line, Electro Voice, Audio Technica, PZM's, AKG, Sony, Beyor, Neumann, Altec, RCA, Sennheiser, Vega wireless, Edcor wireless, over 350 microphones including old tube types

Instruments Available: Steinway T7 grand piano, Yamaha 6'6" grand, B 3 with Leslie, Linn LM 1 computerized drum machine, timbales, orchestra chimes, string synthesizer, and varied array of hand percussion instruments

Video Equipment & Services: Full video production house on site. Video studio dimensions 40' x 40' (computerized post production editing with Chromakey character generator, digital special effects, freeze frame and frame store, Ikecam and JVC color cameras, also ENG). Program pre-planning, design script writing, and in-house tape duplication

Rates: Available on request

Extras: On site disc mastering studio equipped with Tandem Cyberonics disc cutting lathe with Ortolon heads and computerized digital Cyberonics console

Direction: Looking ahead to the future, Sound Master has incorporated full color video capabilities into a state of the art recording studio facility to accommodate the current growing audio/video fusion in the recording industry. Our aim is to provide you with technical sophistication as well as personal attention

**** SOUNDTRAX RECORDING STUDIOS, INC.
8170-U Ronson Rd., San Diego, CA 92111
(714) 560-8449

Owner: James B. Papaioannou

Studio Manager: Christine Buralim

Engineers: John Slowiczek, Jim Papaioannou, Steve Bonhag

Bob Gould Scott Hixby

Dimensions of Studios: 20' x 45'

Dimensions of Control Rooms: 18' x 20'

Tape Recorders: Studer Revox A 700 full track, Ampex 1100 16 24 track, Tascam 7018 B 8 track, TEAC 3340 4 track, Ampex ATR 700 2 track

Mixing Consoles: Trident 3216 24 x 24

Monitor Amplifiers: 4 SAE's

Monitor Speakers: JBL 4341 Auratones Visonik

Echo, Reverb, and Delay Systems: Live-in-room, SW 220 A stereo reverb

Other Outboard Equipment: (2) Marshall Time Modulators, Allison Kexpex dbx comp limiters, Fairman parametric EQ, SAE stereo EQ full track, 1/4 track echo machine, Echoplex master, MXR goodies, ARP 2600 Synthesizer with patch to volco converter, Burwen noise filter, MXR patch processor

Microphones: Neumann U-87 U-67 U-47 KM 84, Alto 629 A, Sanyo condensers, Boyer 301, Sennheiser MD 421 U, Electro-Voice 377, Shure SM 96, SM 57, 545, and 565

Instruments Available: Steinway upright piano, Rhodes electric piano, Voxer full percussion, Roland tympani, tubales, congas, etc.

Rates: Call for rates

Extras: One of the features of Soundtrax is our ability to make the facility more than just a place. We have the low true music quality cassette duplicators on the west coast. Cassette service is available to Soundtrax clients or anyone else with a high quality master tape.

Direction: We are striving to be San Diego's only full service audio house. Complete music/commercial production services are available in-house via Soundtrax Productions. If you need top quality recording in the San Diego country area or master quality cassettes from anywhere in California, please feel free to call either Jim or Chris at Soundtrax, home of the friendly pros.

◆◆◆ SPINDLETOP RECORDING STUDIO

also REMOTE RECORDING

3449 Cahuenga Blvd., West Hollywood, CA 90068

(213) 851-1250

Owner: Hal & Vio Michael

Studio Manager: Paula Sauls

Engineers: Steve Thorne, Keith Schevning

Dimensions of Studios: Studio A: 32' x 14' w/h 15' x 10' iso room, Studio B: 31' x 17' with 13' x 15' iso alcove

Dimensions of Control Rooms: A & B: 20' x 16'

Tape Recorders: (2) MCI JH 24 24 track, (2) MCI JH 110B 1/4 4 tracks, 4 MCI JH 110B 1/4 2 tracks, MCI JH 110B 1/4 2 track (available upon request)

Mixing Consoles: Studio A: MCI 636 46 in x 46 out, Studio B: MCI 636 46 in x 46 out

Monitor Amplifiers: Studio A: BGW 250 250 150, UREI 6500, Studio B: BGW 250 250 150, UREI 6500

Monitor Speakers: UREI 815 Time Align, UREI 811, JBL 4311, Yamaha NS-10M Auratones

Echo, Reverb, and Delay Systems: Echoplex I, Lexicon 24 Master Room Spring, Marshall Time Modulator, Cooper Time Chase, Lexicon Prime-Time, Kark Technik Analogue Delay

Other Outboard Equipment: Teletronix LA 2A Harmonizer 949, Eventide Harmonizer Kexpex II, Gun Brain II Max Q equalizers, Orban De-Esser, Orban 672 EQ, Orban 622 EQ, UREI 1170, UREI 546 EQ, Dual parametric dbx 165 limiters, UREI LA 4A, UREI digital metronome, M-42 Dolby, 351 Dolby, K9 dbx

Microphones: Neumann U 89, KM 88, U 87, KM 86, KM 85, KM 84, AK 4C 452, C 414, D 11, Shure SM 81, SM 57, Sennheiser MD 441, MD 421, M 160, Crown PZM 40, PZM 41, Neumann U 47 tube, Sony C 17 tube

Instruments Available: Studio A & B: Yamaha concert grand (7' Ferner), Rhodes

Rates: Rates are available upon request

◆◆◆ STUDIO 55

5505 Melrose Ave., Los Angeles, CA 90038

(213) 467-5505

Owner: Richard Perry

Studio Manager: Larry Emerse

◆◆◆ STUDIO MASTERS

8312 Beverly Blvd., Los Angeles, CA 90048

(213) 653-1988

Owner: Randolph C. Wood

Studio Manager: Larry Wood

Engineers: Don Blake, Robert Brown, Steve Hodge, Jim Shifflett

Dimensions of Studios: Studio A: 30' x 40' with 20' x 18' isolation room

Dimensions of Control Rooms: 20' x 15'

Tape Recorders: Ampex (2) MM1200 24 track, Studer (3) A 80 2 track, Ampex A3440 4 track

Mixing Consoles: Harrison 36x24 46 in x 24 out

Monitor Amplifiers: Crown 300A

Monitor Speakers: Westlake Audio TM 1

Echo, Reverb, and Delay Systems: Eventide DDL, EMT Master Room

Other Outboard Equipment: 1176 limiters, Eventide Harmonizer, Prime Time digital delay, Audio Kinetics Q-Loxk (48 track recording), Neumann disk mastertone, Allison & Kexpex

Microphones: All types

Rates: Please call for rates



Studio Orange
Orange, CA

◆◆◆ STUDIO ORANGE

421 N. Tustin, Orange, CA 92667

(714) 633-8200 (714) 633-8201

Owner: Tom Vesvart

Studio Manager: Karen Dark

Engineers: Tim Vesvart, Chief Engineer: Rich Ortiz, Jim Molinas

Dimensions of Studios: A: 40' x 50' x 25' w/ 2 drum booth, 10' x 10' isolation booth, Designed by Sibus Audio

Dimensions of Control Rooms: A: 20' x 20' (insulated by Tom Hilday-Wheaton Associates)

Tape Recorders: 4M 79 24 track with Solestack II, 4M 64 1/2 track 40 15 ips

Mixing Consoles: Custom console transferless designed by Einar Kramer 40 in x 44 out

Monitor Amplifiers: Crown, Soudercraft, QSC

Monitor Speakers: JBL 4330, and J4311, Auratone

Echo, Reverb, and Delay Systems: Stocktronics Plate Reverb Harmonizer, 3 tape delays, Lexicon 224 & 224X, Prime Time Marshall Time Modulator

Other Outboard Equipment: dbx noise reduction LA 4A, Eventide Harmonizer, Orban 3 channel De-Esser, compressor, limiter, gates, (3) Dynacoms, Others available by request

Microphones: JMI, AKG, Neumann, Sennheiser, Electro-Voice, Shure, Sony, etc.

Instruments Available: Grand piano, Leo Paul, MS Precision bass, percussion, Banjo, Mellotron, Rhodes, organ, Leslie, Linn, w/drums, Yamaha 1/2 string

Rates: Call for information

◆◆◆ STUDIO SOUND RECORDERS

11337 Burbank Blvd., N. Hollywood, CA 91601

(213) 506-4487 (506-HITS)

Owner: George Tobin Productions Inc

Studio Manager: Allen Rinde

Engineers: Staff: Los Brockmann, Alan Hirschberg, Intependent: Ryan Ulyate, Hal Hellerman, Steve Mitchell, Howard Weller, Mark Wolfson, David Leonard, Bill Dawe

Dimensions of Studios: Studio A: 45' x 25' with two isolation booths approx. 10' x 12', Studio B: 40' x 15'

Dimensions of Control Rooms: 20' x 20' each (both control rooms were built to identical specs)

Tape Recorders: Ampex MM1200 24 track (2), Ampex (3) ATH 2 track, 1/2" and 3/4" (3)

Mixing Consoles: Harrison 36x24 w/ Allison 65K automation 46 in x 24 out

Monitor Amplifiers: Phase Linear, BGW

Monitor Speakers: UREI 813 Time Align, JBL 4311, Auratones

Other Outboard Equipment: EMT 251 (2), Lexicon 224 digital reverb, Lexicon Prime-Time, EMT 240 Gold Fo, AKG BX 10 (2), Eventide 949 Harmonizers, Pultec EQP 2, MEO 5 and Linn

PEQ 2 equalizers, Allison Gain Brains and Keyboxes, 1176 compressor limiters, dbx 165 limiters, ADR Vocal Stessor (2), EXF Exciters, Orban De-Esser, Kark Technik graphi-EQ

Microphones: Telefunken 251 tube, Neumann U 47 tube, U 67 tube, U 87, KM 86, KM 84, AKG 452/EB 12, Sennheiser 406, MD 416, 421, 441, E-V RE 20, RE 15, RE 10, RE 11, 645A, RCA 77, Sony EC 9P, ECM 50

Instruments Available: Kawai acoustic grand piano, Hammond organ upon request, Rhodes, Wurflitzer Prophet Pro 1, Linn drum machine

Rates: \$50/hr. Negotiable



Studio Sound Recorders
N. Hollywood, CA



Studio West
San Diego, CA

◆◆◆ STUDIO WEST

5042 Ruffner St., San Diego CA 92111

(714) 277-4714

Owner: LeRoy Carroll, David Johnson

Studio Manager: Dan Milner

Engineers: LeRoy Carroll, Dan Milner, Steve Bonacho, Larry Owens

Dimensions of Studios: Studio A: 25' x 35' with another 10' in 2 isolation rooms, Studio C: 15' x 12' (voice production)

Dimensions of Control Rooms: Studio A: 26' x 17', Studio C: 12' x 12' (voice production)

Tape Recorders: Stephens w/ Autolite comp, teletype 821A 24 24 & 16 track, Scully 280 B track (2), Ampex 440B 2 track, MCI JH10 mono, MCI JH 110 2 track, Scully 280 mono, Ampex 440B 4 track

Mixing Consoles: (A) MCI greatly modified to discrete with Bus sub groupings, Model 428 28 in x 24 out, (C) Audirecues 110 ZMF, 10 in x 2 out

Monitor Amplifiers: Studio A: Three-fold 400A SAE 220B (3 units), BGW 250 (1 unit), Studio C: Crown DC 60 (3 units)

Monitor Speakers: Studio A: (control) JBL 4311A, Studio JBL 4320, Studio C: JBL 4311

Echo, Reverb, and Delay Systems: Studio A: live chamber Eventide Harmonizer, Studio C: MIC MIX echo unit

Other Outboard Equipment: (5) Allison limiters, (2) UREI 1176LN limiters, (4) UREI LA 3 limiters, (2) Allison Kexpex noise gates, 3 channel Orban De-Esser, (2) Trident parametric EQ's, dual channel Techlines parametric EQ, UREI trapezoid EQ, UREI digital metronome, (2) JTC broadcast cart machines, (5) digital production clocks, (2) Gray SMITE code reader character generators, (3) Sony Trinitron monitors, Sony U-matic video cassette recorder, Pollard Co incidence detector, HTX 4500 synchronizer, Audio Design Vu scan (20 channel), Modulmaster LRS AM transmitter for broadcast campaign, dbx 155 (2) broadcast ORK turntables, (3) cassette decks including Pioneer CT-F 1000

(continued on page 56)

(continued from page 55)

for client roughs (2) Teller EOP 1A equalizers, MXR flanger, doubler, Orban 245E stereo synthesizer

Microphones: Neumann condensers U 47, U 86, KM 84, KM 84, KM 88, U 48, U 67 (17 total), Sennheiser 421's, 441U, RCA 77BX 44HX, EV RE 10's, 666's, 635A's, AKG Shure Sony

Instruments Available: Steinway B 7 grand, Rhodes electric piano, Synclairs, Hohner clavichord

Video Equipment & Services: SMPTE video interlock in Studio A & C
Rates: Studio A SMPTE video interlock—16 & 24 track \$95, 24 track \$80, 16 track \$70, 2 track \$35, Studio C 8 track \$30 SMPTE video interlock \$50, 4, 2 and mono \$25. Same rates for live and mix, no charge for overdubs or weekends
Extras: Mix tapes in one area and a same room arrangement room with free use of bond copier, cassette duplication department with 60 min. 1/2 inch position high speed cassette duplicator

Direction: We mainly specialize in commercials & radio TV productions. We have 24 national Clio awards, numerous & numerous IBA nominations. In 1980 we won both a first place Clio Statue & IBA spike. 1981 is our 10th year in operation. Since 1979 we have participated in the following national spots: Suzuki, Donny's first singles, 5/8 Budweiser radio commercials, Michael Michalek Light & Budweiser TV post scenarios, Buster Brown STP, Sanyo & Glass Plus. We also lead the nation in the number of nationally produced spots for TV promotional music.

•••• SUN-DWYER RECORDING STUDIO
 also REMOTE RECORDING
 26483 A Baseline, Highland, CA 92346
 (714) 864-3333
Owner: Pacific Communication Prod. Inc.
Studio Manager: Terry Dwyer

•••• SUNSET SOUND
 6650 Sunset Blvd., Hollywood, CA 90028
 (213) 469-1186
Owner: Sun Sound
Studio Manager: Warren Sawyer
Engineers: Eric Bennett, Chief Engineer, Terry Christian, Bill Dwyer, Ed Markle, Jim Leary, M. Chou, Howard M. Krieger, Steve M. Jones, M. J. Jones, Mike Mroz

Dimensions of Studios: Studio A 12' x 12' x 9' with separate Strand room, Studio B 40' x 40', Studio C 20' x 50' with 2 iso. booths

Dimensions of Control Rooms: Studio A 12' x 12' x 10', Studio B 12' x 12' x 10', Studio C 12' x 12' x 10'

Tape Recorders: Ampex 1200, 4 track, Ampex ATR 100, 2 track, Nakamichi 1000 II cassette, Alesis K2000, Q100, 2 track, 4 track, 8 track, 16 track

Mixing Consoles: Custom designed in all studios, 32 in x 4 out
Monitor Amplifiers: B&W 250, B&W 750
Monitor Speakers: JBL custom designed

Echo, Reverb, and Delay Systems: 8' industrial echo chamber, Eventide 145M DDL, EMT 150, EMT 151, EMT Plates, Echoplex reverb, AKG Echo Chamber, Lexicon Prime Time, Lexicon 1025 DDL

Other Outboard Equipment: Harmonizers, phasers, parametric EQ's, Incoverters, 01 limiter, UREI LA, A, 1A, 1A4 limiters VSO, ADH Vocal Stressor, Allison Kopyex and Gain Brain, Hoyer Mayor noise gates, B&B Sub mixer, Groupier

Microphones: Neumann M 49, U 47, KM 84, U 67, U 47, U 64, AKG 4, 4H, 451, HIAM 251, EV RE 20, RE 15, 65, Sennheiser SM 56, SM 57, 54s, Sennheiser 405, 421, 441, Sony C 47A, PCM 22P, Altec 21D, RCA 44 PZM 130, 150

Instruments Available: Steinway B grand, grand piano in each studio, grand piano

Rates: 24 track \$140/hr, Dolby noise reduction and assistant engineer included, 1st engineer extra

Extras: Main lobby, same room, track in 15 min bar, lockers for each studio, support with refrigerator, Sony TV, and private phone, ample parking facilities, Basketball court and ping pong

Direction: A "Home like" atmosphere prevails at Sunset. Security services provide complete protection. We have recorded Van Halen, Devo, Pross, Eric Clapton, Neil Diamond, Bette Midler and many others. Our staff is highly qualified to provide the track if necessary to insure a smooth session.

•••• SUNSET SOUND FACTORY
 6357 Selma Ave., Hollywood, CA 90028
 (213) 467-2500
Owner: Paul Camarillo
Studio Manager: Philip MacConnell
Engineers: Jeff Minnich, Peter Doell

Dimensions of Studios: A 26' x 16' isolation room, 20' x 12', isolation booth, 12' x 7', B 20' x 22' isolation booth, 9' x 6'

Dimensions of Control Rooms: A 19' x 14', B 18' x 16'

Tape Recorders: Ampex MM 1200, 24 track, M79, 24 track, Ampex ATR 102, 2 track, M79, 2 track, M410, 2 track

Mixing Consoles: A ATR 28 in x 24 out, B ATR 32 in x 12 out
Monitor Amplifiers: Phase Linear, McIntosh, Crown
Monitor Speakers: Altec 604E w/ Mastering Lab crossovers (both rx & y), Yamaha NS 10, JBL L 19, Auratones JBL 4410, Braun L 500

Echo, Reverb, and Delay Systems: EMT 140 echo plates, EMT 970 delay line, EMT 250, Coopers Time Cube, Eventide 1745 delay

Other Outboard Equipment: Dolby dbx, Gain Brains, Kopyexes



1176's 1A 4A's DeLesser Harmonizer, phaser, flanger, Furchildt 602, EMT 150, Lata PEQ, UREI 556A, Lata EQ, 259A, III MEP, 40 PFO, Marshall Time Modulator, digital meter tone
Microphones: Neumann U 67, U 47's, U 47HE1's, KM 84's, KM 88's, KM 88, M 49's, Telefunken E1AM, 51, RCA 77's & 44's, Altec BDC 1's, Sanyo C45, PCM 50, PCM 21, C 47A's, 201, C 500, AKG C 12A's, 4 4EE's, 201's, 224's, 452's, EV RE 20, 666's, 1/2", Shure SM 53's, SM 56's, 54's, 544, Sennheiser 411, 441, 415
Instruments Available: Steinway grand piano, Fender B, Ham m, 1176's, 1176's, 1176's
Rates: Call for rates



Sunset Sound Factory
 Hollywood, CA

•••• SUNSOUND RECORDING STUDIOS
 9590 Chesapeake Drive, San Diego, CA 92123
 (714) 565-8511
Owner: Peters Productions, Inc.
Studio Manager: Douglas F. Worsley

•••• SUNWEST RECORDING STUDIOS
 5533 Sunset Blvd., Los Angeles, CA 90028
 (213) 463-5631
Owner: Robert Williams
Studio Manager: John C. Walker

•••• JOHN THOMAS STUDIOS
 12123 Oxnard Street, N. Hollywood, CA 91606
 (213) 760-4444
Owner: John Thomas

•••• TRAC RECORD CO.
 170 N. Maple, Fresno, CA 93702
 (209) 255-1717
Owner: Stan Anderson
Studio Manager: Stan Anderson

•••• TRACK RECORD
 also REMOTE RECORDING
 5249 Melrose Ave., Hollywood, CA 90038
 (213) 467-9432
Owner: Bob Sator, Tom Murphy
Studio Manager: Bill Metoyer
Engineers: Bob Sator, Tom Murphy, Bill Metoyer, and John Riegler

Dimensions of Studios: 14' x 7'5" x 13' and 14' x 18' x 14'
Dimensions of Control Rooms: 14' x 20' x 12'
Tape Recorders: MCI JH 100, 24 track; Ampex 440B, 2 track w/ 30 ips, Technics 1520, 2 track, Sony TC 854, 4 track, (2) Kenwood KX 1030, 2 track

Mixing Consoles: Opamp Labs Custom 30 in x 24 out
Monitor Amplifiers: SAF, Opamp Labs
Monitor Speakers: UREI 81, 4 Time Alcan, JBL 4401's, Auratones Echo, Reverb, and Delay Systems: Echoplex stereo reverb plate, stereo custom spring, live chamber, DelaLab Acousticon pater, Lexicon Prime Time DDL
Other Outboard Equipment: Watmott Product Generator, Kopyex's (4), MXR flanger, UREI 1176 LN limiter, dbx 165 compressor/limiter, Opamp Labs compressor limiters (4), Altec 436C limiter, Teletronix LA2 limiter, Pulte equalizers, Phase Linear parametric EQ, Phase Linear noise reduction tube circuit boxes
Microphones: U 47 tube Telefunken, Neumann KM 64 tube (4), Electro Voice RE 20, AKG 451's, 452's, 414 (P4B), Sennheiser 421's, Shure SM 7, SM 56, 57, 58's, RCA ribbon
Instruments Available: 7 Kawai grand
Rates: 24 track \$45/hr, \$40/hr block, 2 track recording, editing & voice over \$30/hr, Dubbing/copying \$20/hr. All rates include 1st and 2nd engineer

•••• TRADEWIND SOUND REHEARSAL STUDIOS
 3630 Avalon Ave., Los Angeles, CA 90034
 (213) 836-8360, 83-SOUND
Owner: Mike Parish, Sharon Darian
Studio Manager: Sharon Darian



