

SEPTEMBER 1983
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THE RECORDING INDUSTRY MAGAZINE

Mix

Interview: Hall and Oates

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**Equalizer
Update**

**Ryder Sound
Chick Corea's
Studio**

**Peter Gabriel
Cassette Recorders
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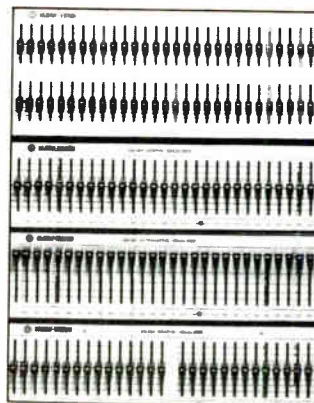
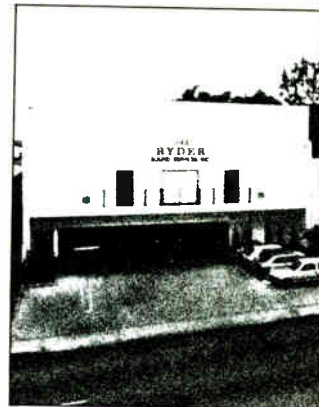
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Cover:
 Founded in 1976 by owner/manager Jason Bell, Hit City West has one main studio, a second copy/editing room, and a third rehearsal room. Space has been acquired for a soon to be constructed second studio.

Photo by: Mark Brull

Ryder Sound Services have a long Hollywood history of joining sound with film and video. David Goggin visits this impressive facility to report on some of Ryder's unique contributions to the merging industries.
Page 28



Equalization has come a long way in a short time as a creative tool for sound correction and enhancement. Our report updates some of the latest developments in hardware and opinions from experts in the field.
Page 100

This month we introduce a new column called "Session Player." Hosted by illustrious LA studio bassist **Carol Kaye** (her credits are staggering), this column will deal with the concerns and situations of the studio musician.
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Studer's Secret of Success

In years past, the Studer A80VU has earned widespread acceptance by the world's premier recording studios. And this success story is far from over: top studios continue to choose the A80VU MKIII over other "all new" machines. The secret of this success lies in three basic rules:

1. If it can't be made better, don't change it.
2. If improvements can be made, make them – even if they don't show on the outside.
3. Use longer production runs to hold down final cost.

Now in its third generation, the Studer A80VU series once again offers state-of-the-art performance at a surprisingly modest price. The new A80VU MKIII system incorporates several significant improvements, including:

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- **New Headblock:** Tight spacing of erase and record heads permits exceptionally accurate punch-in and punch-out.
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Instead of repackaging these changes in an "all new" machine, Studer kept the basic transport – a design with an unprecedented reputation for reliability. Also, because basic tooling costs have long since been amortized, the A80VU MKIII's price has been held down, thus offering a better price/performance ratio.

How much better? Call your nearest Studer representative for details. He'll help make our secret the key to your success.

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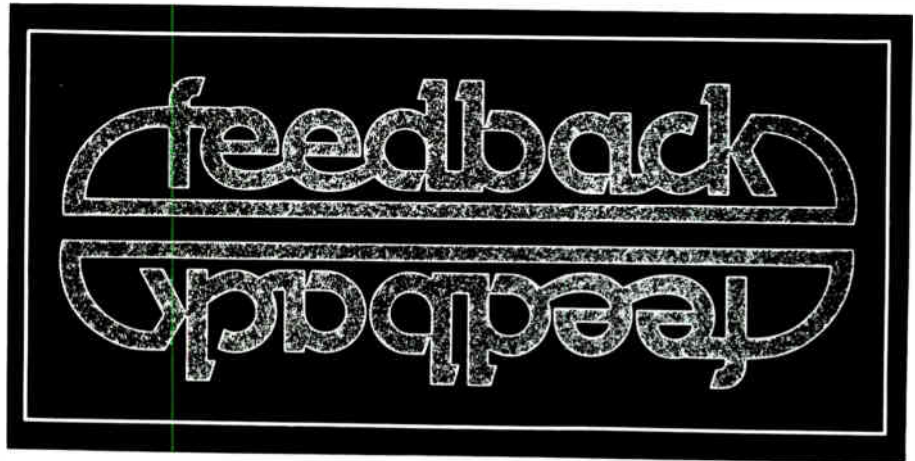
Mix Magazine is published at 2608 9th St. Berkeley CA 94710 and is ©1983 by Mix Publications, Inc. This is Volume Seven Number Nine. September 1983. Mix ISSN 0164-9457 is published monthly. Subscriptions are available for \$24.00 per year. Single or back issue price is \$3.00. Subscriptions outside U.S.A. are \$46.00.

Please address all correspondence and changes of address to Mix Magazine, 2608 Ninth St. Berkeley, CA 94710. (415) 843-7901. Controlled circulation postage paid at Berkeley, CA and additional mailing offices.

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

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

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Dear Mix,

Hats off to Mix Magazine for finally coming out with a "hands on" style video concept for learning about pro audio and video.

I would like to suggest, if I could, a video volume on live sound reinforcement. For example: house mixing and EQ'ing, monitor mixing and EQ'ing, types of gear used by companies such as Showco, db Sound, Tasco, etc., along with some personal views and opinions on equipment, setup, attitudes about experiences (good or bad) they have had, going over multi-speaker configurations being used for today's larger shows, right down to the acts that are using the gear night after night. Perhaps going behind the scenes to explain a particular concert setup step by step, start to finish.

Along with operating a local music store, I also rent out sound and lighting gear and am part owner of a recording studio. I'm quite sure that a video presentation covering the aspects of sound reinforcement would be of great interest to anyone involved in live audio from the beginner to the seasoned pro. In fact, I will personally guarantee the sale of at least a dozen or so to the sound companies, engineers, and musicians that I deal with every day. Thanks for the sound reinforcement articles and interviews in the June '83 issue of Mix. Keep up the good work and good luck with the video venture.

Sincerely,

Mr. John J. Staba
Musicians' Exchange Service
Warwick, RI

Dear Mix,

An open letter to Michael Rettinger:

I read, with some interest, your treatise on LEDE vs EDEL in the Studio Design issue of Mix Magazine (August '83).

I did not notice any reference to your personal experience in a real LEDE control room. Can it be that you've never actually heard an optimized, well-designed LEDE recording and monitoring system such as that designed for us by Chips Davis and Ed Bannon? Oops!

In the spirit of your own Lord Rayleigh quotation, let's rectify that situation right now. We invite you to spend a day at our studio at our expense.

Tres Virgos is physical proof that a well-designed LEDE system really works. Our credentials both in rock and classical are most impressive, considering the fact that the studio is just 18 months old.

Chips Davis has continued to evolve and prove his design concepts in a number of equally impressive facilities.

We'd like you to join us for a fair listening test. We'll provide: airfare, meals, local transportation, musicians, engineers, tape, and a great, truly friendly studio. You bring your favorite reference tape (any non-Dolby format), an open mind and a pair of ears. I'm sure Mix readers will be interested in your reaction.

We're looking forward to meeting you soon, so please call to confirm scheduling and travel arrangements.

Yours musically,

Jerry Jacob

Tres Virgos Studios

San Rafael, CA

Dear Mix,

The "Mixing Console Forum" in the May '83 issue discussed a manufacturer called International Console Corporation (ICC). I would appreciate information on how to contact them.

I enjoy your magazine and have learned many new things from reading it. Keep up the good work.

Sincerely,

David Murphy

Orange, TX

Dear David,

You can contact ICC at P.O. Box 285, Sun Valley, Idaho 83353, ph. 208/726-3476.

Dear Mix,

I am an American living abroad who would like to return to the United States to study sound engineering at a recording studio. I would be very grateful if you could kindly send me information regarding schools, activities, prices and requirements to join, specifically in Massachusetts, New York and Florida.

Sincerely,

Aaron Silverstein

Neufeld Str. 23/4

Bnei Brak

Israel

Dear Aaron,

In case you missed it (or had not yet received it), our July issue (Vol. 7, No. 7) featured listings of more than 100 recording schools and programs. We know of no better source than that issue for the information you request.

CURRENT

Mitsubishi Electric Acquires DEC

Mitsubishi Electric America has acquired Digital Entertainment Corporation (DEC), which will assume all marketing and sales responsibilities of the Mitsubishi Electric pro audio products, consisting of digital audio recorders for studio and broadcast use.

Tore Nordahl, founder of Digital Entertainment Corporation, will remain president and chief executive officer while Mitsubishi Electric America chairman Yoshito Yamaguchi will assume the chairmanship of DEC. Headquarters of DEC will remain in Danbury, Connecticut. A major sales and support office is scheduled to open in Manhattan by the end of August. DEC's Hollywood office is already open for business at 733 N. Fairfax Avenue.

Sonny Kawakami of Mitsubishi Electric Sales America is assuming the position of Vice President Marketing for DEC, while Lou Dollenger (Mitsubishi Electric in Chicago) is moving to the New York area to become Marketing Manager. Industry veteran Bill Van Doren (ex-Studer) is regional Manager at the Hollywood office.

Billboard Hosts Fifth Video Music Conference

Billboard Magazine will be holding its Fifth International Video Music Conference at the Huntington Sheraton Hotel in Pasadena, CA, November 17-20. This year's event will feature

exhibits and demonstrations of video music production techniques and services, as well as panel discussions and presentations covering a wide variety of business and creative issues, including such topics as computer graphics, shooting live performances, promoting a new act with video and licensing rights.

There will be evening showcases of video music programming, and submissions for this showcase are now being accepted for all kinds of music programming. Billboard will be announcing winners at the event for its first Video Music Awards, to those involved in the production of clips and long-form video music programming.

For more information on the conference, call 212/764-7427 or 213/859-5319.

Chicago NAMM Show Draws Over 20,000

The June convention of the National Association of Music Merchants, the primary introduction point for new musical instruments, sound reinforcement equipment and accessories, realized an attendance increase of 19% over last year's show. The Chicago affair, held at the vast McCormick Place, played host to 21,817 attendees and 485 exhibiting suppliers, making this the most successful show of NAMM's 82 year history.

Five officers and eight new directors were elected to the NAMM Board during the convention: Immediate Past President, Charles K. Hale, Hale Pianos & Organs, Inc., Fort Lauderdale, FL; President, Jim Kleeman, Karnes Music Company, Elk Grove, IL; Vice President, Alfredo

Flores, Jr., Alamo Music Center, San Antonio, TX; Treasurer, Lee R. Donais, Gorden Keller Music Co., Vienna, VA; and Secretary, Donald Griffin, West L.A. Music, Inc., Los Angeles, CA.

MMX Highlights Midwest Industry

The 1983 Midwest Music Exchange (MMX), the annual Midwest record/music industry trade show and symposium held at the Bismarck Hotel convention center in downtown Chicago, attracted some 750 attendees, representing all areas and levels of the industry and drawing from as many as 15 states and Canada.

Highlights of the 3-day event included the Industry Banquet at which keynote speaker Clive Davis (Arista Records president) delivered an address, assuring the audience that the record industry is on an upward spiral. "It's not on its last legs, as if OPEC prices and the new McCartney album were intertwined," he said, adding that the record industry had "weathered the onslaught."

Another session had Grammy award-winning producer Phil Ramone performing a session with Chicago vocalist Josie Aiello. The artist and producer had never previously met, and approximately 275 MMX registrants looked on as Ramone explained every step of his production process in this workshop. CRC, Streeterville and Universal recording studios made their facilities available for this popular aspect of the MMX.

Also at the AVC-sponsored industry banquet, MMX officials presented two awards, "Best Contribution to Midwest Music - Creative" to Prince, and "Best Contribution to Midwest Music - Business" to Ken Voss, publisher of the Midwest's largest consumer music publication, the *Illinois Entertainer*.

notes

Elections for AES officers have been set for September 30th. Candidates proposed by the Nominations Committee include *Albert Grundy* and *Han Tendeloo* for President, *Daniel Grave-reaux* and *Nancy Timmerman* for Eastern Region VP, *David Clark* and *Richard Greiner* for Central Region VP, *Robert Trabue* and *Wesley Dooley* for Western Region VP, *John Borwick* and *Jacob Menger* for Europe Region VP and *Kunimaro Tanaka* and *Derek Tilsley* for International Region VP. . . . *James S. Twerdahl* has been elected President of JBL Incorporated, it has been announced by *Jerry Kaloc*, President of *Harmon International Industries*, JBL's parent company. . . . Following the sale of its 14-acre facility in Anaheim, CA, *Altec Lansing* has relocated to 1250 Red Gum Avenue, Anaheim,

92806. . . . *Michael Faulkner* and *Graeme Goodall* have joined *Sony Professional Audio Products* as Sales Managers in the eastern and southern regions, respectively, it was announced by new Vice President and General Manager, *George Currie*. . . . *DeltaLab Research, Inc.* has relocated to a new facility at 19 Alpha Road, Chelmsford, MA 01824. . . . *Studer* has opened a new sales office in Northern California at 954 Hawthorn Drive, Walnut Creek, 94596, ph. 415/930-9866, being headed up by *Fred Layn*. . . . A creative electronic systems consulting firm has opened in the Los Angeles area. The *R₂ Network* is located at 8426 Vine Valley Drive, Sun Valley, CA 91352, 213/768-7448. . . . *Chuck Stieff* has been named representative for the *Beyer Dynamic* line in Colorado, Utah, southeast Idaho,

Wyoming and New Mexico. . . . *Cetec Gauss* has appointed *Hy-Tek Marketing*, of Burbank, and *REM Musical Enterprises*, of Arroyo Grande, CA, as sales representatives for loudspeakers. . . . *Hy James, Inc.* and *DLC Design* of Farmington Hills, MI, have jointly formed a professional audio service facility called *Electro-Media Service* (EMS), located at 24166 Haggerty Road. . . . *Robert La Violette* has joined *Saki Magnetics* as Sales Engineer. . . . *Peirce-Phelps, Inc.*, of Philadelphia, PA, has recently formed an Audio Systems Division representing products by manufacturers such as Sony/MCI, Telex, EV, TOA, Altec, JBL, Crown, Otari and Yamaha. . . . *Krause and Remal Music*, of San Francisco, has promoted *Betsy Zeger* to Vice President of Marketing.



**ALBATROSS
RECORDS, INC.**

3500 Albatross Ave.
Suite SP-1
Roxborough, MA 01864
(617) 555-3200

August 1, 1992

Mr. Stephen West
4 Crestwood Lane
Acton, MA 01720

Dear Mr. West:

Thank you for your interest in Albatross Records. Unfortunately, after listening to your demonstration tape, we have decided that your talents do not fit in with our needs at the present time.

Enclosed please find the tape which is being returned to you.

Thank you again; we wish you and your group success in the future.

Sincerely yours,
Dean Noble

Dean Noble
Artist and Repertoire Director

Enclosure
DN:EP

“Thank you for your interest in Albatross Records. Unfortunately...”

Few things in this world are as irritating as a polite rejection letter.

But maybe one of these days someone will like your demo tape. And instead of a form letter, you'll get a phone call.

At dbx, we know it's the quality of your music that will make you successful. But we can't help thinking that the quality of your tape recording will play a part, too. After all, how will they know how good you sound if the tape doesn't really capture your sound?

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Because dbx doesn't just reduce noise. We eliminate it. You can record, mix-down and overdub, again

and again, without any build-up of tape hiss. Each generation sounds just as clean as the first. And you'll end up with a final mix that sounds better than you've ever sounded on tape before.

Now of course, we can't guarantee that this will make you a hit.

But it will sure make you sound like one.

Visit your authorized dbx professional dealer for a look at our full line of equipment. Or call or write dbx, Incorporated, Professional Products Division, 71 Chapel Street, Box 100C, Newton, MA 02195 U.S.A. Tel. (617) 964-3210. Telex: 92-2522.

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NORTHEAST

Recent activities at *Sigma Sound Studios* in New York, NY, include *Paul Simon* overdubbing for his upcoming Warner Bros. release. *Russ Titleman* is producing the project, with *James Dougherty* engineering and *Jimmy Santis* assisting. . . . Singer/songwriter *Lamar Thomas* is completing work on his new solo EP at *Underground Sound*, in Farmingdale, NY, produced by Thomas, *Sammy Lowe* and *Judy Taylor* for Tom/Tay Productions, with *Bob Lessick* engineering. *The Cruz Brothers Band* cutting tracks for an EP sparked by industry interest. Co-producers are The Cruz Brothers and Bob Lessick with Lessick behind the board and *Linda Carbone* assisting. . . . Three rock videos produced at *Sheffield Recordings* in Phoenix, MD, had their world premier showing June 7, at Hammerjack's nightclub in Baltimore. The three videos are for *Boot Camp*, *Trigger Happy* and *Crack the Sky*. The positive reception accorded these videos will mean more work in the future for busy director *Mike Corkran* and executive producer *John Ariosa*. . . . At *Trod Nossel Recording Studios* in Wallingford, CT, *Mike Rodriguez* recorded an LP of self-penned material. The group *Archival* returned to record several original tunes slated for cassette release. *Brian Settele* completed a number of piano/voice demos. *Louis Giannelli* accompanied by his ensemble recorded material for label submission. All sessions were engineered by *Richard P. Robinson* and *Douglas K. Snyder*. . . . At *Air Craft Studios* in Pittsburgh, PA, country music artist *Dave Hanner* is recording some new material. Hanner has co-authored such hits as, "Lord I Hope This Day Is Good," "Beautiful You," and "Time Has Treated You Well." His songs have been recorded by Mel Tillis, Don Williams and the Oak Ridge Boys. *Barney Lee*, studio manager, is engineering and co-producing the project. . . . *B.B. King* was in the studio at *M&I Recording* in NYC recording his latest album for MCA Records, *Blues & Jazz*. . . . At *Secret Sound Studio* in NYC, *Peter Baumann* is mixing a 12" remake of "Strangers in the Night" for Portrait Records (a division of CBS Records). *Scott Noll* is engineering with *Warren Bruleigh* assisting. . . . At *Blank Tapes, Inc.*, in NYC, *John Morales* and *Sergio Munzibai* producing mixes for *Ashford & Simpson* and *Rene & Angela* for Capitol Records. *Butch Jones* engineering. . . . At *Unique Recording Studios*, NYC, *Meco Monardo*, *Lance Quinn* and *Tony Bongiovi* are producing Meco's dance version of "Ewok Celebration" from the film "Return of the Jedi." *Jay Burnett* recorded the project for release on Arista Records. . . . At *Quadrasonic Sound Systems Inc.*, NYC, *Lionel Hampton* is mixing an energetic new album he recorded live while on tour in Japan. Produced and engineered by *Charlie Mack*. . . . Recent projects at *Highland Studios*, Delmont, PA, include *18 Names*, a Pittsburgh-based band, recording tracks for an up-

coming single. The tunes were produced by *John Meanor, Sr.* and *Gordon Scott, Jr.* Engineering was handled by *Mark Valenti* and *Gary Popotnik*. . . . At *Greene Street Recording Studio*, in Soho, NYC, *Lesley Gore* laying down tracks with friend *Lou Christie* and members of *Scandal*. *Lincoln Clapp* engineering, assisted by *Joe Arnold*. . . . At *Kingdom Sound* in Syosset, NY, *Joan Jett and the Blackhearts* have recently completed their third album with Joan Jett and *Kenny Laguna* producing, and *Ron Cote* engineering. . . . At *Celestial Sounds* in NYC, *Kashif* is producing tracks for *Melba Moore* for Capitol/EMI. *Michael O'Reilly* engineering, *Larry DeCarmine* assisting. . . . *Otis Blackwell*, world renowned song writer and musician, is currently recording his new album at *Cannings Recording Studio* in New York City.

SOUTHEAST

At *Mark Five Studios* in Greenville, SC, *David Allen Coe* is doing vocals for a new film produced by *E.O. Corporations*, *Panic* completed new LP for *5th Wheel Records*, producer *Rick Sandidge*, engineer *Eddie Howard*. . . . The *Pace Sound & Lighting's* remote unit out of New Orleans, LA, was on location at the New Orleans Jazz and Heritage Festival. The subject of recording was a European jazz program to be aired on Radio France. The program was recorded on digital using a Sony PCM unit with *Glen Himmough* and *Peter Schulman* at the console. . . . Producer *Pat Patrick* is recording a new album at *Audio Media Recorders* in Nashville, TN, for *Don Sneed* and *The Sneed Brothers* with *Hollis Halford* engineering. . . . *Barbara Mandrell* is in *Woodland's Studio B* in Nashville, TN, cutting tracks and overdubbing for her next MCA album. *Tom Collins* is producing the project, which is being recorded digitally. *Les Ladd* is engineering with assistance from *Tim Farmer*. The project is also being mastered at Woodland, by *Denny Purcell*, with the PCM 1610. . . . At *Music Mill Studios* in Nashville, TN, *Eddie Kilroy* doing overdubs and final mixes on vocal trio, *The Cannons*, with *Jim Cotton* engineering; *Lee Greenwood* singing Coors beer spot for the Klaff-Weinstein Company; *Jack Eubanks* producing new tracks on *The Chuck Wagon Gang* with *Paul Goldberg* engineering. . . . *Lois Walker*, mastering engineer at Disc Mastering Inc. in Nashville, TN, recently mastered the following country projects for RCA Records: *Tommy St. John's* single, "Stars on the Water," produced by *Norro Wilson*; *Paulette Carlson's* single, "You Gotta Get to My Heart (Before You Lay a Hand on Me)," produced by *Norro Wilson* and *Tony Brown*; a mini-album on *Leon Everette*, produced by the artist and *Ronnie Dean*. . . . At *Soundshop Recording* in Nashville, TN, producer *George Richey* was in with *Tammy Wynette* cutting more hits with *Ernie Winfrey* behind the board. Country singer *Leon Everette*

was in with producer *Ronnie Dean* and engineer *Mike Bradley* doing some vocal overdubs and mixing while in Nashville for RCA Records. . . . Activity at *Emerald Sound*, in Nashville, includes *Eddie Rabbitt* on Warner Brothers with producer *David Malloy*, engineer *Joe Bogan*, and assistant *Russ Martin*. . . . Recording their sixth album at *Criteria Recording Studios* in Miami, FL, is *Firefall* on Atlantic Records. Producing the album in Criteria's Studio E is *Ron* and *Howard Albert* of Fat Albert Productions. *Patrice Carroll Levinsohn* is the assistant engineer. . . . At *Stargem* in Nashville, producer *Wayne Hodge* was cutting tracks on singer/songwriter *Jimmy Holloway* and Texas vocalist *Dedra Lynn*. Producers *Ronnie Gant* and *Jim Vienneau* producing tracks and mixing on recording artist *Judy Peavey*. All sessions engineered by *Bil Vorn-dick*. . . . *Garth Fundis* is working on tracks with *Russell Smith* for Smith's upcoming Capitol/EMI record. *Scott Hendricks* is engineering the project. *Brown Bannister* continues work on *Debby Boone's* new album for Sparrow Records. *Danny Mundhenk* and *Sallie Gross* are assisting Brown at the board. . . . At *Patmos Productions* in Jackson, MS, *Debbie Buie*, female rock singer signed to in-house production company, is working on her first album, with producers *James Griffin* and *Johnny Crocker*, James Griffin engineering. . . . Rock band *Obsession* is recording a four-song EP at *Morrisound Studios*, Tampa, FL, with *Jim Morris* engineering. It will be 24 track, and two of the songs will be used in videos. . . . Recent activity at *Sound Emporium Recording Studios* in Nashville, TN, included a gospel session on singer/songwriter *Dale Beaty*. The songs were produced by Sound Emporium staffers *Cathy Potts* and *Theresa Beaty*, with Potts engineering.