Triad Recorders
 Fresno, CA

•••• TRIAD RECORDERS
 also REMOTE RECORDING
 2727 N. Grove Industrial Dr., #105,
 Fresno, CA 93727
 (209) 255-1600
Owner: Pat Communication, Inc.
Studio Manager: Eric Swaberg
Engineers: Eric Swaberg, Jeffrey Hall, Keith Battist, various in department

Dimensions of Studios: A 4' x 7' w/ 18' x 14' iso booth, B 27' x 19', C 7' x 7' broadcast voice booth
Dimensions of Control Rooms: A 20' x 19' w/ 18' x 7' machine room, B 20' x 19', C 15' x 12'

Tape Recorders: Studer A 80VU MKII, 24 track, Studer A 80VU MKII, 14' 2 track, Studer B 67 MKII, 2 track mono, Otari 5050B, 2 track mono, Nagra 451, 2 track w/ syn

Mixing Consoles: A Quantum Control, 40 in x 24 out, B Quad Eight Pacheco, 24 in x 16 out, C Quantum Audio Labs production console

Monitor Amplifiers: Crown PS 400, PS 700 and D75
Monitor Speakers: Augsburg custom JBL 4311, Sentry 100A, Auratone 5C

Echo, Reverb, and Delay Systems: Echoplex LA II, Quad Eight System 5 digital reverb, Lexicon Super Prime, Prime, Marshall Time Modulator, Eventide H949 Harmonizer

Other Outboard Equipment: Quad Eight CL22 compressor/limiter, UREI LA 4 1176, 545 545 1178, Orban stereo synthesizer, FXH Exciter, Audio Knecher 410 SMPTE sync system

Microphones: AKG 414, 452, C 34, K V RE-20, CS 15, Shure SM 56, Crown PZM, Wright Sennheiser 441, 421, etc

Instruments Available: Yamaha C7 grand piano, various keyboards, Marshall amps, anything available

Video Equipment & Services: Sync to Sony 1 type "C", 14" TV production facilities next door with compliment of gear and remote track

Rates: A 24 track \$75/hr, 16 track \$60/hr, B 16 track \$50/hr, B track \$40/hr, C \$35/hr. Call for block rates

Extras: SMPTE lock up for 42 or 40 track sessions, Console automation w/ floppy disk storage and mix editing, In-house producers, arrangers, musicians and hip people

Direction: Studios now under construction with anticipated opening in fall of '82. Acoustics by George Augsburg with custom monitors. State of the art, incredibly maintained equipment with engineering to match an L.A. quality facility without the big town hype



Trianon Recording Studio
Long Beach, CA

•••• TRIANON RECORDING STUDIO
(Formerly Worldwide Audio)
1435 South St., Long Beach, CA 90805
(213) 422-2095

Owner: John A. Vestrum
Engineers: Various independents
Dimensions of Studios: 18 x 14 plus 1 x 4 (front booth) 5 x 7 vocal booth and 2 isolation rooms. 11 ceilings and acoustic treatment varies in each room
Dimensions of Control Rooms: 14 x 15
Tape Recorders: MCI JH 24 24 track modified transformerless w/parallel electronics MCI JH 110 2 track Otari 5050 2 track TEAC 3340 4 track TEAC 450 cassette TEAC C-3X cassette
Mixing Consoles: MCI 428 modified with transformerless inputs & outputs upgraded Equalizers circuits & power supply w/choice of Jensen transformers Trans Amps or transformerless mic inputs 24 in x 24 out
Monitor Amplifiers: Threshold Class A Quatre 250C BGV 250B

Monitor Speakers: Custom D.S. Audio high definition monitor system, Altec 9849s, Auratons

Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb (2) Eventide 949 Harmonizer w/3000 ft. phon tape and acoustic delay systems

Other Outboard Equipment: (2) Scamp expander gates Scamp de essers (2) dbx 160s 162 (2) parametric EQs phaser tape flanger lenser transformer direct boxes VSO and Autolocator on MCI 24 16

Microphones: Neumann U 87 KM 88 KM 84 AKG 451 C 501 Sennheiser 421 421 Shure SM 57 SM 58, SM 55, SM 55 ribbon Sony ECM 22 EV CS15

Instruments Available: Vintage 1901 Steinway B 7 grand piano Fender Rhodes 88 Fender Vibratone (Leslie), over 25 different percussion instruments

Rates: 24 track \$80 hr, 16 track \$55 hr, 8 track \$45 hr 2 & 4 track \$40 hr special block rates available

•••• T.T.G. INC. RECORDING STUDIOS
1441 N. McCadden Pl., Hollywood, CA 90028
(213) 464-7391

Owner: Ami Hadani
Studio Manager: David Gevry
Engineers: Ami Hadani, Assaf Simon William Parr Mike Martiniello

Dimensions of Studios: Studio I: 65 x 41 x 20 ceiling plus iso booth (can accommodate 90 musicians), Studio II: 31 x 18 plus iso booth Studio III: 40 x 20 plus iso booth (Under construction)

Dimensions of Control Rooms: Studio I: 22 x 16, Studio II: 21 x 14 Studio III: 20 x 17 (Under construction)

Tape Recorders: MCI JH 16 4 track (M5) 16 track Ampex and MCI 42 track and more

Mixing Consoles: A11, 4RB 4 in x 4 out with 11 in dual flexmix 10 in Custom 58 in x 24 out

Monitor Amplifiers: Crown's IBL

Monitor Speakers: JBL's

Echo, Reverb, and Delay Systems: 6 acoustic reverb chambers 4 electronic echo chambers

Other Outboard Equipment: Dou noise reduction system UREI Fairchild Teletronix limiters Spectra Sonics comp/limiter Lang API UREI E-lab Movo Cinema Engineering EQ's 35 mm precision ribbon microphones (stripes, single stripe interlock between projection micro recorders and any tape machine, Dummy's (c) 1981

Microphones: Neumann U 87 KM 86 KM 84 M 49 AK 144 452 Sennheiser 421 441 Electro Voice BF 20, BE 16 666 BCA 77 Sony C 47 Shure SM 57 545

Instruments Available: Pianos: Hammond B 3 organs with Leslie speakers Celeste tack pianos Fender Rhodes CS 80

Rates: Available upon request



•••• UNITED AUDIO/VIDEO SHOWCASE
also REMOTE RECORDING
1519 South Grand, Santa Ana, CA 92705
(714) 547-5466, 7,8,9
Owner: Henry M. Quinn
Studio Manager: Bill Bingham

•••• UNITED-WESTERN
6000 Sunset Blvd., Hollywood, CA 90028
(213) 469-3983

Owner: United Recording Corp. M.J. Putnam Chairman
Studio Manager: Jerry Haines

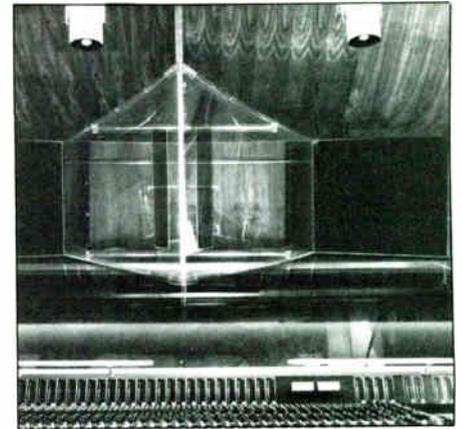
Engineers: Chuck Hays Paul Dorner
Dimensions of Studios: Five multi-track studios with various configurations from 8 to 25 musicians

Tape Recorders: (5) MCI JH 114 24 24 track (2) MCI JH 114 16 track MCI JH 14 B track (2) Sony PCM digital 2 track (3) Ampex ATH 1 2 track Ampex ATR 1 1 track (2)

Ampex MCI 560 Series 1 and 2 track (7) TEAC C-3X cassette (2) Magna Tech 5mm recorders (5) Pioneer CLF 1000 cassettes

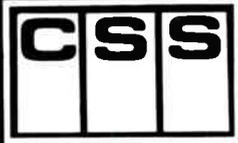
Mixing Consoles: (2) Harrison 4 x 4 40 in x 32 out Harrison 4252 4 track 40 out MCI 28 in x 24 out New 810B 20 in x 48

out with Necam
Monitor Amplifiers: McIntosh 2500's (2)
Monitor Speakers: UREI 813s, 815s
Echo, Reverb, and Delay Systems: 6 live chambers 8 FMT 14 ST Eventide DDLs Super Prime Time
Other Outboard Equipment: UREI 560s 545s 970 (Vidigrat) 1176s 1A2's 1A4's G27 (digital delay) Dolby's in all control rooms Eventide Flanger and Harmonizer BTX SMPTE interlock
Microphones: Neumann AKG Sennheiser Electro Voice Boyer Sony Shure Tele-union etc.
Instruments Available: Steinway pianos, Hammond B 3's Fender Rhodes tack piano Celeste
Rates: 24 track from \$95 hr, 4 track from \$120 hr



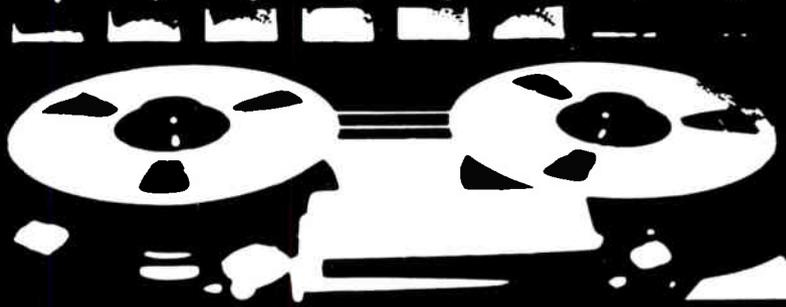
United-Western
Hollywood, CA

•••• VALENTINE RECORDING STUDIO
5330 Laurel Canyon Blvd., No. Hollywood, CA 91607
(213) 769-1515
Owner: Jimmy Valentine
Studio Manager: Eve Valentine



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(213) 204-2000
Owner: Maurin Leitch
Studio Manager: Mark Edman



The Village Recorder
Los Angeles, CA

•••• THE VILLAGE RECORDER
1616 Butler, W. Los Angeles, Ca 90025
(213) 478-8227
Owner: George Hornell
Studio Manager: Joel Fein
Engineers: Sales Manager: Dick LaPala; Chief Engineer: Alan
Fitzmaurice; Trainers: Kevin Kopp
Extras: 24 track recording; video; western; Fairlight com-
puter; musical instruments.
Direction
There once was an engineer named Tylace
Who couldn't get track with his skillion
So he packed up the band
And they all showed "Grand
When he booked them some time at the Village
24 tracks. No waiting.



Warner Brothers Recording/Amigo Studio
N. Hollywood, CA

•••• WARNER BROTHERS RECORDING/AMIGO STUDIO
11114 Cumpston St., N. Hollywood 91501

(213) 980-5605
Owner: Warner Bros. Records
Studio Manager: Ed Outwater; Lee Hersentora (four of five) and
Dimensions of Studios: 2 live recording rooms; 42 track digital &
24 track
Dimensions of Control Rooms: Large
Tape Recorders: 4M (anal) 24 track; 4m; 48 in; 24 mono
tracks; ATH 2 track
Mixing Consoles: 2 Harrison; 40 in x 4; out
Monitor Amplifiers: B & W; C; w
Monitor Speakers: Modified Westlake monitors
Echo, Reverb, and Delay Systems: 4 tracks EMI; 4 tracks analog
analog delay line
Other Outboard Equipment: UHF limiter; Lexicon; Phase-Tone
Delay; 2, 4, 8 in delay line; Eventide; Harmonizer; & anything else
you could desire
Microphones: Full selection
Instruments Available: Hammond organ; Steinway grand piano;
Yamaha grand & upright; Fender piano
Rates: Rates begin at \$150/hr for 24 track recording; 24 track
normal—\$187.50/hr; 24 track live—\$150/hr. Call for further rates
use in stereo rates available also

•••• WESTERN AUDIO RECORDING STUDIOS
8050 Ronson Road, San Diego, CA 92111
(714) 292-9805

Owner: Harlan Lansky; Bob Bishop
Extras: Over 20,000 sq ft of live and studio; party tables; 4,000
sq ft soundstage; CVS video tape; outboard system; dance room;
including pool; ballroom; and a stress-free room
Direction: Western Audio Recording Studios was formed with the
philosophy of combining 24 tracks and tracks in one complete
facility. Used to be on the continent, clients who have
included Casablanca, Atlantic, Warner Bros., Alfa & MCA Records.
have the option of performing live in stereo with 24 track video-
or taping in pre-recorded tracks and live systems.

•••• WESTLAKE AUDIO STUDIOS
8447 Beverly Blvd., Los Angeles, CA 90048
(213) 654-2155

Owner: Glenn Phoenix
Studio Manager: Stuart But



Westwind
Westlake Village, CA

•••• WESTWIND
41 North Duesenberg Drive, Westlake Village, CA 91362
(805) 497-6911—497-8052
Owner: Larry Maffera; Billy Walker
Studio Manager: Ron Capone
Engineers: Bill Chipino
Dimensions of Studios: 40' x 40'
Dimensions of Control Rooms: 24' x 10'
Tape Recorders: MCI H 110 w VSO; 4 track; MCI H 110 w VSO
2 track; MCI H 110 w VSO 2 track
Mixing Consoles: M 124; 24 track
Monitor Amplifiers: (2) HGW 750 C; HGW 250 D; HGW 150
Monitor Speakers: UHF Time Aligned #454
Echo, Reverb, and Delay Systems: EMT; ARG; Eventide
Marshall
Other Outboard Equipment: An array of outboard equipment
Microphones: AKG; Neumann; Shure; Sennheiser; Electro-Voice
Instruments Available: Yamaha grand piano; Yamaha CS-50
Fender Rhodes; Min. Moog; synthesizer; Ludwig drums
Rates: Call for rate quote
Extras: 25 min. in N. Hollywood; other facilities and relaxed
atmosphere; Off-board lounge; kitchen; private video times and
5,000 sq ft of studio space; 24 track & stereo; 24 track; 24 track
accommodations nearby
Direction: With the studio we've made a 4,000 sq ft studio; C
pany that writes, performs, records and produces TV and
mercials. Some of our commercial clients are: 7-11; ABC;
CBS; Columbia; EMI & RCA; Bio Bay



Westworld Recorders
Van Nuys, CA

•••• WESTWORLD RECORDERS

7118 Van Nuys Blvd., Van Nuys CA 91405
(213) 782-8449

Owner: Robert Schneider
Studio Manager: Roy Braverman
Engineers: Robert Schneider, Roy Braverman, Phil Van Arden
Dimensions of Studios: 900 sq ft
Dimensions of Control Rooms: 350 sq ft
Tape Recorders: MCI JH 100 24 track, Ampex 452 2 track, Telex M 1000 1/2 2 track, Sony 777 two units 2 track 1/2 track Sony cassette
Mixing Consoles: HES sound console 48 in x 46 out 24 track cue & monitor
Monitor Amplifiers: Penco Linear, Marantz, McIntosh
Monitor Speakers: IBL, Altec and Quadralix
Echo, Reverb, and Delay Systems: FMT 100 tube stereo plate AEG BX 20 spring system and one custom spring system. Musi-tone 20 1/2 forms and Eventide digital delay
Other Outboard Equipment: Melcor limiters, UREI 1176s, SAE & Alpha param EQs, Meyer psakino and just an parametric EQs, Lexicon phaser, harmonizer, Harmonizer, Lexicon Prime Time
Microphones: Senn 421s, AKG 451s, #1, C2Fs, C-12s, Sony C-12, Neumann U 49, many U 47s, B 1A 44s, Telefunken CM 12s, Sennheiser 421s & misc. Altec, EV, & others
Instruments Available: Yamaha C-7 upright piano, Fender F-505 1/2 piano, ARP Omni string instrument synthesizer
Rates: Please call for rates

Extras: The studio is conveniently located among three freeways in Van Nuys. We are used to restaurant. We can assist you in all phases of musical services. Please call for rates.
Direction: Westworld Recorders is the most effective answer to the "turn in and pick up" problem. Must choose between high ticket studio and busy radio type studios.
This studio combines the best of vintage tube equipment and some of the latest IC technology. All meticulously maintained to perform really well. We have a complete list ofлып reducers and would be your assistance on them.

•••• WHITE FIELD STUDIO
2902 W. Garry, Santa Ana, 92704
(714) 546-9210

Owner: White Field Studio, Inc.
Studio Manager: Thom Hoy
Engineers: Gar Williams, Chris Taylor, Thom Hoy
Dimensions of Studios: A 25 x 25, B 20 x 25, with two isolation booth
Dimensions of Control Rooms: 20' x 25'
Tape Recorders: Stephens 821A 24 track, Ampex ATH 100 2 track, Ampex A1244L 2 track
Mixing Consoles: Ferd Audio/BA. Both custom with Allison automation 48 in x 24 out
Monitor Amplifiers: AR Systems 1200, Crown D3C1, Crown P151, Spectra Sciences 700
Monitor Speakers: Altec 604E Utah with Mastennq Lab crossover, IBL, Avatonics
Echo, Reverb, and Delay Systems: EMT 240, AKG BX 20, Lexicon Prime Time, Eventide H 949 Harmonizer, Echoplex II, DL2
Other Outboard Equipment: UREI A2A 1A 1A Universal 175 limiters, Roger Mayer noise gates, Stephens De Esser 1176, EXR, Orban De Esser, Kepex II, Yamaha analog delay
Microphones: Neumann U 47 tube, U 67, M 49, M 269, KM 54, SM 56, KM 64, Sony C-7A, C-57, C-500, Telefunken 250, 251E, AKG C12A, C-24, C-40, 414, 452, 224, Beyler 160, B 1A 7/DX, E V HE 20, Sennheiser 421, 441
Instruments Available: Steinway 9' concert grand, B 3 with 2 Leslies, Rhodes Wurflizer 140 guitar amps drums
Rates: Upon request

•••• WILDER BROS. RECORDING STUDIO
10327 Santa Monica Blvd., Los Angeles, CA 90025
(213) 557-3452

Owner: George, Warner and Walt Wilder
Studio Manager: George Wilder
Engineers: Walt Wilder (head engineer), Allen Breneman, David Gertz, Ken Suesco, Ray Blair



Dimensions of Studios: Studio I 40' x 40', Studio II 20' x 27'
Dimensions of Control Rooms: Studio I 20' x 20', Studio II 16' x 10'
Tape Recorders: (6) Ampex ATH 100 2 track, MCI JH 2 track 24 track, MCI W Autolocator, Ampex MM1200 24 track
Mixing Consoles: MCI 1646 automated 48 in x 24 out, Audiotronics Son of Grand 29 in x 16 out
Monitor Amplifiers: Carver, Yamaha, Crown, Phase Linear
Monitor Speakers: UREI Time Align, IBL
Echo, Reverb, and Delay Systems: FMT 140, Lexicon J, 4
Other Outboard Equipment: Eventide Harmonizer, Eventide digital delay, Lexicon Prime Time, Kepex, UREI 1A 1A, EXR Exciter, etc.
Microphones: Neumann U 87, U 89, U 67, M 49, AKG 414, 451s, Sennheiser 441s, 421s, Shure KM 80s, etc.
Instruments Available: Fender Rhodes piano, (2) B Yamaha grand, Groesch drum
Video Equipment & Services: Video duplication, film transfer, and video tape services
Rates: Studio 1 24 track \$125/hr, Studio 2 24 track \$85/hr, 16 track \$55/hr
Extras: Currently on the Wilder Bros. Studio are Karla Bonoff, her single, "Personality" and her album, "Wild Heart of the Young" also Glen Frey's "I Found Somebody" and Glenn album "No Fun Allowed" and Jackson Browne's production of Green Cepelanus album beginning the start.

•••• WIZARD RECORDING STUDIOS
308 N. Edinburgh Ave., Hollywood, CA 90048
(213) 655-1322
Owner: Hank Donic
Studio Manager: Kathy Kurash
Engineers: Joe Woelger, Hank Donic, Glen Holman
Dimensions of Studios: Studio 2H x 18', Piano isolation 17' x 13' drum booth 12' x 10' vocal isolation 5' x 9'
Dimensions of Control Rooms: 12' x 17'
Tape Recorders: MCI JH 100 Autolocator 24 track, MCI JH 110A 2 track, Ampex ATH 700 2 track, Ampex ATH 100 2 track, Technics BMS 85 cassettes, TEAC 3440S 4 track slip cassette
Mixing Consoles: Trident TSM 32 in x 24 out
Monitor Amplifiers: Bristons
Monitor Speakers: Audeopurder designed IBL system, Audeopurder tuned UREI H 3 Time Align, IBL 4 311, Braun 11100
Echo, Reverb, and Delay Systems: EMT 140 ST, FMT 240, Cunningham echoplex, Marshall Time Modulator, Eventide Harmonizer, Eventide 1745M DDI, Lexicon Prime Time, Eventide Phasor Flavour
Other Outboard Equipment: Orban De Esser, UREI 1176, Roger Mayer noise gate, dbx 160 stereo, Orban 8Band parametric EQ, Gain Brain, Kepex, Eventide Omnipressor, Dolly all channels, EXR Exciter, ADH Vocal Stressor, LA4A, Incomics 201
Microphones: Neumann U 67, U 87, U 47, KM 84, U 89, AKG 414 EB, 452, Sennheiser 441, 421, E V HE 20, BE 15, Shure SM 57, 58, 545, PZM's, IML, DC 6's, Boyer 500
Instruments Available: Hammond B 3 w 147 Leslie, Yamaha 5' grand piano, congas
Rates: Call. Let's talk your situation over

•••• ALLEN ZENTZ RECORDING
1020 N. Sycamore, Hollywood, CA 90038
(213) 851-8300
Owner: Allen Zentz
Studio Manager: John Van Neer

•••• ZERO STUDIOS
also REMOTE RECORDING
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Studio Manager: Zero Records, Inc.