SOUTHWEST

Reelsound Recording's 24 track remote tractor-trailer out of Manchaca, TX, has been active with the following acts: To the Agoria in Dallas to record *Michael Bolton* and *Red Rockers* for the King Biscuit Flower radio series, *David Knight* producing; To Houston at the Numbers 2 to record *The Fixx* in concert for Westwood One, *Biff Daws* producing. . . . Out of *Precision Audio, Inc.* in Dallas, TX, *John Chin & the American Jet* performing live in China has reached number one on the playlist in Taiwan with the cut "I Want to Make You Happy." *Texas Renegade* is roaring up the charts to number seven on the playlist in Louisiana with their latest "Givin' It to the Wrong Man." . . . Recent activity at *Rainbow Sound* in Dallas, TX, includes *The Shoppe* working on tracks for their next album and the *Cruse Family* doing backup vocals for new soundtrack releases from Rainbow Sound. *David Boothe* engineered both projects. . . . *Sundance Productions, Inc.*, of Dallas, TX, recently completed two albums in its 24 track audio studio. The first, entitled *Both Sides* by

Brüel & Kjær

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The Next Logical Step



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Standard P 48 Phantom Power	Type 4006	Type 4007

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Circle #003 on Reader Service Card

World Radio History

recording artist *B.W. Stevenson*, contains ten tunes ranging from ballads to rock, and includes a reprise of his hit, "On My Own." The second album was recorded and mastered as a "fan album" for writer/performer *Crow Johnson*. Both albums were produced by Sundance president *Rush Beesley*

NORTH CENTRAL

At *Chicago Recording Company* in Chicago, IL, CBS/Scotti Bros recording artists *Survivor* of Chicago recently recorded instrumental and vocal overdubs for *Caught in the Game*, their follow up LP to last year's platinum *Eye of the Tiger* (the title single from which, doubling as the theme from "Rocky III," was the best-selling rock single in the history of the CBS Records Group). Producer of the new LP was *Frank Sullivan*. *Phil Bonanno* and *Mike Clink* engineered. . . . Recent recording activity at *Pinebrook Recording Studios*, Alexandria, IN, includes: *Richard Audd/On-Air Productions* (orchestra tracks for Cable Television programming); *Paul Stilwell*, *Bob Krogstad/Good Life Productions* (orchestra accompaniment tracks and tracks for new John Peterson musical). Engineers included *John Bolt*, *Steve Archer* and *Toby Foster*. . . . At *Studio A*, Dearborn Heights, MI, Atlantic recording artists, the *Boone Brothers*, working on their next single with *Eric Morgeson* and *Curtiss Boone* producing. . . . Chicago R&B group *Funky Lagos* finished its "Heaven Knows" demo at *Chicago Trax*, with *Jim Bernard Hebel* producing and partner *Don Mueller* at the controls.

NORTHWEST

R&B group *Con-Funk-Shun* is in the studio at *Different Fur* in San Francisco, CA. Producing the album is *Deodato* with programming and keyboard work being done by synth wiz *Patrick Gleeson*. The group recorded a previous gold album *Loveshine* at Different Fur. . . . President of Shrapnel Records, *Mike Varney*, has made *Prairie Sun Recording* in Cotati, CA, headquarters for his heavy metal bands, and is pleased to announce the following releases: LPs by *Culprit* (Seattle, WA), *Steeler* (L.A.), and *LeMans* (Chicago). *Mike Varney* produced, *Allen Sudduth* engineered. . . . At *Russian Hill Recording* in San Francisco, CA, *Pilar* has been working on an upcoming LP with producer/engineer *Fred Catero*, with assistance from *Gary Clayton* and *Marnie Moore*. *Glenn Walters* and the *HooDoo Rhythm Devils* have been cutting tracks for a video of their song, "Sucker for Love." *Jack Leahy* engineering, *Gary Clayton* assisting. . . . At *Corasound Recording*, in San Rafael, CA, the *Marin All-Stars* have completed their album, produced by *Michael Blakeman* and *Stephen Hart*, engineered by Hart. *John Banana's* "Bullies of the World," also engineered by Hart, is now completed and is entering video production. *Tommy Tutone* was in working on demo material for his upcoming album, engineered by *Michael Raskovsky*. . . . At *Studio A* of *The Music Annex Studios* in Menlo Park, CA, *Fred Catero*, (Catero Records) mixing *Paul Speer's* album and mastering an album for *Mel*

Martin. *Footi* recording and mixing a project with *Don Harris* producing, *David Porter* engineering. *Red 7* tracking and mixing with *Chris Halaby* producing and *Russ Bond* engineering. *Dannibelle Hall* overdubbing on her new album with *Howard McCrary* producing, *Russ Bond* engineering and *Keith Hatschek* assisting. . . . Recent activity at *Rhythmic River* in San Francisco, CA, includes *Robbie Dunbar* (Earthquake, Lost Souls) and *Larry Lynch* (Greg Kihn) finishing album of popular guitar hits, with *Joe Tarantino* engineering, *Kwaku DaDey* and *Terry Thorn* (Chrome Dinette drummer) have joined forces with *Bobby Richman's* (Rhythmic River) own "Direct-to-Brains," a rhythmically potent jazz-techno band recording their EP *Vestigial Head*. . . . At *Tres Virgos Studios* in San Rafael, CA, *John Adams*, composer in residence for the San Francisco Symphony, has recently completed the recording and mixing of his newest piece, "Light over Water." The piece, a collaboration with choreographer Lucinda Childs, was commissioned by the Los Angeles Museum of Contemporary Art, and will be performed at the museum's opening in September. *Lolly Lewis* and *Robert Missbach* engineered the sessions. . . . *Bonneville Productions*, out of Salt Lake City, UT, handled all audio post production for the Osmond Family's 4th of July extravaganza, "The Glory of America." Starring the Osmond Brothers, Donny, Marie, and Jimmy, the two-hour program was performed live in Cougar Stadium (Provo, UT) and televised on the Turner Cable Network as well as broadcast on the Armed Forces Network. All audio post production was completed in Bonneville Productions' 24 track state-of-the-art Studio C. . . . Action at *The Automatt* in San Francisco, CA, includes *Angela Bofill* beginning work on a new album for Arista Records with Angela Bofill producing and *Leslie Ann Jones* engineering part of the record, *Dave Frazer* engineering the other parts, and *Narada Michael Walden* producing.

SOUTHERN CALIFORNIA

For an update on recording in Southern California, see story on page 13.

studio news

The *Broccoli Rabe Recording Studio Complex* is proud to announce the upcoming relocation of its recording studios, record company and publishing company, currently under construction for grand opening this fall. The Broccoli Rabe Entertainment Complex, located in Fairfield, will be the only facility of its kind in New Jersey and on the east coast to house an array of entertainment related businesses under one roof, utilizing 40,000 square feet. . . . *Atlantic Recording Studios*, in NYC, has installed a second Audio Kinetics Q-Lock 3.10 Synchronizer for use with their Studer A800s, MCI JH24 and Sony BVU 800. "The capability of locking up our machines, in any combination, has greatly improved our ability to handle 48 track and video dates," says studio manager *Paul Sloman*. . . . *James Griffin* announced the formation of *Patmos Productions*, in Ridgeland, MS, the umbrella company

under which his studio, publishing, and production concerns will operate. "We have just entered into a leasing agreement with *Trace Recording Studio*, whereby we will now be the exclusive operator of Trace Recording," says Griffin. The multi-track studio has recently seen the addition of a good deal of new equipment, and will serve as the catalyst which gives life to a full range of music-related businesses with which Patmos will be involved. . . . *Omega Audio* in Dallas, TX, is now the first studio in the southwest to have 46 track recording capability. With the addition of a second 24 track Otari MTR-90 series II tape recorder and a Lexicon 224X digital reverb, Omega continues to lead the field as one of the most comprehensive and advanced recording facilities in the United States. . . . *Crescendo Recorders*, Atlanta, GA, announced the re-opening of Studio B, which now features a Soundcraft 2400 series console, and a Studer A-80 Mark II 24 track tape machine. . . . *Air Craft Communications Inc.*, from Pittsburgh, PA, has recently upgraded their 8 track facility to 16 tracks. The new equipment includes an Ampex MM-1200 and an Allen & Heath/Syncon Series B 26 x 24 console, while still maintaining a new Otari Mk III 8 track. Outboard gear includes Echoplate and Orban reverbs, DeltaLab digital delay, UREI, Symetrix, and Orban effects. The monitor system consists of JBL 4430 and 4311, and Auratone speakers powered by Crown, SAE, and Nikko power amplifiers. . . . In Nashville, TN, *Pat Patrick Productions* housed in the Audio Media Recording Complex, announced expansion plans with the addition of *Kent Madison* as audio engineer and *Randy Wachtler* new director of marketing and agency relations. . . . *Round Sound Studios Inc.*, in Weston, Ontario, has celebrated the first anniversary of their unique video audio pre/post production division. They were the first in Canada to offer Q-Lock 3.10 computer controlled multi-track recording, editing, Foley, ADR and SFX assembly all with video audio sync. Also available: original composition, scoring and producing for video and film; large SMPTE coded SFX library; computer controlled synthesizer system; and music recording and mixing. . . . *Trade Secret Recording* is a 2,500 square foot free-standing facility which recently opened south of Cleveland, OH. Featured is a 1,000 square foot variable acoustics main studio area complete with floating isolation booths, live isolation cell, and isolation room. The control room has a full compression ceiling, live end design enclosing 1.7 kilowatt bi-amped JBL 4350 monitoring. Identical monitoring is also built into the live frontal portion of the studio room. Equipment highlights include MCI and Ampex recorders, full microphone complement, and the EMT 251 digital reverberation system. . . . *Studio A* in Dearborn Heights, MI, is proud to announce the acquisition of a Synclavier II computer based musical instrument. The Synclavier II has already been utilized in the production of several projects at Studio A, and offers a wide range of possibilities for record producers, film scoring, arrangers, composers. . . . *Rainbow Recording Studios* of Anchorage, AK, has just acquired a Neotek Series I recording console, and plans to open a second studio in the near future. ■

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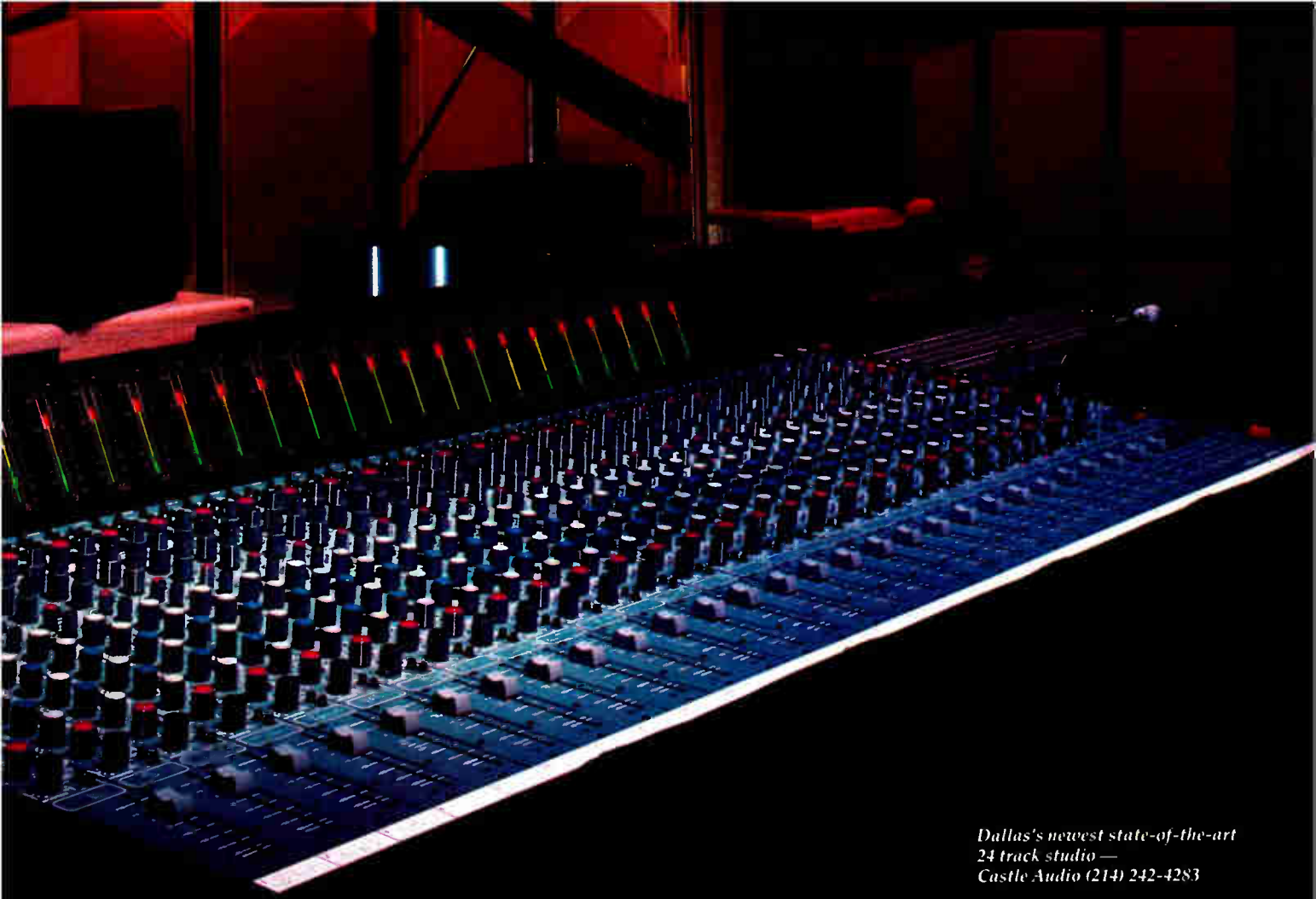
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Southern California Recording

by George Petersen

Many changes have transpired in the Southern California recording scene over the past five years. Certainly today's album budgets bear little resemblance to the "spare no expense" attitudes of the 1970s. While Southern California studios have traditionally enjoyed a wealth of extra business stemming from the film and video industries, this cushion of protection was not enough to carry all the studios over the record industry recession of years past. There are fewer studios in the Los Angeles area today than existed two years ago.

The Southern California studios in operation today are the survivors—a streetwise, businesslike and efficient breed. Many facilities have succeeded by diversifying into audio sweetening for film and video, or specializing into particular fields such as gospel recording. We checked in with a few of these studio survivors and found a thriving (and growing) industry.

At Capitol Records Studio in Hollywood, studio manager Charles Comelli reports "business has picked up tremendously. People are paying cash now, and clients are saving money by being better prepared and rehearsed *before* they come into the studio." Maintenance engineer Pat Weber added Capitol has completed the renovation of Studios B and C. C is now equipped with a modified Neve 8108 48x32 console with Necam, a Studer A800 24 track recorder, and additional outboard gear. The monitor system has been upgraded with the new JBL/UREI 813s, driven by a Hafler 500 amplifier on each side. The room design is by Jeff Cooper. Studio B received an "\$85,000 facelift" which included George Augspurger monitors, Hafler amps, a revamped Neve 8068 board, and a thorough reconstruction of the control room.

In Hollywood, the Taj Soundworks facility (formerly One Step Up Recording) is now on line. The studio has been completely remodeled, and now specializes in audio post production for film and video, ADR work, audio sweetening and Foley sound effects recording. Recent equipment additions include 35 mm film dubbers, a Videola telecine, an Audio Kinetics Q-Lock synchronizer, and the new MCI layback recorder which re-records synchronized sounds directly onto 1" video.

Musician/composer/producer Lutz Thomas has completed the construction of his home studio which was built into the attic of his home. The studio, which consists of one large con-

SURVIVING THROUGH COST CUTTING & DIVERSITY

trol room, was designed for film scoring and contains a large assortment of synthesizers including Oberheim, Moog, Emulator, and a Roland drum machine, Vocoder and guitar synthesizer. The recording gear consists of a Neotek Series 2 console (28 x 24), an Otari MTR-90 24 track machine, and a variety of outboard gear.

In Hollywood, Steve Mitchell and Steve Katz have opened Audio

Cassette Duplicator Company, equipped with a 3M M-79 for 15 and 30 ips masters, a TEAC 7030 for 7½ ips masters, and eleven Sony TCK 777 cassette machines for copies.

Awakening Productions in Los Angeles have upgraded their studios to include a Soundcraft 400B console, a Tascam 85-16E 16 track recorder, and an Eventide SP2016 reverb unit, all from New World Audio in San Diego.



Home studio of Lutz Thomas

Kenny Rogers' Lion Share Recording Studios



Southern California Recording



The Ventures' Bob Bogle (right) and Don Wilson (center) relax between sessions with Del Casher, owner of California Recording Studios in Hollywood

International Automated Media Condor Records, in Irvine, have

changed their name to "The Pressing Plant," and opened their state-of-the-art matrix and record manufacturing operation on June 1, 1983. The Pressing Plant will offer both audiophile and standard disks on either Teldec or domestic vinyl.

At Warner Brothers Recording /Amigo Studio, in North Hollywood, studio manager Ed Outwater reports a flurry of activity, especially in digital recording, digital mastering/editing, and 1/2" analog two track mixdowns. Studio bookings by outside clients are also on the upswing and Carole King was in working on a new album project at press time.

New World Audio's 24 track studio, which went on line last fall, is now booked about one month in advance, according to studio manager Charles DeFazio. New World's audio store has also begun a series of popular seminars on recording technology. The

June program featured the interfacing of the Tascam Series 50 equipment with the BTX shadow synchronizers. Representing Tascam was Bill Mohrhoff, and Wayne Szilagyi from BTX was on hand. A July seminar and preview of the new Fostex 16 track recorder was also well received.

Kenny Rogers' Lion Share Recording Studios in Los Angeles spent a busy summer mixing down audio and video tracks recorded at the US Festival. The program, produced by Steve Sterling, aired on Showtime in August, and a stereo simulcast is planned for a later date. Audio engineering was by Biff Dawes, with Tom Fouce assisting. Video engineers were Cheryl Murphy, with Al Schmitt assisting. Jay Antista and Paul Bassett handled the maintenance chores for the production, which involved a lockout in Studio B, and all-night bookings in Studio A.

At Sound Master Audio/Video Recording, in North Hollywood, owner Brian Ingoldsby reports they have added two 5-ton remote trucks (one audio, one video). The audio truck is equipped for 8/16/24 track recording and can function separately or with the two-room video truck. Other additions include a new disk mastering room with a Cybersonic lathe and automated console, and an Ortofon cutting head/amplifier. The lathe is designed for remote recording also, for direct-to-disk remote dates.

A number of studios upgraded to 24 tracks over the past year, having purchased Otari MTR-90 recorders, including Winetree Village Recording Studio in Claremont, Mad Dog Studio in Venice, and Goldmine Recording Studio in Ventura.

In Glendale, Tim Pinch of Tim Pinch Recording reports a steady stream of remote projects, including Red Rockers at The Palace in Hollywood for the BBC Rock Hour, and audience recording for a Saxon release. The Saxon project involved hanging thirteen overhead mikes (hanging 75' down) over the audience at the Long Beach Arena.

Poietma Studios, in Camarillo, has about 75% Christian music bookings, according to owner Bill Cobb, and Noel Paul Stookey was booked at the studio last month for vocal and synthesizer overdubs for his new album with Peter Yarrow assisting with vocals. The studio's newest acquisition, a Soundcraft 2400 automated console, ordered from Audio Engineering Associates, should be installed by early September.

John Hoier, owner of Sunswept Studios, reports his second 24 track studio (located across the street) has

SOUTHERN CALIFORNIA SESSIONS

Juice Newton was the first artist to use the new 8108 Neve desk at Conway Recording Studio in Hollywood. Richard Landis is producing the Capitol project with Joe Chiccarelli engineering, Jeff Stebbins assisting. . . . 6 O'Clock News is recording tracks in Hollywood at Cherokee Studios, with Alice Cooper bassist/producer Erik Scott, with English engineer Ashley Brigdale twisting the knobs. . . . At Piper Recording Studio in Carson, progressive new wave rock group Nucleus just completed four sides to be released on two 45s under their own private label. Allen Kaufman engineered the recording and mixdown. Also, G. Peter Collins has begun recording his second project in the form of a double album with Allen engineering for Sirius Records. . . . At Artisan Sound Recorders in Hollywood, disk mastering engineer Greg Fulgniti recently mastered LPs for Rick Springfield with producer Bill Drescher on RCA Records; Planet P produced by Peter Hauke for Geffen Records; Madness and Oxo also on Geffen; Michele LeGrand, Oscar Peterson and Milt Jackson, Joe Pass, Louis Bellson and Joe Turner produced by Norman Granz on Pablo Records. . . . At Britannia Studios in Hollywood, Terry Gregory laying down tracks with Bill Traut and Dave Pell producing. Russ Bracher at the console with Kent Luck assisting. . . . At Salty Dog Recording, Van Nuys, Jeff Janning is in producing himself for an upcoming EP. Ellis Sorkin is engineering and co-producing the project with Pat Cyconne assisting. . . . Recording artist Tim Truman working with Kenny Rogers' Lion Share Recording Studios and Spindletop Recording Studios doing their part to fight leukemia. Tim has recorded "What Is Love For?", from which partial proceeds will be donated to help the struggle against leukemia. In complete support are Terry Williams, Lelan Rogers, Kin Vassy, Steve Schmitt, Paula Sauls, Steve Thume,

Tom Davis, Hal & Vio Michael, Bob Parr, Randal Crissman, Denny Seiwell, Jack Manning and Champ Davenport. . . . In Hollywood, at Group IV Recording: Count Basie Quintet laying tracks for Pablo Records LP with producer Norman Granz and engineer Dennis Sands assisted by Andy D'Addario, and Shadow Fax laying tracks for Windham Records LP with producer Chuck Greenberg and engineer Harry Andronis, assisted by Andy D'Addario. . . . At Perspective Sound in Sun Valley, Babylon Warriors, LA's most respected reggae band, recently finished recording their long awaited debut album. Engineered and produced by Carl Peterson (producer of such reggae greats as Bob Marley and Peter Tosh). . . . At Excalibur Studios in Studio City, Mark Petach of the Fiction Label producing and Heyward Colins of Excalibur engineering for Midnight Fiction's debut EP. . . . Sessions at Larrabee Sound Recording Studios, Los Angeles, include Brothers Johnson of A&M Records cutting tracks for an LP. Leon F. Sylvers III producing with Steve Hodge engineering and Judy Clapp assisting, and Tavares mixing an LP, Dana Meyers producing with Steve Hodge engineering and Judy Clapp assisting. . . . At Sound Image Studio, North Hollywood, producer/artist Jeff Tepper (Captain Beefheart) is in working on a new project with Patrick von Weigandt at the board. . . . Joseph Byrd Music is at Evergreen Recording Studios in Burbank recording an "Activision" spot for the new video game "Robot Tank." The music was created by using synthesizers, live percussion and horn. Joseph Byrd is the composer, the spot's producer is J. Walter Thompson-San Francisco's Vicki Blucher. . . . Session activity at Sunset Sound in Hollywood includes Dan Fogelberg's new album, produced by Dan Fogelberg and Marty Lewis. Lewis engineering, Peggy McCreary assisting.

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been on-line since mid-July. The studios have been kept busy with radio, TV, film and music projects due to their convenient Studio City location and rates of \$35 per hour.

Business at The Record Plant's five studios has been steady all year. Studio manager Rose Mann has noted a boom in scoring projects which have included *The Winds of War*, *Flashdance*, and *Staying Alive*.

Hit Single Recording in San Diego made the jump from eight to 16 tracks with the addition of a Stephens 2" machine with 811D electronics. The machine operates at either 15 or 30 ips and has a vari-speed option.