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DIGITAL DISCUSSIONS

Number Systems

Part One

by Ken Pohlmann

A good measure of a civilization's sophistication is how much information it processes. The amount of knowledge on hand, and how much is accessible probably determines a civilization's evolutionary status. Presumably, a totality of information, completely interwoven and instantly available, would represent a collective omniscience in which a civilization would have reached a true understanding of its world and of itself.

Our civilization clearly has a long way to go. Our knowledge is sadly incomplete and our processing of it leaves much to be desired. And yet there is hope for us because not too long ago in our evolution we came up with number systems. That was an important step because numbers allow us to represent information very efficiently, and in a variety of ways. Our civilization made quite a breakthrough when it devised computers because with that tool we could begin to become masters of our own information. Now we are employing digital techniques everywhere to handle our information flow. As our information resources are enhanced, we see new opportunities to further apply our techniques. In general, everything tends to become more complex, yet that complexity is facilitated.

One field in which digital techniques have created both complexity and facility is, of course, the audio field. The design nature of the recording, processing and reproducing hardware has followed the advance of digital technology and, for the first time, the idea of programming has been introduced to the practical audio environment. Every practitioner of the audio arts must learn the new vocabulary of digital, become prepared to deal with digital, and anticipate the incredible potential it will offer. To those ends, this modest series of discussions has been prepared.

It all begins with numbers. When we deal with audio, we are deal-

ing with information, and numbers offer a fabulous way to code, process, and decode information; we use numbers to represent information. The numerical symbols themselves are highly versatile—their meaning can vary according to the way we utilize them. For example, I drive a Lotus Seven. The '7' is the model number. The number 1600 represents quantity measurement, in this case the cubic centimeters of engine displacement. The license number represents still another kind of information, a specially coded information—such that the speeding tickets are properly credited to my account. Obviously, different numbers are useful only by virtue of their previously agreed-upon context. Similarly, numerical operations such as addition are useful only through correct interpretation. The tally of my speeding tickets determines that my insurance bill will go up, but the tally of my license plate numerals is probably harmless.

The first number system was an early invention; it was a unitary system, which used a series of scratch marks to answer the basic question—how many? That is obviously a rather unwieldy system for large numbers. A higher base system was badly needed, and several were developed. Before 1700 B.C. the Mesopotamians devised a system with 60 symbols, a base sixty system, which is still used today to divide an hour into 60 minutes, a minute into 60 seconds, and a circle into 360 degrees.

For most of us, the most familiar number system is the base ten system, perfected in the ninth century by some clever Arabs who suddenly conceived of the '0' numeral, in addition to the nine other symbols already in use. It is an efficient system because the position of the digits tells us quantities of ones, tens, hundreds, and so on, that is, each next place is multiplied by an appropriate power of ten; we say that 10 is the radix of the system. The decimal system is handy for ten-fingered beings such as humans, and computers also utilize base ten occasionally.

But it's more efficient for a digital machine to use a voltage/no voltage, on/off, binary system, a base two system in which only two digits are needed. As in the decimal system, positional notation is utilized; but in base two each next place represents a doubling of value. For example, in base two the symbol '10' could represent the total number of hands we have. Of course, in base ten, '10' would represent the total numbers of fingers we have. Because binary systems are cumbersome for us humans, hexadecimal and octal base systems are often used to represent binary strings. In base eight, the symbol '10' would represent our number of fingers, minus the thumbs. Obviously, it important to know which base system is being employed.

Whatever information is being processed, no matter how unrelated it might be to numbers, a digital computer codes the information in the form of a number, using the base two system. If it's true, like an old teacher of mine was fond of saying, that the best way of understanding computers is to think like them, then a look at their base two system might prove useful. In fact, we will consistently see that the problem of coding information in digital form is a central issue in the design and operation of digital devices.

The conversation of our familiar decimal system to binary is straightforward. Ignoring all the very interesting number theory involved, to convert a whole decimal number we simply divide by two, and collect the remainders. For example:

$$77 \div 2 = 38 + 1$$

$$38 \div 2 = 19 + 0$$

$$19 \div 2 = 9 + 1$$

$$9 \div 2 = 4 + 1$$

$$4 \div 2 = 2 + 0$$

$$2 \div 2 = 1 + 0$$

$$1 \div 2 = 0 + 1$$

(remainders)

Thus 77_{10} is equivalent to 1001101_2 .

The conversion of a fractional part of a decimal number to base two is accomplished similarly, however a dec-

imal number often leads to an infinitely sustaining binary number, and we must limit the number of terms. For example:

- 2(.7) = 1+.4
- 2(.4) = 0+.8
- 2(.8) = 1+.6
- 2(.6) = 1+.2
- 2(.2) = 0+.4
- 2(.4) = 0+.8
- 2(.8) = 1+.6
- 2(.6) = 1+.2 etc.

Thus 0.7₁₀ is approximately equal to .10110011...

As in our base ten system, the standard arithmetic operations of addition, subtraction, multiplication, and division are applicable in the base two system. The fundamental operation, addition, is easily carried out in base ten because we have memorized decimal addition rules; for base two addition we simply switch to its own rules, which are shown below:

$$\begin{array}{r}
 0 \quad 0 \quad 1 \quad 1 \\
 +0 \quad +1 \quad +0 \quad +1 \\
 \hline
 0 \quad 1 \quad 1 \quad 10
 \end{array}$$

(or 0 and carry 1)

The procedure is the same as in the decimal system, except it's easier because the addition table is simpler. There are only four symbols compared to the more than 100 possible combinations of symbols used as rules in decimal addition. The generation of the carry, as in the decimal system, is necessary because the result in that case is larger than the largest digit in the system. The carry digit in action is shown below:

$$\begin{array}{r}
 11 \\
 00110 \\
 +10110 \\
 \hline
 11100
 \end{array}$$

The algorithms for subtraction, multiplication, and division in the binary system are identical to the corresponding algorithms in the decimal system, as can be seen:

Subtraction:

$$\begin{array}{r}
 1 \quad 1 \quad 0 \quad 0 \\
 -1 \quad -0 \quad -0 \quad -1 \\
 \hline
 0 \quad 1 \quad 0 \quad 1
 \end{array}$$

Multiplication:

$$\begin{array}{r}
 0 \quad 0 \quad 1 \quad 1 \\
 \times 0 \quad \times 1 \quad \times 0 \quad \times 1 \\
 \hline
 0 \quad 0 \quad 0 \quad 1
 \end{array}$$

Division:

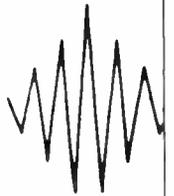
$$0 \div 1 = 0 \quad 1 \div 1 = 1$$

A number is simply what we make it. And the various systems differing only by their base really operate in about the same way. A computer's use of the binary system is merely a question of expediency; it presents no real barrier to our understanding of digital techniques. Binary is *very* simple. But as if the straight binary system wasn't easy enough, computers reduce all arithmetic operations to the simplest processes of addition and shifting. Various complementation methods are

used to achieve this, the advantage is a reduction in hardware requirements. I should note that digital computers don't even necessarily have to use a binary system, we merely have designed most of them that way because, as we have seen, it is the most logical approach. Ask yourself—would you rather deal with ten voltages, a hundred, an infinitely analog number of them—or two? Speaking of logical ideas, next time we'll look at Boolean algebra. ■

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PREVIEW



AMPEX 1/2" 456 TAPE

Ampex Corporation has added a new, 3750-foot, length and 12 1/2-inch diameter reel to its popular line of 1/2-inch wide 456 professional audio mastering tape, according to Donald F. Bogue, audio tape business manager.

"The new configuration satisfies recording studio demand for 1/2-inch mastering tape that meets the special size requirements of the popular Studer A-80 recorder," Bogue said. The reels provide tape running time of 25 minutes at 30 ips.

The 1/2-inch configuration is also available in two standard lengths of 2500 feet (10 1/2-inch reel) and 5000 feet (14-inch reel).

Suggested list price for Ampex 456 tape in the 1/2-inch x 3750-foot configuration on a 12 1/2-inch NAB reel is \$105.59. The accessory empty reel in a box lists at \$47.96. Product is immediately available for shipment.

Circle #062 on Reader Service Card



JBL 4411 CONTROL MONITOR

James B. Lansing Sound, Inc. has introduced the 4411 Control Monitor, a three-way Professional Series loudspeaker system designed to offer precision accuracy, high power handling, and wide dynamic range for clear, natural music reproduction, even when driven at great volume levels. The successor to JBL's 4311, the 4411 comes in mirror-imaged pairs to optimize the system's stereophonic playback capability.

Close clustering of the 12-inch low frequency driver with the midrange transducer and the high frequency dome

radiator permits close-in monitoring. In addition, the mid and high frequency controls are raised for convenience in making instant adjustments.

The enclosure of the 4411 is tightly constructed to prevent unwanted resonances. Veneered in oiled American black walnut and hand-rubbed to a lustrous finish, the panels are cut from compressed wood. The grille is dark blue acoustically transparent stretch fabric.

Circle #063 on Reader Service Card

URSA MAJOR E4-1 PROGRAMS FOR 8X32 DIGITAL REVERBERATOR

Ursa Major, of Belmont, MA has just released its first major revision of the 8X32 reverberation programs. Edition E4-1, is the culmination of an eight month optimization and tuning process. The four programs, which replace the four programs of the same names in the Edition E4-0 used so far, are: Plate I, Plate II, Hall, and Space. Edition E4-1 programs are broadly improved: coloration is significantly reduced; diffusion (echo density) is increased, decay envelope smoothness is improved and the sense of ambient spaciousness (incoherence) is better.

The new programs are in two IC PROM's (read-only memories) and are easily changed by dealer or user. In keeping with its original commitment, the new programs are available *free of charge* to all 8X32 owners, and will be installed where possible by the local dealer.

Circle #064 on Reader Service Card



dbx COMPUTERIZED EQUALIZER

dbx, Inc. has introduced a microprocessor controlled room equalization system designed for recording or broadcast studio monitor equalization and fixed or portable sound reinforcement system equalization. The dbx Model 610 Autographic™ Computerized Equalizer can automatically equalize a listening field for flat or user determined frequency response in less than 15 seconds using its own calibrated microphone, pink noise generator, real time analyzer (RTA), and specially designed, digitally controlled one-octave filters.

The stereo equalizer section of the 610 incorporates two tracking sets of ten digitally controlled one-octave filters on ISO centers combined in a series/parallel arrangement to optimize signal to noise and avoid excessive control interaction.

Special equalization curves can be stored in any of the 610's nine memory locations and recalled instantly. Any combination of the memorized curves can be averaged together by the microprocessor to produce a new, composite curve which delivers optimum sound to multiple listening locations in a room.

Circle #065 on Reader Service Card

Correction: In our June 1982 issue we published information on the Milab MP-30 microphone. Since that time we have been informed that the MP-30 is not available for sale in the U.S. Milab's most recent domestic release is LC-25, which was described in our March 1982 issue. We regret any inconvenience this may have caused.

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World Radio History

BILL PORTER

PART 2

by Larry Blakely

Bill Porter, a consummate craftsman in the field of audio engineering, has achieved more success and recognition than almost anyone else in the industry. His "Exploits with Elvis," (reported in last month's Mix) are only a small part of his many-faceted career which includes engineering over 7000 recording sessions, with 300 chart records, 57 top-ten and 37 gold records to his credit.

In 1975 Bill joined the University of Miami School of Music to work with the staff in planning and developing the first 4 year degree course in music engineering (professional recording). This was the first course of its kind offered anywhere in the world, which he personally taught until 1981 when he joined Auditronics (a well known console manufacturer) in Memphis, Tennessee. We now present the rest of Bill Porter's story, told in his words:

"In 1954 WABC-TV was going on the air in Nashville, where I was living at the time. I decided that I wanted a job as a camera man. I loved television and photography; I used to take pictures, and process my

own film. So I went to the station and applied for the job. I was hired as an engineer because of my TV repair background even though I didn't know too much about engineering (continued on page 66)



Teaching a recording class at the Trebas Institute in Canada

Top 10 Popular Records Engineered by Bill Porter

Date	Artist	Song	Chart Peak	Date	Artist	Song	Chart Peak
10/63	Bobby Bare	500 Miles From Home	10	2/62	Roy Orbison	Dream Baby	4
8/59	The Browns	Three Bells	1	7/63	Roy Orbison	In Dreams	7
3/60	The Browns	The Old Lamplighter	5	4/64	Roy Orbison	It's Over	9
10/60	Floyd Cramer	Last Date	7	8/64	Roy Orbison	Pretty Woman	1
3/61	Floyd Cramer	On The Bebound	4	4/60	Elvis Presley	Stuck On You	1
6/61	Floyd Cramer	San Antonio Rose	8	7/60	Elvis Presley	It's Now or Never	1
12/62	Skeeter Davis	The End of the World	2	11/60	Elvis Presley	Are You Lonesome Tonight	1
9/63	Skeeter Davis	I Can't Stay Mad At You	7	2/61	Elvis Presley	Surrender	1
8/59	The Everly Brothers	Till I Kissed You	4	4/61	Elvis Presley	I Feel So Bad	5
4/60	The Everly Brothers	Cathy's Clown	1	6/61	Elvis Presley	Marie's the Name	4
6/60	The Everly Brothers	When Will I Be Loved	8	8/61	Elvis Presley	Little Sister	5
9/60	The Everly Brothers	So Sad	7	3/62	Elvis Presley	Good Luck Charms	1
2/61	The Everly Brothers	Walk Right Back	7	8/62	Elvis Presley	She's Not You	5
2/61	The Everly Brothers	Ebony Eyes	8	10/62	Elvis Presley	Return to Sender	2
1/61	The Everly Brothers	Cryin' In The Rain	6	6/63	Elvis Presley	I Was in Disguise	3
5/62	The Everly Brothers	That's Old Fashioned	9	4/65	Elvis Presley	Crying in the Chapel	3
7/61	Connie Francis	Together	6	9/69	Elvis Presley	Suspicious Minds	1
1/64	Al Hirt	Java	4	1/60	Jim Reeves	He'll Have to Go	2
5/60	Hank Locklin	Please Help Me I'm Falling	8	7/62	Tommy Roe	Sheila	1
9/60	Bob Luman	Let's Think About Lovin'	7	8/64	Honnie and Daytonas	GTQ	4
8/61	Bob Moore	Mexico	7	9/61	Sue Thompson	Sad Movies	5
6/60	Roy Orbison	Only the Lonely	2	12/61	Sue Thompson	Norman	3
9/60	Roy Orbison	Blue Angel	9	10/60	Johnny Tillotson	Poetry in Motion	2
4/61	Roy Orbison	Running Scared	1	8/61	Johnny Tillotson	Without You	7
8/61	Roy Orbison	Crying	2	5/62	Johnny Tillotson	It Keeps Right On Hurtin'	3

(continued from page 64)

and TV. We spent about two months at the TV station doing installation and wiring. I tried to learn all I could. When the station was ready to go on the air the chief engineer said 'Well Porter, you are the low man on the totem pole and you are going to do audio!' I was about 22 years old at the time. The audio console was a General Electric with program and audition outputs, four microphone inputs, announce mike input, two turntable inputs and S.O.F. (sound on film), in addition to remote and network lines.

"I learned a lot the hard way; in a hurry. I watched a lot of the network shows and observed the camera shots and microphone placement. I picked up an engineers' handbook for radio station operations. There was one chapter on audio techniques with a few pictures of how to place mikes and other microphone applications. This gave me my basic knowledge of audio. The older broadcast engineers were strictly into radio and had no live music mixing experience.

"Doing the newscast was the big thing for me, because I got to select the records to play behind the films for sound effects. The two turntables were going constantly. In the meantime we also picked up a small tape recorder. I was really into doing all of these effects and it kept me hopping.

"About 1958 CBS was looking to local stations for network programs, so our station put together a show called "Country Junction" that had some of the Nashville Opera stars on it. Our show didn't make the network so we decided to air it locally. I got elected to do the sound for this early morning country show, and I was really into it. We were using RCA microphones, BK-5's (uni-directional) and BK-1A's (omni-directional) which were both moving coil dynamics and also RCA 77-D ribbon microphones. There was no EQ on the board and you could only use 4 microphones at one time. There was one mike on a boom for the host of the show, which left three microphones for the band. There were a total of 6 to 8 players plus singers. There was very little to work with and microphone placement was a challenge. I really learned a lot about how to select and place microphones to get the most from them. All of this happened about 1958 and some of the producers said they had heard people comment that the sound on the show was pretty good.

"In 1959, the little bit of record



recording that was going on in Nashville was being done at RCA and Bradley's. RCA was a union studio. Bradley's was hiring most of the recording engineers from the television stations and they would pay them \$25.00 for doing a three hour session. I was then making \$97.50 a week at the TV station. I started talking with the players in the country morning show, to see if they could help me get in to do some recording sessions at Bradley's. But nothing happened. Bob Ferris, the engineer at RCA was being transferred out of Nashville. So I applied for the job at RCA and was told that Chet Atkins was the person that I needed to see. I worked the morning shift at the TV station which was from 5:00 a.m. until 3:30 p.m. and every day I went straight to RCA at 3:30 and sat inside the office waiting to see Chet until they locked the doors at 5:00 p.m. This I did every day for two weeks. I would wait in the office but Chet would never see me. Everytime I walked into the office the girls would say, 'Oh no, not him again!' But I wouldn't take no for an answer. I do believe in all honesty that the girls talked Chet into seeing me because they got tired of me coming into the office.

"After two weeks of waiting, he finally talked to me. A couple of players on the TV morning show had talked to him about me, so he knew who I was. The first thing that he told me was that he had nothing to do with the hiring and there were a couple of guys coming in from RCA the following week to interview and he would put my name in. The man who came to interview, was Les Chase, who was either the third or fourth employee of the original Victor Talking Machine Company. Later Bill Miltonberg from New York interviewed me, along with other applicants. That afternoon Bill called and asked if I wanted to go to work for RCA. The starting pay was

\$145.00 per week.

"So I gave my two weeks notice at the TV station and started hanging out at RCA constantly watching Bob Ferris work. The mixing console was an old radio board with 8 inputs and 2 outputs. The knobs were as big as your hands. Four inputs were for one channel in addition to four for the other channel and there was also a little Altec mixer (a passive device) that was used for a center channel that was split between left and right. There was no EQ on the board and only one live reverberation chamber. We were using RCA 77-B's and some Altec 150-A microphones in addition to some Neumann U-47's and 48's and a couple of M-49's. It was about my third day of hanging around there and Chet told me that I could record the Statesman gospel quartet. I told him that I wasn't sure yet how to do it and he said that Bob would help me if I made any mistakes. So, he sent me down and my heart was beating 100 miles-per-hour. I recorded one gospel song which took me about one hour and thirty minutes and I felt like I had been through a fight when I was finished. There was so much tension on my body, I felt that I was going to collapse. Chet looked at me and said, 'Well, that was not too bad for the first time!' Then he asked me if I was ready to go again. I said that I wasn't able to and he said, 'What do you mean, you have another hour and a half to go and you can't quit now?' I was completely drained so Ferris took over for the rest of the session. All of this happened before I went to work for RCA on a full time basis.

"When I went to work for RCA full time, I watched Ferris work for a week before he moved back to New York. He was an unusual kind of a guy, very technical and a true engineer. On the last day of the week he blocked off the studio and went over everything for me. He also let me cut my first disk on an old manual cutting lathe. When we weren't doing sessions we had to cut disks. I had to learn all of this during the last day and I thought I had it all pretty well together. Bob Ferris moved to New York that same weekend.