Sound Arts, in Los Angeles, has added a Fairlight computer musical instrument to its large array of synthesizers. The studio has already used the digital instrument on such diverse projects at *The Love Connection* TV series theme, the Kip Addotta album, and sound fabrication for the Disney EPCOT center in Florida.

Gary Brandt of Alpha Studios in North Hollywood reports they have made a major push into the video market and are now producing fashion videos in addition to their usual album recording work. They have added a BTX Shadow Softouch and a 1" VTR for sweetening work and will begin construction of an M-format video editing suite this October.

Alshire International, a pressing and mastering facility in Burbank, has completed the construction of a large cassette duplication facility utilizing the Cetec-Gauss 2400 system. The new system has ten slaves and is capable of over 15,000 cassettes per eight hour shift. Alshire president Al Sherman sees cassettes "sneaking up on record sales. This is a trend pressing plants must look into." On the record side, Alshire has recently installed a JVC cutting system.

Hit City West in Los Angeles keeps busy by booking advertising and jingle clients during the early morning hours. The rest of the time, they specialize in album work for a wide variety of clients including Billy Davis Jr., Bobby Womack, Josie Cotton, The Fleshtones, Freddie Hubbard, and others. Jason Bell, owner, reports they have recently acquired a Lexicon 224-X digital reverb, and a Soundcraft 2400 console from Westlake Audio.

Ike Benoun, of Walt Davis Enterprises, a video retailer, has noted strong sales of 3/4" VTRs and video surveillance packages to studios. The Sony PCM-F1 and the Beta Hi-Fi systems are also selling well and many producers are using the Beta Hi-Fi's audio channels alone to make high quality dupes of sessions and mixdowns.

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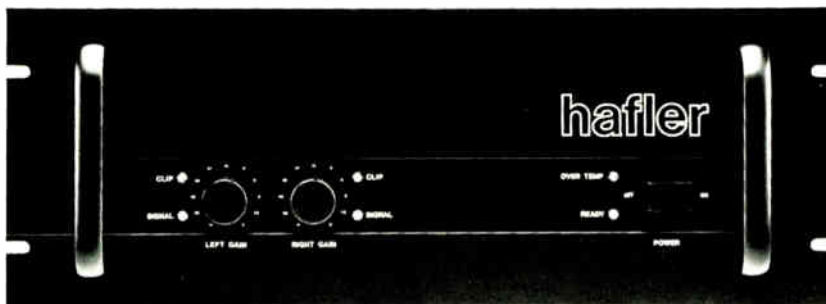
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Southern California Recording



EFX Systems' studio in Los Angeles

EFX Systems in Burbank is a complete audio recording and video post production center which opened sixteen months ago. The facility offers 35mm or video scoring to picture, CMX editing, audio sweetening and several 24 track recording rooms, the largest of which can handle a full orchestra. Recent scoring sessions include *The Man with Two Brains* (Joel Goldsmith), *Psycho II* (Jerry Goldsmith) and the complete post production for *Cops*,

a feature due for late 1983 release.

After many delays, Triad Recorders in Fresno will officially open this month. The George Augspurger-designed facility features Studer recorders and a Harrison MR-3 console with Melkuist automation in Studio A. Studio B is a 16 track room, and studio C is designed for broadcast production. According to Eric Seaberg, the Triad concept was to build "an L.A. or San Francisco style facility in an area with a

small town atmosphere."

Business at Skip Saylor Recording, in Los Angeles, has increased 50% over last year, according to owner Skip Saylor, and the studio has upgraded with a new Ampex 1/2" 24 track machine, an MM-1200 Ampex 24 track recorder, and additional microphones and outboard gear. Producers Scott Lipsker and Steve Stapley recently recorded the soundtrack for the movie *Hey Babe* (an L.E.M. production starring Buddy Hackett) with engineering by Skip and Jon Gass.

Kelly Kotera from Compact Video in Burbank reports the demand for the facility has necessitated the construction of several new rooms: film stage F is being completed now; two audio sweetening rooms will be on line next January; and construction of four 3/4" editing bays will begin this fall. The new 3/4" bays are being designed to cater to the cost-conscious producer. Frank Zappa is currently completing production on his 35mm feature *Baby Snakes*. Zappa is doing some of the post production chores at his house and the rest at Compact Video.

The Complex, in West Los Angeles has been kept busy with a variety of audio and video projects over the past year. Recent clients in the studio include Mick Fleetwood mixing his solo project, and Earth, Wind and Fire beginning their new album. The Complex soundstage was the site of a variety of shoots, including a music video for The Jefferson Starship, and a promo for Linda Ronstadt's new album which features songs from the 1930s and 1940s.

At JVC Cutting Center, Larry Boden has noted an increase in independent projects, with an increasing number of bands putting out their own records. He also sees better quality tapes coming in, with 60% of the masters received being digital or 1/2" analog.

Diamond Sound, a 4600 square foot facility in Van Nuys opened in January 1983 and consists of three rehearsal rooms for pre-tour work and showcasing. The largest room is 26' x 54' and is equipped with a 3M 16 track recorder and an Audioarts 24 x 16 console.

Weddington Studio, in North Hollywood, caters mostly to the Christian music market, but has become popular with secular (non-gospel) artists as well. Famed session guitarist David Williams was in laying tracks for his self-produced solo album when we asked studio manager Glen Heard about the differences between the gospel and secular markets. "We record mostly gospel music, and since the budgets for gospel albums are usually lower [than

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Andrae Crouch at Weddington Studio, laying pre-recorded tracks for a television special he co-hosted with Glen Campbell

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ROCSHIRE RECORDS

by George Petersen

Rocky Davis founded Rocshire Records three years ago as a vehicle to launch Citizen Kane, a local band he was managing. He moved the band from the garage they had occupied to a warehouse/rehearsal space in Anaheim, which has since become the Rocshire Records complex. The complex now consists of a recording studio, a

soundstage and administrative offices. The construction of a 16mm film facility is planned to begin next month.

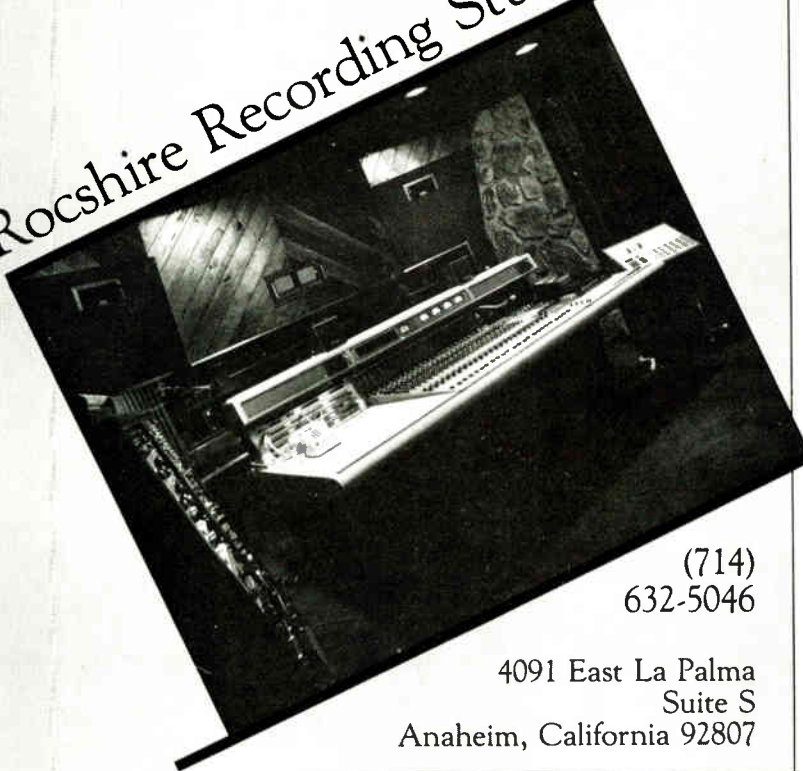
The Rocshire Studio went on line in January of this year and became available to outside clients in June. The studio is equipped with a Studer A80 VU Mark III 24 track recorder, a Neve 8128 console, and Studer 1/2" and 1/4" two tracks. The studio's unique design by Carl Yancher of Lakeside Associates and Lester Claypool (Rocshire Vice President) incorporates UREI, Tannoy and custom TAD main speakers which are built into wall soffits for a point source effect. These three sets of main speakers are selectable via a console push button. Other available monitors include M&K Satellites, Yamaha and Auratones.

Rocshire Records has a distribution deal with MCA Records. Their first release, a solo album by Tony Carey, came out earlier this year and "I Won't Be Home Tonight," its first single, climbed to number 50 on the charts. Other Rocshire artists include Chad and Jeremy (produced by Rocshire president Gary Davis and Lester Claypool, the album is slated for release next month), Graham Bonnet, and Lenny Williams, among a dozen others.

One of the label's main interests lies in the area of artist support. Rocshire maintains a nationwide sales and promotional staff and their PA, lighting and staging crews are at the disposal of their artists. The purchase of two 24 track mobile trucks is planned for this fall.

As for the future of Rocshire Records, Vice President Claypool summed up the Rocshire philosophy: "Eventually we have our eyes set on becoming a major label. This is a good time for independents - there's more room to jump out. It's harder, but you have to do things differently. The majors are too departmentalized - it takes too long to get a decision. We're music people rather than accountants. We feel things from the heart. We're like a family company." ■

Rocshire Recording Studios



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VILLAGE RECORDERS GOES VIDEO

by Iain Blair

After fifteen highly successful years in the studio business, Village Recorders of West Los Angeles



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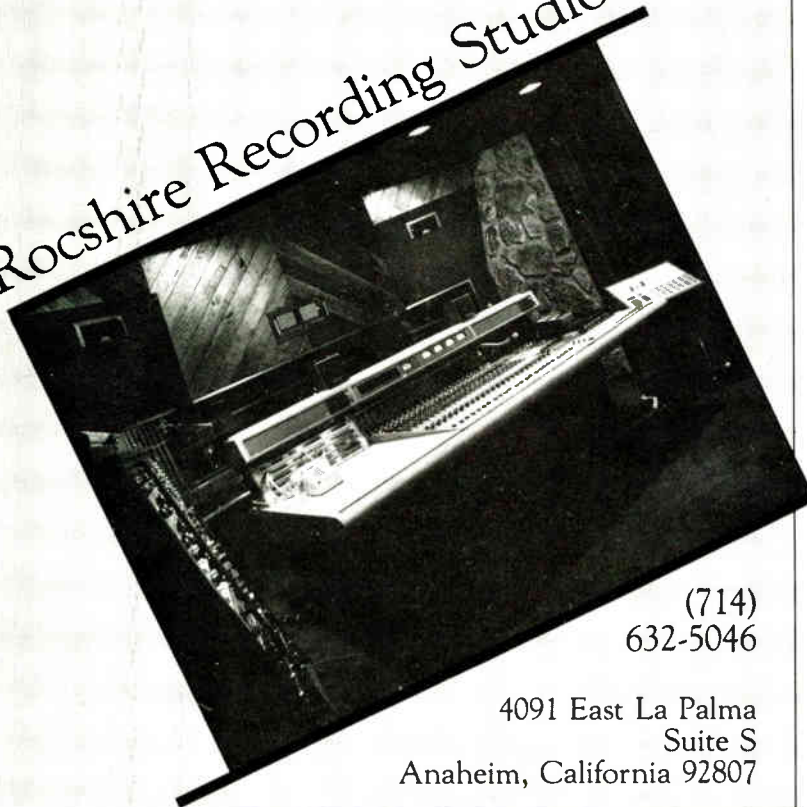
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Less than 0.1% at +4dB *output, 20Hz to 20kHz (all Faders and controls at nominal)

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- 64dB (68dB S/N) PGM Master volume control at maximum and one CH Fader at nominal level.
- 73dB (77dB S/N) STEREO Master Fader at maximum and all CH STEREO level controls at minimum level.
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- 70dB at 1kHz: adjacent Input.
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	24dB: TAPE IN to PGM OUT.	C/R	74dB: MIC IN to C/R OUT.
	34dB: ECHO RETURN to PGM OUT.		24dB: 2 TRK IN to C/R OUT.
	14dB: PGM SUB IN to PGM OUT.	STUDIO	74dB: MIC IN to STUDIO OUT.
STEREO	74dB: MIC IN to STEREO OUT.		24dB: 2 TRK IN to STUDIO OUT.
	24dB: TAPE IN to STEREO OUT.		
	34dB: ECHO RETURN to STEREO OUT.		

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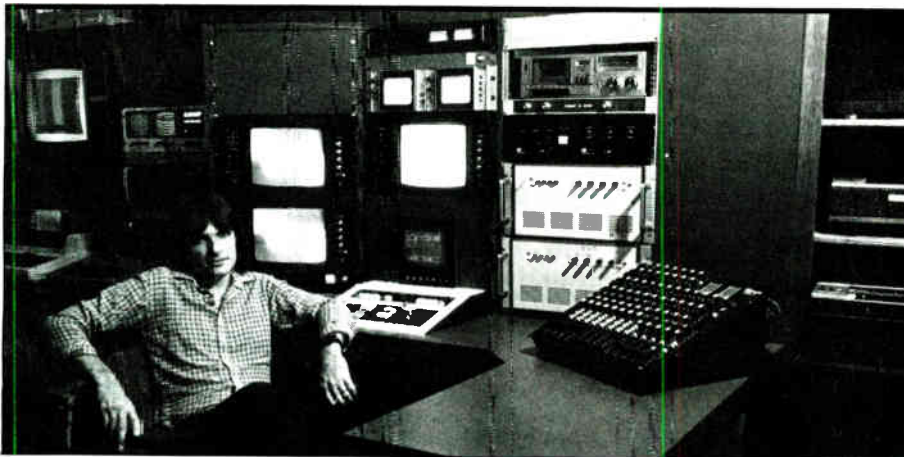
recently expanded into the high-tech area of linked video and audio by installing a state-of-the-art video post production edit bay at a cost of some \$250,000. The studio, which in the

create an effects-complete punch tape which can yield a fully automated 1" edit master, saving both time and money.

"This links up with already

show, and most recently we did *Playing for Keeps*, a new Lorimar film that has a soundtrack scored by Keith Emerson. It's an amazing machine, and artists like Peter Gabriel, Herbie Hancock, Chick Corea, Alan Parsons and Lindsey Buckingham are using it all the time now," Harris continued. "People don't realize it, but the whole of ABC's *Lexicon of Love* album was done using Fairlight.

"So all these new developments make Village Recorders a more attractive proposition than ever," summed up Harris. "We can offer a unique combination of state-of-the-art equipment in audio and video with a highly trained technical staff, and still retain the family atmosphere that our clients value so much. The idea here is not to be the fanciest editing bay in town, but one that's real cost-effective. And going by the great reactions we've had so far, I think we've succeeded." ■



Jeff Harris in Village Video edit bay

past has hosted platinum-selling sessions for acts such as Fleetwood Mac, Steely Dan, Eric Clapton and Supertramp, made the move after considerable planning and discussion, according to spokesman Jeff Harris.

"We first decided to get involved in video about three years ago," explains Harris, the man responsible for designing and building the edit bay. "But at that time, we didn't really feel we were qualified or experienced enough - and we certainly weren't video engineers or editors! Of course, most people were still very skeptical of a recording studio becoming involved in video, so we bided our time.

"In fact, what we did instead was create the space for the edit bay," Harris continued. "Then we completed interfacing all our four studios and the auditorium with the edit bay, so that the bay became the central tie-in facility for all the video and audio throughout the building. By the beginning of this year, it had also become economically feasible for us to equip the bay and create the facility we'd always wanted to create."

The result is a 3/4" on-line/off-line room equipped with three Sony 5850 VTRs, a Convergence 103B controller, two Hotronic TBCs (full-frame with digital still-frame), Videotek and Sony monitors and a datatont character generator. In terms of video editing, the bay also offers A/B roll, mixed video effects, time base and color correction, freeze frame, SMPTE time code, punch tape and edit list hard copy. With the edit list function the 1" producer can work on edit decisions from 1/4" work tapes and

established post production music clients," Harris pointed out. "For instance, last month we were working on the Sammy Hagar special for MTV, and there was a slight problem with the time-code on one of their reels. So we were able to correct the time-code errors on the video tape in our edit bay while they carried on mixing in Studio D downstairs."

Rates for the facility are "extremely competitive," according to Harris. "We're not trying to compete with large facilities - we just want to serve our own basic needs. We've already worked on a lot of different projects, including a recent short feature for The David Letterman Show, and we're also working on a major Capitol/EMI video album production which will be announced soon. It's going to be a great example of the marriage between audio and video technologies because it will include complete audio production, video post and our Fairlight CMI computer system for all the music production."

The Fairlight combines the latest microcomputer technology with sophisticated keyboard instrumentation, and allows a musician to create virtually any sound imaginable, either natural or synthetic. Available through Village Recorders, it has already been used extensively by Robbie Robertson for his *King of Comedy* score and Shelley Duvall for orchestrating her *Faerie Tale Theater* series for Showtime. "We also used it to do special sound effects for *Tron*, synchronizing the film with the effects," said Harris, himself a Fairlight programmer. "We also used it for *Creep-*

ICE ON THE TRACKS



Left to right in Evergreen's control room: second engineer Mike Hatcher, engineer Murray McFadden and composer of show Jerry Bilik

by Ellen Cohn

Traditionally, live ice shows have been very similar to a Las Vegas review - plenty of pretty girls in costumes, and lots of music, consisting of a live orchestra augmented by recorded instruments and vocalists. The only things that set one show apart from another were the elaborate costumes and different "exotic" acts, such as animals or jugglers. Four years ago circus empressarios Irvin and Kenneth Feld purchased the Ice Follies and Holiday on Ice, combined shows and changed all that. After years of negotiation, the Felds won the right to use the Walt Disney name and characters in a

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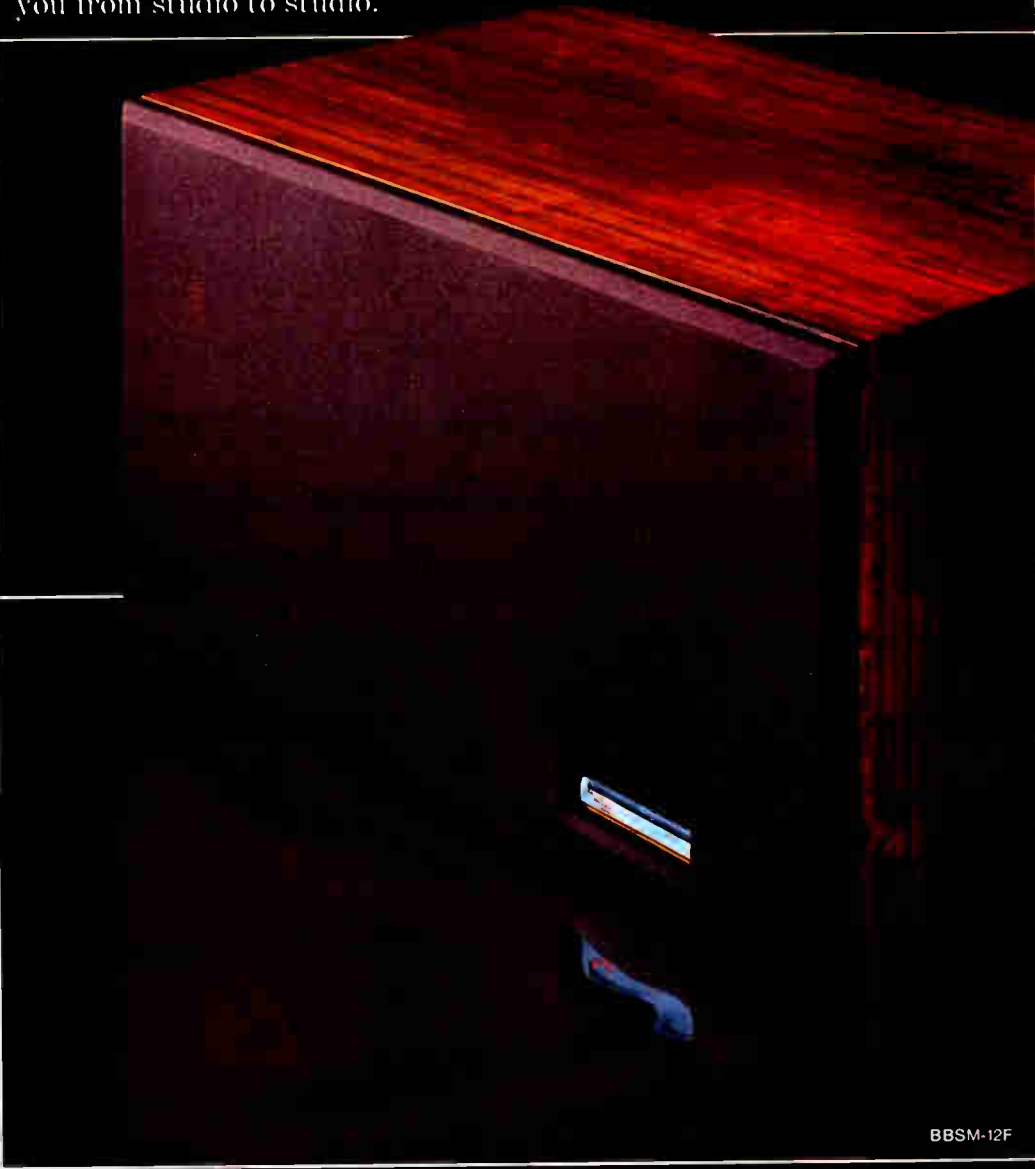
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skating spectacular.

The father and son team, in association with composer/writer Jerry Bilik, pioneered the concept of a theme ice show for the arena circuit with the encouragement of the top brass at Disney. However, the introduction of a story line to what had formerly been a series of musical productions on ice made the recording process much more complex, because in addition to music, sound effects and dialogue had to be added.

A second innovation introduced by the Felds, along with skating choreographer Bob Paul (an Olympic gold medalist), was customizing every



Jerry Bilik conducts orchestra for "Walt Disney's Magic Kingdom on Ice"

musical arrangement to accentuate each jump and spin of the skaters. Working in tandem, Bilik and Paul would develop numbers requiring split-second timing. As composer Bilik learned in the early days, "A slight variation in tempo could send a skater clear off the ice, considering the speed they occasionally travelled." To maintain the essential element of precise timing, a digital metronome and click track became Bilik's and engineer Murray McFadden's most important tools in the actual recording process.

At Evergreen Recording Studios in Burbank, California, McFadden, an engineer who works on projects as diverse as TV/film scoring, commercial jingles, and records, likens the project to doing a film score. "In essence, the project is like doing a complete motion picture soundtrack. All the elements are there; underscore, sound effects and dialogue for a complete two-hour program."

The process is extremely time consuming, because the music must be recorded in very short segments (between 2-30 bars at one time) due to the customized nature of the dance/skate format. At times, the click track must be separately recorded along with Bilik's counting to accommodate certain rubato sections of music (where the tempo fluctuates freely or speeds up or slows down).

The first thing that happens in

the production sequence is that all rhythm tracks are recorded. Solo and background singers are added to the appropriate spots in the music. Then McFadden, Bilik and second engineer Mike Hatcher add (and sometimes create) the sound effects. In this year's show, "Walt Disney's Magic Kingdom on Ice" for instance, one of the main props in the story line is a clock. Bilik and McFadden bought a kitchen timer, removed the bell, and set it on an AKG 414 microphone and recorded the ticking onto a 1/4" mono tape. The ticking sound was then rolled into various cues on the 24 track. However, since the ticking has to match the changing tem-

pos of the music, Murray VSO'd the clock tape so it would correspond to the appropriate tempo. Another time, the sound of a tree falling was needed. Murray went to a scrap yard, picked up a two-by-four, took it back to Evergreen, and recorded himself splitting the wood with a screwdriver. Again, he VSO'd the tape down and created the tree-falling sound. Other homemade effects created by Bilik and the Evergreen staff include a two-headed dragon, tea party sounds, goldfish blowing bubbles and electronic motorcycles.

After the sound effects and vocals are added to the rhythm tracks, guide tracks of some of the music cues



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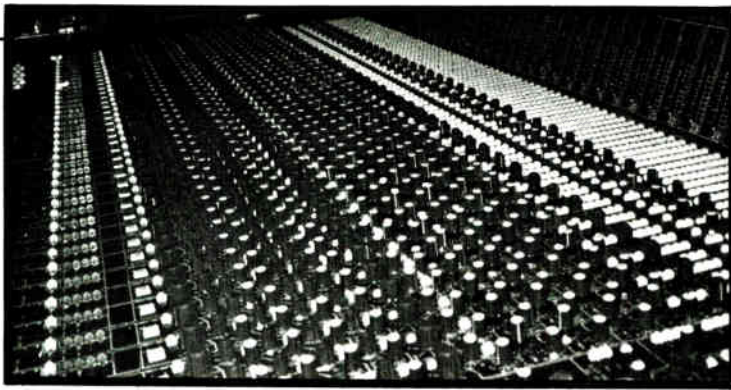
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are sent to Jack Wagner, who is under contract at Walt Disney Productions as a production consultant. Wagner, an actor of considerable skills, adds as many as 11 or 12 different character voices to the music, recording these in his own professionally-equipped studio in Anaheim, California. These tapes are then sent back to Evergreen, where McFadden and Bilik roll Wagner's voices on to the 24 track (with the rhythm tracks and vocals) by manually syncing the two machines. Rough mixes are then made onto a 1/4" tape.

Bilik then takes these tapes to wherever the Ice Follies company is holding rehearsals (sometimes in Virginia, New York, Tennessee, or Florida). For the next two weeks, the entire cast rehearses to these tapes. Jerry and choreographer Bill Paul make notes as to how each piece of music fits the skaters' movements. This is an extremely crucial part of the process, for it's here where the team determines what, if any, changes need to be made. Also at this time, show producer Kenneth Feld reviews dialogue and sound effects, making final suggestions for the soundtrack that will be employed for a minimum of two years in more than ten shows a week throughout the United States.

Back at Evergreen, the suggested changes are made, mostly by editing existing cuts into the piece. Sweetening sessions then occur with an orchestra composed of strings, harp, woodwinds and horns, conducted by Bilik. This is followed by the final mix-down, during which drums, some of the percussion, and most of the synthesizer parts are left out. These parts are employed strictly to give the skaters an idea of how the music will sound in its final state. The rehearsal parts are ducked because the Felds firmly believe in having a live band present in the arena. As the show tours, musicians are hired in each performing city to augment a small travelling core. As a result, the click track is essential to maintaining synchronization between the live musicians and the pre-recorded tracks. To accomplish this, the final mix goes to a 4 track master consisting of music on channel one, vocals on channel two, special sound effects on channel three, and the click track on channel four.

The recording and editing process for one show consumes several weeks of studio time, spanning two to three months, and involves literally hundreds of edits (24 track, 4 track, and mono), and two complete mixes of the show. The result has been consistent praise from audience and critics alike for the Felds' innovation in entertainment. ■

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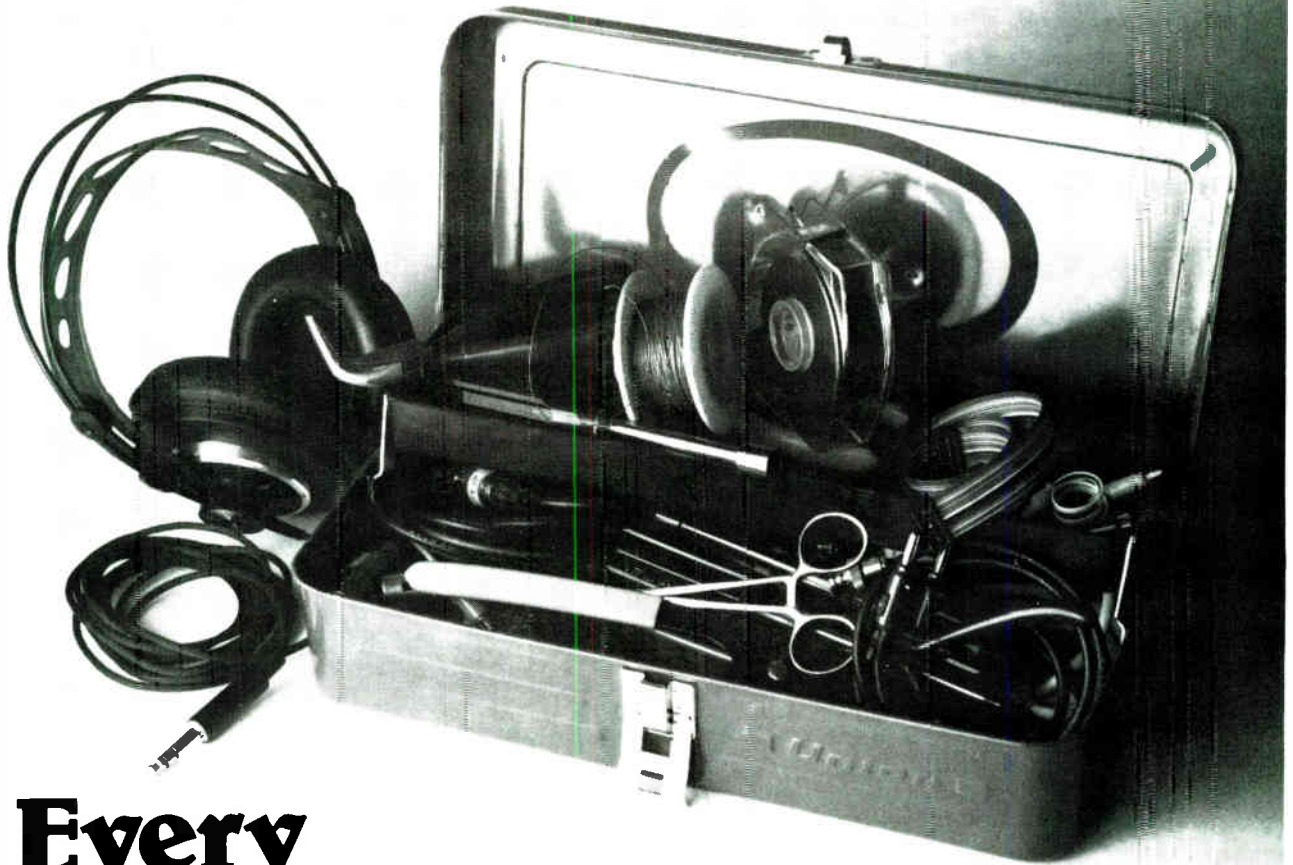
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RYDER SOUND SERVICES

TAKING PICTURES YESTERDAY AND TODAY

by David Goggin

If you stay in your seat at the movies until the final credits roll, then you have seen the name Ryder Sound Services. If you study the credits for television shows, then you have seen Ryder on your TV screen. The Oscar award-winning company was begun in 1948 and its remarkable history parallels the major changes in sound recording for the film industry.

"This company was started on a dare," explained Leo Chaloukian, who is the present co-owner of Ryder with his partner, Mel Sawelson, who is secretary/treasurer. Leo has been with Ryder since 1954 when he began his career in the stock room and soon was promoted to sound technician. In 1965

he became vice president/general manager and Loren Ryder's partner. Today he is president and general manager for the country's largest independent sound company.

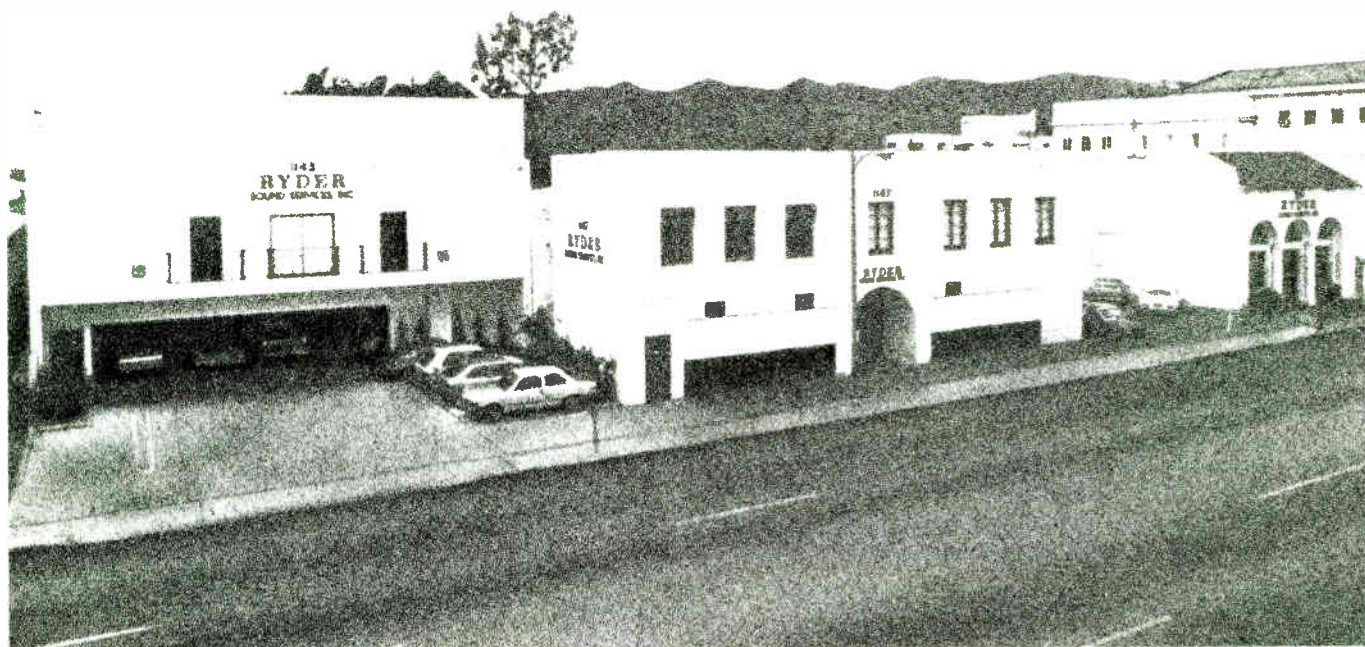
From its beginnings with the "talkies" in the '20s through the late '40s, all sound for film was recorded by an optical film process requiring exposure, processing, and printing of soundtracks. Ryder has the distinction of having been the first enterprise to engineer, construct, and install magnetic film production recording equipment, magnetic film transfer facilities and a magnetic film re-recording stage.

It all began with Loren Ryder: inventor, engineer, and founder of the

company. As the head of the sound department of Paramount Pictures in the '40s, he proposed the idea of switching to magnetic tape. He was told by the film company that the changeover was unnecessary and too risky. Being a stubborn and a brilliant engineer, he was given access to all the old equipment at Paramount and began his work. Later on, Paramount and all the major studios would welcome his innovations.

Ryder first took 35mm film and removed all of the picture material. Next he developed an oxide and laid down the emulsion on one side of the film and created the first 35mm mag film. His next move was an economic one and may sound a little odd, but he

—page 33



A close-up photograph of a woman with dark hair and bangs, looking directly at the camera. She is holding a large, light-colored seashell to her right ear. The background is a bright, clear blue sky. The overall mood is serene and natural.

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Optional Ebony Model Synclavier II Keyboard

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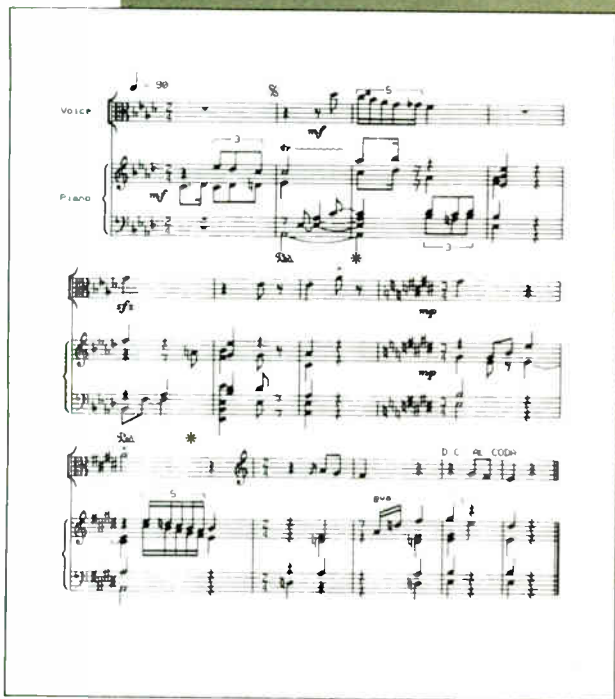
● STEREO OPTION



Now any Synclavier II can be simply upgraded to produce fantastic live stereo results. Many elaborate stereo control modes never before possible from any system or recording environment come standard with Synclavier II's new Stereo Option. Increase your Synclavier II's sonic capabilities, *plus* save valuable production time and expense by going direct from Synclavier II's 16-track digital recorder to 2-track tape!

● MUSIC PRINTING "Enhanced"

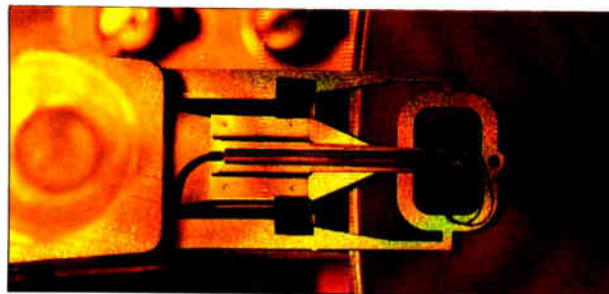
In March of 1983, New England Digital released a new, enhanced version of software for Synclavier II's Music Printing Option. Now, important aspects of western music notation such as random changes in time signatures and key areas are available, along with tuplets of any kind. Plus, you will have instantly accessible editing capabilities along with dynamic markings to enhance your finished complete score or individual parts (see example below). Yes, there is an automated commercial music printing system which is available today *and works*.



Actual Music Printing Sample, Reduced

● SAMPLE-TO-DISK "Polyphony"

The company which offered the only high fidelity sampling system worldwide with a sample rate of 50kHz, 16-bit data conversion, and extended sampling time to Winchester Disk (pictured below) is planning an exciting new enhancement for the Synclavier II's Sample-to-Disk option. POLYPHONY New England Digital engineers are now working to expand the sampling capability to be completely polyphonic. The same high-fidelity sonic capability and high resolution presently offered will be incorporated. The new polyphony option promises to add one more amazing capability to the Synclavier II.



● Z-80/C.P.M. OPTION "Personal Computing"

Available for all Synclavier II systems is the convenient Z-80/C.P.M. option. This simple retrofit option allows all users to purchase computer industry standard C.P.M. software programs to aid their personal or company computing needs. Whether it is accounting, word processing, or computer games, New England Digital's Z-80/C.P.M. adds another dimension to the remarkable Synclavier II.

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Synclavier II Instruction Manual

A complete and descriptive Instruction Manual is available for \$85 (USA & Canada) and \$100 US (elsewhere)

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World Radio History

“Everyone in Hollywood referred to it as a Mickey Mouse machine.”

—from page 28, *Ryder*

split the 35mm mag film down the center and came up with 17½mm mag film with sprocket holes on one side for synchronization purposes. After location recording, the 17½mm material was dubbed to 35mm mag and interlocked with the projector on the re-recording stage.

With the raw stock for recording magnetically he only needed one item: a recorder. He built the device himself. It was self-contained in an aluminum suitcase and weighed only 60 pounds, whereas the equipment used for recording optically weighed 11 tons! The power source was automobile batteries providing 24 volts of DC current to a 220 volt 3-phase converter. The new equipment was crude, but it worked, and set a new standard for the industry.

Further developments by Ryder included remote start of the recorder from the camera and synchronization with picture. In those days, the sound technician had to lock in 24 frames-per-second manually and continually monitor the speed. Later on, Ryder was responsible for the automatic frequency lock. With the later introduction of ¼" recorders he would develop the crystal sync method of speed synchronization with cameras.

Until this time, sound editors had worked with optical film and could actually see the modulation of the soundtrack. With the introduction of the new "invisible" magnetic recording they panicked.

"One of my first jobs here was to install what we called the Moduwriter," Leo explains. "We had a ball point pen mounted over the sound head. It would pick up the amplified soundtrack and actually trace the modulations onto the prepared reverse side of the film." Sound editors accepted the device and another resistance to magnetic methods was overcome.

To achieve further portability for recording on location Ryder decided to switch to ¼" magnetic tape and developed a recorder with a French company, Perfectone, in the late '50s.

"Everyone in Hollywood referred to it as a Mickey Mouse machine," adds Leo. "It weighed only 13 pounds, had a separate 3-input mono mixer, and through it we eliminated the use of the 17½mm mag film method. The first person to use it was Roger Corman, on a picture he was shooting in El Salvador."

Ryder was always tinkering and perfecting his techniques and he found it difficult to work with the Perfectone company. His next move was to team up with Stefan Kudelski, an elec-

tronics engineer and a Swiss precision tool maker. Together they developed the Nagra recorder for motion pictures and television. It was first tried in production at Ryder and proved to be the machine they were striving for. Headquarters for Nagra Magnetic Recorders were in New York and Ryder did all the promoting for the new recorder.

"Today it is still the most durable and precise piece of recording equipment that is uniformly accepted throughout the world," added Craig Darian, who is responsible today for marketing at Ryder.

Ryder has built its name on innovation in the film industry. The company was the first to introduce the Dialogue Cue Light system. A series of lights under the screen which proceeded from white lights to red provided the sound mixers on the re-recording stage with a way of anticipating their cues for dubbing. The result was not only greater accuracy but a considerable savings in work time, a key factor in reducing costs.

In 1969, Leo Chaloukian again demonstrated the Ryder pioneering spirit. Working in conjunction with Magna Tech he installed the first computerized dialogue replacement system in Hollywood. This system eliminated the necessity of breaking down the motion picture soundtrack into "loops" in order to replace dialogue tracks which were recorded on location and were of unacceptable quality.

"In the old days we had to disassemble the film to make the picture

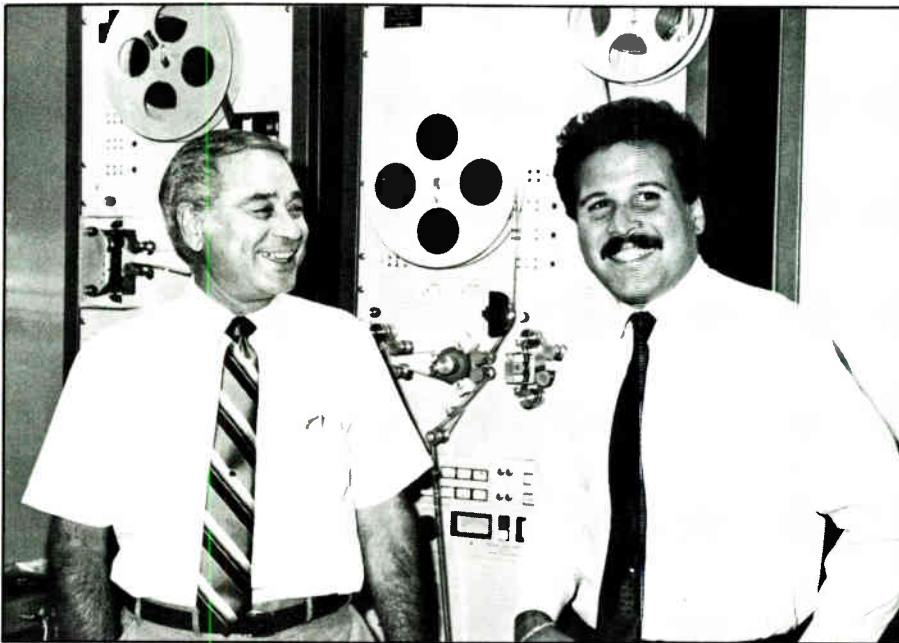
loops, the dialogue loops and the virgin loops for the re-recording. It took about two weeks to prepare and another two weeks to put the film back together again - a very time consuming process," explained Leo.

The development of the reversible film gate by Ryder allowed the projector and the dubbing recorders to move backwards and forwards together, rather than going back to the beginning of the reel when re-takes were necessary. The computerized system was programmable by film footage and frame numbers, and the on/off switching of bias current allowed the first insert recording, comparable to punching-in in the recording studio.

"There was no editing required," added Leo, "and for that, Magna Tech earned an Oscar for technical achievement."

Loren Ryder is now in retirement, but the state-of-the-art continues to evolve under the direction of Leo Chaloukian and his partner Mel Sawelson. The partnership was formed in 1976. Mr. Sawelson was formerly the president of Glen Glenn Sound, and as the head of Acme Film Laboratories he was responsible for the first motion picture lab in the world to install and offer videotape services.

In 1979, Ryder Sound Services expanded their facilities in Hollywood and became the first company in several decades to construct new film recording and re-recording stages. The company offers rental of sound recording equipment, has six studios for the



Company President, Leo Chaloukian (left), and Sales Chief, Craig C. Darian. Shown in the background are the high speed recorder and reproducers used on the Foley and ADR stages.

"We don't have to wait for a board of directors to give us approvals. . . if we want to do something, we just do it."

transferral of soundtracks from any original medium to 16mm, 35mm and videotape, and has a library with thousands of hours of sound effects. There are numerous studios for narration recording and high speed computerized dialogue replacement.

Ryder has two "Foley" stages for the recording of original sound effects in synchronization with picture. Twenty seven surfaces such as dirt, grass, asphalt and wood are provided as well as tiled water tanks for the recreation of aquatic sound effects.

Foley recording is an art in itself and is named in honor of Jack Foley, the man who first re-recorded sound effects synchronous to picture. There are only a handful of expert Foley artists in the world, such as John Roesch, Joan Rowe, Kitty Malone and Ross Taylor. It's a rare treat to observe their inventiveness as they watch the screen and mimic the action: walking, slamming car doors, slapping leather and recreating the sound in films that we hear as the real thing.

The present-day pride at Ryder is Rerecording Studio 3. Featuring a 62 input Quad Eight Compumix console and 30 Magna Tech playback reproducers which interlock with a Magna Tech 636 projector, the system is capable of operating at up to eight times normal speed for rapid location of specific segments. This may sound sluggish to record engineers but throughout most of its history the film industry has considered double speed as the

norm

The monitoring system includes five Altec A-4 speakers and Boston Acoustic surround speakers. A well-equipped re-recording stage must be equipped to mix for a variety of formats: mono, Dolby stereo, 4-channel and 6-channel stereo. The ceiling baffles, convex reflective ceiling diffusers, wall diffusers and oak railed bass traps were designed by Jeff Cooper, who is also responsible for George Lucas' re-recording stage in Northern California.

Ryder has a staff of 50, who are among the highest paid sound technicians in Hollywood. "We have the youngest group in the business," stated Leo. "Our chief engineer, Curt Behlmer, is only 23 and he's been here for four years. We look for aggressive people who have potential and are serious about a long career in this field."