"When I came in the following Monday morning I had the feeling, 'My God, what am I doing here!' The nearest help was in New York and that was 1,500 miles away. I was the only person there besides Chet Atkins (who knew a lot about engineering). He could get a good balance, he wasn't into limiting very much and showed me the advantages of not

using a limiter, but you had to watch your levels. If you miked things up too close you were not able to control the levels and couldn't get a blend. So I would tend to mike things from a distance and to me this was natural, because you listen to music from a distance. You don't listen to a trumpet with your ear stuck in the bell of the

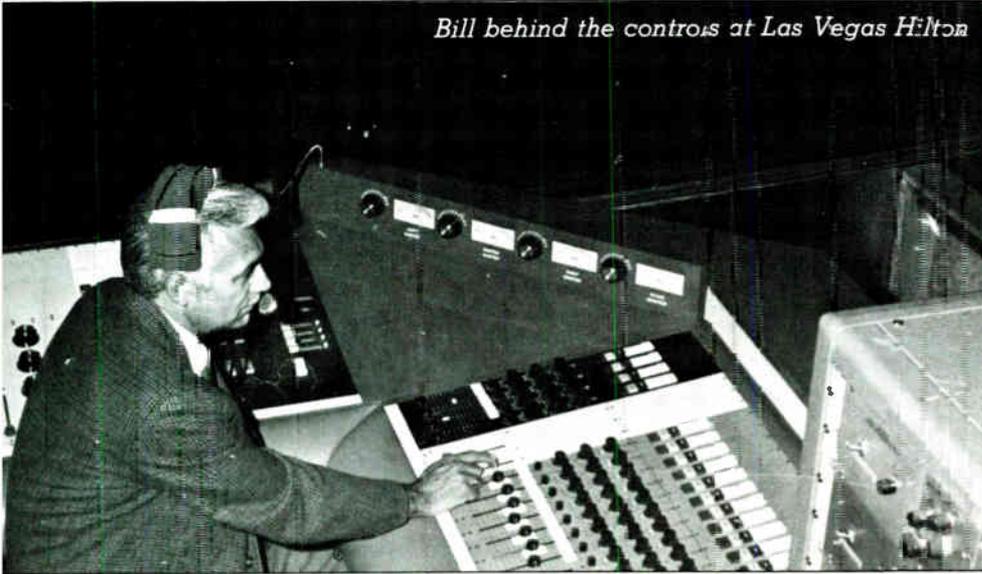
hits and the third one was cut on a new console. This new console had 12 inputs and 3 outputs. Some of the inputs were wired directly into buss 1 and some wired directly into buss 3, and a few could switch to 1, 2, 3 or split between 1 and 3. There was no such thing as a pan-pot. There was some EQ on this console; the high fre-

around the clock to install. I was beat. On the first run-through, one or two lines into the song the Everly's sang the word 'never,' which was very loud and the worst distortion I have ever heard came through the speakers. Archie looked at me and said 'What was that?' I said that I didn't hear anything. (I didn't know what the problem was and I thought that if I ignored it, it would go away!) So he told the boys to do it again from the top. It happened again at the same place in the song and of course I couldn't say that I didn't hear it, this time. He asked me to fix it, so I picked up a patchcord and changed the patching on the console looking for the problem, and told him, 'try this.' I didn't know what I was doing and was stalling for time hoping to find an answer. This went on for about 20 minutes and the pressure kept mounting. He was getting uptight and I was getting more nervous because I couldn't find out what was wrong. So in desperation, to get him off my back, I told him that this was all that I could do. He started screaming and yelling like crazy and said, 'I came here from New York and hired a good studio and a good engineer. What is this? What are you doing here?' This was of course, putting me down and the musicians were asking what was wrong and wondered if I could get it back together. I kept telling him that was all that I could do. I had to get him off my back as I couldn't take the pressure, so he called off the date and everybody left. Ray Walker (bass singer with the Jordan-Aires) stayed around and talked with me until 11:00 that night trying to calm me down. I was a nervous wreck, shaking like a leaf and going to pieces. Without his help that night, I would have quit the recording business.

"I came back in over the weekend and tried to analyze what the problem was and found out that the installer from RCA had set the gain differently in the line amps, which caused the compressor to freak out, and this was the problem. I got a call from New York on Monday morning from Bill Miltonberg (my boss) and I was told, 'You never tell a client, that is all you can do, if so, you are fired. You tell them that there is some equipment problem or something, but you never tell them that is all you can do.'

"Archie Blyer was a big client for RCA and they offered to pay all his expenses for the musicians and his trip to Nashville to see if they could get him back again. So Archie came back and we did the same tune and

Bill behind the controls at Las Vegas Hilton



horn. Later I started using limiters and compressors on the featured artist, but very little. The music that I recorded was done with basically a purist approach. The right mike in the right place would make the right sound because we didn't have EQ. All of this helped me a lot and it was much different from the way that things are done today.

"We did 3 or 4 sessions a day in 3 hour segments. There were no vocal booths. We had a couple of flats to move around when we needed to isolate things and we placed vocalists and musicians behind these flats. The Victor studio was set up so you faced the wall rather than the glass to the studio. You had to look over your right into the studio. The room was quite small and it was hard to get any isolation. It was a very live room and it had a lot of problems. After I had been there about one year we had hired another engineer. One day we tried to find the deadest spots in the studio, so he banged on the toms and I moved mikes around searching for minimum bass in the room and put an "X" on the floor at any place there was a soft sound and we then put the mikes in those spots; and it worked.

"My first 'char' record was a Don Gibson tune called 'Lonesome Old House' which got up to 77 on the charts. By the last of May I had three

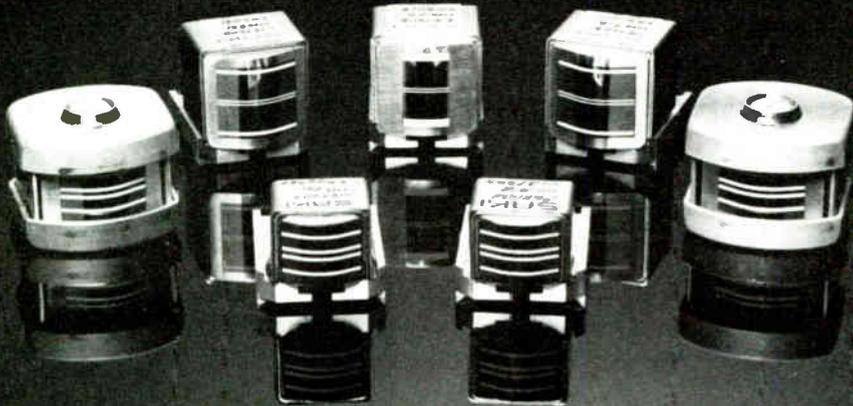
frequency was 1.2 kHz with 8 dB of boost and cut, the low frequency was 50 Hz with 8 dB of boost and cut (each was shelving only). We now had two echo chambers, one live chamber and an EMT; this meant that we didn't have any echo at all for buss 3 (more fun, without echo on some instruments for about 8 months). My approach to recording in those days was to attempt to record all the frequencies from DC to channel 5 and this got me into all kinds of trouble, particularly with bass frequencies.

"Fred Foster was the owner of Monument Records and was a custom client of RCA studios. My first session with Fred Foster was with Roy Orbison, and we recorded a couple of songs that didn't go anywhere. Fred and I seemed to groove the same way with music. I cut almost 90% of Roy Orbison's hits with Fred; some of these were 'Crying,' 'Running Scared,' 'Pretty Woman,' 'Only the Lonely,' 'Candy Man' and there is a whole list of them. Studio time was \$40 to \$45 per hour in those days.

"I did some work with Archie Blyer who found the Everly Brothers and Andy Williams; he was a very hard guy to work with and a very demanding person. On the last of May in 1959, I was doing a session with the Everly Brothers on a new console which we had been working

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he said, 'Is everything working Bill?' and I said 'Yes.' I knew that I had solved the problem, but deep inside I still had the feeling that it might happen again. So we started and that word came along and it sailed right through with no problem at all. He looked at me and said 'By God you fixed it didn't you? It sounds great!' That tune was 'Till I Kissed You' and it was a million seller. I learned a lot from that lesson and I had only been in the business 3 months. You have to be in control of your own faculties first and I really wasn't at that time. This story isn't very flattering to me, but by the same token it's one of the things that you must learn to handle.

"Archie and I became good friends and in fact he started having me cut some of his 45 masters. Previously, he had always had his masters cut in New York but he liked the quality control I was doing. If an engineer can follow the entire recording all the way through and cut the masters as well, you have complete control as you know exactly what is on the tape and also know what is on the disk. I cut quite a few disk masters for Orbison and others. Of course we didn't do any Victor mastering as it was all done in New York. I cut only 45's as the old lathe wouldn't cut LP's. Later on we got another lathe and I cut some LP reference disks on it, but no LP masters.

"After a session with Roy Orbison he said, 'I want to show you the sound that I want on my next record,' he took his guitar and started to play while the two singers standing beside him seemed to be singing with him, or so I thought. I said, 'What kind of sound is that, I can't even hear them?' So Roy told me to come over and listen to them, and I walked over and they were just breathing the words, very subtle and very soft. I asked if he wanted that on the record and he said, 'Yes!' I asked him how would I get that on the record because it was so soft, and he said, 'That is your problem!' Remember there was no overdubbing and no isolation booths at this time. So two weeks later we did the date.

"My normal mixing procedure is to get the balance for the rhythm section (piano, bass, drums, etc.) and then add strings, horns, background singers and the featured artist last. It's done like a pyramid. Sometimes if you feel like you are getting into a rut and all of your mixing and balancing is sounding alike, try doing it differently! Don't mix the rhythm first, do it last! I had to think of some way to get the soft sounds that Roy wanted 'on top,'

so I did my normal mixing job *backwards*. I started with the real soft vocal sounds and brought them up to "0" level and built the whole mix around the vocal. We used this soft breathy sound for 4 or 5 records, and this sound established Roy Orbison as an artist.

"Roy's voice was very thin and we didn't have delay devices to fatten it out, so I used a little trick that was used years ago, tape slapback. I had tried a number of times to find a way to make Roy's voice stand out. I couldn't seem to make it happen with EQ, I could increase the level but his voice was still too thin, so I took the multi-track machine and set it up for just enough slapback to fatten out his voice. In fact, if you listen closely to some of the tunes you can hear this in the breaks. On 'Only the Lonely,' near the end, there is a phrase that says, 'you've got to take' and you can hear the "K" continue on. This was very subtle and, as his voice got better over the years, I used less and less and eventually didn't need it anymore. I was always into gimmicks and I guess at this time I was considered to be a gimmick engineer. When I recorded "Cathy's Clown" by the Everly Brothers I used a tape loop on the drums. The drummer played a drum pattern, which was kind of a stilted puppet walking effect and I put this tape loop on the drum. I used this only on the choruses and not the verses; this was done in real time so I had to switch it in and out while the song was being performed. That sound kind of made the record.

"I never got a Grammy all the time that I was in the business. Orbison's 'Pretty Woman' almost made it, as it was nominated but lost out to Petula Clark's, 'Downtown.'

"I left Victor in fall of 1963 and went to work for Columbia in Nashville. Columbia had purchased Bradleys Studio. The Columbia studios were definitely better equipped than RCA. I brought a lot of clients with me and got additional ones for them, but I just didn't fit into the Columbia operation too much. I was there for about 6 months when Fred Foster came in to tell me that he had acquired a studio downtown and wanted me to go work with him, so we worked out a deal and I took over the operations of his new studio.

"The name of the studio was 'Fred Foster's Studio' (all of the Monument work was done there) and I managed the operation for about 2½ years. The studio had a lot of technical problems and it was on the top floor of a building. There was not

much room for parking. The studio was about 65' x 45' with a 25 foot ceiling that was all wood and it was a fantastic room to work in. There was great isolation and a beautiful sound. We had a couple of live chambers that weren't too good. There was an old Studio Electronics console (now known as UREI) with 14 inputs and 4 outputs with very limited EQ, a 4 track, 2 track and mono tape machines. There was no outboard EQ such as Pultec's or anything. The AKG C-60 was one of my favorite microphones and we had 3 or 4 of those. The Telefunken M-251 was also one of my favorites and we also had an assortment of some microphones that I have mentioned previously.

"While I was at Fred Fosters one of our clients had a company called Hit Records and we used to do records with un-known performers that would sound just like the ones done by the featured artists. We would do the same arrangements and everything. These records would sell for 49¢ while the records of the main artist would go for 79¢ to 89¢ and they would sound almost the same. We would listen to a record on a player and try to copy the sound, sometimes you could not tell how the record was done so I would fake it as best I could in the mixing.

"I wanted to build my own studio, so I went to see Bill Putnum on the west coast to ask him to help me design the studio. While I was out there he started talking to me about taking over his studio in Las Vegas. He wanted to get out from underneath it because he had suffered a stroke. The studio was going downhill and Wally Heider who had worked there as a mixer had left. The studio had been there for about 3 years and was called United Recording of Las Vegas. He offered me a fantastic deal and my lawyer agreed it was, and told me I should take it. So I moved out to Las Vegas with my family in August of 1966 and took over the operation of the studio on September 1st.

"The studio was next to a train track and when the scheduled trains would come by it would shake the whole building. The musicians union finally posted a notice that said if a train came by there could be a fixed amount of extra time added to the session at no additional cost for the studio musicians. The original equipment was a tube type 12 in and 4 out console and some Pultec equalizers. The microphones included Altec 639, RCA 77 and 44, AKG C-60, Neumann U-47, Telefunken M-251 and various dynamic mikes. Altec

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A-7's were used for monitor speakers that I replaced with Electro-Voice Century IV's.

"I had a maintenance man working for me named Bob Swartz and he modified that console enough to make it 8 track. In 1969 we built our own 8 track machine out of some old Ampex parts and it was a huge machine. We struggled along like this. We did a couple of remotes but most of the remotes were being done with either 8 or 16 track and Wally Heider had most of that business. I lost remote business because I couldn't compete without 8 track remote facilities and I didn't have enough money to buy everything that I needed. So what we did was low budget 4 track and 2 track remotes. I did record the Buddy Rich hit, "Mercy, Mercy" which was pretty big. I recorded Rusty Warren a couple of times, Buddy Grecco and Jerry Lee Lewis, all 'live.' We stayed pretty busy. Many of the big stars who worked in the hotels would book time after they finished work in the evening. Paul Anka would come in after he finished work and would record from 2:00 a.m. until 8:00 a.m. The studio grew from a one man operation to three plus a secretary. Brent Maher came out from Nashville after six months. I had also hired a maintenance man and the four of us ran the studio. We did disk cutting on our Neumann lathe and it was a pretty fancy system.

"We had a lot of trouble with radio and television frequency interference. An AM radio station

transmitter was across the street about 200 yards and a television station was about 6 blocks away. We were getting hit with R.F. from both sides. This caused us a lot of trouble when we purchased a new API 16 output console in 1969 and a 3M 16 track tape machine.

"My Vegas operation had done pretty well up to a point and in 1972 I got involved with some people and formed a record label, publishing firm and artist management. We set up a big corporation and raised some private funds hoping to go public. We had a couple of publishing hits, Glen Campbell recorded one of them. We never got anything off the ground with the label as we couldn't find any decent talent, and we started to get into a financial bind. There were a lot of decisions made that I had no control over. It was a corporation and my say had little weight so I resigned from the company in January of 1973. In October, a few months later, a big mysterious fire came along and destroyed everything. My studio went up in smoke and I lost everything. At that time it was worth about a quarter of a million dollars. In the meantime, I still had the electronics sales company and I moved it to a different location. So with that and working with artists like Ann Margaret, Paul Anka and Elvis, I was able to do pretty well.

"In 1975 I got a call from Jerry Milam (Milam Audio) who told me that there was an opening for someone to teach the audio engineering course at the University of Miami and he felt that I would be an ideal person

for this. I contacted Dr. Crager of the University and told him I didn't have a degree and he said that we could work it out. So I went to Miami and we made a deal and I moved there in September of 1975. I still did the Elvis tours while I was working for the University. I was gone 10 to 12 weeks at the most and the students all wanted to hear about each tour when I came back. The University of Miami offered the first four year degree program for recording engineering in the world. I did a lot of work with the staff in developing this program. We built the program up to about 100 students. They would finish with a four year degree in music and a minor in electrical engineering and also a lot of practical experience. There was definitely a need for a program like this and that's why I took it on. I worked there for 6 years and I was granted tenure in May of 1981 before I left. The program became tops in the country and some people even say that it was tops in the world.

"In June of 1981 I went to work for Auditronics (a console manufacturer) as their director of marketing. I left in March of this year and I am currently employed by Jimmy Swaggart to do live sound, record production and engineering. I also do freelance educational sessions, seminars and consulting with professional audio equipment manufacturers.

"I have been asked a number of times what I see in the future of the professional audio business and I would like to comment on this: Video is going to be a big part of the



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industry. To a certain extent it is getting back to the point where people are going to have to learn to mix again, because in certain cases a multi-track recorder is used strictly for a safety now and they are trying to get a 'live' mix as they go, which is routed directly to the video tape. I think that this is good because you can catch the excitement of the performance. It is not *cut and paste*. Cut and paste is OK, and there are certain things that you can improve on. One can make more perfect records that way. But to me these kind of recordings lack excitement. Most of the sessions that I did had everybody playing at the same time and they played off of each other. These recordings weren't so much better technically, but they were better musically. One must keep in mind that you are not just selling words and music, but you are also selling feel.

"I think that today's mixers are typically not as good as in the past. They can make better records because they can play with it and work with it. But there's a certain amount of mixing chops you can pick up when you do stuff 'live,' all at one time. If an engineer has his or her act together and really gets into it, to me that's an art! If I'm an artist and I'm putting my artistic talents into that mix, it's going to sound good. If I'm an artist and the players or performers are artists as well, we get a combination going that is *unique*. Engineers who think artistically usually are better mixers than those who think technically. My experience has been that the two don't seem to go hand in hand. I think that the record industry is going the direction of video and they are going to do 'live' sound, and a better quality of mixers will come out of all this.

"What I've heard on digital tape recordings, I don't like because I hear a high frequency hash (about 12 kHz and up.) I think that digital audio disks are going to happen and mixers are going to have to get their technical chops together. They just can't indiscriminately use microphones in a haphazard manner anymore. The quality is going to have to come back. With digital, you have the capability of doing full dynamic range recordings and you have a whole industry that doesn't know how to do this. Full dynamic range recordings with multi-miking and close miking techniques are very difficult to do. Placing a microphone on top of every instrument is a concept that I do not agree with. It does not sound natural

and you cannot capture the natural dynamics of the instrument. If somebody comes and talks to you, right in your ear and they whisper, the whisper is quite loud; if they back away and talk to you that same whisper is quite soft. That is the kind of difference that I am talking about. I feel for wide dynamic range recordings that the mikes should be placed further away from the instruments using more of the normal acoustics of the environment, when possible. Close miking will be around for quite a while because people have learned to do it that way, and that is how they are accustomed to working. I believe that the birth of digital will force people to re-think a little bit about what they are doing because the record buyers are becoming more aware of technical progress. Normal and full dynamics in recording are going to happen. It is going to sound so quiet and then the music is just going to jump out at you. This will be exciting.

"Broadcasting will be an exciting new area with AM "stereo" and "stereo" television. The television business today is just like the recording business was in the late 50s

and early 60s. Some advice that I would like to give to the people in the recording business is to look at television as a field to go into.

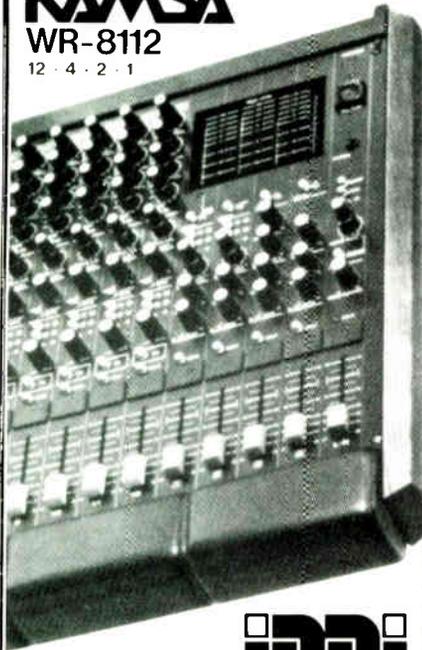
"For those people who are coming up in the field, I feel that you should learn as much about working with digital as you possibly can, because it is going to be the way of the future. Get as much musical knowledge and acquire as much practical experience as you can. I'm a firm believer that if you start learning how to do quality work when you begin working, a reputation for quality will go where ever you go. It is important that you learn how to do this. When you're working for your employer you must present a product to the client that is the best job you can do. People that don't think that way are not going to make it, because the world is just too competitive out there. The recording business is something that you must be married to. It is very difficult to maintain a personal life along with this business as well. It is a very demanding business and it certainly is no joy ride. I often hear that my reputation precedes me, and I have strived all my life to respect that." ■



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SOUND ON STAGE

MIXING DOWN IN SOUND REINFORCEMENT

by Patrick Maloney

Every now and then the active sound engineer finds him or herself in a hall that hasn't exactly been designed with the presentation of amplified music uppermost in mind. The symphony hall, the gymnasium, the National Guard Armory—you know the type. If any thought had been given to acoustical design in the building's construction, it was usually to purposefully create a rich, overly reverberant sound that would naturally amplify the volume of an onstage performance. So what do you do when you show up in a symphony hall with a semi full of PA equipment that the band has paid for and wants to use and yet the sound of your two hands clapping almost deafens you? You tend to mix down, that's what. "Mixing down" in PA (not to be confused with a recording studio mix-down) is an art in itself and is something every live mixing engineer should attempt to master. Almost every aspect of an otherwise normal installation and performance needs to be altered somewhat to cope with an extremely live acoustical environment. Such an environment can be found in just about every city on the continent if you look—and listen—hard enough. Fortunately, promoters of amplified music shows are usually aware of the problems this type of venue can create and try to book their events elsewhere. Usually.

The Louise M. Davies Symphony Hall in San Francisco appears to be an exception. It is continually booked by promoters seeking a prestigious and classy venue to showcase their acts. Ever since its opening in late 1980, audio engineer Hal Soogian has been the house soundman at Davies for most of the shows that have required amplification. Based on the number of music groups and sound companies he has seen come into the hall and subsequently fight with the long reverb time, Hal has come up with several hints he'd like to pass along on how to get the best sound from this venue no matter what equipment you bring in or who you are working with. Although he was referring to Davies Hall in particular, his suggestions can be useful in almost any

orchestra hall or otherwise overly reverberant venue.

"What everyone discovers as soon as they come in is how live the hall actually is!" Hal reported. "It holds true to the name "Davies *Symphony* Hall." It's all hard walls and the only thing that cuts down the sound are banners that can be flown in or out as needed. They help reduce the reflections but you still have to try to avoid hitting the walls with direct sound if you can. In addition to seating on the main floor and in the two balconies, there are also quite a few seats alongside and behind the actual stage area as well. One of the problems that crops up in trying to cover this area is that if speakers aimed backstage are too loud the sound hits the rear wall and bounces back into the house, blurring the sound of the main PA. So you can end up fighting yourself trying to cover this area although you still need to somehow get vocals up there since the audience is only a short distance away from the band's drums and instruments. From a sound point of view it's almost better not to sell those seats in the first place."

An example of a typical amplified show that brought many aspects of "mixing down" into play was a benefit for the Oceanic Society last June featuring Kris Kristofferson. Ultra Sound from Larkspur, Ca. was contracted to provide the PA. Fortunately Ultra Sound engineer Don Goldstein knew of the hall's reputation before he arrived.

"We only brought in about one third the amount of equipment we would normally use in a hall this size," Don pointed out. "We knew that too much sound in this place just wouldn't work. The overall volume has to be kept down or you'll lose all intelligibility due to the amount of reflected sound." He recalled that Kristofferson's house mixer was very experienced and knew he'd have to mix everything down for a successful show. "He ended up working more with the vocals than the instruments since he realized that the sound of the band would carry anyway." As in most symphony halls, the acoustical design seeks to project the sound of anything taking place on stage out into the house. Davies does this quite well,

and loud percussive instruments such as drums need very little, if any, reinforcement. "We only used four mikes on the drums—one each for kick, snare, floor, and rack toms—and these were mixed in very low," Don remembered.

"Personally I don't think you need to mike the drums at all," Soogian feels. "Not even the kick drum. The biggest problem seems to be with low-end information so unless the bass player has an extremely small amp I wouldn't mike that either. Of course, delicate instruments like a mandolin or an acoustic guitar should be miked but electric instruments need only be amplified for definition and even distribution throughout the house, not for level."

And if there were ever a place where your skill at getting band members to play soft was needed, it's here! One of the hardest aspects of "mixing down" is getting the band to turn down and stay down throughout the show. Luckily Kristofferson's group was composed of seasoned veterans of the road and this wasn't a problem. Don Goldstein recalled that the musicians knew they'd have to play soft the minute they walked onstage. If just one musician decides that he'd like to hear the sound of his instrument at full volume in here, the house mixer will never regain control of the sound.

The on-stage sound in a place like this generally tends to be as loud and reverberant as the sound in the house so monitors need to be moderated as well. Too much volume will just confuse matters and no increase in level will help. Goldstein recommends getting your speakers as close to the performers as possible and only put sound where you want it. "We had originally set up side fill monitors but didn't use them when we discovered that they just spread the sound too much and we lost coherency," he said. Furthermore, loud monitors on stage can totally destroy whatever sound you have managed to get out in the house.

"Complaints in the past, regardless of what sound company was in here, have been due to a general lack of intelligibility on the vocals," Hal reports. "So basically you should first get your vocals where you want them and then bring everything else up to balance. Nobody ever complains about not hearing the drums or guitars—it's the vocal definition that needs work. You can't just set up two big stacks of speakers and blow straight ahead into the hall! It's better to tie into the house cluster or get something up in the air that can reach the second balcony instead of trying to hit it from the stage."

The best way to install a system in a place like this is to fly a center cluster—the single point source lessens the confusion in a reverberant hall since

all the incident sound emanates from a single location and is usually heard before the reverberation. Although it wasn't done this time due to a variety of reasons, Goldstein said that he'd like to hang a center cluster and use even less equipment on the next show. "For the Benefit we set up four of John Meyer's MSL-3 loudspeakers and two subwoofers on each side of the stage. The two top MSL-3's on each side were angled up slightly but we still had to tie into the central house cluster to reach the second balcony. Next time I'd like to hang only 6 cabinets in the center and maybe add a couple of smaller speakers like Meyer's bi-amped UPA's on stage for front fill."

Basically, "mixing down" involves developing the sensitivity and experience to know when more level is causing the problem instead of solving it. It means using a high quality, cohesive sounding, low level and evenly distributed PA system that is set up to minimize reflections and multiple sound sources. And as Hal puts it: "It's a matter of knowing what to take away from the sound instead of what to add to it."

Personally, I think the real secret is to refrain from booking an amplified show in a venue like this in the first place! ■

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MIX READER PROFILE

Jim Keltner

OCCUPATION:
 Studio/Stage Drummer

BACKGROUND:
 Session and touring work with Joe Cocker, George Harrison, Ry Cooder, James Taylor, Bob Dylan, Yoko Ono and John Lennon

RECENT PROJECTS:
 International tours for Ry Cooder and Bob Dylan

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DALE MADER
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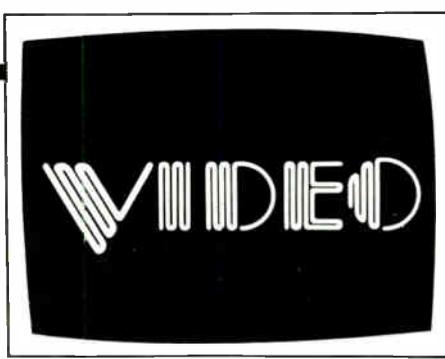
by N.I. Weinstock
Equipment Reports
 by George Petersen

FILM:

The differences between audio recording for film or for video are many. It would be lovely if we could say, "This project is better for recording onto film, or this for video." If only audio recordists made the decision, we might be able to get pretty clear-cut about it.

If such decisions are made on any artistic basis at all—and they usually are not, what with budget and distribution being the twin determinants—it would certainly be the Ayatollahs of the visual track who would make them. Audio still comes decidedly second in both media. So it may seem that we're engaging in a little pie-eyed dreaming as we proceed to compare the relative realities of the two formats. But it does make sense to make the most of what one has to work with.

Chemistry before electronics: we'll start with film. Just because sound for film is so much older than sound for video doesn't imply it's any less sophisticated. In fact, depending on the width of the film format involved, the final movie can have as superior an audio portion to that of TV as its visuals are so visibly finer. Five millimeters of the 70 mm film width is devoted to audio moving at a speed fractionally faster than 15 ips. As many as eight tracks are often laid down on the finished product, but



INTERFACE



**SYNCHRONIZING
 Audio**



certainly the capability exists for a fine quality stereo delivery—limited only by the sound system of the theatre. Some 35 mm film is also magnetically striped, either in stereo or mono, but with a total width of only half of the 70 mm format. Most 35 mm film is released with optical sound, the world standard distribution format for motion pictures, and offers a level of quality about equal to that of broadcast TV's audio: in other words, not terribly good. However, since movie theaters have better speakers than TVs, quality of audio still holds an end product edge in film over video.

So much for the ends: it is in the beginnings that film is really so much more fun for the audio folks than video is. Most films have been shot on location for some time now, whereas video is largely mired in the studio. In fact the newest trends toward excellent studio design (as reported in the July Mix) are intensifying this dichotomy. Film remains the medium of choice on location, leaving the sound recordist all those wonderful problems to solve in recording sync and ambience tracks. To my tastes, and I expose myself here, there's no recording job in all of audio more challenging and exciting than doing stereo sync and ambience tracks on location. (For the end product to be in stereo, it involves a rather large budget film, but then one can always dream.) Choice of mikes is a little more circumscribed than when recording

Adam Smith TS-605

The Adam Smith TX-605 is a SMPTE/EBU time code based tape synchronizer. It can control up to one master and two slaved transports, such as a video recorder and two multi-track machines. The tapes of the slave recorders are kept in exact frame synchronism in the play mode. In other modes, rewind, fast forward and stop, the slave machines follow the master so that sync is quickly re-established when the master recorder is return-

ed to play.

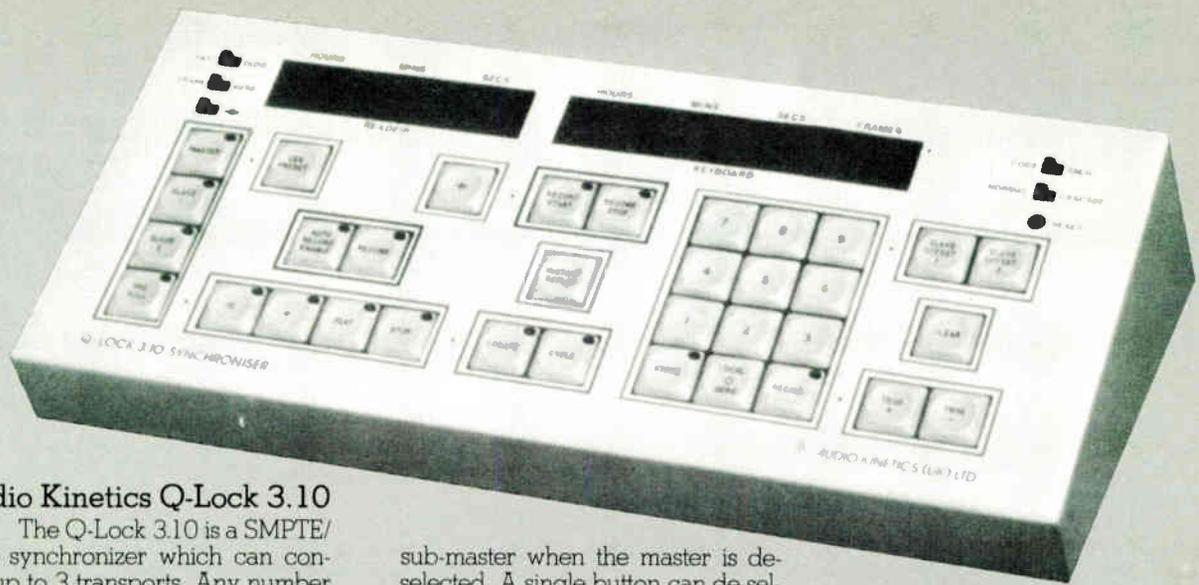
The synchronizer is housed entirely within a single rack-mounted unit. No external interface boxes or special transport control modules are required. The front panel is divided in half, so that either the cue store access section, or the data entry controls can be remotely located up to 10 metres away from the rack unit. The front panel contains two digital time clocks (hours/minutes/seconds/frames), a data entry keypad, fifteen cue store ac-

cess keys, slew and phase adjustments, and numerous LED status indicators.

The TS-605 comes with a 25/30 frames per second, full or drop-frame program standard. A new 24-frame program is also available. The unit can operate with "real world" tapes containing inconsistent time codes, splices, noise and drop outs. Synchronizing resolution and tape offset adjustments capability are to 1/100th of a frame.



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Audio Kinetics Q-Lock 3.10

The Q-Lock 3.10 is a SMPTE/EBU synchronizer which can control up to 3 transports. Any number of 3.10 units can be linked to provide even more flexibility, but for most applications, a single Q-Lock unit is perfectly adequate. The 3.10 system is comprised of a rackmount computer unit, and a remote, central control unit (CCU).

The CCU allows full remote transport control of any single or combination of machines, with much flexibility. For example, slave number one can be operated as a

sub-master when the master is deselected. A single button can deselect the master status for 46-track audio, or for VTR and one multi-track operation. The unit's alphanumeric keyboard display gives a countdown to sync at every play command when synchronization is required. The system typically takes less than four seconds to achieve a sync accuracy of ± 50 microseconds.

Specialized programs for audio SFX sweetening use (frame

crawl and edit sync parameters) and ADR, automatic dialogue replacement, are available as optional packages for the Q-Lock system. Some of the current users of the system include: Warner Brothers, Fantasy Studios, Motown/Hitsville, Recording Services Co., Rusk Sound, Canyon Recorders, The Hit Factory, Record One, Sunset Sound, Zoetrope Studios, Lucasfilm, and Lion's Gate Films.

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acoustic sound on location for an album—most film-sound recordists tend to go with cardioids with some bass rolled off, for directionality and to avoid the accentuation of bass that can easily happen down the line (what with camera noise, sprocketing, and boomy reproduction systems.) Stereo mikes don't seem to make much sense either, because it is rare that a film is trying to convey the actual ambience of its locations, even in documentaries. And after all, most films are monaural.

Crystal sync tape recorders such as the Nagra are completely independent of the camera and only slightly more cumbersome than the average cassette recorder. (They rent cheaply, too, making one very handy and wise even on a location video shoot.) More than one Nagra can run in sync with more than one camera—a technique that Robert Altman honed in the 70s—leading to a very creative mix session and a complex end sound track. Typically, however, films are shot with only one camera, filming shot after shot out of the screenplay, though not necessarily in order. Continuity then becomes as much a problem on the sound track as on the visual. Background tracks are always recorded and layed down underneath everything at the mix, and that does most of the job of shot-matching sound. But the location recordist is

always trying to match the value he's assigned to a voice in scene after scene. This does not always imply miking the actor the same way, as locations may dictate otherwise.

The Europeans continue to make most location films with a sync track which is actually a "scratch" track, made with simple mic set-ups just as a cue for studio dubbing. More and more dubbing is being done in this country as well, in the last few years—at least partly because of improving technology. Not too long ago, to preside at a dubbing session was to witness director and actors coping against long waits as loops

rolled by, watch them try to interact while they couldn't hear each other fully or watch each other in character. It was a process of struggle for the engineer, with all that film and the projectors prone to mangle it and the creative people prone to blame you for the whole situation. Even with everything going smoothly, it's a tiresome process.

Rather, it was. All the electronic sense of order that we think of as part and parcel of video is quite adaptable to film, too. At one time the only way to synchronize sound to moving pictures was to run a bicycle chain
(continued on page 78)

BTX Shadow

The BTX Shadow system is a fully intelligent SMPTE/EBU edit code synchronizer and controller which can control up to four audio, video, or film transports in all operational modes. The Shadow can work with either SMPTE code (regular or drop-frame), EBU (European Broadcast Union) coding, the 24-frame film standard, or a 60 Hz tone.

A Shadow remote console is available to provide for additional flexibility in controlling major ma-

chine functions and has 34 dedicated keys to initiate all search and follow commands. Visual displays indicate manual and slew offsets in hours/minutes/seconds/frames/sub-frames (1/100 frame), and LED's indicate code status and drop-frame presence.

One of the Shadow's many features is that it reverts to tachometer pulse reading when auto-locating, eliminating the need for high-speed reading of the time code. Synchronization accuracy is rated at ± 50 microseconds.

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(continued from page 76)

between camera and disk recorder. Then came AC sync at 60 Hz—fine if you were in a studio. (So Hollywood built its sound stages and the Europeans couldn't afford them, and so came the aforementioned scratch tracks and after-dubbing.) Location sync shooting became possible with line sync—a pulse put out by the camera to a recorder—a system which still sees some use. Then came the aforementioned crystal sync—crystals in both camera and recorder vibrate at either 60 or 50 Hz. But even with such convenient synchronicity at the original shoot, until a few years ago the sync was maintained in post-production by means of mechanical sprocketing. Most synced audio is still put onto mag stock, audiotape on a hard film base with sprocket holes, run through a "synchronizer" with several sprocketed gangs that hold everything in relative place (unless it slips), and edited with scissors and tape. The flatbed editing table of ten years ago was the first real step towards bringing film post-production into the modern age—a wonderfully flexible viewing system with electronic controls for a few visuals and sound tracks at once. However, the editing is still cut and pasted in the primordial manner.

Now some filmmakers are beginning to transfer workprints to 3/4" video, instead of a rugged film stock. The workprint is then edited completely electronically, and the original film is conformed to it, as always, by the proverbial little old ladies in white gloves. Or the original is not conformed: frequently enough the end

EECO MQS-100A

The MQS-100A is a SMPTE/EBU time code unit which can simultaneously search one to three audio or video tapes to designated program points, cue them up, and play them back in ± 100 microsecond phase-locked sync.

The unit is an integrated, rack mounted unit, and a remote panel kit is available which can remotely locate all the units front panel functions from 15' to 400' away. Front panel controls and indicators include: machine, mode, code and cue status; slow/fast re-sync; sync play; sync roll back; 3-event programming; and a selectable time code or cue point readout.

Identical time code need not be recorded on the tapes to be synchronized, as the MQS-100A performs all calculations needed for sync, in spite of time code differences, variations, or intermixing. The MQS-100A is priced from \$13,900.

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distribution is via TV, while the beginnings were all on film for its look, convenience, and lower cost.

VIDEO:

Obviously, magnetic audiotape and magnetic videotape are compatible media, right? Well, one could wish for less obviousness and more compatibility.

Since TV was certainly more the child of radio than the movies, the

storytelling content of TV programs continues to be about 90% audio. While the audio portion of the average video production is so indispensable, technical quality of that audio track remains inferior. And what applies to end quality also applies to production prerequisites.

We haven't space to go into the various mass-psychology reasons why this is so, but will only cover a few possibilities.

Let's start in nirvana. The new boutique studio gives audio and video, production and post-production equal, and sometimes concurrent, time. Multi-track audio can be recorded and mixed simultaneously with multi-camera video, on main, insert, and sound stages all controlled from the same central control room. This is surely the A/V recording suite of the state of the art present and future. To operate within it you'll have to be more than an audio engineer or video engineer or both—you'll have to be something of a computer programmer as well. To render that algebraically: $x(A+V) = \$$

And, of course, portable video is more available than ever, encouraging many productions to shoot "film-style"—with one camera. Putting the audio onto the VTR's audio track, as is standard video-shooting procedure, becomes something of a problem in electronic field production, in any but the most mundane locations. Communication between those who are monitoring the tape and the camera and sound operators can get difficult, compared to the ease of film.

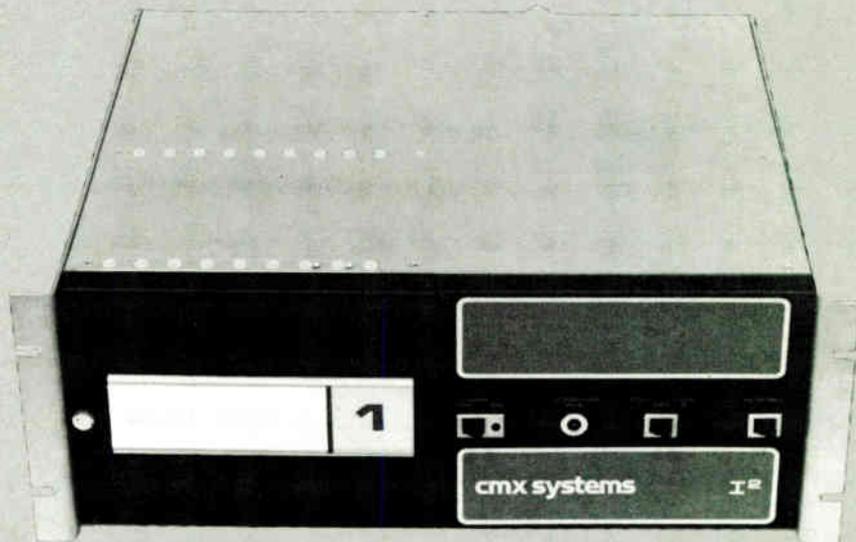
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CMX I²

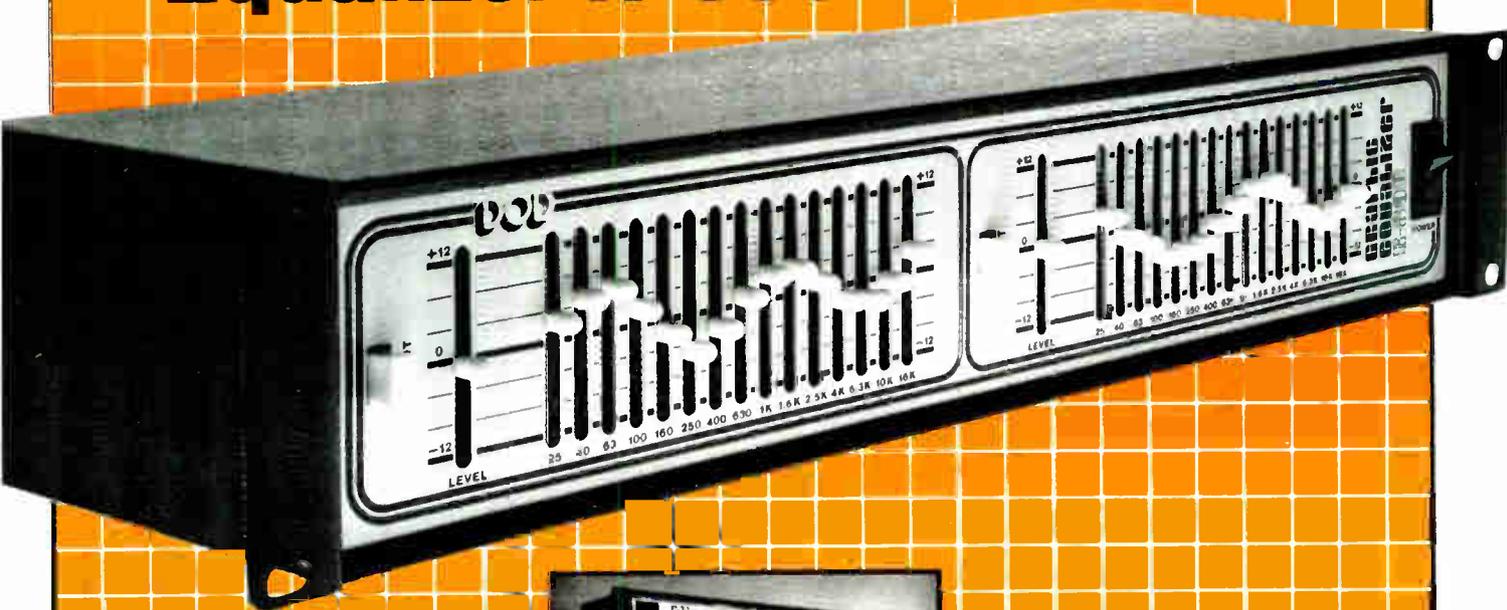
The CMX I² (I-square) is an intelligent interface which can control an audio recorder in sync with VTRs for audio sweetening, editing and sound track production. The SMPTE time code-based CMX system offers a full range of ATR motion and function controls through the CMX standard keyboard. Editing functions are stored on either floppy disc or paper tape, using the CMX Edit Decision List, and can be re-edited or auto assembled on other CMX 340x systems.