Other mixers at Ryder include Gary Bourgeois, a young Canadian who was formerly an engineer for Bob Dylan and handled sound for such films as "Taps" and "Meatballs." Kevin Cleary has seven Oscar nominations for his work as music mixer on such films as "Kotch" and "Altered States." There is one old pro at Ryder: Doc Wilkinson, whose career goes back to "The Ten Commandments." He has received Oscar nominations for "Chinatown," "Days of Heaven," and "Outlands." Doc has the easy-going, patient composure that comes from years of dedication to a delicate and tedious craft.

As an independent company,

Ryder is able to continue instituting change in an industry known for its inertia. "We don't have to wait for a board of directors to give us approvals," said Leo. "Mel and I sit down and if we want to do something, we just do it."

When asked about the future of the industry, Leo spoke enthusiastically of what he expects: "I see digital sound coming in without a question. I'm looking forward to it. I also see improvements in optical recording. Hopefully it will be accomplished digitally, but we may see a laser type of system which would replace the bulbs which are used today."

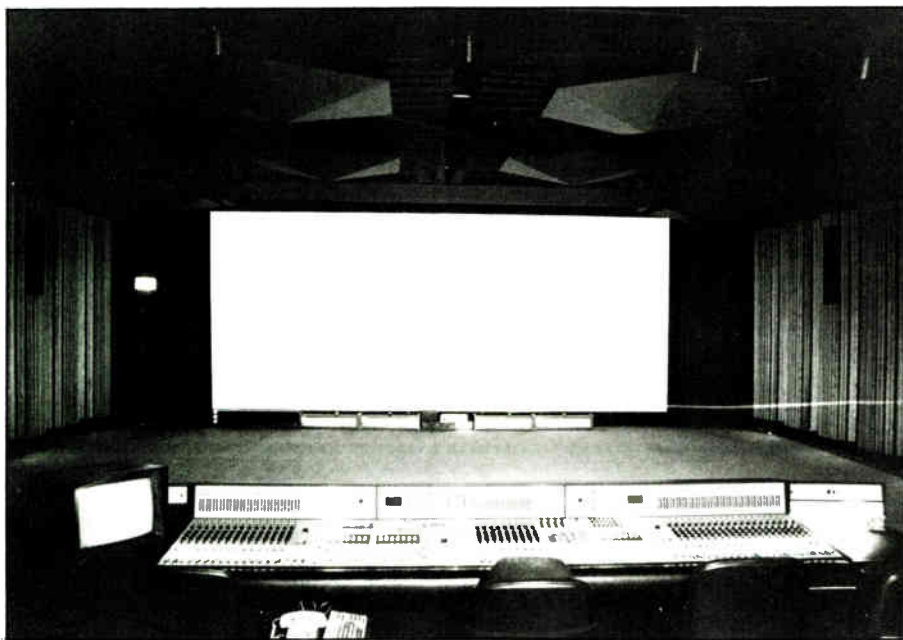
"We are already interlocking 2" multi-track reproducers with SMPTE time code in our stages and eventually the use of sprocketed tape will fade away and we will go entirely to multi-track tape machines. We will see more and more use of computer software and computer programming in the mixing consoles. I see sound effects being stored digitally or on floppy disks in the near future so that we can just dial them up."

"I also see editing changing completely. We won't have a sound editor sitting over a Moviola and physically cutting and splicing the magnetic film. This will change to electronic editing. It's already being done with picture - doing rough cuts on video and then matching the film negative with the edited videotape as Coppola has done."

Just as life in a recording studio is a secret world experienced by the relatively few insiders of the business, the world of recording for film is a complicated, complex and behind-the-scenes field. As you walk through Ryder you see Foley artists clomping around in cowboy boots; you see vast rows of mechanically interlocked magnetic film reproducers; you encounter actors re-studying their scripts.

Cheech Marin waits patiently in the studio to replace his lines for "Yellowbeard." The halls echo with the sound ghosts of "Raiders of the Lost Ark" as the engineers prepare for an upcoming project: "Running Brave," a film starring Robbie Benson based on the life of Olympic legend Billy Mills. Rodney Dangerfield will be arriving soon to dub his feature, "Easy Money," for Orion Pictures. The producers of "Friday the 13th, Part III" are set to begin another 3-D thriller entitled "The Man Who Wasn't There."

At Ryder the old principles of dedication to a truly modern craft survive within the context of inevitable technological change. ■



Interior of Studio 3, showing Quad-Eight console with Compumix, ceiling baffles and reflective dishes

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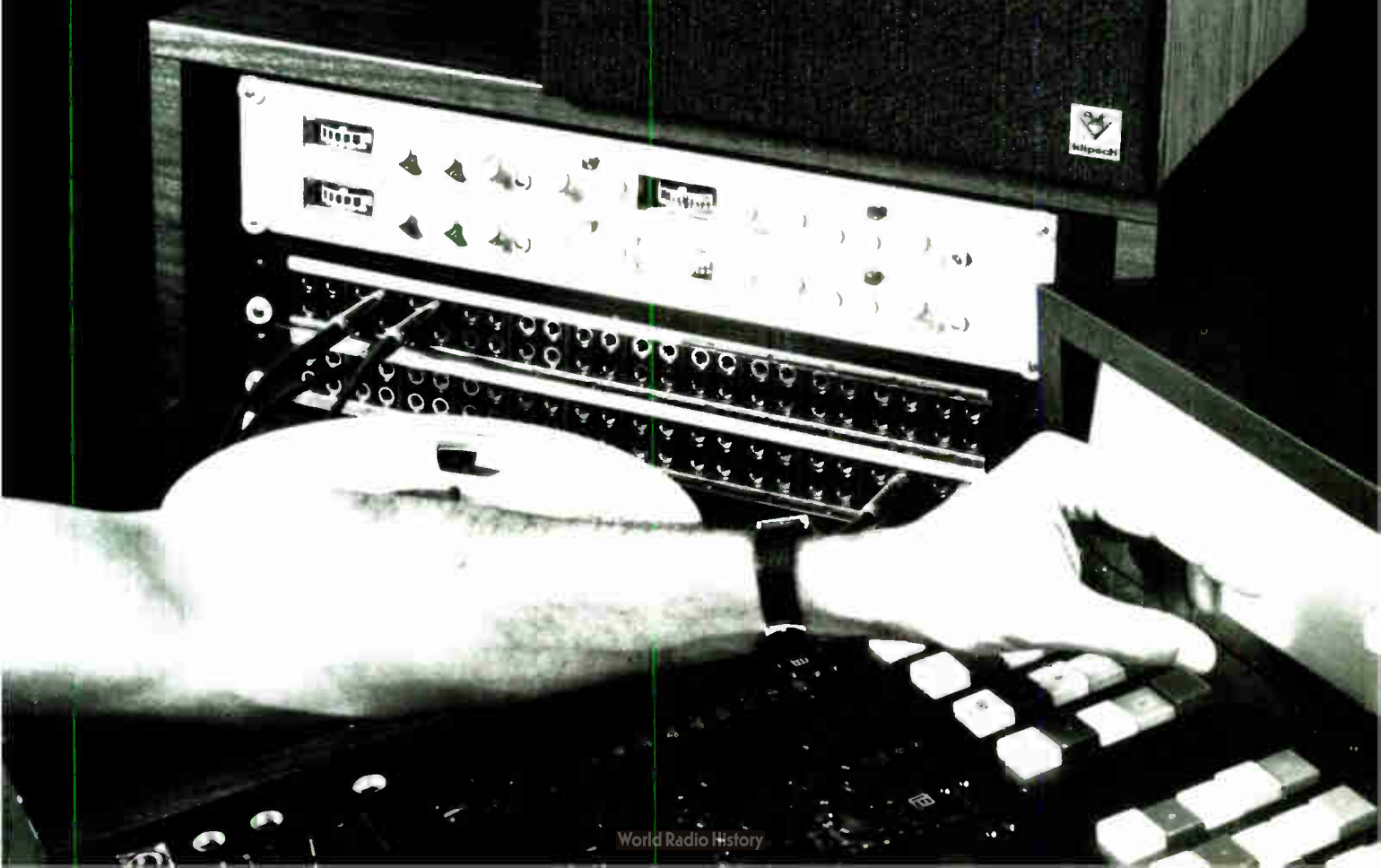
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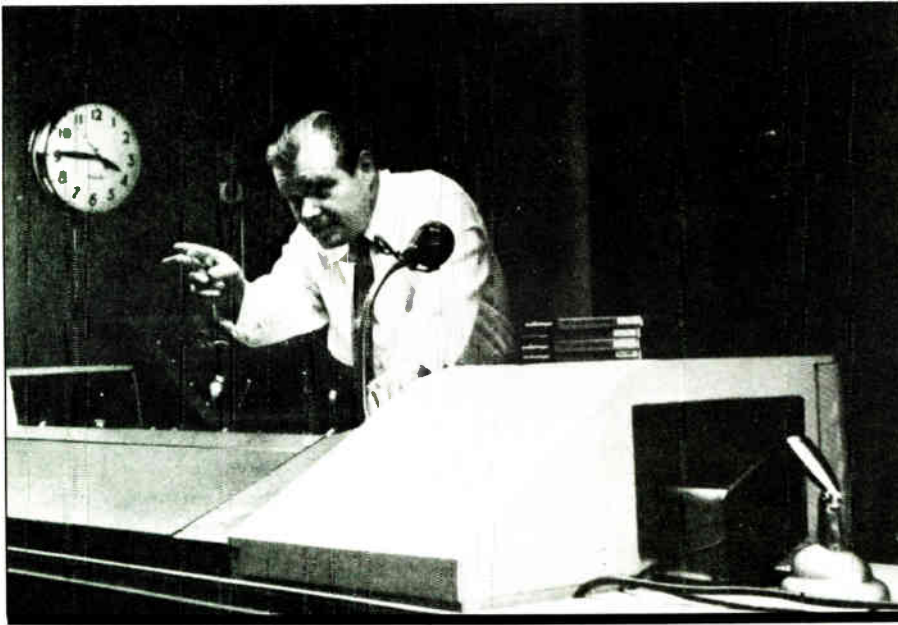
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Adventures in Recording! Part 2

by Larry Blakeley

*We continue Bill Putnam's
recount of his pioneering years in
the recording industry.*

"As my great loves were both music and electronics, I decided to go into the recording business. During the latter part of World War II, I was stationed in Los Angeles with the Armed Forces Radio Service (AFRS). I met Otto Hepp (who later joined Westrex) and purchased from him my first disk recorder, which was called the Universal lathe. It was belt driven and was a great piece of machinery, as was everything that Otto built.

"In 1946 I started my own recording studio, Universal Recording Corp., on Ridge Avenue in Evanston, IL. We had one small studio with an old Western Electric broadcast console and the lathe that I had purchased from Hepp. My original partners were Bernie Clapper and Bob Weber. Bernie and I were roommates at Valparaiso Technical Institute (VTI) and I met Bob during my civil service and military years. Our original capitalization was \$20,000, most of which I

had borrowed from my family. This may seem like a lot of money to start a recording business in those days, but it was not. Being undercapitalized is a chronic problem with any small business and we were no exception. I had a great love for the technical side of the business and far less affection for the affairs of finance. However, I knew that in order to succeed, we had to be innovative in every aspect of the operation.

"In addition to managing the business and finances, my goals were to concentrate on two prime areas: (1) the development of new recording techniques; (2) the development of new technical equipment which was more specialized and suitable for the specific needs of a recording studio.

"Most of the available gear was standard broadcast equipment and not particularly suitable for a recording studio's needs. A need for such equipment created the nucleus of a manufacturing company which started out as Universal Audio and later became UREI. The creative aspect of designing and developing new equipment was challenging and exciting. This continued to motivate me.

"Starting a business on a shoestring was a most serious undertaking for me. My personal life had just been impacted by the death of my father, in addition to the added responsibility of my own family, and a newborn son, Scott.

"I was in close contact with the chief engineer of ABC, Mr. Ed Horstman, as a result of my contacts and activity in the broadcast field and my recording of network radio shows at Ft. Sheraton. I became aware that the blue network of NBC (which was then the beginning of the ABC network) intended to embark on a program of delaying the radio broadcast to the West Coast. All programs that originated from Chicago and eastward would be delayed for the Mountain Time Zone and again for the Pacific Time Zone. This would allow programs to be aired in "prime time" for each time zone.

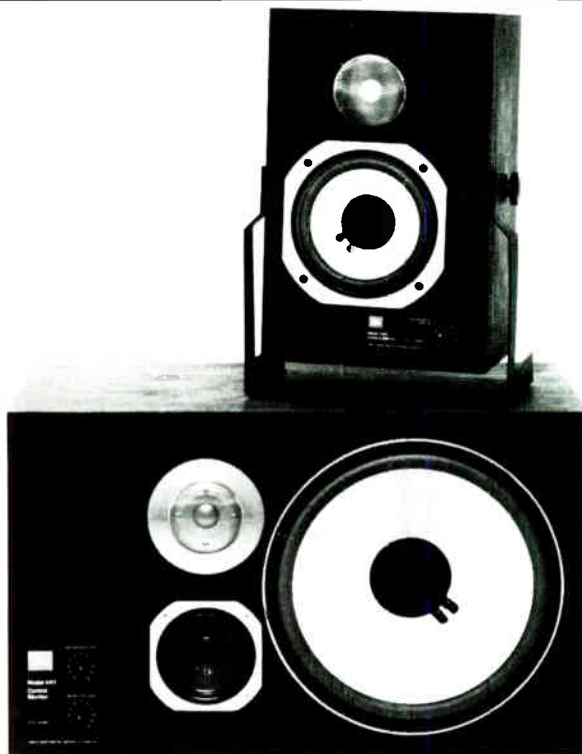
"Our first major accomplishment was winning the bid of the delayed broadcast contract. We had bid against two other very capable recording companies in Chicago, and won. The contract stipulated that there must be a supervising engineer from ABC. We were also informed that the networks required *all* records to be played by a member of the Musicians Union rather than by members of NABET (The Engineer Union) or IBEW!

"It was a mad scramble to get the facilities and equipment going to meet the contract deadline. I had a rack full of Langevin equipment. The turntables weighed about 100 lbs and were belt driven, powered by a low torque Crocker-Wheeler motor. We could change the belts for either 78 or 33 $\frac{1}{3}$ rpm operation. The overhead cutting lathes were made up of modified Rek-O-Kut lead screws. The cutting heads were RCA, Presto 8Ds and the Olson head. The Olson head was a very good magnetic cutter head which Les Paul was also using at the time. I modified an Olson head and added 'feedback' which made it a pretty fair 'feedback type' cutting head. We used 50 watt recording amplifiers with push-pull parallel 6L6s. (It was obvious to me that 10-watt cutting amplifiers, which were used by most companies, did not provide adequate headroom for disk recording.) Most of our recording equipment we built in the back of the maintenance shop. We also built our own recording console.

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For additional technical data and a complete demonstration of the 4312, 4401, or 4411, contact your local JBL Professional Products dealer. And discover the next generation of compact monitors. From the refined to the redefined.



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"Over a two-year period we had successfully recorded and broadcasted over 7,000 radio shows for ABC through this very lucrative contract. It became obvious, however, that a studio located in Evanston, IL, was not going to be very successful as a 'live' studio. Chicago was *not* the hub of the recording industry at that time. RCA had a studio on Lakeshore Drive, in which they recorded primarily their own artists, and did virtually no custom recording. Columbia Records had a studio in the Wrigley Building which was used mainly for recording their own artists. World Broadcasting also had a studio on Erie St., which later became United Broadcasting studios (not to be confused with United Recording).

"So we decided to open a studio in Chicago on the top floor of the Civic Opera Building. Prior to moving the recording equipment, we operated the studio by using Class 'A' phone lines between Evanston and Chicago. (The phone lines had a frequency response from around 10 Hz to 11 kHz). This meant that we were actually doing 'live' remotes from Evanston to our 'studios' on the 42nd floor of the Opera Building. After our second year in the ABC contract, I moved the whole operation to the Civic Opera Building.

"It was there, in 1947, that I recorded 'Peg-O-My Heart' with the Harmonicats. 'Peg-O-My Heart' was released on our own Universal Recording label and was an overnight smash. It is reported to be the first 'pop' record to utilize artificial reverberation. (In those days we referred to it as 'echo'.) I used the men's room for an echo chamber. I had become interested in adding reverberation to pop records, and built separate echo feeds in the new console. I used a power amplifier to feed a speaker in the men's room and picked up the reverberant sound with a microphone, and routed that signal back to the console. I had a lot of opportunities to experiment with marble walls in the men's room and in the long halls of the opera building in addition to a wide variety of configurations for reverberation rooms. The men's room was great, except for the occasional interruptions when someone flushed the toilet or made other non-musical noises.

"While we were in the Civic Opera Building I also started doing recording for Mercury Records. At this time, Mercury was beginning to make its mark with such artists as Patti Page, Vic Damone, Dinah Washington, Frankie Laine and Eddy Howard. Then I had another million-selling



Disk recorders (left) and playback (right) for ABC Network delayed broadcast

record on the Universal label entitled 'Jealous Heart' by Al Morgan. The success of these records on our own label as well as our other custom business provided the financing for us to acquire facilities which were more suitable for a recording studio.

It was about this time that I met Emery Cook. I was very intrigued and impressed with what he was doing with feedback cutter heads. He had developed a system called the 'QC' system, which was a process by which he could detect the maximum stylus velocity that could be repro-

duced satisfactorily.

Emery is a very ingenious and talented individual who was far ahead of his time and made many contributions to the industry. It was through the facility of his equipment that I conceived of the idea of a 'double feature' record. This was a four selection, 78 rpm record which was cut using the 'QC' system. For the first time, people could buy four 'hit' tunes on a single disk.

"We made and sold a number of these through dime stores such as Woolworths, but it was never a huge

success. Unfortunately, I did not know anything about marketing and didn't realize the potential for a four-selection record. A number of years later the 45 rpm EP (extended play) record gained a great deal of popularity.

"I recorded the first 'multiple voice' recording with Patti Page in 1947. A more difficult task was overdubbing 5 parts on the tune 'Eyes Wide Open I'm Dreaming.' In an attempt to improve the quality and minimize additive distortion we were using a Magnacord wire recorder (at 30 ips) and a 16" disk on a 78 rpm

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World Radio History

disk cutting lathe (to obtain the highest linear groove speed). I first recorded the rhythm track on the 16" disk and used additional high frequency roll-off to reduce the noise. The artist sang along with the previously recorded disk, which we recorded onto the wire recorder. Then for the third generation, we recorded on a 16" diameter disk (just using the outside portion of the disk), and so on it went.

"There was a lot of experimenting going on in those days and this was probably the keynote of *our* effort. Most of the major record companies—Columbia, RCA and Decca—were well established in their own practices and procedures in addition to rigid standards. The independent recording studio did not have the limitations of strict engineering policies, so whatever mistakes we made, we paid the price. In some instances we were able to make worthwhile contributions to the recording art and at other times our results could be poor, or certainly less satisfactory when compared to the standards of Decca, Columbia, RCA and Capitol.

"The most innovative record company of the time was Capitol Records; they were number four in sales and coming on fast. At the time, Capitol had their own facilities on Melrose Avenue in Los Angeles, in which innovative approaches to improve the art of recording were taking place with people like Bill Robinson, Johnny Palidino and others.

"During this time the Chicago recording scene was developing rapidly. The growth of Mercury Records accelerated, and so it was with Universal Recording as well. We soon outgrew the single studio in the Civic Opera Building and leased a building at 111 E. Ontario, in Chicago. (While there, Universal Recording went on to become famous as a beehive of activity in the early days of rhythm and blues records.) The building on Ontario St. was not available at that time due to delays in construction, so we were forced to operate in a 'temporary' studio at 100 E. Ohio. It was there that I met Mitch Miller, who was the A&R head for Mercury Records, and Tutti Camarata, who was A&R director for London Records.

"Then I began producing records for Decca. I re-wrote a lyric of an old Mary Lou Williams tune which I re-titled 'Pretty Eyed Baby.' It was published by Leeds Music and was recorded by the Jane Turzy Trio (a group that I signed on Decca Records). It went to #5 on the *Billboard* charts. This was the start of a career producing additional acts for Decca. I also wrote a tune called 'Good Morn-

ing Mr. Echo' for the Jane Turzy Trio, which was also recorded by Margaret Whiting and Prez Prado. The lyric was constructed so it lent itself to the gimmick of tape repeat in 2/4 time. It was a novelty record that made it to #10 on the 'pop' charts and stayed up there for several weeks. To the best of my knowledge, this was the first used of a 'tape repeat' on a finished record that was intrinsic to the musical composition.

"London Records was interested in expanding their catalog and my contact with Tutti Camarata provided me with a good opportunity. You see, London had a very limited country and western catalog and there were a lot of country and western artists in Chicago, on West Madison Street. So I began producing country and western records, which were then referred to as 'hillbilly records.'

"The tremendous success of the rhythm and blues record activity in Chicago played a major role in the growth of Universal Recording. We were doing all the recording for Chess Records from their inception; artists like Muddy Waters, Willie Dixon, Bo Diddly, Little Walter and, later, Chuck Berry. Vee Jay Records had Jimmy Reed and there were other local R&B record labels that made their mark, such as Chance, United and Aristocrat. By early 1950, Chicago was the R&B center of the recording industry. Legendary blues artists like B.B. King and Joe Turner came to Chicago to record.

"Universal Recording was growing rapidly, and so was my family; my daughter Sue was born in 1949. By 1950 we finally moved into our new facility at 111 E. Ontario. The total facility, in addition to the studios,

consisted of two mastering rooms, one with a Scully lathe and a Grampian head. The second room had our own home-brew belt drive turntable and the converted Olson feedback cutting heads. The tape machines were Magnacords, but the hottest machine was the Ampex 200, which was quickly followed by the Ampex 300. Most of the mikes were RCA 44BXs and 77DXs, 639 Western Electrics, and 633 Salt Shakers. We also has a couple of Altec condenser mikes, and a short time later, the Neumann U47s.

"Our studio was involved in many of the innovations of that time. We built an acoustical isolation screen. We built a vocal booth, and a drum shed. We conducted the first 8 track recording experiment and demonstrated it for the Chicago Acoustical Audio Group. (Pentron Corporation had built a staggered head 8 track recorder which had a signal-to-noise ratio of about 30 dB.) We also demonstrated the first half-speed disk mastering to the Chicago Acoustical Audio Group using a Shure Brothers cartridge. We had a lot of cooperation from the engineers at Shure Brothers, like Lee Gunter, Bob Carr and, of course, the head of engineering, the late Ben Bauer.

"We used the Stevens 2-way speakers for monitor speaker systems, which had a 15 inch woofer and a high frequency section that crossed over at 500 Hz. We also had a Jensen Tri-Axial speaker in one of the control rooms which we used for only a short time, as it did not have a great appeal to the artist. We had two echo chambers. The best chamber was in the basement of an adjoining building. I had also built new mixing consoles for the studios, which incorporated

*Technical notes from Putnam's Mercury
"Hi Fi" recordings (vintage mid-
fifties)*

Hi-FiInformation

This stereophonic recording session was cut at Universal Recording Corp., with Bill Putnam engineering. Accent mikes utilized included: Caesar Giovannini's piano, RCA 44BX and Telefunken U-47; John Frigo and Harold Siegel, bass, B&O Fentone U-47; drums, Telefunken 201; miscellaneous percussive instruments, RCA 77DX; harp, Telefunken U-47. In addition, two Telefunken U-47's were suspended above and on either side of the musicians for the overall stereo pickup. Recording was made on an Ampex 350-2 stereo tape machine running at 30 inches per second. At times during this recording, the following drummers were working alone, in groups or all together: Dale Anderson, Hugh Anderson, Bobby Christian, Frank Rullo, Dick Schory and Harry Brabec.