The I² interface is designed to work with a variety of audio recorders (Ampex, MCI, Scully, Studer), and full advantage of the ATR's search and cue capabilities is used. The system's minimum edit resolution is one frame.

Circle #070 on Reader Service Card



Dual 15 Band Graphic Equalizer R-830



Description

The DOD R-830 is a solid state dual 15 band graphic equalizer which is designed for mounting in a standard 19" rack. The DOD R-830 is intended for acoustic and room equalization to minimize unwanted resonance and compensate for specific frequency sound absorption.

The R-830 is mounted in a rugged, extruded aluminum case with heavy top and end panels to resist warps and dents.

Two sets of 15 bands on 2/3 ISO centers with 12 db of boost or cut... in-and-out switch which does not disturb the balance condition... level control with 12 db of boost or padding... 1/4" balanced and unbalanced input and output jacks... illuminated power rocker switch.

Specifications

Frequency Response:
10-40 KHz.
Total Harmonic Distortion:
Less than 0.01%.

Intermodulation Distortion:
Less than 0.01%
Signal to noise ratio:
95 db.
Maximum Output Level—Balanced:
20 dbm (ref: 1mW/600 ohms).
10 Vrms into 10K ohms.
Maximum Output Level—Unbalanced:
17 dbm (ref: 1mW/600 ohms).
5 Vrms into 10K ohms.
Output Impedance—Balanced:
940 ohms.
Output Impedance—Unbalanced:
470 ohms.
Maximum Input Level:
+ 20 dbm (ref: 0.775 V).
Input Impedance—Balanced:
86K ohms.
Input Impedance—Unbalanced:
33K ohms.

EQ Control Range:
± 12 db.
EQ Center Frequencies:
15 bands on standard 2/3 octave.
ISO centers (25 Hz 16 kHz).
Level Control Range:
± 12 db.
In/Out Switch:
EQ bypass, does not disable
balanced input and balanced output.
I/O Connectors—Input:
One 1/4" phone jack (balanced).
One 1/4" phone jack (unbalanced).
I/O Connectors—Output:
One 1/4" phone jack (balanced).
One 1/4" phone jack (unbalanced).
Dimensions:
3 1/2" x 6" x 19"

Electronics Corporation
2953 South 300 West
Salt Lake City, Utah 84115
(801) 485-8534

(continued from page 78)

In any case, the argument will arguably be put forth that just as the latitude and resolution of video are most suitable to the controlled lighting

Omni Q TL-1 (Audio Engineering Associates)

The Omni Q TL-1 will synchronize virtually any two tape transports which utilize D.C. controlled capstan motors, and most A.C. or frequency-controlled decks as well. Unlike most other synchronizers, the TL-1 does not use the SMPTE code. A special 21 kHz code is used with video recorders. The obvious advantage to using this system rather than SMPTE coding is that the sync carrier channels can still be used for audio signals of restricted bandwidth.

The TL-1 unit has a self-contained time code generator to lay the sync information on each tape. Then sync accuracy of the machines is kept to ± 50 microseconds. A front panel phase control allows manual phase offsetting of ± 30 milliseconds for flanging and phase effects. Other controls include slew, high/low sync and LED status indicators. The unit can also operate via an external 20-80 Hz sync pulse for film work or special applications.

The Omni Q TL-1 is priced at \$3,225, and a TL-2 expansion unit which adds time display, dual auto-location, and remote control capability is available.

Circle #071 on Reader Service Card

MCI JH-45

The JH-45 AutoLock is a SMPTE/EBU time code-based generator/reader/synchronizer which also contains an autolocator. The unit was designed to slave any MCI recorder for audio/audio, audio to video, or audio and film applications. When the master reference is a non-MCI machine, a JH-48 interface adapter is required. The adapter can also allow the multi-system interfacing of one VTR with 2 MCI systems.

The JH-45 is a self-contained unit, and its front panel is logically laid out in three sections. The dis-

play section has LED slave status indicators and the autolocate and time code readout. The command-entry section includes a keypad for code entry and generation and recorder start/stop buttons. The row of switches in the function-select section provides for the selection of sync sources, SMPTE or EBU coding, transport modes, and autolocate or sync options.

Other features of the JH-45 include a park slave capability, which allows the transport to stop within a frame of the time code display, and ten scratch pad memory locations.

Circle #072 on Reader Service Card



of the studio, so the bandwidth and end reproduction of TV audio generally demands the limited and compressed sound which is easier to obtain in the studio. Perhaps this is a harsh judgement, but in the studio, with total control of acoustical as well as visual surroundings, it is possible to make all the calculations necessary to take the medium to its limits. TV thrives on the studio as film no longer does. Even EFP presents its greatest possibilities when tied in to a studio control like a remote insert stage.

The sound which is recorded either on the same tape as the video track, or a portable recorder such as the Nagra, or a multitrack deck (as in the case of the typical videotaped concert) must, of course, be synced to the video. If the audio is on the same tape as the video, it is kept in sync on subsequent plays, by either internal crystal sync or the sync from an external generator. The crystal oscillates at the arbitrary frequency of 3.58 mHz in the U.S.—chosen because this is also the frequency of the NTSC color carrier, so color is also stabilized by the sync signal. When editing from one ¾" U-matic deck to another, the crystal of one deck is used to maintain speed in the slave. When a controller is put in-between, it typically substitutes its own sync generator—depending on make and model.

This crystal sync has its problems in video, problems that one never encounters in crystal synced film. For one, drop-outs, imperfectly matching capstans, or imperfectly matched sync generation in the camera can cause a myriad of sync problems down the line. For another, you can't go very much farther down the line with your product than one-to-one editing or transfer, operating on crystal sync.

Now, when film is edited, any day-on-the-job editor can soon come up with a logical solution as to how to log his shots: there is a numerical, code printed on the edges of the film. With crystal synced video, every time you either shut off your VCR or disconnect it from the controller's memory, the code is lost—because this is faceless videotape, and it can't be printed on. So the Society of Motion Picture and Television Engineers came up with a time code which could be recorded onto one of the tape's audio channels, aptly called SMPTE time code. This arbitrary numbering system is similar in function to film's edge numbers, but is really a little less arbitrary—and therein lies its superiority to edge numbers, and therein lies much of the reason filmmakers are now using ¾" video as workprint.

Before recording anything else

Studer TLS 2000 Mark II

The Tape Lock System 2000 is an audio/audio, audio/film, or audio/video synchronization system designed to work with either the Studer A 80 (16-track) or A 800 (24-track) recorders. The system accepts any SMPTE/EBU time codes of 24, 25, 29.97, and 30 fps, as well as external pilot tone signals for film work.

The TLS 2000 is comprised of two separate modules: a rack-mounted synchronizing unit and a main programmer which can be remotely located up to 15 metres away. The rack unit contains a built-in SMPTE time code generator, address start circuitry and a master control. When used with the A 80 recorder, the sync unit can be housed within the transport's cabinet. The programmer unit has a keypad for code entry, transport controls, master/slave sync selection, system status indicators, phase adjustments, and an hours/minutes/seconds/milliseconds/frame time clock.

Sync accuracy is rated at ± 50 microseconds. An optional parallel/serial converter allows the programmer and synchronizer to be separated up to several hundred metres apart, connected by a two-conductor cable. A wide range of interfaces are available to connect the system to most every type of film or video transports.

Circle #073 on Reader Service Card

on a tape meant for production, it is necessary to lay down the time code track. SMPTE time code is a bi-polar system, because each video frame is made of two fields. At thirty frames per second, that would seem to make for sixty fields per second, and a simple matter of AC sync. However, since the NTSC did not quite plan ahead when establishing the 3.58

mHz color carrier frequency, and since 3.58 does not divide evenly into 60, the field rate was established at about 59.94 fields per second. This necessitates an 80 bit storage medium to program time code. It also means the editor cannot use time code as a real-time clock, without "drop frame." If you notice when editing, two frame numbers are dropped every minute, except every ten minutes, and so we even out with the clock.

SMPTE time code is what allows for those wonderful editing systems that can program up to a hundred digits from any number of sources, preview them, store them, and then call them up again perhaps a year later to make the edits. Audio-tape recorders can be tied in to the time code, too—the digital editing we've all gotten quickly used to evolved from sister video. It can get a little expensive to do so, however, since ATRs generally run off capstan drive. There is a hybrid sync system that can be tied in to the wild speed of audio, known as Q-lock: this is essentially AC sync. You can Q-lock your 24 track recorder to video when live-mastering a rock concert, and also when doing post-production involving effects tracks, music tracks, dialog, ambience, laugh tracks and so forth.

You can Q-lock multiple 24-track recorders to several video decks to special effects generators, program a hundred edits into your state-of-the-art controller, and feed it all through a time base corrector to cure the weaknesses of the flesh in all those machines. You can press one button to watch it all, (assuming your system is capable of holding together for 100 edits—no easy accomplishment in the U-matic format, so you really ought to be working in one-inch), then send the tape to your conforming lab along with your 65mm film original, and then you too can be an Ayatollah, assuming you have the bucks. ■

United Media "The Director"

United Media's "The Director" is more than a simple synchronizer. SMPTE time code based, "The Director" can control up to four audio or video transports and also provide audio and colored video cues for video looping and automatic dialog replacement (ADR).

The system's cues are programmed in advance of the recording session and are stored on floppy disk. Each cue automatically generates a color bar which moves

across the screen. These are color-coded so each of six actors has their own cue color (red, green, blue, magenta, cyan, yellow). The operator can individually adjust cue speed and duration to allow for each performer's reaction time.

The keyboard layout is quite functional with full transport controls (forward/reverse/search/ play/ crawl), keypad cue entry, hour/minute/second/frame time clocks, actor/cue selectors, and system status indicators. "The Director" is priced from \$20,000. ■

Circle #074 on Reader Service Card

VIDEO NEWS

by Mia Amato

Electronic Cinematography: Two Steps Forward

Electronic Cinematography has been a catch-all phrase used to describe everything from ENG news cameras to the editing of film on tape. But that term most aptly describes two revolutionary video cameras, the Panavision Panacam and Ikegami's EC-35.

What's so special about these cameras? Well, there's the flexibility of interchangeable fixed-focal-length lenses. The late Robert Gottschalk, president of Panavision, said often he considered the Panacam as a "video Panaflex," so all Panavision lenses, so highly regarded by the film industry, will fit this new camera. Ikegami's EC-35 also

has an assortment of lenses which are made by Canon.

Both cameras score high in light sensitivity. For example, in situations when a performer is backlit, most video cameras will iris-adjust to the background light level, throwing the performer into a shadowy silhouette. Bright lights and reflections—stage light bouncing off a cymbal, the glitter of sequins on a vocalist's gown—tend to leave smeary, "comet-tail" tracks on the footage. In Ikegami demonstrations, the EC-35 showed it could handle such high contrast shots with its improved circuitry.

With their prime lenses and matte boxes, the two cameras look a lot like 35mm film cameras. They were designed to appeal to film directors who have turned to video for lower-budget projects, like Robert Altman, who has been using the Panacam to shoot a ser-

ies of plays for the ARTS cable service (most recently *Precious Blood* and *Rattlesnake in A Cooler*).

The cameras don't, of course, make video "look like film". As long as U.S. television remains bound to a 525-line system, it's grainy resolution will remain a fact of life. But you can expect the use of the EC-35 and the Panacam to accelerate refinements in the one-camera video techniques we call "film-style"—a more deliberate approach to shooting one camera, one angle, one perfectly lit, perfectly-framed shot at a time.

Hot Shots: "European Ashes"

A provocative video collaboration between the NY band Ballistic Kisses and Advanced Television is making the club rounds and is a must-see. Produced as a joint statement on disarmament, the song "European Ashes" was penned and recorded exclusively for this eerie videotape. Scenes depicting the aftermath of a "limited war" were shot beneath NY's crumbling West Side Highway, says Advanced Television producer Pat Ivers.

Showdates: Art Breaking Rules

The Sausalito Ferry will be offering video art to weary commuters in the San Francisco Bay Area; the shipboard screenings are just one part of the San Francisco Video Festival running October 15 through 24. Avant-garde videotapes from around the country will be shown in galleries, bars, movie theatres and on local public tv channels. For a schedule and info call (415) 641-9207.

The Monument Redefined Art Show will offer video in a sculpture environment September 15 through October 10, in New York. Multichannel video/audio installations and special "video music nights" will feature video tapes by Mark Allen, Max Almy, Skip Blumberg, Judith Barry, Patti Podesta, Skip Sweeney and Steve Wilson—to name but a few. For schedule and info call (212) 858-4743 or (212) 362-7034.

(continued on page 84)

MIX READER PROFILE

Fred Catero

OCCUPATION:

Recording Engineer and Producer

BACKGROUND:

Thirty years of engineering for such artists as Chicago, Santana, Simon and Garfunkle, Herbie Hancock, Blood Sweat and Tears.

RECENT PROJECTS:

Santana "Zebop" LP on Columbia, Richie Cole's soon to be released LP on Palo Alto Jazz, currently president of San Francisco NARAS

ABOUT MIX:

"I've read every issue of the Mix, ever since it first came out—and I look forward to each new issue. The articles are right up to date and easy to read and understand. The directory features are of great interest and use to me. The interviews keep me in touch with what is going on in the recording industry and expose me to many new concepts that help me keep up with this ever changing industry."



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(continued from page 82)
**Video Sessions:
 Northeast**

Barry Sherick and Pioneer Artists have been keeping NY's Matrix Video busy with audio and video mastering for videodisks. The job entailed "equalizing and enhancing" the audio and in some cases re-mixing to stereo. The programs, starring Liza Minelli, Grover Washington, Queen, The Grateful Dead, plus opera and ballet performances, will be released later this year on optical disk.

Also in NY, Unitel's Odyssey I mobile unit captured Rick Derringer's rock spectacular at the Ritz for Harrison/Suggs Productions. With guest performances by Carmine Appice, Carla DeVito, and Southside Johnny, the tape is scheduled for pay-TV showings. A tape-to-film transfer is planned later for release on the midnight-movie circuit. Sound Shop completed 24-track sweetening for two shows airing on Showtime: *Morning's At Seven*, produced by CBS Video Entertainment, and *Murder Among Friends*,

by Group W Cable Productions. Athan Gigiakos engineered both projects.

E.J. Stewart of Philadelphia produced two promo clips for CBS recording artist Deniece Williams. Up in Boston, Century III supplied audio and video post for Joan Armatrading's concert at the Orpheum. Massachusetts Casting provided location video for the show, produced by Joe Spaulding for Don Law Productions. First airings will be on the STV service Star TV.

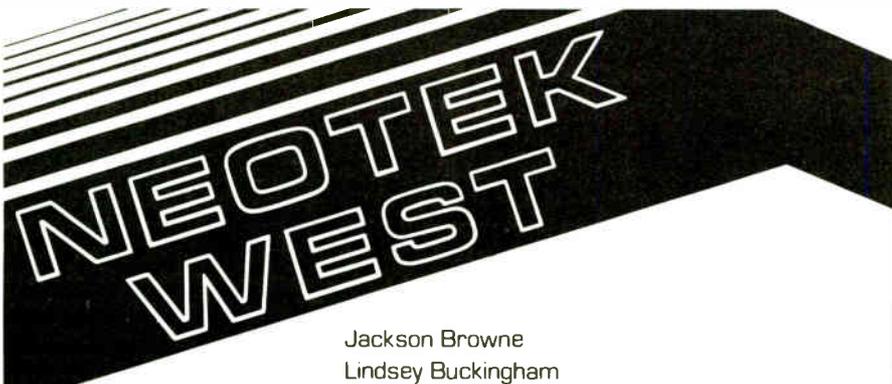
**Satellites:
 Yet Another Market?**

To the shock of the cable and broadcast industries, the Federal Communications Commission approved direct satellite-to-home television services, called DBS. The FCC is now processing applications from nine companies who wish to market such services. One plan: a commercial-free entertainment channel beamed to wok-sized satellite receivers leased to home users for a

mere \$24.00 a month. Broadcast and cable trade groups NAB and NCTA, bitter enemies less than two years ago, are expected to join forces in an attempt to block the targeted 1986 start-up of this new "competition" for the hearts, minds, and paychecks of TV viewers.

**Hardware:
 They Hear Us**

Some manufacturers do take the music-video business seriously. Real World Technologies has the Uni-VUer, for example: a black-box unit that will superimpose VU meter information on a video monitor. The audio level indicators appear as a stereo pair of vertical bar graphs on part of the screen. Then there's Sennheiser's Multimike electret microphone series for location video use. A slew of components for what is really a convertible mike power module include directional lavalier, shotgun head, spot head, fishpole boom and mount for portable cameras. Best of all, JVC has introduced the first stereo studio monitor. The 19-inch color C-208UM has a five-watt amplifier, good internal speakers as well as external speaker jacks. There are audio controls for bass, treble, volume and balance; the inclusion of a television tuner presupposes that a number of these will be purchased for home use. Can a consumer model be far behind? ■



**WISHES
 TO
 THANK:**

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 Lindsey Buckingham
 Mick Fleetwood
 Steve Miller
 Bob Siebenberg (featured in this issue)

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PHOTO: REED HUTCHINSON

Artist Studios

SUPERTRAMP'S BOB SIEBENBERG

by David Gans

The ceiling of the drum booth and the beams that run the length of Bob Siebenberg's home studio are smoked black, a reminder of a fire that destroyed part of the house as the studio neared completion in October, 1980. "The studio got completely smoked," says Siebenberg. "We put up a new layer of drywall, but we left the beams and the drum-booth ceiling black, because it looked great!" The bad news was that he lost his entire collection of tapes, over 500 records, one of Supertramp's customized Wurlitzer pianos, an organ, his Tascam eight-track recorder and the rest of his old home-recording gear.

Siebenberg's new studio is now operating, and the drummer is working on a solo album there while Supertramp's next album is being completed elsewhere. "The great thing about having a studio at home is that it doesn't cost you \$150 an hour to play," says Reed Hutchinson, the studio's "chief-engineer-for-lack-of-a-better-title." Since the studio is only intended for the private use of Siebenberg and his friends, there is no staff per se. "I was the friend who knew most about turning knobs," says Hutchinson.

The first Siebenberg studio consisted of a Sony TC630—a stereo deck with built-in sound-on-sound patching—and not so much as a mixer. "I had it in England and brought it here when Supertramp moved to California in 1976," Siebenberg explains (he is the only Yank among the Britons of Supertramp). He later traded up to a

TEAC four-track machine with sync, then acquired the Tascam 80-8 and Soundcraft mixer which were destroyed in the fire.

The studio occupies about a third of the total area of Siebenberg's home in Southern California. "It's not a gigantic house, but there's plenty of room," he says. "It was once the stable, barn and groom's quarters for a ranch. I took over the section where they used to feed the horses."

Gary Starr, formerly of the Village Recorder, designed the studio and consulted on its construction. "Quite a lot of acoustic treatment was necessary to make the rooms soundproof," says Siebenberg. "We used the 'room within a room' theory, with air between the double walls, four or five layers of drywall, sound-deadening board, and fabric and wood surfaces." The main room is "moderately dead", with a 12-foot ceiling, some fabric-covered surfaces, and a parquet floor under the seven-foot Kawai grand piano. The 15'x15' drum booth is solid wood, floor to ceiling. "It's a little honky for drums," Siebenberg notes, "so we've got the kit in the main room and we use the booth for the Leslie, flutes and clarinets, and for vocals."

The console is a Neotek Series 3 28x24 board with six stereo submasters, four aux busses (two echo and two cue sends), and separate buss outputs for each output channel. Recorders include an Otari MTR90 with autlocator and full-function remote box; an Ampex ATR100 ¼" two-track; a Sansui cassette, used for rough dubs only; and a Technics 1500 Series two-track used

mainly for tape slap and delaying echo sends.

An EMT 140 plate (mono send, stereo return) covers most of Siebenberg's reverberation requirements, the rest being handled by a MICMIX Master-Room reverb. There's an Eventide flanger, a DeltaLab DL2 Acousticcomputer, a Lexicon Super Prime which Hutchinson says "we're just now starting to figure out," and a pair of UREI 1176 comp/limiters. Outboard equalization is provided by three API 550A modules in a power-supply cabinet built by Aphex.

There are no speakers in the main recording room. The control room monitors are Tannoy Super Red coaxials. "We skipped the active crossover," says Hutchinson. "We use a Mitsubishi A-30 power amp, 105 watts a side for \$600. I can't praise that amp highly enough." A Klark Teknik DN-27A third-octave graphic is used to shape room response. The cue system and a pair of Auratone 5Cs are powered by Crown D150A amplifiers.

The microphone complement includes Neumann 87s, KM-84s, tube 47s and FET 47s; AKG 414s; half a dozen Sennheiser 421s, and several Shure SM-57s.

Siebenberg has filled the studio with instruments, most of which he plays himself: a full Ludwig drum kit, a Hammond CV organ with a Leslie 122 speaker, an Oberheim OB-Xa, an ARP string ensemble, a Wurlitzer piano, an old Rickenbacker 12-string guitar, a 1966 Fender Telecaster, and a '73 Fender Jazz bass.

The solo album is due out sometime early next year, after the release of Supertramp's long-awaited studio followup to the smash album, *Breakfast in America*. Siebenberg is collaborating with Derek Beauchemin, the two of them playing nearly all the instruments. The guitar solos are being handled by Thin Lizzy's Scott Gorham. "I usually work up the bass lines to my own songs and then turn them over to somebody who can get a great sound," says Siebenberg.

The studio will remain a private operation, he adds. "I've got my wife and kids here, and I don't really want a lot of people hanging around." ■

Standard Bearers



THE DREGS

by Robin Tolleson

Through the course of six albums, three on Arista following three on Capricorn, the star has continued to rise for Atlanta's progressive Dregs. Fans flock to larger halls in bigger numbers than ever before, and the band's studio sound has matured and developed as well.

Ken Scott produced two of The Dregs' albums from his Chateau Recorders in Los Angeles. Dregs' guitarist-composer Steve Morse took over production chores for *Dregs of the Earth*

and *Unsung Heroes*, keeping the project close to home at Axis Studios in Atlanta. *Industry Standard*, their best seller yet, was recorded at the Eddy Offord Studio in Atlanta, Morse and Offord producing. I spoke with Morse, drummer Rod Morgenstein, and keyboardist T Lavitz, about their latest recording and about the producers they've worked with.

How does working with Eddy Offord differ from working with Ken Scott?

Morse: Ken is all technically ori-

ented, and Eddy is more good-vibes oriented. He really goes by the feel of the whole thing. Ken is always commenting on every little part, whether something makes it or it doesn't make it, and Eddy mostly doesn't say much until he really knows what exactly is wrong.

He leaves it up to the band more?

Morse: Yeah, the band had a lot more say so with Eddy, but when he did say something he was always right. Eddy was a musician, and has a real uncanny ability to remember placement of parts and sections. He has a remarkable musical memory, and he's so quiet that I didn't notice it until a few weeks into the session. We were doing guitar overdubs. He was doing punches, and I said, 'Ok, just come in after the third bar, on the second beat, this after this.' And he says, 'OK.' And I'm thinking, 'Does he know? I guess he does.' And then he just goes 'bam' and gets it the first time. He got the punch, but I didn't get the part. So we went back and did it again, and 'bam' he got it again. And from then on I was just noticing how much he had it together. His main thing is just being cool and being in the background. If you want his opinion on something he'll be glad to give it, but he doesn't say anything unless he feels real strong about it. Whereas Ken has a very mathematical mind, and is very exact. Ken will remember parts by just counting the beats—he wasn't trained musically so it's a little bit different, but his ability to concentrate is what makes him able to find things. Actually they both have a really good memory. I think they're both really good to work with.

Lavitz: My introduction to heavy-duty recording was with Steve (Morse), who's a real perfectionist (Lavitz joined the band before *Dregs of the Earth*). At times you'd get a little bit flustered when you play a part over and over. When doing keyboard parts direct they can stop it anywhere, so there was a lot of going back and fixing things. Then once it's done, I'm glad he's a perfec-

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tionist, because then I'm happy. I don't listen to my solos or parts and say, 'Oh God, I messed that up.' It might have taken more time, but when it's done you're a lot happier. Eddy is more of the school of thought that 'If it feels good and sounds good, keep it. It might not be perfect, but that's OK. There might even be a little mistake that you can hear, but it's alright.' I think the two together were a good balance. Eddy would say, 'Fine,' and Steve would say, 'What? What are you talking about?' Everybody loves playing "live" because there's so much excitement, but there's something magical about being in the studio. There's a lot of excitement there, too.

Did Eddy do anything different as far as miking or mixing your drums on *Industry Standard*?

Morgenstein: He did do one thing different. He miked the bass drums from about five or six feet out. It was weird. Apparently when you're not worried about things bleeding it's ok. So here we were, with the bass drums with their heads off and the mikes way out there. But it picked up the sound of the beater hitting the head. Another thing is he just uses Shure SM-57s pretty much all around the kit, where that would not be done by lots of people

you work with now. But he thinks they're fine, and that's how he prefers to do it. He got a really good drum sound. Also, since the album was recorded in a movie theatre that he's converted to a studio, they had two ambient tracks—two mikes about thirty feet out in the seats that at any time they could bring in and out. That was really neat.

How much time did you spend getting the drum sound?

Morgenstein: Fifteen minutes. I'm serious.

For the entire kit?

Morgenstein: It was relatively quick. I remember talking to the assistant, Chuck, before I came down that day. I said, "How soon should I tell the other guys to come down?" He said, "Don't worry, Eddy can get a drum sound in fifteen minutes." Normally we spend a whole day on it. But I came down and it seemed like it was that quick. "Hell, what is it? You turn a few knobs and you're ready to go."

Did you record more of this album "live" as a band than previous albums?

Morgenstein: Only in the sense that some of the bass was kept. Everything else was just there as a reference for me while I'm recording, and then

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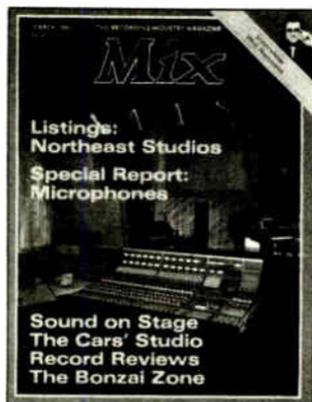
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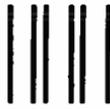
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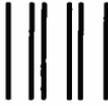
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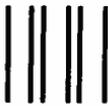
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they just go over it all. That's the philosophy of most of the guys in the band. If you're recording an album, take advantage of all the things you've got there. It's different if you're recording a live album—record it live. But if you're doing a studio album, why should you play it live in the studio when you can get a much better production and sound if you concentrate on one instrument at a time.

I have heard that the physical aspect of Eddy's studio is quite different than a normal studio.

Morse: Eddy and Ken have a similar approach in the big drum sound. I guess everybody does these days. The drums are live, not muffled, and are miked with ambient mikes. But Ken lives in a big city, and has a little studio, he gets the sound by opening up the door of the studio and putting ambient mikes out in the office or bathroom. Whereas Eddy has this theatre, and he can pick up anywhere from no decay to half a second, according to where in the studio he puts the mikes. Plus, there are other rooms to put guitar amps into, and violin, whatever, at Eddy's studio. So we hardly ever needed to use studio reverb.

You used natural bathroom reverb?

Morse: Yeah, I guess we have recording ambient tracks with it. But Eddy's and Ken's techniques I'd say are not that different from each other.

Morgenstein: The control booth at Eddy's studio is down off the stage, where the organist used to play, the pit. And there is no separation between him and the band. It's all got to be on headphones. He has it set up like a living room. The lighting is about 10 watts. You come in off the street and feel like a mole. He has a nice oriental rug, and his stuff is set up on there—a couple of chairs, lamps, and it looks just like a living room. If the goal of transcendental meditation is to relinquish stress in the body, Eddy seems like living proof. I don't know if he's ever meditated a day in his life, but you can't find anybody more mellow than him. He's a sweet human being, and just wants you to be happy with the record. You tell him what you want, and he gets it. And if you're happy, he's happy.

Steve, where do the Dregs' songs keep coming from?

Morse: Well, it's something I'm just compelled to do. Each album gets a little bit harder, because you don't want to repeat yourself in any recognizable way—which is categorically impossible for any human. You can't just get an idea and work it into a song. You have to get an idea and then think on it. Is it too much like this? There's a lot of process of elimination that has to go on. I have to get a lot more ideas in order to

keep a few useable ones. But ideas come pretty naturally to me, so it's fun. I love to write music.

When you write, do you hear all the parts in your head, or use tape recorders to help you?

Morse: Mostly I've gotten the best results from not using tape recorders, except that the last step would be to check parts on a tape recorder. If it's right before an album and we're rushed I won't even do that. I'll just try to get parts I think will work, and then instantly edit them while we're rehearsing. But the guys usually get a little im-

patient if I do much of that, so the best thing to do is get the parts in your head that you think will work, and you know are melodic, and then check them on a tape recorder. If you get all your parts from the tape recorder, to me it changes the direction of the tune. Makes it more... absolute repetition. But I have done some tunes with just tape recorder. The most obvious example of that is a tune called "Sleep," on the first Dregs album. I did tracks, one after another, all over the same chord changes. I then added different voices, sort of like a miniature version of Mike Oldfield.



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Are you interested in staying "state-of-the-art" when it comes to guitar effects?

Morse: State-of-the-art is not very advanced as far as I can tell. About all the effects that I see have been available for quite awhile. I'm sure there are some off-the-wall things I haven't seen, but I go to the trade shows and check it out pretty much. Basically everyone's ears like the same

and worrying about your amp and stuff, but the bottom line is practice.

The vocal tunes on *Industry Standard* were your first ever. Is it too early to tell if The Dregs will do more vocals?

Morse: Yeah, because it was a month too early before we did the album. We didn't know what was happening: First Jon Anderson was going to do it, then he wasn't. Then one of the guys from Kansas was going to do it, then he wasn't. Then all of a sudden it was Alex (Ligertwood of Santana), and maybe Patrick Simmons (ex of Doobies), then he didn't know. It was on and off. It was interesting.

Morgenstein: We haven't ruled it out. We certainly have not decided to add a vocalist and suddenly become a vocal-oriented band. I don't think that's ever going to happen. But who knows? We had some pretty good success with "Crank It Up," so we may try something like it again. But the basic format of the band, the basic concept of the band has not changed. ■

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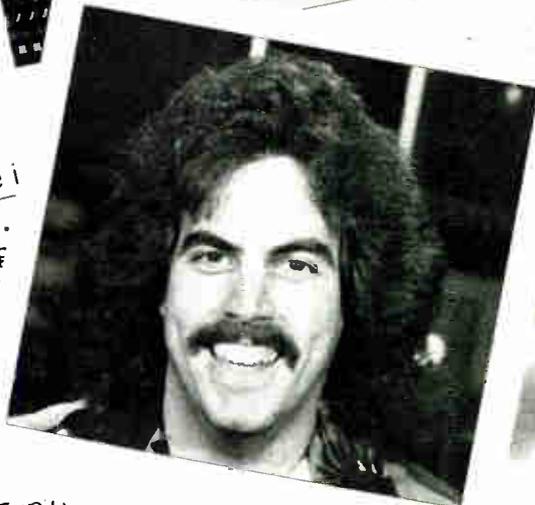
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PRODUCERS - DESK

by David Gans

Although Tangerine Dream has not had much in the way of airplay or chart action in the United States, the German synthesizer trio has met with great success on our shores—as they have worldwide—with their live concerts (which often include visual effects such as laser light shows) and a phenomenal career in film scoring. Their first American film assignment

EDGAR FROESE of TANGERINE DREAM

was William Friedkin's *Sorcerer*, which failed to match the success of his earlier film *The Exorcist*—but Tangerine Dream drew critical acclaim for the soundtrack.

Edgar Froese, the band's founder, notes that Friedkin waited until the music was completed before he began shooting *Sorcerer*—an unusual case in the film scoring business. "There are two usual procedures," Froese explains. "Usually we read the script and sketch a few ideas on tape, and then we meet with the director and discuss his needs. Then, after the film is shot, we do a final editing of the recorded score.

"The other approach is to start with a final cut, or a nearly-completed rough cut," Froese continues. "That way we can compose with the picture itself, and we can be very accurate from the start."

In either case, Froese notes, "it helps to have the director on our side. It saves so much time if we know his ideas before we begin. We've been very lucky in that regard, particularly with American directors. They're well-organized, they know what they want, and give us enough freedom to realize our ideas. Scoring can be very horrifying if the director doesn't understand how it's done."

The *Thief* project began for Tangerine Dream in mid-1980 when

the producers contacted Froese about using some selections from the TD album *Force Majeur* for their upcoming film. "They said that the pieces had worked quite well and wanted to know if we'd be interested in scoring the entire film," Froese recalls. The band traveled to Los Angeles and met with the director, Michael Mann, to exchange ideas. "We explained the terms that musicians use to communicate with each other, because it's very



helpful if a director knows what we're talking about. Michael picked those things up very well."

Tangerine Dream took a rough cut of *Thief* back to their studio in Berlin and did a few sketches, and in a few weeks Mann came over to hear what they'd accomplished. "A few sections were exactly as he'd wanted," says Froese, "and he had different ideas about some parts." The Dreamers then went to work on the final version of the *Thief* soundtrack, with a TV monitor showing the film and timing information and a time-code track on the 24-track recorder to interface with the studio in Hollywood.

"We took about three weeks to record and mix the final product," says Froese. "We did a 1/4" stereo mix, and then we recorded a version of the mix on two spare tracks of the 2" master. We also did two other mixes: one separated into two groups of signals—rhythm structures and bass lines, etc. on one side, and melody lines and chord work on the other; the last mix was a multitrack submix which divided things into groups—three or four trumpet sounds, guitar overdubs, and the like." This last mix was designed to give the film-studio sound editor the freedom to work with the dynamics of the music and use certain instrumental timbres to highlight aspects of the film.

The equipment used in Tangerine Dream's private studio is identical to the setup they take on the road, says Froese, except for a couple of computer terminals which don't travel well. There are eight analog sequencers and several digital memory devices, as well as Oberheim, Roland and Yamaha keyboard synths. The instruments are set up around the Harrison console, because everything is run direct and all three musicians participate in the engineering. They use two Otari MTR-90 24-tracks and Studer 1/4" machines. Monitors are JBL 4350s; favored signal processors include a pair of EMT gold foil reverb plates ("a completely different sound from the stereo EMT," says Froese), an ADR Scamp rack, a Harmonizer, and other Eventide gear. "This studio is all we need. If you wanted to record a rock'n'roll band with drums and amplifiers, it wouldn't be adequate—though we do have a separate room for acoustic recording," says Froese. "But obviously that's not our main interest." Froese notes that the studio has a lot of one-of-a-kind equipment built especially for Tangerine Dream, but he declines to elaborate on its nature.

Each of the three band members is familiar with 80 or 90% of the instruments and devices, so their roles are interchangeable. "It doesn't matter who is playing what, but we do split up the work economically," Froese explains. "For instance, Chris [Franke] does most of the electronic drum and percussion work, Johannes [Schmoelling] does more of the chord work, and I myself do most of the melody lines. But that can and does change according to our scheduling needs."

The studio is set up and all recording levels optimized so the band is free to roll tape and improvise without having to worry about saturation. While overdubbing, one member takes the role of engineer and the other two concentrate on the instruments.

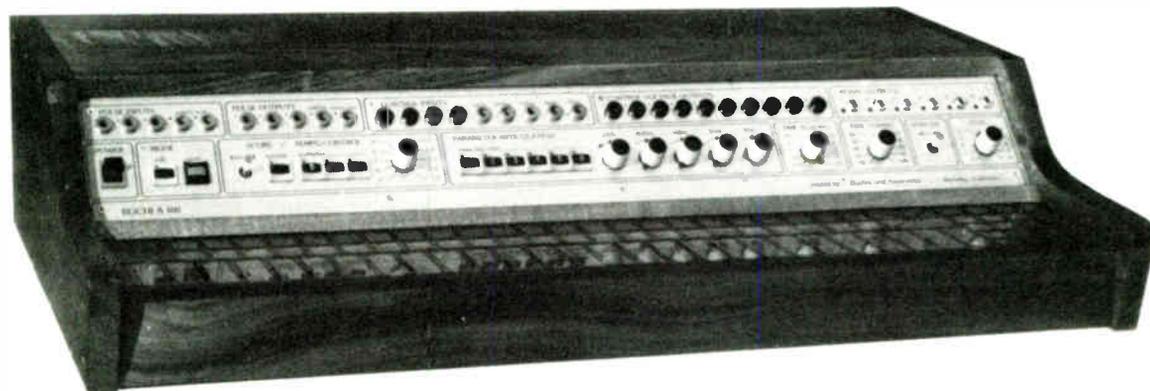
Tangerine Dream has completed over 65 film scores for various companies around the world, with many critical and commercial successes among them. Froese points out that there is only one criterion on which they will not compromise when negotiating to score a film: "We never do background music," he says. "If the music is not an important part of the picture, for whatever reason, then we are not interested in doing it." ■

MUSIC NOTES

control voltage interconnections and analog modifiers may also be used. The model 404A sells for \$9500, available at certain dealers or directly from Buchla and Associates, P.O. Box 5051, Berkeley, CA 94705.

Product News

Symetrix's Model A-220 is designed to fill the need for a high-performance, low-power stereo amplifier for such applications as head-



Buchla model 404A synthesizer

by David Gans

New Buchla Synth

Our Digital Synthesizer Survey of a few months back omitted one of the pioneering firms in the electronic-music field (who is also a good Berkeley neighbor). Buchla and Associates's new model 404A has 126 K bytes of memory, enough to run the two sophisticated music languages available for the Buchla 400 series of synthesizers.

"MIDAS integrates a comprehensive score editor with multiple instrument definitions, tunings and waveshapes," says Buchla. "PATCHV offers a generalized facility for establishing arbitrarily complex relationships between input gesture and instrumental response. Both languages are appropriate to composition as well as performance—MIDAS assumes a somewhat traditional approach to musical structure, while PATCHV imposes no such bias."

The Buchla 400 series uses three computers: a host computer to handle user communication, data handling and executive control; a processor for temporal parametric data (that's live knob-twisting, folks); and a third processor, which applies digital pipelined techniques to the generation of sound. A touch-sensitive keyboard can be tuned to "any imaginable scale"; pressure-sensitive joysticks,

phone distribution boxes and small monitor speakers. The unit is one rack space (1 3/4") high and puts out 20 watts per channel into 8 ohms, with full power distortion of less than .02% at 1 KHz (40 watts in bridge mode). It features high-temperature thermal shutdown as well as output short-circuit protection, and the suggested list price is \$289. Ovation Instruments has unveiled a pair of Adamas Cutaway guitars, with the same roundback designs as the other Adamas and Ovation instruments and improved access to the upper frets.

The LofTech TS-1 is an audio oscillator, dB meter and frequency counter in one small box retailing at \$249. Suggested uses include level calibration of mixers and tape recorders, verifying frequency response accuracy of audio gear, and verifying signal levels in the audio chain when equipment fails. It looks like a very handy tool to have around if you're involved with electronic equipment, either as a performer or engineer. In a similar vein, the Shiino Musical Instrument Corporation of Japan offers the Vesta Fire Frequency Spectrum Analyzer, a ten-band (center frequencies from 32 Hz to 16KHz) instrument with a built-in pink noise generator, response time of 1 millisecond, recovery time of 1 second, peak hold function and balanced input. The Vesta Fire line



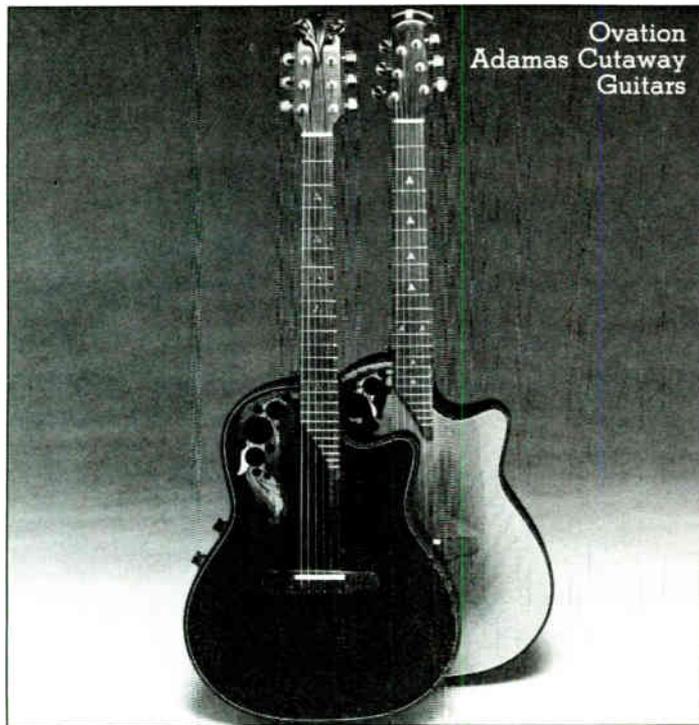
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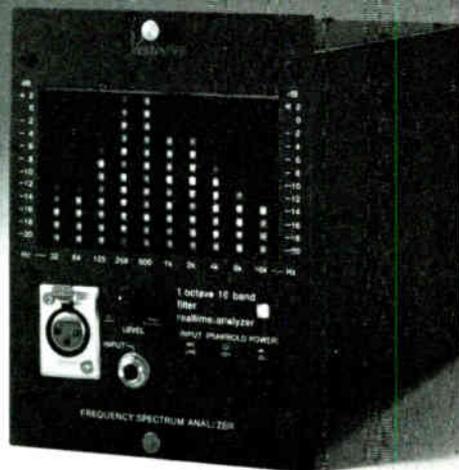
also includes a guitar preamplifier with three-band parametric EQ, a built-in compressor and effects-loop patch points; a 200-watt per channel stereo power amplifier; and a compact Stereo Delay pedal that operates in mono or stereo modes. No U.S. distributor was named in the material they sent us, so write to Shiino at 37-1, 2 Chome Kamiyama, Setagaya-ku, Tokyo 154 Japan. Groove Tubes has expanded its line of matched output tubes to cover more models of domestic and European amplifiers. New additions include EL34, EL84, 7027A, 6CA7, and a series of tubes for the classic Fender tweed amps of yesteryear. The company is also dealing in other replacement parts for tube amps, including tube shields and ceramic replacement sockets for Marshall and Fender.