David Carroll
David Carroll
Musical Director

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Band shell in Studio A

facility from the ground up, in a space of about 15,000 square feet. The landlord was willing, based on our financial condition, to make an investment in a portion of the leasehold facility as part of the lease cost.

"The facility consisted of three studios. I was determined to have the largest independent studio in the country and at last be able to record in a 'big' room. Studio A was approximately 40 x 90 x 20 feet. Studio B was 25 x 40 x 15 feet and C was a small diagonal studio 15 x 20 x 12 feet. We had a disk dubbing room to meet the needs for the large quantity of disk jockey dubs we were then making. Our disk dubbing machine was an updated version of the original lathe we had built on Ridge Avenue. We had ganged four tables together with a single belt, so we could make four dubs at once. That lathe was driven with 50-watt amplifiers and modified Olson cutter heads. Our mastering room had two Scully lathes, one of which was capable of 16 $\frac{2}{3}$ rpm operation. I continued to experiment with half-speed mastering. We had both the Grampian and Cook cutter heads. Later we added the Westrex 'stereo' system in the second mastering room. We had four stereo echo chambers using two speakers and two mikes in each. They could be matrixed and serve as either mono or stereo chambers.

"The project engineer for the construction of this new studio was Bob Bushnell. He came to work from Universal in Chicago and later went to the West Coast to join United Recording, and after that started his own firm, Bushnell Electronics. Bob did a great job keeping the whole project on track. When we finally moved into the new facility, the experience of recording the first date in Studio A was very exciting; I had never recorded in that large a room before.

"This time period was at the threshold of the so-called 'hi-fi spectaculars' and stereo demo records which were coming into the marketplace. Prior to the Westrex 45-45 cutter system, stereo recordings were



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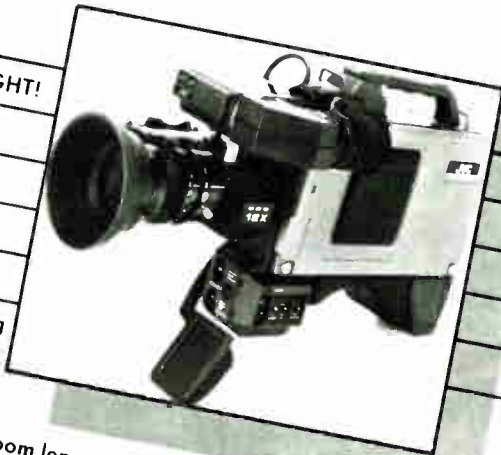
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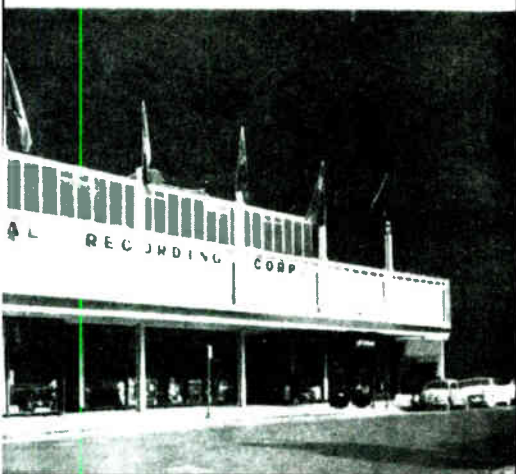


made on staggered head Magnacords. About this time, Jim Cunningham created some of the most exciting early stereo sounds in his experimental work as well as in his commercial efforts. Emery Cook had already established himself with the two-pickup stereo disk. Some may remember these early recordings in which Emery had two separate tracks played with two pickups.

"There was a period in the early 1950s that accelerated the growth and consumer awareness of 'improved quality' in the recording industry. By this time the LP (long playing record) had found its way into the marketplace, and the battle between the 45 and the LP was still continuing, but the LP was growing in predominance.

"Many record companies were capitalizing on this audiophile market, and it changed the industry's thinking in terms of devoting more effort to creating exciting sounds on phonograph records. We employed a special recording technique for Mercury Records that produced spectacular sounding disks that gained a great deal of acceptance at hi-fi shows as demo records. We also used our band shell with the poly-diffusers which we had dismantled and moved from 111 E. Ontario. This band shell became famous because it provided a very dramatic enhancement of string sounds from small string sections.

"We completed the move to 46 E. Walton in 1955 and also enlarged our staff. Universal was really on a roll. The revenues continued to grow at a rate of about 35-40% per year. The outstanding mixer, Bruce Swedien, joined the staff shortly after we opened the facility there. The hit production rate continued to be consistent with the track record we had established on Ontario St. By this time we were recording regularly for about 30 of the top record labels. Chicago had become a nationally



Universal Recording in 1956

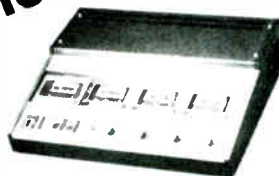
recognized center of recording. Many famous conductors and arrangers were now coming in from New York and LA to record their artists. The staff musicians and studio musicians in Chicago had also gained an outstanding reputation. The studio musicians had come from the network stations, NBC and CBS. People like Nelson Riddle, Don Costa, Mitch Miller, Eddie Sauter, Bill Finegan, Quincy Jones, Sy Oliver, and so many other conductors all came to Chicago to do record dates on a regular basis.

"The elegant new facilities of Universal Recording at 46 E. Walton were, without a doubt, the most advanced and certainly the largest independent recording facility in the country. Things were really moving along. Many of our clients, who were owners of record labels, urged me to start a studio in Hollywood. This urging had gone on for several years but it seemed like the hotter we got at Universal, the more intense the urging became. I had to make a decision whether to remain the 'big frog in the small pond,' or take the *giant* step. I had to rely heavily on the pledge of continuing loyalty of the many clients who were urging me to make this move. The decision was a tough one, but one influencing factor in my personal life helped me to make the decision to move to Hollywood. This meant I would be going 'head to head' against the legendary 'Radio Recorders' who were the giants of the independent recording studios. I was about to take a step that would help me find out where I *really* stood in the pecking order. My long time dreams that I would someday have the opportunity to record some of my idols like Bing Crosby, Frank Sinatra, Ray Charles, Mel Torme and others could conceivably come true if I made the move to Hollywood and was successful. ■

to be continued . . .



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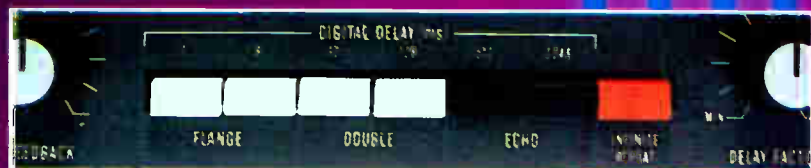
SOUTHERN CALIFORNIA

STUDIO LOCATION INDEX

All studio information listed has been supplied to the Mix by studios responding to questionnaires mailed in April, 1983. People, equipment and locations change, so please verify critical information with the studios directly. The Mix does not take responsibility for the accuracy of the information supplied to us by the studios.

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16	Rose Studios	16	Buzzy's Recording Services	24	Sound Chamber Recorders	8	Catalina Recording
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8	Emerald City Recording	24	Quad Track Studios	24	New World Recording	24	Foss Sound & Video

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Studio Manager: F. M. S.
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Owner: F. M. S.
Studio Manager: F. M. S.
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Engineers: Steve Zak w/ Eric & Zick w/
Dimensions of Studio(s): 12' x 12' x 12' (at room)
Dimensions of Control Room(s): 12' x 12'
Tape Recorders: TEAC TA-100 2-track, TA-100M 2-track (assess), TA-100 (2)
A-100 2-track (assess), TA-100M 2-track (assess), TA-100 (2)
1-3500 2-track (assess), TA-100 2-track (assess)
Mixing Consoles: Calsonic A-100, CA-100, CA-100
Monitor Amplifiers: Marantz Model 150M, Rosewood Model KA-2100
Monitor Speakers: PS-100, A-100, C-100, INS
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Microphones: Sennheiser MD4, EV RE20, RE-10, RE-10, Sennheiser SRS, SM56, SM57, AK-111, E-D14, E-12000E
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Studio Manager: F. M. S.
Engineers: F. M. S.
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Dimensions of Control Room(s): 12' x 12'
Tape Recorders: Sony 2-track Ampex 4-track MM-210
2-track 1-track 1/4-track 1/8-track 1/16-track
Mixing Consoles: Calsonic A-100, CA-100, CA-100
Monitor Amplifiers: Marantz Model 150M
Monitor Speakers: A-100, C-100, INS
Echo, Reverb, and Delay Systems: Harmon Space Echo, Chamber reverb, Cooper Tone Color
Other Outboard Equipment: Allen 436C compressor, Ebsy MT-210 limiter, Ebsy compressor, TEAC Model A mixer
Microphones: Sennheiser MD4, EV RE20, RE-10, RE-10, Sennheiser SRS, SM56, SM57, AK-111, E-D14, E-12000E
Instruments Available: Keyboard, Percussion, Drums
Rates: \$200.00 per hour

• **AUDIO RECORDERS**
3843 Richmond, San Diego, CA 92103
(619) 296-6355
Owner: F. M. S.
Studio Manager: F. M. S.

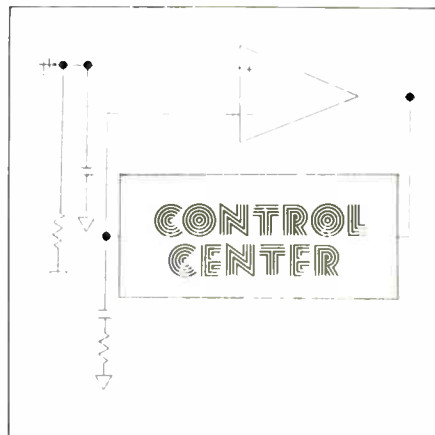
• **AUDIO & VIDEO ARTS**
also *REMOTE RECORDING*
P.O. Box 398, Simi Valley, CA 93062
(805) 583-0540
Owner: F. M. S.
Studio Manager: F. M. S.

• **BARR RECORDERS**
5238 Laurel Canyon Blvd., N Hollywood, CA 91607
(213) 506-0100
Owner: Barry S. Barr
Studio Manager: Barry S. Barr

• **BERKENS SOUND RECORDING LABS**
also *REMOTE RECORDING*
1616 W. Victory Blvd., Glendale, CA 91201
(213) 246-6583
Owner: William Berkens
Studio Manager: William Berkens

• **BIG WEEN STUDIOS**
922 San Vicente Blvd., Los Angeles (W. Hollywood), CA 90069
(213) 659-9569
Owner: Rick E. Ween
Studio Manager: Rick E. Ween

• **BLUF MOON**
Playa Del Rey, CA
(213) 823-4066
Owner: F. M. S.
Studio Manager: F. M. S.



THE CONTROL CENTER
Los Angeles, CA

• **THE CONTROL CENTER**
128 No. Western, Los Angeles, CA 90004
(213) 462-4300 & 786-7380
Owner: Andrew C. C. C.
Studio Manager: Andrew C. C. C.
Engineers: Andrew C. C. C.
Dimensions of Studio(s): 12' x 12' x 12' (at room)
Dimensions of Control Room(s): 12' x 12'
Tape Recorders: Otari 2-track w/ VSO, Otari 5-56 B-2
w/ VSO, TEAC A4-100S 4-track, Teac M-45 cassette
Mixing Consoles: Solid State Logic 1280 2-track w/ upper
E-100 2-track (top)
Monitor Amplifiers: KLV (C-100)
Monitor Speakers: JBL 4-12
Echo, Reverb, and Delay Systems: Ureli Master Space Station
Dual reverb, 2-tape MXR digital delay, 2-tape reverb
Dual delay delay, Tapco 4400 echo reverb
Other Outboard Equipment: 2-tape compressor, stereo
gate, MXR limiter, part delay, part limiter
Microphones: AE 14, 4-12, 4-12, Neumann U82, Sennheiser
44-4, 4-1, Sennheiser SM-57, SM-57, Sennheiser 221, RCA 7700
Instruments Available: Keyboard, Percussion, Drums
Rates: Call for rates

• **R. E. COPSEY RECORDING**
also *REMOTE RECORDING*
P.O. Box 367, Camarillo, CA 93011
(805) 484-2415
Owner: R. E. Copsey
Studio Manager: R. E. Copsey

• **CREATIVE MEDIA**
7271 Garden Grove Blvd., Suite E,
Garden Grove, CA 92641
(714) 892-9469
Owner: Tom & J. K. K.
Studio Manager: Tom & J. K. K.

SOUTHERN CALIFORNIA 4-8 TRACK

• **CUSTOM AUDIO RECORDING**
also **REMOTE RECORDING**
929 Calif. 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, Jake, Dunn, Ted, "Theo" Martin. Inexperts available
Dimensions of Studio(s): 40' x 20' x 9' w/ 10' x 10' isolation room and 10' x 10' drum area. All areas 4' acoustically variable
Dimensions of Control Room(s): 10' x 17' x 8'
Tape Recorders: TEAC 808 4 track TEAC 3400sx 2 track TEAC 3400S 2 track Technics HS 22 cassette recorder duplicator
Mixing Consoles: Modified Kelsey Pro Tour 8 & 4 in x 8 & 4 & 2 & 1 out
Monitor Amplifiers: Yamaha P 100 AB Systems 205 A A&R AU50 Heathkit 15 watt Dynaco Stereo 120
Monitor Speakers: IBI 413s Auratones
Echo, Reverb, and Delay Systems: DeltaLab DL 2 customized Variable Multiple Spring Array
Other Outboard Equipment: B&Amp Out Limiter TFAC DX-8 dbx 150 Type 1 noise reduction dbx 119 comp/exp various effect units Telepatch telephone interface
Microphones: AKG 414 451s 501s D12 D1000 (4) Sennheiser 421s Shure SM57s SM10s and similar. Others available
Video Equipment & Service: Broadcast quality video production available upon request
Instruments Available: Story & Clark 6' grand piano Baldwin Electro pianos ARP 2600 Roland SH-1A Mellotron 400 (tube violins cello 8 voice choir) Hammond B3 Leslie 147 and 122 (organ or instrument) Ludwig drums various amps various percussion. Others available with notice
Rates: Audio \$25/hr 10 hour blocks \$225/50 hr 20 hour blocks \$20/hr up to 1 hr free setup. Exclusive money back satisfaction guaranteed offer on all recording projects. Video rates available upon request

• **ERD PRODUCTIONS**
also **REMOTE RECORDING**
Box 4073, Panorama City, CA 91402
(213) 344-6329
Owner: E. Dingman

• **FULLERSOUND A.V. RECORDING**
P.O. Box 65051, Los Angeles, CA 90065
(213) 660-4914
Owner: Mike Fuller
Studio Manager: Mike Fulton

• **THE GARAGE AUDIO AND VIDEO**
West Covina, CA
(213) 337-7943
Owner: Patrick Woertink
Studio Manager: Alan Clark

• **GEORGE'S RECORDING STUDIO**
also **REMOTE RECORDING**
4375 Highland Place, Riverside, CA 92506
(714) 682-8942
Owner: George Williams

• **HARK'S SOUND STUDIO**
1041 N. Orange Drive, Hollywood, CA 90038
(213) 463-3288

• **HOLLY PRODUCTIONS**
2578 S Sepulveda Blvd., Los Angeles, CA 90064
(213) 479-0026
Owner: Holly Deskin
Studio Manager: Jean Landras (J) S. Shook

• **HOT MIX RECORDING**
5892 Los Molinos, Buena Park, CA 90620
(714) 761-2621
Owner: Bob Chance
Studio Manager: Bob Chance

• **IMAGINARY STUDIOS**
971 Indiana Ave., Venice, CA 90291
(213) 396-3973
Owner: Steven B. Terlizzi
Studio Manager: The Imaginary Man

• **J.E.R. STUDIO**
485 South Kellogg Way, Goleta, CA 93117
(805) 964-4512
Owner: J.E.R. Enterprises
Studio Manager: Debra Esparza
Engineers: John J. Esparza, Independents
Dimensions of Studio(s): 16' x 14' iso boom 7' x 8'
Dimensions of Control Room(s): 12' x 15'
Tape Recorders: Tascam Series 80 8 track Tascam Series 70 4 track Tascam 452 2 track Technics M85 Mk II cassette Sanyo RD 544C cassette
Mixing Consoles: Tandem Series 4 1 x 20x4
Monitor Amplifiers: Crown DC 400A D150A
Monitor Speakers: IBI 413s Auratone 5C Yamaha
Echo, Reverb, and Delay Systems: Roland echo chorus B&Amp SR 240 stereo reverb Lexicon PCM 41 digital delay Elettrosonic ADM 1024
Other Outboard Equipment: MXR phono transposer flanger doubler dbx 162 compressor limiter dbx 4 track 4 track 2 track noise reduction Technics SH9010 on-board EQ Technics SU9070 pre-amp Pioneer PL 120 tunable
Microphones: Electro Voice 666 RE 15 RE 20 AKG 414 EB D12E Sennheiser MD 421 MD 441 Sony ECM 22 ECM 150 Shure SM 57 SM 58 TEAC ME 80
Instruments Available: 59' Kawai grand piano Rhodes de Hohner D6 clavinet Roland strings Kora rhythm machine Galt 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 4th 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 artists studio and your needs are our philosophy your comfort is our desire J.E.R. Studios a comfortable professional atmosphere lending itself to the creative artist

• **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 Studio(s): 25' x 15'
Dimensions of Control Room(s): 11' x 11'
Tape Recorders: TEAC 3340 4 track Revox A 77 2 track TEAC A 76 cassette
Mixing Consoles: Tascam Model 10 8 in x 4 out
Monitor Amplifiers: Marantz Philips built into control room monitors
Monitor Speakers: Altec Philips 592s (motional feedback by amp) 1
Echo, Reverb, and Delay Systems: Sonant Workshop 242 - stereo
Other Outboard Equipment: dbx RM 157 noise reduction MXR compressor dbx 161 comp limiter MXR noise gate MXR stereo chorus A 110art 4200 parametric equalizer
Microphones: AKG 451 E Shure SM 7 SM 54 SM 57
Instruments Available: Chickering baby grand (2) Martin D 18s Fender Precision bass Ibanez musician electric guitar celestion-aux mixers and other instruments available on request
Video Equipment & Service: Available upon request
Rates: \$15/hr

• **JSL RECORDERS**
6179 San Ramon, Buena Park, CA 90620
(714) 995-8818
Owner: Jet Landarat Jeannette Landarat
Studio Manager: Jeannette Landarat

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Tentel has just introduced a NEW hand held tape tension gauge, designed specifically for 1/4" and 1/2" audio tape recorders. The NEW T2-L20-A simply slides over the tape to read running tension in either grams (up to 600) or ounces (up to 20), and shows dynamic tension to diagnose WOW and Flutter problems. The gauge comes complete with a carrying case and instruction manual.

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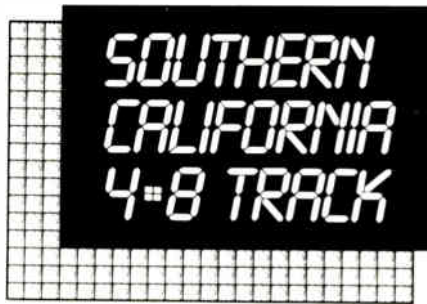
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•• KING RECORDING STUDIO
P.O. Box 2183, Oxnard, CA 93034
(805) 987-2424
Owner: Don King
Studio Manager: Geoff King

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

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

•• LAGUNA SOUND STAGE
2147 Laguna Canyon Rd., Laguna Beach, CA 92651
(714) 497-5530
Owner: Don Whelan and Dennis Keeney
Studio Manager: Michael Canipe
Engineers: Michael Canipe
Dimensions of Studio(s): Main studio 15 x 20, vocal isolation 4 x 6
Dimensions of Control Room(s): 15 x 16
Tape Recorders: TEAC 808 8 track, TEAC A 3405 4 track
TEAC 124 Syncacassette 2 track, Optonica HT 660S 2 track
Mixing Consoles: Sound Workshop 1280B 12 in x 8 out
Monitor Amplifiers: Phase Linear, Crest Marantz
Monitor Speakers: Altec, JBL, Cerwin Vega
Echo, Reverb & Delay Systems: Space Echo, MXH digital delay
Sound Workshop stereo reverb, Fairman limiter/compressor, Fairman parametric EQ, Soundcraftsman EQ
Other Outboard Equipment: 8 channel dbx, various amplifiers
Microphones: Shure, Sennheiser, Electro Voice
Instruments Available: Drums, Hammond organ with Leslie
Video Equipment & Services: Lights, color filters
Rates: Rehearsal, not subject to recording: \$8 to \$10 per hour
Recording: master \$25 per hour, demo \$20 per hour, mixdown \$16 per hour

• LANE AUDIO & RECORDS
SONIC RESTORATIONS ONLY
Box 29171, Los Angeles, CA 90029
(213) 469-8007
Owner: Michael B. Lane
Studio Manager: Michael H. Lane

•• MAXTRAX RECORDING STUDIOS
1303 Bellevue Ave., Cardiff-by-the-Sea, CA 92007
(619) 942-9817
Owner: Jeff Stein
Studio Manager: Jeff Stein

• 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 Drive, Costa Mesa, CA 92627
(714) 646-3838
Owner: Robert Moffett
Studio Manager: Robert Moffett

•• MOSER SOUND PRODUCTIONS
1923 W. 17th St., 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
Owner: Edward Perry
Studio Manager: Socorro Lanzas

•• ORION RECORDING LTD
636 Baker St., Costa Mesa, CA 92626
(714) 546-5718
Owner: Larry Travis

•• PADDED CELL STUDIO
also REMOTE RECORDING
575 Arden Drive, Encinitas, CA 92024
(619) 436-7443
Owner: George A. Saer
Studio Manager: Heema Carter

• PHUSION
REMOTE RECORDING ONLY
P.O. Box 7981, Newport Beach, CA 92660
(714) 751-6670
Owner: Mark Fails
Studio Manager: Mark Paul Swain
Engineers: Mark Fails
Dimensions of Control Room(s): 20 x 12
Tape Recorders: TEAC A 440 4 track, Technics HSM 65 cassette, Sony 4 track
Mixing Consoles: TEAC T useam Model 4 8 in x 4 out, 8 in x 2 out, 4 in x 2 out
Monitor Amplifiers: Carver M 400 (main), field power amp)
Monitor Speakers: 4 JBL 4x11 mix down
Other Outboard Equipment: Soundcraftsman Model HP2201B or HP2010 or x Model 124 noise reduction, K + M, Moxy, SD 400 in, 400 delay
Microphones: Sennheiser MK 80/2U, Shure SM 57, SM 59, AKG D 1000Fs, D 100E, Pearl CM 4 000 condenser, Foxy, Sony E 100s
Instruments Available: AHP Odyssey electric, 150 guitar amplifier, MESA Boogie
Rates: Reasonable rates will be worked 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 (additional qualified engineers on call)
Dimensions of Studio(s): Studio A 22 x 25 w/h x h trim booth and 2 isolation areas, 6 x 6 and 4 x 6, Studio B (live room) 17 x 10
Dimensions of Control Room(s): 14 x 18
Tape Recorders: Tascam Series 800 8 track, TEAC 340 4 track, Tascam Series 25 2 track, Marantz 50 80B stereo cassette, Sanyo HD8 stereo cassette, Wollensak 3M 2772 AV stereo cassette duplicator, Milovik 8 track recorder/player
Mixing Consoles: Sound Workshop 1280A w/expander, 24 in x 8 out (24 direct outputs) and 12 pat. bypass
Monitor Amplifiers: Marantz 400DX, Dynaco 80, Scott (cue system)
Monitor Speakers: JBL 4438 A, ratons, Sennheiser 414s (cue system)
Echo, Reverb & Delay Systems: Live echo chamber (27 x 10), AKG BX 10 echo unit, several tape delay systems
Other Outboard Equipment: UREI LA 3A limiter, Quantum dual limiters and 10 noise gates
Microphones: Neumann, AKG, Sennheiser, Shure, Foxy
Instruments Available: Kawai, classic grand piano, Hammond M-10 organ, Gibson Les Paul Deluxe ES-1275 double neck 12 & 6, 1200 amplifier, Fender and Carvin studio amps available on special request. Also OBX 16 and 8 voice synthesizers and various other electronic keyboards and effects available with adequate circuitry and additional fees.
Rates: \$25 per musician and a minimum outboard equipment also available
Extras: Comfortable, climate controlled, professionally designed air conditioned rooms suited for creativity, performance, productivity. Piper Recording Studio offers services in virtually all related areas of production (such as arrangement, orchestration, packaging, etc.) to enhance and secure the most in your product. Our clients are given free set up time and our engineers are available for project consulting before you start paying for studio time. Piper Recording Studio is located within less than a mile from two major freeways and there is ample free parking.
Direction: Piper Recording Studio is devoted to the ART of recording and production and is confident in the premises and product speaking for itself. Piper may very well be the most impressive event track facility you will ever have the joy to work in. More often than not, our clients receive a product greater than their initial expectations and many projects that began as demo efforts end up being transferred to vinyl. Among those to have passed a sign to tape are: Sherry Williams, California Express, Oscar Jordan, Joe English, Terry Martin, Marlene Kelly, Lee Oscar, Kawai America Corp., Fred Kaplan, Sybil Green, and Vee Corporation to name a few. We at Piper are eager to offer you the service and the product with which you can be pleased.