They're at Box 4753, Sylmar CA 91342. . . Roland's Boss division has built a lightweight plastic carrying case/pedalboard and a power supply/master switch to drive up to five Boss or other popular effects. Ibanez's AD9 is a very small analog delay, ranging from 10 to 300 milliseconds with a noise floor of -100 dBm.

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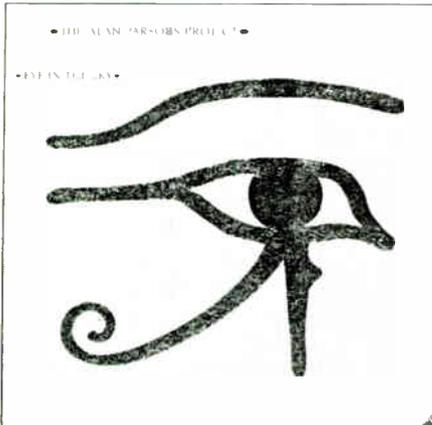
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Off the Record



EYE IN THE SKY The Alan Parsons Project Arista AL9599

Produced and engineered by Alan Parsons; recorded and mixed at Abbey Road Studios, London.

When it comes to making records which are spectacular in both musical scope and audio production, few individuals have a track record like Alan Parsons. Working with his musical and business partner, Eric Woolfson, Parsons has released six superb albums of his own, in addition to producing and/or engineering such classics as Pink Floyd's *Dark Side of the Moon*, Paul McCartney's *Red Rose Speedway*, The Beatles' *Abbey Road*, and albums for John Miles, Cockney Rebel, Al Stewart, The Hollies, and Ambrosia.

Eye In The Sky is the latest Alan Parsons Project album, and is second only to 1975's *I Robot* in song selections and production. Once again, Parsons and Woolfson have given their fans a concept album, this time expanding on some of the themes covered with *I Robot*: a futuristic society where the intrusions on individualism and human spirit are commonplace.

The record is also similar in its aural tone to *I Robot*, and while not credited as such, it could even be considered a sequel. As with all of Parsons' records, the range of musical styles covered here is extremely broad (possibly due to his fascination with *Sgt. Pepper's* and *Abbey Road*), yet this time the emphasis is on the uptempo songs rather than ballads.

Each Parsons album usually contains a couple of hit singles and *Eye In The Sky* is no exception. The rocking "You're Gonna Get Your Fingers Burned," the infectious popper "Step By Step" and the album's title track are easily accessible to both AM and FM formats.

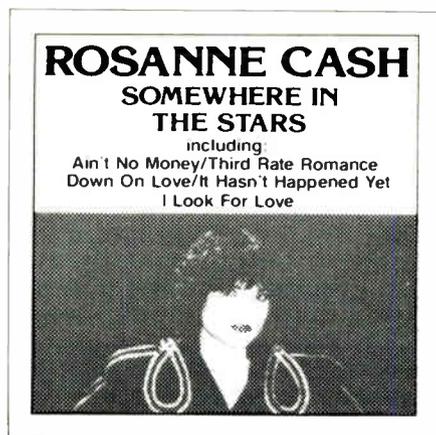
While the material on this record is excellent, Parsons' production is the crucial element in the album's strength. In creating aural environments, he exposes his greatest talent.

Parsons, through his careful production, is capable of building tremendous emotion out of his music. This is best exemplified in the beautiful and haunting "Old & Wise," which closes out side two and ends the album's story. Parsons makes particularly good use of an orchestra (through the arrangements and conducting of Andrew Powell), much in the same way that George Martin did with The Beatles and Procol Harum did on *A Salty Dog*.

The master of the album was digitally recorded on the Sony PCM 1610 system, with both highs and lows brilliantly present. The rhythm tracks fill the room while crisp and clean piano and acoustic guitars and other solo instruments float around in the sound. The record is also exceptional with headphones.

Helping Parsons and Woolfson are several of the studio musicians used on the previous albums, as well as Foreigner drummer Stuart Elliot and ex-King Crimson sax player Mel Collins.

—Bruce C. Pilato



ROSANNE CASH Somewhere in the Stars Columbia FC37570

Produced by Rodney Crowell; engineered by Bradley Hartman; recorded at CBS Studio A and Woodland Sound (both Nashville) and Magnolia Sound (N. Hollywood); mixed at Bullet Recording in Nashville.

Another year, another baby, a new home, and a follow-up to last year's critically acclaimed—and certified gold—*Seven Year Ache*: Yes, it's been a busy year for Rosanne Cash. Tak-

ing into account her unabashed maternal devotion and her recent migration from trendy L.A. to a hideaway in the hills outside Nashville, you might expect this new album to veer away from liaisons with pop/rock and, instead, toe the straight country line. Nope. Apparently encouraged by the success of *Ache*, Rosanne and husband/producer Rodney Crowell have moved yet another step away from the cliché-ridden bathos infecting much of today's country music. In fact, calling this a typical country album would invite labelling *The Sound and the Fury* a typical Southern novel.

At first glance, I'll grant you, *Somewhere in the Stars* appears to have solid country credentials. Who could be more mainstream than Tom T. Hall? Well, one of his tunes ("That's How I Got to Memphis") is included, and it even features a cameo vocal by the paternal Legend himself. Country, yes, but here the impeccable musicianship and sparse, crystalline production keep all lugubriousness at bay. The LP's three ballads also transcend the country clichés: Leroy Preston's "I Wonder" gets a sly, cocktail jazz treatment; the title song (written by Rosanne) is sung with enough conviction to keep the strings from turning it saccharine; and "Looking for a Corner" brews up a compelling mixture of sultry emotion and provocative lyrics. Imagine, for example, Rosanne's liquid voice with these lines:

Trouble when the ones you love
Don't know how to love you back
Forever climbing icy walls
Forever falling back

Be forewarned: this one can literally give you gooseflesh.

Subtlety and taste notwithstanding, all of the aforementioned songs could become country hits. (Look what happened with *Ache* after all!) But when the tempo picks up, when the beat gets stronger, when Rosanne starts feeling poppa's Memphis-circa-1956 blood in her veins, then she kicks into overdrive with a 1982 L.A./London intensity. The two showpieces are "I Look for Love" and "It Hasn't Happened Yet," both by John Hiatt. From somewhere inside, Ms. Cash pulls out a sense of raw defiance which propels her voice convincingly over the bedrock of pulsing synthesizer, stinging guitar and churning drums. But there's more to the new Rosanne than simple aggressiveness; there's also a heightened command of nuance and remarkable facility for transmitting subtle shades of feeling as she shifts styles between, say, vintage Bonnie Bramlett and conservative Ricki Lee Jones. She knows when to shout, when to purr, and when to pause. Note, for example, the tantalizing pause before the last word in this line (from "It Hasn't Happened Yet"): "Your friends come over and offer/To take me to... eat." Yes, Johnny's daughter is all grown up.

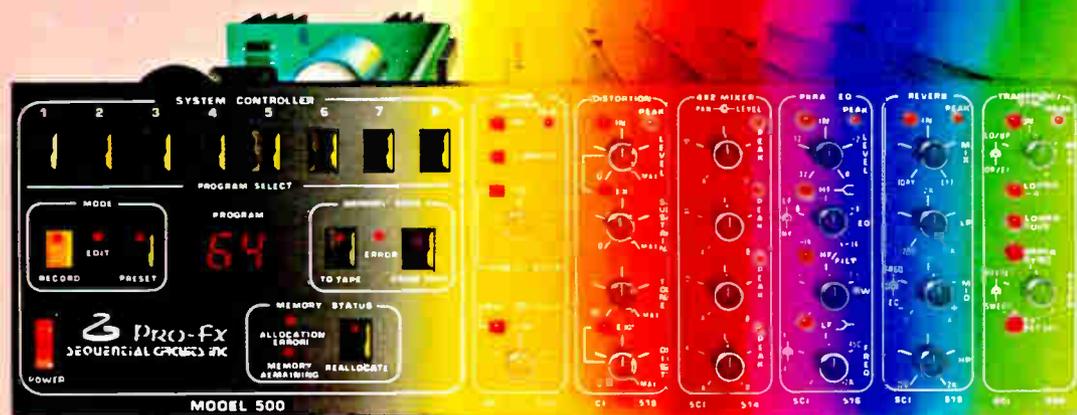
Rosanne's vocals have improved, and much of the credit should be given to hubby/producer Rodney and the stable of standout musicians. Built around the Cherry Bomb Band, the group is much the same as on *Ache* but with Nashville studio stalwarts (Reggie Young, Shane Keister) taking the place of some L.A. additions. Overall, the sound is taut and finely detailed, with acoustic guitars and drums dominant; piano, electric guitar and synthesizer highlighting. Every instrument, every lick, falls into place, supporting but never obscuring, allowing that smoky, innocent-yet-knowing voice to draw the listener in.

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—Sam Borgerson



STEELY DAN Gaucho

MCA Audiophile MCA-16009

Produced by Gary Katz; executive engineer Roger Nichols; mastered by IAM Cutting Center; plating and pressing by KM Records in Burbank, CA.

Rather than licensing their titles to an outside audiophile label, MCA Records has taken charge of the manufacture and marketing of its own high grade pressings. The first release includes Spyro Gyra's *Catching the Sun*, Olivia Newton-John's *Physical*, and Steely Dan's *Gaucho*. Upcoming releases include the *E.T.* soundtrack (a digital recording), Steely Dan's *Gold* compilation, excerpts from *Evita*, and LPs by John Klemmer and B.B. King.

My cynical side wants to suggest that MCA, like every label these days, is seeking newer and bluer ways of mining the catalog so as to avoid the agony of deciding what new acts to sign. But the fact is that records like *Gaucho*—in terms of both sound and performance—deserve to be made available in durable, high-definition pressings. The high-end information on this record will hold up to many more plays, and the improved dynamics make the album sound better on stereo systems of all grades.

MCA's audiophile line is mastered at IAM and pressed on Teldec vinyl at KM Records in Burbank—the same combination used by Nauticus Recordings for its "Superdiscs." Even though conventional cutting systems are getting smarter, there's still the matter of cost/quality tradeoffs at every step between the cutting of the lacquer and the sealing of the finished disk in its sleeve. KM's work is excellent on all counts.

—David Gans

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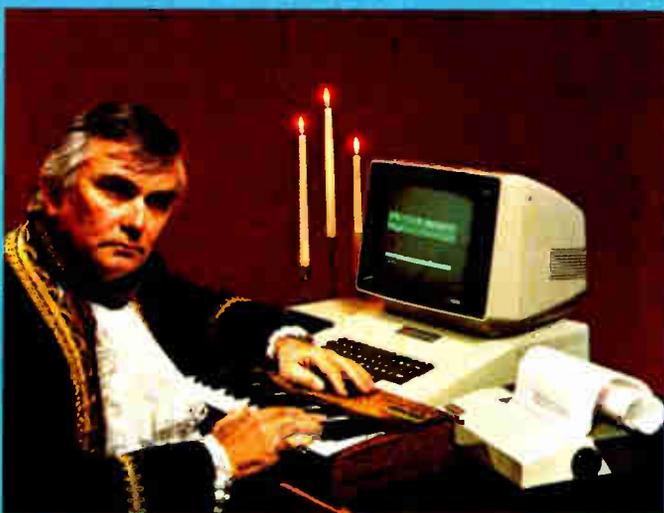
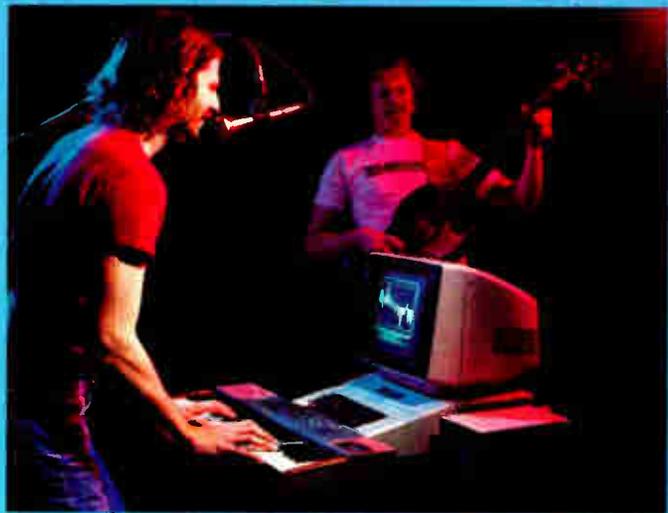
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INTERNATIONAL RECORDING UPDATE

APRS Convention Kensington, England

Despite British Rail and London underground strikes, the APRS 1982 Convention, in Kensington, pulled an even higher number of visitors than usual. Many of the producers, engineers, and studio managers who came to this, the UK's prestige audio engineering show, had walked miles to get there.

The nearly 3,000 attendees included 279 overseas visitors, representing 217 companies in 36 countries, including Australia, the Bahamas, Bulgaria, Canada, Czechoslovakia, Denmark, Eire, Finland, Gambia, Holland, India, Israel, Japan, Nigeria, Scandinavia, Oman, Signapore, Turkey, Russia and Ireland. There was notably high interest from Belgium, France, Holland (which topped the list of overseas visitors with 49), Sweden, Switzerland, West Germany, and—to the surprise and delight of the UK association—the USA, which sent 14 representatives of as many different companies, despite the fact that there are several major

professional audio shows around America every year.

The exhibition was the biggest yet, with 124 stands displaying everything from jackplugs and cutting styli to outside desks. The manufacturers reported that setting up for the show—the second in the new APRS venue of Kensington Exhibitions Centre—was virtually trouble free.

Digital Recording Survey

"Digital recording is here to stay." This finding prefaces the first impartial study of digital recording techniques and digital equipment currently available to, or being used in, studios worldwide. The study has been prepared by the APRS, and takes the form of a technical booklet. It has been edited by APRS committee member David A. Pickett, lecturer in recording techniques at the University of Surrey—with contributions from Roger Cameron, of Advision, and other industry experts.

The booklet deals with the historical development of digital recording, and then offers a description of

how digital audio works; sections on digital tape recorders, monitoring from digital tapes and editing them; a look at digital mixers and at future storage media; appraisal of digital standards; and a recommended reading list.

There is also a table of comparison of available equipment, culled from information given by manufacturers as a result of an APRS questionnaire.

The booklet is available for 3 pounds from the APRS secretary; Edward Masek, 23 Chestnut Ave., Chorleywood, Herts WD3 4HA.

New Zealand's First Digital Session

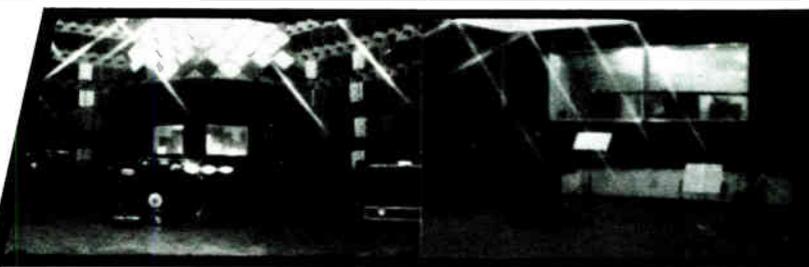
Wes Dooley, chief engineer at Audio Engineering Associates in Pasadena, is engineering New Zealand's first digital recording session. Using the JVC BP-90 digital system with a 3/4" U-matic video cassette recorder, this is also the first recording of American composer Joseph Carl Breil's 60-year-old original score for D.W. Griffith's classic silent film *The Birth of a Nation* (released in 1915). Forty members of the New Zea-

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land Symphony Orchestra are being conducted by Clyde Allen, conductor of the Los Angeles Ballet Orchestra and music director for KFAC radio.

A two-record set of these sessions, produced by Entr'Acte Recording Society, which specializes in audiophile releases of film scores, will be distributed through Southern Cross Record Distributors of San Francisco, and Kiwi Pacific of New Zealand.

Wes Dooley is assisted by Geoffrey Eyles of New Zealand Broadcast and Sara Beebe of AEA. Schoeps mics, an A.E.A. custom mixer and Studer B-67's complete the recording chain. Monitoring consists of Hitachi MOS FET amps and KEF 105 speakers supplied by AWA and Sound Expression, both of Wellington, New Zealand.

McClea Place Mastering Studios Toronto, Canada

McClea Place Studios Ltd. has announced the formation of a new division known as McClea Place Mastering Studios. The mastering facility is housed in a live-end, dead-end acoustic environment with equipment including Neumann's latest VMS80 mastering lathe and SP79C mastering console. Peter Norman is mastering engineer, having extensive mastering experience with RCA and CBS in England.

To complement record mastering, McClea does super high quality tape mastering for cassette and eight track duplicating using Studer's A80 MR mastering recorders, equipped for 3 $\frac{3}{4}$ IPS for 64:1 duplicating.

Compass Point Update Nassau, The Bahamas

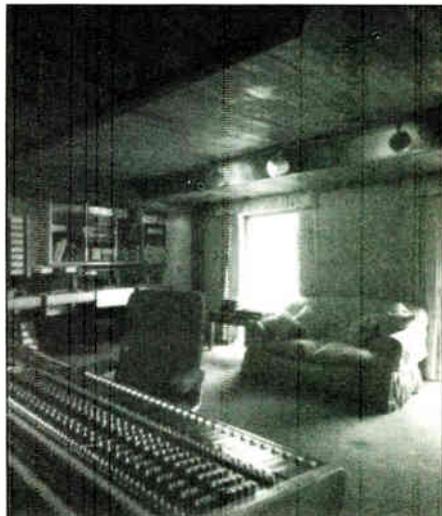
The B 52's have recently been recording at Island's recording studios, Compass Point. Grace Jones will soon finish her next album, with Chris Blackwell and Alex Sadkin producing. The album is due for a fall release. Robert Palmer has begun recording a new self-produced album. The album is to be entitled 'Pride,' and is scheduled for release in October.

Comfort Sound Toronto, Quebec

Comfort Sound Recording, in Toronto, has recently upgraded to sixteen track recording with an Ampex MM 1200 tape machine, and has also expanded to handle remote recording throughout Eastern Canada. Recent clients employing the mobile unit include Todd Rundgren, The Boomtown Rats, The Police, Wet Willie, John Mayall, CHUM-FM, Q-107 and CFNY.

Farmyard Recording Studio Buckinghamshire, England

Located about 40 minutes from central London, and a short stroll from Chalfont and Latimer Underground Station, Farmyard combines top grade 24 track recording technology with the relaxed atmosphere of rural England. Accommodations include limousine service from Heathrow Airport, game room, gourmet meals and lodging.

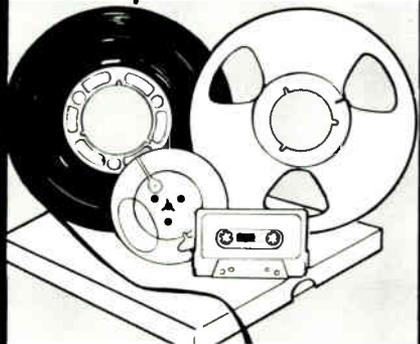


Tonstudio Hoysweg Bremen, W. Germany

Recently opened, in Bremen, is the Tonstudio Hoysweg. Under the direction of 40-year-old Klaus-Dieter Hildebrandt, Hoysweg is equipped with an MCI JH536 console, MCI JH 114 24 track tape machine, JBL 4333 monitors, EMT 240 Gold foil reverb, and a wide variety of signal processing, microphones and musical instruments. Photo by Werner Elsner.



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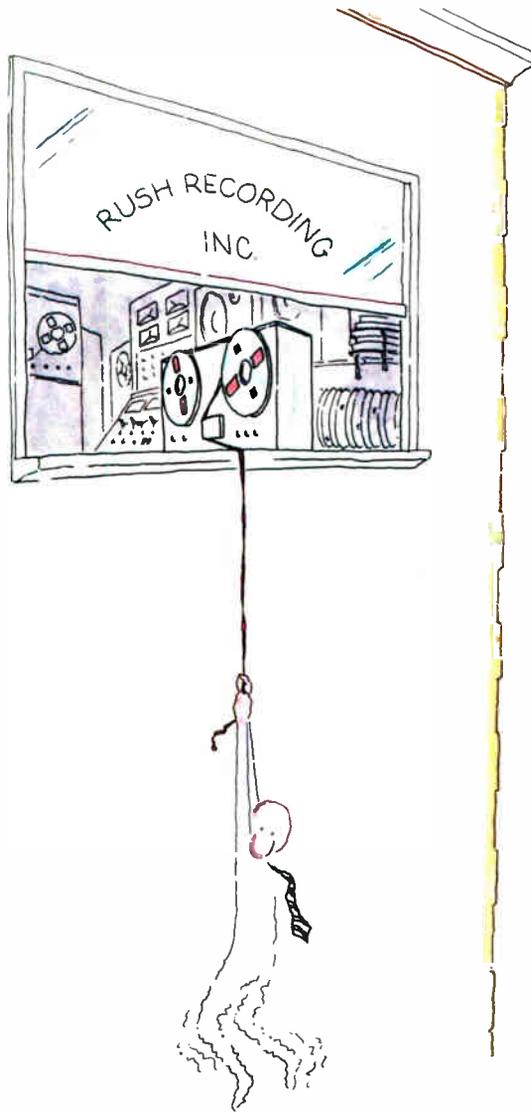
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