•• PRIVATE RECORDING SERVICES
5134 Saratoga Ave., Ocean Beach, CA 92107
(619) 222-1039
Owner: Tim Campbell
Studio Manager: Tim Campbell

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

•• THE REEL THING
11197 Tudor, Ontario, CA 91761
(714) 628-3024
Owner: Robert M. Hill and Georgia V. Hill
Studio Manager: Robert M. Hill
Engineers: Robert M. Hill
Dimensions of Studio(s): 12 x 19 x 8
Dimensions of Control Room(s): 8 x 6 x 8
Tape Recorders: Tascam TEAC 80-8 8 track, Tascam TEAC 35 2 track, TEAC A601H cassette
Mixing Consoles: Tascam TEAC 35 8 in x 4 out
Monitor Amplifiers: Spectro Accoustics 200R
Monitor Speakers: JBL 4311B Auratone Cubes
Echo, Reverb & Delay Systems: Postex digital delay Master Room reverb XL 305 (MICMIX)
Other Outboard Equipment: MXR noise gate MXR phase 90 MXR distortion Plus Spectro Accoustics graphic EQ 210H, abx 161 limiter/compressor Tubecube direct box, Aphex system 602B Aural Exciter
Microphones: Shure SM57 SM58 SM546, E.V. RE20 Sony ECM 56F Sennheiser 421
Instruments Available: Peavey 30 amplifier Fender Precision bass guitar, Epiphone guitar Fender 12 string guitar Fender electric 12 string guitar Fender Stratocaster guitar Ludwig drums piano
Rates: \$20 hr 8 track \$15 hr 2 track Block rates available

•• SIERRA RECORDING
also REMOTE RECORDING
518 N. Court St., Visalia, CA 93291
(209) 732-3285
Owner: Manuel "Manry" Alvarez
Studio Manager: Manny Alvarez

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

•• MIKE EWING'S SOUNDTECH RECORDING STUDIOS
3567 Front St., San Diego, CA 92103
(619) 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 control w/punch in TEAC/Tascam 7030 GSL half track recorder reproducer Sanyo plus D64 programmable cassette decks abx noise reduction for all machines
Mixing Consoles: Tangent Soundtech, 32 channel console
Monitor Amplifiers: Heath AA-1600 AA-1205 power amps Heath AP-1800 control pre-amp AD-1701 graphic output indicator and Sansui SE-8 dual 10-band spectrum analyzer
Monitor Speakers: JBL/CTS 4356s Trans Audio 808s and Auratone 5-Cs
Echo, Reverb, and Delay Systems: Ibanez AD-230 delay Countryman 968 studio phase shifter Roland SVC 350 Vocoder and Tapco 4400 reverb
Other Outboard Equipment: abx compressor/limiters, BiAmp compressor/limiters Shure AS-615 room analyzer system, Production Devices step frequency generator and Loftech TS-1 test set
Microphones: Shure, Electro Voice Sennheiser, Sony, TEAC, Neumann U-87s available for rental
Instruments Available: Hammond B-3 w Leslie, 1919 Braumüller upright grand ARP Omni strings & synthesizer Camco double bass drum set Other instruments available
Rates: \$20 hr—live recording and mixdown Three hour minimum Tapes supplies and other services are extra Complete record fabrication is available

•• SOUTH COAST RECORDING
also REMOTE RECORDING
401 E. Washington St., Santa Ana, CA 92706
(714) 953-9923
Owner: Jim Dotson
Studio Manager: Jim Dotson

•• SOUTHLAND MULTI-TRACK
P.O. Box 632, Poway, CA 92064
(619) 748-2050
Owner: Norman K. Elder

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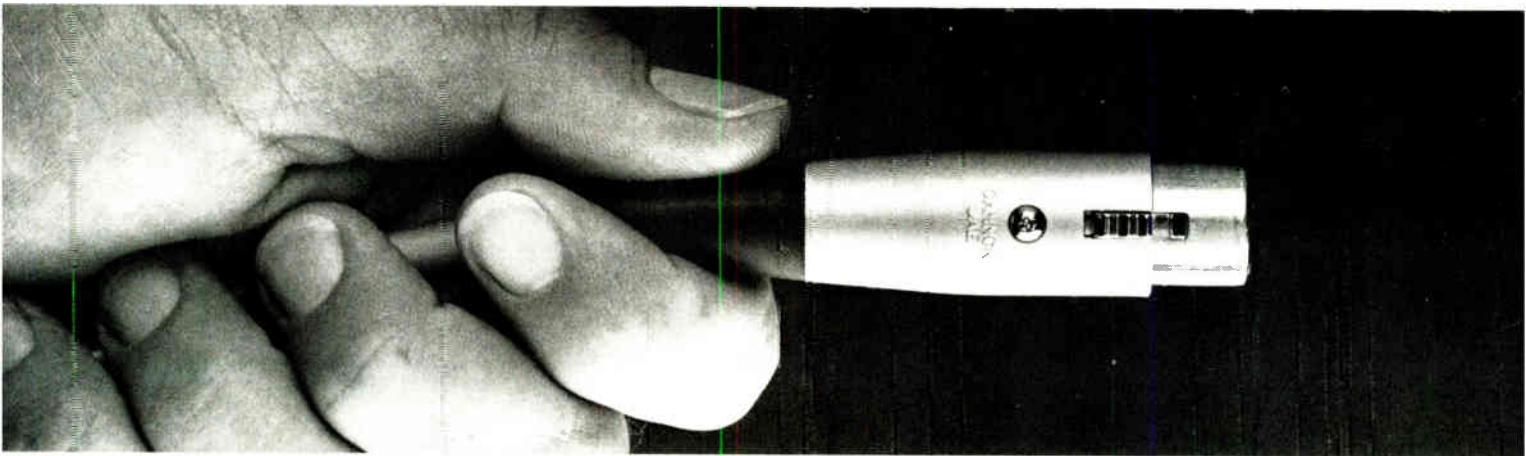
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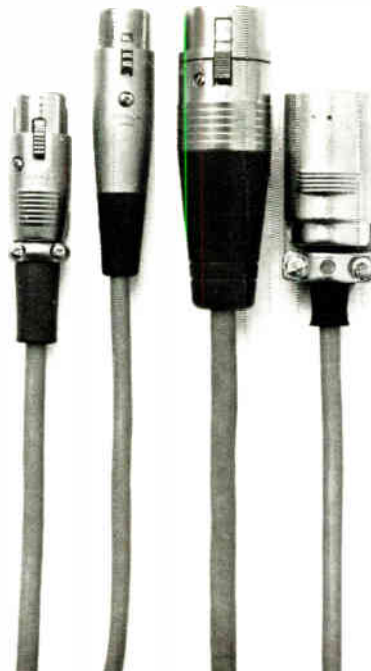
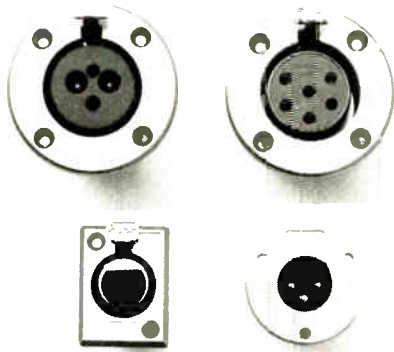


An audio connector by any other name is simply not an ITT Cannon audio connector. Which is precisely why so many audio engineers continue to specify Cannon® connectors for use with their audio equipment.

The XLR, the new XLB and XLA series are small, rugged, quick-disconnect connectors designed for use in audio/video and other low level circuit applications where reliability, quiet operation, elimination of mechanical interference and ease of use are necessary. Four different plug styles are available.

The EP connector is ideally suited to applications where extreme ruggedness and versatility are required. The new AP connector is a

Audio Connectors from Cannon



popular choice for heavy duty audio applications and is interchangeable and interchangeable with the EP series. Both the EP and AP series may be used where as few as 3, or as many as 18, contacts are required.

The APLNE and AXLNE are specifically designed to handle the special needs of mains and other power supply applications.

For more information, please contact International Products Marketing Manager, ITT Cannon, a division of International Telephone and Telegraph Corporation, 10550 Talbert Avenue, Fountain Valley, CA 92708, (714) 964-7400.

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SOUTHERN CALIFORNIA 16 TRACK

••• ACCU-SOUND AND VIDEO STUDIOS
also REMOTE RECORDING
4274 1/2 El Cajon Blvd. (Audio), 4276 El Cajon Blvd. (Video)
San Diego, CA 92105
(619) 281-6693 (Audio), (619) 280-6098 (Video)
Owner: John Mener
Studio Manager: Brian Cantana

••• APOLLO RECORDING STUDIO
6142 Beach Blvd., Buena Park, CA 90621
(714) 994-3761
Owner: Ace Simpson, Ron Brady, Tom Chisholm
Engineers: Ace Simpson (chief), Ron Brady and Sam Burke
Dimensions of Studio(s): 24 x 20
Dimensions of Control Room(s): 12 x 20
Tape Recorders: 3M-56 16 track, 3M-238 1/2 track, Tascam 25 2/2 track, TEAC 3340s 4 track, TEAC 420 Stereo cassette
Mixing Consoles: Tangent Series 16 expansion
Monitor Amplifiers: Marantz 1050 & 1070 plus "pre boost" amplifier
Monitor Speakers: JBL 4311s control room, JBL 1000s studio, Auratone Mixing Cubes
Echo, Reverb, and Delay Systems: Tapco 4400 reverb, variable pitch tape delay, tape phaser, VSO
Other Outboard Equipment: Teletronix comp/boost limiter, SE30 compressor, ADC graphic EQ, Moxa parametric EQ, stereo synthesizer
Microphones: AKG D200E, D190, D119, Sennheiser MD421H, Altec 659-A, Shure SM57, Electro Voice NZ1B, RCA 77-D, BX-11A, Sony F121 various quadras, track, street boxes
Instruments Available: Acoustic piano (no fee), Fender Rhodes bass guitar, electric guitar, 25W Fender tube amp, Wal, Wah pedal and various percussion, large set of Rogers drums, also synthesizer and Wuritzer electric piano available by special arrangement, Yamaha D80 organ and Crummer string machine
Video Equipment & Services: Recording editing and dub service up to 2" format
Rates: 16 track \$35/hr, 8 track \$40/hr basic. Negotiable depending on requirements. Dubbing or copying \$20/hr. Special rates for block time (50 hrs minimum)

••• B & B SOUND STUDIOS
540 Hollywood Way, Burbank, CA 91505
(213) 848-4496
Owner: Ken Berger
Dimensions of Studio(s): 30 x 30 studio A, 10 x 10 (back stage)
Dimensions of Control Room(s): 15 x 30
Tape Recorders: MCI JH 16 16 track, Ampex 440 8 track, Ampex 440C 4 track
Mixing Console: Opamp Labs 16 in x 16 out, Opamp Labs A board and "B" board, 20 in x 20 out, Quantum
Monitor Amplifiers: McIntosh, Opamps, Crown
Monitor Speakers: JBL
Echo, Reverb, and Delay Systems: Opamp
Microphones: Neumann U47, AKG 202 E1, E.V. HE 15, JF Sennheiser
Video Equipment & Services: JVC & Sony 2" video cassettes, Audio Kinetics Q-lock synchronizer, MCI 50" TV, Sharp & Sany color monitors, Magnasync/Moviola 3 track insert recorders, Video tape sweetening, 16mm and 35mm, digital, video editing

eg. ADR and 35mm film, digital, E.V. Space Rates: Call for rates

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

••• CONTOUR STUDIOS
(213) 822-3855
Owner: Contour Group
Studio Manager: Paul H. Hanson

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

••• DUCHESS STUDIOS
also REMOTE RECORDING
7923 Duchess Drive, Whittier, CA 90606
(213) 696-5503 & 695-7715
Owner: Chuck & Madonna Mauer
Studio Manager: Chuck Mauer
Engineers: Chuck Mauer Sr. (solo), Chuck Mauer Jr. (independent)
Dimensions of Studio(s): Studio A/B: 23 x 18 & 12 x 10, Studio C: 10 x 8
Dimensions of Control Room(s): A: B 17 x 15, C: 10 x 8
Tape Recorders: Ampex 1100 16 track, Ampex AG 35C 2 track, TEAC 808 B 8 track, (2) Revix A760 2 tracks, TEAC C1 cassette
Mixing Consoles: Amek 200A 20 in x 20 out, Model 5
Monitor Amplifiers: Opamp Labs, McIntosh 2100, Philips 545
Monitor Speakers: UFI 811s, Philips 545, Auratone
Echo, Reverb, and Delay Systems: AKG BX 11, Klark Teknik DN 36, EXF, Exner SP, MICMIX Masterb on XL 405
Other Outboard Equipment: stx 17, UFI 1176, Symetrix CL 100 & SG 200, Dynanizer
Microphones: AKG, Boyer, Neumann, Shure, Crown, PZM, Sennheiser, RCA, a lot of mikes
Instruments Available: 74" Kawai grand piano, Rhodes Hammond organ, bass electric guitar, Other instruments available by appointment
Rates: Call for rates. Block rates for production available

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

••• FATTRAX STUDIOS
4108 Burbank Blvd., Burbank, CA 91505
(213) 841-6423
Owner: Chris Brosius, Chris Hall
Studio Manager: Chris Brosius

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

••• GOPHER BAROQUE PRODUCTIONS
7560 Garden Grove Blvd., Westminster, CA 92683
(714) 893-3457
Owner: Michael Mikulka, Steve McClintock
Studio Manager: Michael Mikulka
Engineers: Michael Mikulka (independent)
Dimensions of Studio(s): 43 x 27 with 18' ceiling including 4 separate isolation areas
Dimensions of Control Room(s): 18 x 17
Tape Recorders: Tascam 808 B 16 track, Tascam 808 B 8 track, Tascam 25 2/2 track, all with VSO (and analog) Technics M80 cassette
Mixing Consoles: Tascam Mixel 16 20x8x2
Monitor Amplifiers: Harman Hi-Fi Audio
Monitor Speakers: JBL 4415s 4115s Auratones
Echo, Reverb, and Delay Systems: Foxtec DDL, MICMIX 405, MXR DDL, Electro-voice number 1 full size plate reverb
Other Outboard Equipment: Klark Teknik 27 band room EQ, dbx limiters, Valley People gate-deesser, MXR flanger doubler, Moxa parametric EQ, Aphex
Microphones: Neumann, AKG, Electro Voice, Sennheiser, Sony, Shure, PMI
Instruments Available: Yamaha C7 seven foot grand piano, Fender Rhodes, Hammond B3 (with Leslie), Wavinet ARP Omni (strings) & Oxysey track piano, trim kit, orchestra bells, misc. percussion, maracas
Video Equipment & Services: HiX interlaced summer 8" video recording equipment available
Rates: Call for current rates, include and site team specials

••• HARLEQUIN SOUND RECORDING STUDIOS
19347 Londelius St., Northridge, CA 91324
(213) 993-4778
Owner: Paul Stulman
Studio Manager: Jett Stulman
Engineers: Gary Dula, Paul Stulman, Jett Stulman, Artur Dyer
Dimensions of Studio(s): Audio 20 x 30 isolation, booth 12 x 12 x 10, Video 42 x 35 x 16 w/extra covers & catwalks
Dimensions of Control Room(s): Audio 15 x 22 x 10, Video 12 x 20 x 8
Tape Recorders: Ampex MM1000 16 track, Tascam 808 B 8 track, TEAC 3340 4 track, Otari MX 5050B 2 track, TEAC 3300 2 track, Aiwa 4500 cassette, 51 Kenwood 630 cassette
Mixing Consoles: Speck Electronics (custom modifications) 800C 16x6x8 sub
Monitor Amplifiers: Yamaha P2200, P2100 (Audiarts cross overs), BGW 500 Phase Linear 400
Monitor Speakers: Altec 604E w/4115s subwoofers, JBL 4311, Auratone
Echo, Reverb, and Delay Systems: Orban, J.B. Williams reverb, Eventide Harmonizer, 10 ADA D250 digital, MXR digital, Roland Chorus Ensemble
Other Outboard Equipment: stx 16, stx 16, William comp/limiter, A-norms 4,000 parametric, Delta Graph, EQ 10s, 5-Amp 27 parametric, stx rates, MXR phase shifter
Microphones: Neumann, AKG, Sennheiser, etc.
Instruments Available: Gabriel 7 grand, everything available. Call us!
Video Equipment & Services: Complete new video facility - 15x42 floor space, dressing rooms, control room (full production available), JVC KV1000 2000 cameras (others available), 2" and 2 1/2" recorders, 5 cam switcher, special effects generator, lighting
Rates: 8 track \$25, 16 track \$45. Includes engineer extras. Call for video

••• HIT SINGLE RECORDING SERVICES
College Grove Center - Lower Ct #4, San Diego, CA 92115
(619) 265-0524
Owner: Scottman, Ltd. (California Corporation)
Studio Manager: Rick Boromio

••• JEL RECORDING STUDIOS
6100 W. Pacific Coast Hwy, Newport Beach, CA 92663
(714) 646-5134
Owner: Earl Gordon
Studio Manager: Sandra Bertoni
Engineers: Edo Giarrotto, Bill Jusdale, Don Harper, Bob La Masney
Dimensions of Studio(s): Studio A 40 x 35, B 15 x 18
Dimensions of Control Room(s): A 16 x 18, B 16 x 16
Tape Recorders: Ampex MM1100 16 track, Tascam 808 B 8 track, (2) Otari 5050B 2 track, Studer B 67 2 track, Otari 5050 Mk III 8 track
Mixing Consoles: Sound Workshop 1600 20 in x 16 out, Sound Workshop, Luxon H 12 in x 8 out
Monitor Amplifiers: BGW Crown
Monitor Speakers: E.V. JBL Auratone
Echo, Reverb, and Delay Systems: MICMIX reverb, Eventide Harmonizer, Marshall Time Modulator

SOUTHERN CALIFORNIA 16 TRACK

Other Outboard Equipment: dbx limiters, Gain Brains, Kepexes, UREI 1176s.
Microphones: Neumann, Sony, HCA, Shure, AKG, etc.
Instruments Available: (2) Kawai grand pianos, Sequential Circuits Prophet 5, Hammond B3, ARP 2600.
Video Equipment & Services: VTR lock to 8 or 16 track with BTX Shadow synchronizer.
Rates: Video Sweetened, \$110/hr. 16 track, \$75/hr. 4 & 8 track, \$45/hr.

••• **KITCHEN SYNC RECORDING**
 5325 Sunset Blvd., Hollywood, CA 90027
 (213) 463-2375

Owner: Michael Hamilton, Larry Menshek, Jeff Snyder
Engineers: Michael Hamilton, Larry Menshek, Jeff Snyder
Dimensions of Studio(s): 16 x 14, isolation booth 5 x 5
Dimensions of Control Room(s): 13 x 13
Tape Recorders: MCI JH 14, 16, 18 track, TEAC 80, 16, 24 track, Ampex ATH 100, 4 track, Otari 505 (16, 24 track), TEAC 24 tracks, 2) Sony cassette decks (5)
Mixing Consoles: Sound Workshop 1600, 20 in x 16 out
Monitor Amplifiers: SAF 2400, Crown D 60s
Monitor Speakers: UREI 811, Tane, Alan, Aratone 5Cs, JBL 4x11
Echo, Reverb, and Delay Systems: MICMIX Super C reverb, MXR digital reverb, Ecnoplate stereo plate reverb
Other Outboard Equipment: Eventide Harmonizer, MXR flanger, doubler, dbx 160, compressors, Kepex graphic EQs, 16 channels, parametric EQ, Holman stereo flanger, chorus, Valley People Dyna mite limiters, Symetrix phone interleave
Microphones: Neumann, AKG, Sennheiser, Shure, Sony, Crown, PZMs
Instruments Available: Kawai, grand piano, ARP Omni, Fender Harmonics
Rates: 16 track \$50/hr, 8 track \$35/hr, 2 track \$15/hr, block rates available.

••• **ORIGINAL SOUND RECORDING STUDIOS**
 7120 Sunset Blvd., Hollywood, CA 90046
 (213) 851-1147 & 851-2500
Owner: Art Laboe

••• **P.D. RECORDERS**
 12055 Burbank Blvd., North Hollywood, CA 91607
 (213) 766-9164 or 760-9393
Owner: Helen J. Levine
Studio Manager: Robert Grogan
Engineers: Robert Grogan
Dimensions of Studio(s): 20 x 35
Dimensions of Control Room(s): 15 x 20
Tape Recorders: Ampex MM1000, 16 track, Ampex 150, 2, 2 track, Ampex 350, 4, 4 track, Ampex 300 mono
Mixing Consoles: Custom Opamp, 16 in x 8 out
Monitor Amplifiers: McIntosh
Monitor Speakers: Atec 604E
Echo, Reverb, and Delay Systems: Marshall Time Modulator, Sound Workshop and Teletunken reverbs
Other Outboard Equipment: Soundcraftsmen 2012 graphic EQ, 2) dbx 160 comp limiter, Eventide Instant Flanger
Microphones: Neumann U 47, Sony C 37A, ECM 21P, Sennheiser MD42, U 415, shotgun, E-V 667, 664, 665, 635A, RE 15, 636, Shure SM-57, PML 1036
Instruments Available: Bradbury baby grand piano, Roland synthesizer, Roland string synthesizer
Rates: Please call for rates.

••• **ROSE STUDIOS**
 1098 Rose Ave., El Centro, CA 92243
 (619) 352-5774
Owner: Danny Bera
Studio Manager: Danny Bera

••• **SKYLIGHT EXCHANGE**
 Post Box 467, Calabasas, CA 91302
 (213) 703-5077
Owner: Steve Korman



ROSE STUDIOS
 El Centro, CA



THE SOUND SOLUTION
 Santa Monica, CA

••• **THE SOUND SOLUTION**
 also REMOTE RECORDING
 1211 Fourth Street, Santa Monica, CA 90401
 (213) 393-5332
Owner: David Epstein
Studio Manager: David Epstein
Engineers: Keith Weisler (emer), David Epstein, David Fejer, Robin L. Umble
Dimensions of Studio(s): 12 x 14, plus isolation booth 4 x 8
Dimensions of Control Room(s): 4 x 16
Tape Recorders: M 56, 4 track, Scully 284 B track, 15, 40 ips, Scully 280, 2 track, Sony TC R54, 4 track, MCI JH 10, 2 track, Technics 1500, 4 track, and Sony cassette deck
Mixing Consoles: Modified Speak 800C, 24 line, 16 mix inputs
Monitor Amplifiers: Crest P-5000s, UniSyn models 50s, AB Systems IC5, 205, custom MOS FET by Beezart, and AB Systems 2400 electronic crossovers
Monitor Speakers: Atec 604Es with MasterLab crossovers

Aurators:
Echo, Reverb, and Delay Systems: AKG BX10E reverb, Cranus Audio stereo reverb, MultiVox echo, room delay
Other Outboard Equipment: Lexicon Prime Time, Eventide Harmonizer, UREI 1175, and (2) LA3A limiters, (3) dbx 163 compressor limiters, Systech flanger, Kepexes, Orban parametric EQ, Clark Teknik graphic EQs, digital metronome, Technics turntable, complete patch bay
Microphones: Neumann U87, KM84s, Shure SM81s, SM7, SM57, SM54, SM56s, SM57s, SM58s, E-V RE20, RE14s, 665, 666, Sennheiser MD421, MD211s, AKG 451, 501Es, Sony ECM 22s, 250s, 16s, RCA 77 ribbon, "Dingle Mics"
Instruments Available: 6'4" grand piano, Fender Rhodes Sequential Circuits Prophet V, MiniMoog, ARP 2600, complete Premier drum kit w/ Zildjian cymbals, LinnDrum computer, Fender bass and guitar, Fender, Ampeg and Rowan amps, Moog pedals and some percussion
Rates: Includes all above equipment and engineer. Please call for quote.

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SOUTHERN CALIFORNIA 16 TRACK

••• SPECTRUM STUDIO (by appointment only) also REMOTE RECORDING
 664 Camino Campana, Santa Barbara, CA 93111
 (805) 967-9494, 967-1526, 963-7065
 Owner: Don Ollis, Brad Royer
 Studio Manager: Don Ollis
 Engineers: Don Ollis, Brad Royer
 Dimensions of Studio(s): 21 x 21 x 11, 12 x 10 x 8
 Dimensions of Control Room(s): 14 x 12 x 8
 Tape Recorders: Ampex MM1000 w VSO 2 16 track 1/8 track Ampex 440R 2 track, Revox A77 2 track, TEAC 3340S 4 track
 Mixing Consoles: Custom 18 in x 16 in
 Monitor Amplifiers: Phase Linear 700As
 Monitor Speakers: JBL 4311, 4301, A1400s
 Echo, Reverb, and Delay Systems: Echo: are reverb, Marshall Time Modulator relay, Eventide H949 digital delays, also .5 and .40 ps tape delay
 Other Outboard Equipment: Limiters: Teletronix LA2As, RCA BAAs, dbx 160s, Spectra Sonics 610 compressor, Marshall Time Modulator, Eventide H949 Harmonizer, EQs: Pultec EQP1A, MFOS, Lind PFO1s, Cassette decks: 2 Sony TC601s, 2 Hitachi DH50s, Technics M260 (B cassette), Omnitrak GT 4 noise gates
 Microphones: Telefunken 250, 251s, Neumann M49, U67s, KM56, U87s, AKG C12, C12A, C2B, C2BA, 44s, 451s, Sennheiser 441, 421s, EV C09, Sony C50Cs, ECM-47, 42P, 44P, ECM50s, Ater M11s, 639As, RCA 444X, 44As, 77DXs, 74B, Shure 545s, SM56, SM57s, PE50SP
 Instruments Available: alphaSynthair organ, synthesizer, Oberheim DMX drum machine, vintage T Steinway 5 grand piano, ARP String Ensemble, Fender Rhodes electric piano, Fender Jazz Bass, '57 Strat, Marshall amp, Pro ChS deluxe twin Ludwig drum set w/ 7 Roto toms
 Rates: \$45/hr 16 track, 8 hour block \$45/hr, \$45/hr 1/8 track, \$30/hr 2/4 track

••• STUDIO B PRODUCTIONS
 1365 N. Van Ness, Fresno, CA 93728
 (209) 268-4010
 Owner: Mary Allen
 Studio Manager: Mary Allen

••• STUDIO 9 AUDIO VIDEO LABS
 5504 Hollywood Blvd., Hollywood, CA 90068
 (213) 871-2060, (213) 353-7087
 Owner: John Gillette
 Studio Manager: Bill Smith

••• SUTTON SOUND STUDIO
 8390 Curbanil, Atascadero, CA 93422
 (805) 466-1833
 Owner: Frank Sutton



THAT STUDIO
 North Hollywood, CA

••• THAT STUDIO also REMOTE RECORDING
 P.O. Box 958, North Hollywood, CA 91603
 (213) 764-1421
 Owner: That Studio, Inc.
 Studio Manager: Richard Holbrook
 Engineers: Richard Holbrook, Robert Preter, Denny McLane, Steve Sebolat
 Dimensions of Studio(s): 30 x 20 with extensive trapping
 Dimensions of Control Room(s): 14 x 9 studio, 12 x 8 track
 Tape Recorders: Otari MTR 90 16 track, Otari MX5050 8 track Otari MX5050 2 track, Revox A77 2 track, TEAC A340S 4 track, Technics M85 cassette decks
 Mixing Consoles: studio Harrison MH 4 (automated), 28 in x 24 in track, Autronics 110B (modified), 24 in x 8 x 2
 Monitor Amplifiers: Crown HGW, Yamaha QSC Alter-Monitor Speakers: JBL 4315, JBL 4313, Alter 604s, Aratone Echo, Reverb & Delay Systems: MICMIX MasterRoom, plate Sound Workshop, Lexicon Prime Time DDLs
 Other Outboard Equipment: Eventide 910 Harmonizer, dbx 160, 15, 162s, Audio Design and Recording Scamp rack w noise gates, dbx noise reduction, BiAmp EQs, Lexicon PCM41
 Microphones: Neumann AKG, Crown E7M, Beyer, Sennheiser, PMI, Sony Electro-Voice, Shure
 Instruments Available: Yamaha C7 grand piano, Hammond B3 w Leslies, Sonor drum kit, G and I, bass guitar, mono and stereo Rhodes, assorted acoustic guitars and amps, Juno 6, wide range of percussion instruments and other toys when reserved in advance
 Video Equipment & Services: Available upon request
 Rates: Please call for color studio brochure and rate card
 Extras: Client lounge, coffee and kitchenette area, storage, video games and TV
 Direction: That Studio has just remodeled its client lounge and a 40 x 16 live room is under construction. We'll be 24 track and have our new room by early '84. We are working to make That Studio one of Los Angeles' best!



TRAX SOUND RECORDING
 Los Angeles, CA

••• TRAX SOUND RECORDING
 1916 Manning Ave., Los Angeles, CA 90025
 (213) 475-8066, (213) 478-3969
 Owner: Michael M. Donald
 Engineers: Michael M. Donald
 Dimensions of Studio(s): 12 x 24, two isolation rooms, 6 x 8, 10 x 7 x 9
 Dimensions of Control Room(s): 9 x 15
 Tape Recorders: Tascam 901F 16 track, Otari MX5050B 2 track, Lin Ibera 10X 4 track, Hitachi Technics cassette decks
 Mixing Consoles: Arai Arts B 16, 14 x 8 x 2
 Monitor Amplifiers: AR Systems Model 410C, Crown Nakamichi
 Monitor Speakers: Eastern Acoustics E100s, Aratone Echo, Reverb & Delay Systems: MICMIX X1, 45 MasterRoom Echo, 2 Delatid DL4 digital delays
 Other Outboard Equipment: Eventide Harmonizer, 2) Audio Arts 1200 limiters, processors, dbx 164 limiter, 1) dbx 160 limiters, Valley People Dynamics (D), EXB Arai, Exeter, DBE1 2) man, EQ, 2) Klark Teknik 2/4 band EQ, MICMIX Dynastex
 Microphones: Neumann U87, 2) AKG 414s, 2) 452s, D40 DL, F, 2) Sennheiser 421s, 2) Crown P2M mikes, E-V HF20 H126, Shure SM57s, SM58s
 Instruments Available: Yamaha grand piano, guitars, amps, et
 Rates: \$40/hr, Block rates available, Engineer included

••• WATERMARK STUDIOS
 10700 Ventura Blvd., No. Hollywood, CA 91604
 (213) 980-9490
 Owner: ABC Radio Enterprises, Inc.
 Studio Manager: Stew Hillner

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SOUTHERN CALIFORNIA 24 TRACK



CALIFORNIA RECORDING
Hollywood, CA

Monitor Amplifiers: 2x 400W, 4x 400W
Monitor Speakers: 2x 400W, 4x 400W
Echo, Reverb, and Delay Systems: 2x 400W, 4x 400W
Other Outboard Equipment: 2x 400W, 4x 400W
Microphones: 2x 400W, 4x 400W
Instruments Available: 2x 400W, 4x 400W
Video Equipment & Services: 2x 400W, 4x 400W
Rates: 2x 400W, 4x 400W

•••• CAN AM RECORDERS INC
18730 Oxnard St., Tarzana, CA 91356
(213) 342-2626
Owner: [Name]
Studio Manager: [Name]
Engineers: [Name]
Dimensions of Studio(s): [Dimensions]
Dimensions of Control Room(s): [Dimensions]
Tape Recorders: [List]
Mixing Consoles: [List]
Monitor Amplifiers: [List]
Monitor Speakers: [List]
Echo, Reverb & Delay Systems: [List]
Other Outboard Equipment: [List]
Microphones: [List]
Instruments Available: [List]
Rates: [List]

•••• CAPITOL RECORDS STUDIO
1750 N. Vine St., Hollywood, CA 90028
(213) 462-6252
Studio Manager: [Name]
Engineers: [List]
Rates: [List]



CAPITOL RECORDS STUDIO
Hollywood, CA

Dimensions of Studio(s): [Dimensions]
Dimensions of Control Room(s): [Dimensions]
Tape Recorders: [List]
Mixing Console: [List]
Monitor Amplifiers: [List]
Monitor Speakers: [List]
Echo, Reverb, and Delay Systems: [List]
Other Outboard Equipment: [List]

monizers, Tridem parametric EQs, Fairchild limiters, Clock Microphones, 2CJ plus microphones. All popular makes & models.
Instruments Available: Steinway grand piano, Yamaha concert grand, Wurliizer electric, Celeste, vapes, Hammond B3 organ, Bender Rhodes 7C & 8B.
Rates: Studio A (day) \$125/hr (rate) \$140/hr. Studio B (day) \$135/hr (rate) \$150/hr. Control Room (day) \$135/hr (rate) \$150/hr. Disk Room (day) (rate) \$100/hr.
Extras: Library of sound effects, private artist's lounge, 24 track master and mastering, Two mastering rooms, mixdown suite, 48 track digital 2 track recording & mastering, Zima cutting system, Clock system, facility facilities for interconnecting studios.
Direction: Complete in house facility from tracking to mastering with 4 Neve consoles & 2 Neumann SAI, 74 mastering systems, not only Studer 2 track playtrak. We have been chosen by "The American Gramophone Co." and others for the major Direct to Disk session on the West Coast. Superior studio atmosphere with the wide variety of equipment available to our clients from the latest recording labels as well as Capitol. Let us help make your next recording.

•••• CIRCLE SOUND STUDIOS
3465 El Cajon Blvd., San Diego, CA 92104
(619) 280-7310
Owner: [Name]
Studio Manager: [Name]

•••• CLOVER RECORDING STUDIO
6232 Santa Monica Blvd., Hollywood, CA 90038
(213) 463-2371
Owner: [Name]
Studio Manager: [Name]
Engineers: [List]
Dimensions of Studio(s): [Dimensions]
Dimensions of Control Room(s): [Dimensions]
Tape Recorders: [List]
Rates: [List]

(continued on next page)

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SOUTHERN CALIFORNIA 24 TRACK

Mixing Consoles: All Jensen; 2488 muted; 42x, 4x2 w/room pater mixing matrix
Monitor Amplifiers: Hafler DH220 ESS 500A Crown LC150
Monitor Speakers: UHF1 Time Alcom; Altec 604bs with Master and Lab crossovers JBL 4311s Auratone Yamaha NS 10 Ms, Advent
Echo, Reverb & Delay Systems: EMI 250 Echoplate II, EMI 140s (stereo) analog
Other Outboard Equipment: LA2A (impresor limiter) 2 LA2A (impresor limiter) 1176LN limiters 2 EMI PDM (comp resists) Eventide Compressor 4 Kepex noise gates 2 Hoover Mayer noise gates (2) Gain Brainz Lang parametric EQ (2) Pultec filters Orban parametric EQ SAE stereo EQ Publison Gladless Harmonizer dual digital delay Orban Simulator control Eventide instant flanger B.E.L. flanger (2) Marshall time modulators Eventide Harmonizer Eventide digital delay
Microphones: Full complement of dynamic and condenser mikes in studio order tube types
Instruments Available: Steinway model B grand piano
Rates: Professional

COMPACT SOUND SERVICES
 2813 W Alameda Ave., Burbank, CA 91505
 (213) 840-7000
 Owner: Compact Video Inc.
 Studio Manager: Terry Averbach Video Text & Audio Film

THE COMPLEX
 2323 Cornth Ave., West Los Angeles, CA 90064
 (213) 477-1938
 Owner: The Complex Inc.
 Studio Manager: Richard Salvate

CONWAY RECORDING STUDIOS
 655 N. St. Andrews Pl., Hollywood, CA 90004
 (213) 463-2175
 Owner: Buddy and Susan Brando
 Studio Manager: Buddy and Susan Brando
 Engineers: independent
 Dimensions of Studio(s): 28 x 60 x 12
 Dimensions of Control Room(s): 18 x 36
 Tape Recorders: Studer A800 24 track Ampex 1200 24 track Studer A80 HC 12 track Studer A80 HC 12 track
 Mixing Consoles: Neve 8108 48 inputs
 Monitor Amplifiers: BGW 750B Yamaha M2
 Monitor Speakers: George Associates JBL TAD Yamaha NS 10 JBL 4311 Auratone
 Echo, Reverb & Delay Systems: EMI 250 Echoplate live 949, 910, Delatall Stereo DDL Prime Time etc.
 Other Outboard Equipment: Q Logic (b) Kepex II lab rack w/EQ and Desseser (2) Marshall A300 tape deck eliminator Loft flanger AMS flanger 10 limiters etc.
 Microphones: All AKG all Neumann etc. Tubes: 6Flam 251 M49 Neumann U67 Neumann
 Instruments Available: Yamaha 9 concert grand Hammond B3 organ w/Leslie Fender Rhodes electric piano ARP String synthre size 7
 Rates: Call

CRYSTAL SOUND RECORDING STUDIOS
 1014 N. Vine St., Hollywood, CA 90038
 (213) 466-6452
 Owner: Andrew Beritot President
 Studio Manager: George Alexander Kerhulas
 Dimensions of Studio(s): 40 x 50 x 15 fully adjustable acoustics on walls and ceiling Drum platform and vocal booth
 Dimensions of Control Room(s): Studio A 27 x 30 x 16
 Tape Recorders: Studer tape machines
 Mixing Consoles: 48 in/24 out-32 monitor Crystal Lab system console CrystalLab model 2424 40 in x 24 out Mastering Room Neumann Latre 92A 4 desk and CrystalLab electronics
 Microphones: Extensive mix of none-elastic many tube mikes
 Instruments Available: Yamaha 9 concert grand Hammond B3 organ w/Leslie Fender Rhodes electric piano ARP String synthre size 7
 Rates: Available upon request



CRYSTAL SOUND RECORDING STUDIOS
 Hollywood, CA

CUSTOM SOUND RECORDING
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 16619 W Sierra Hwy (P.O. Box 2036), Canyon Country, CA 91351
 (805) 251-4311
 Owner: Art Mintz, Esq.
 Studio Manager: Estrella Avirnes
 Extras: Custom Sound® Recording and Custom Sound® Recording and Tapes are registered trademarks; infringement of which can be very costly. Formerly Custom Sound Productions of New York. Studio facilities are not available commercially but available to clients of Ronald Shoen, Mintz attorney at law who provides legal representation in the entertainment industry. Many well-known names have produced before becoming known and knows where to get it. Rate: \$100/hr.
 Direction: 10 miles north from Los Angeles to I-14 (Antelope Valley Freeway) take I-14 north to Sierra Highway Canyon Country, turn right toward Palmdale 35 miles

DALTON RECORDERS
 Please see listing: Media Masters Scoring & ADR
 (213) 450-2288
 Owner: Media Masters Scoring
 Studio Manager: Melody Dalton

DEVONSHIRE SOUND STUDIOS
 10729 Magnolia Blvd., N Hollywood, CA 91601
 (213) 985-1945
 Owner: David K. Mancini
 Studio Manager: Dee Mancini



DIGITAL SOUND RECORDING
 Los Angeles, CA

DIGITAL SOUND RECORDING
 (Formerly THE HOPE STREET STUDIO)
 also REMOTE RECORDING
 607 N. Ave. 64, Los Angeles, CA 90042
 (213) 258-6741, 258-0048
 Owner: Van Webster
 Studio Manager: Marielena Urban
 Engineers: Van Webster, George Sanger, Marielena Urban
 Dimensions of Studio(s): Studio A 40 x 32 x 11 plus 7 x 12 x 11 vocal booth
 Dimensions of Control Room(s): 15 x 16 x 10
 Tape Recorders: Sony PCM 1600 dual recorder 2 track 3 M

Mitsum 79 24 track, Ampex AG 440 2 track, TEAC 3340S 4 track, TEAC A-3300 (2) 2 track
Mixing Consoles: MCI 428B 28 in x 24 out
Monitor Amplifiers: SAE 24001 SAE 2600 biamped w/SAE crossovers McIntosh 275 Dyna 151
Monitor Speakers: JBL Auratone BSL
Echo, Reverb, and Delay Systems: Live Chamber Eventide Phaser and Harmonizer Marshall Time Modulator Sound Work shop time delay Master Room Stereo Super C tape delay Scamp
Other Outboard Equipment: Scamp rack, Burwen DNF1000 noise filter, Limiters Scamp, UHF1, Teletronix LA2A, Invoices, dBx, Expanders 3BX, Kepex, Scamp, Pultec filters, Orban stereo synthesizer and sibilance controller, VSO, parametric EQ, 3M Selectate II
Microphones: Neumann U47 FET & U-47 tube U87 KM84, AKG 451 452 224E (60 tube type) Electro-Voice RE 20 RE 15 966 Sennheiser 421 403 KCA 77DX Shure 545 5D SM 58 PE 54D Sony F121 (2) tube types
Instruments Available: Steinway Model B grand piano Con brio ADS 200 digital synthesizer Oberheim OB-X Roland Jupiter 4 Sequential Circuits Prophet 5 Mini Moog, Roland SH 5, Wavemaker 6 Serge Modular System Synthi AKS, Fender amps, Gulbransen upright piano
Video Equipment & Services: 3" off line editing, BVU 200A recorders Digital audio services for Beta hi-fi masters Audio video production for industrial programs and broadcasts
Rates: Call for rates
Direction: Digital Sound Recording is a source for compact disc master tape preparation, and also does digital transfers. We also are the best source of digital audio services for video production. Our pioneering digital audio work includes artists like Bruce Springsteen, Peter Gabriel, Berlin The Blisters Ray Price, and the first Beta hi-fi angles from Sony. Call us to answer any of your digital questions

DOCTOR MUSIX
 6715-17 Melrose Ave., Hollywood, CA 90038
 (213) 930-2501
 Owner: Peter & Cindy Hurst
 Studio Manager: Cindy Hurst

DYNASTY STUDIO
 1614 Cabrillo Ave., Torrance, CA 90501
 (213) 328-6836
 Owner: Phil Kachaturian
 Studio Manager: Phil Kachaturian



EFX SYSTEMS
 Burbank, CA

EFX SYSTEMS
 919 N. Victory Blvd., Burbank, CA 91502
 (213) 843-4762
 Owner: partnership
 Studio Manager: Traffic manager BB Cooper, Operations manager Roberta Liebrecht
 Dimensions of Studio(s): M 35 x 47 x 20 S 14 x 14 x 10
 Dimensions of Control Room(s): M 22 x 26 S 14 x 14
 Tape Recorders: MCI H24 24 track 2) MCI JH114 24 track 16 track, Scully 280H 24 track 3M 79 168 track, 3M 56 B track Studer A6CVU 4 track Ampex ATR100 2 track MCI JH110 2 track
Mixing Consoles: Atrac 2000A/2500 36 in x 24 out, B&B 16/24 28 in x 16 out, WA 800, 24 in x 16 out
Monitor Amplifiers: Times One, Yamaha, OSC, Haller, McIntosh Crown AB Systems
Monitor Speakers: Altec JBL, Yamaha, Tannoy, Electro Voice Auratone Visorack
Echo, Reverb & Delay Systems: EMI 240 Studio Technologies Lexicon 224 Ursal Major 8x32 CBS Brick Audio Eventide 7745M 949 910 Harmonizers Lexicon Super Prime Time, Audio Digital TC-2
Other Outboard Equipment: 76 compressors featuring LA2As.

SOUTHERN CALIFORNIA 24 TRACK

24 track multitrack (and 16 track and Massena 20 track) plus 6 track analog and 4 track digital. Urban, Leisure, High School, Business and other applications.

Microphones Professional studio grade tape miked 1/4" EMI, Sennheiser, Neumann, AKG, E49, EM, Lx 63, Sennheiser, Neumann, Lx 63 and other brands. The more the better.

Instruments Available Electric and Acoustic guitar, piano, Hammond, organ, brass, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

Video Equipment & Services Professional studio grade Massey video camera, video deck, and other professional studio equipment. Also a professional VHS, Hi-Fi, and other video equipment available.

Rates Professional and other rates available.

Extras Professional and other rates available. Also a professional studio grade piano, Hammond, organ, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

Direction Professional and other rates available. Also a professional studio grade piano, Hammond, organ, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

24 track and 16 track multitrack (and 16 track and Massena 20 track) plus 6 track analog and 4 track digital. Urban, Leisure, High School, Business and other applications.

•••• THE ENACTRON TRUCK MAGNOLIA SOUND also REMOTE RECORDING

5102 Vineland Ave., N Hollywood, CA 91601
(213) 761 0511
Owner Donald Adams
Studio Manager Jeffery Adams
Engineers Jeffery Adams, Donald Adams
Dimensions of Studio 24 track multitrack room 40' x 40' x 12'
Dimensions of Control Rooms 12' x 4' x 12' and 12' x 4' x 12'

Tape Recorders Reel-to-Reel Ampex 44
Mixing Consoles 24 track Neve 8800 x 24 track Yamaha EM-007 24 track 24 track 40 track 24 track fully automated Adams
Monitor Amplifiers B+W SAE for Pro 2
Monitor Speakers JBL 4400 ultra cube, Hartwell Kaper, Bose 70, Sennheiser, Avants

Echo, Reverb, and Delay Systems AKG EFX, AMS Digital Reverb, and other digital delay systems. Also a professional studio grade piano, Hammond, organ, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

Other Outboard Equipment Professional studio grade piano, Hammond, organ, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

Microphones Professional studio grade tape miked 1/4" EMI, Sennheiser, Neumann, AKG, E49, EM, Lx 63, Sennheiser, Neumann, Lx 63 and other brands. The more the better.

Instruments Available Electric and Acoustic guitar, piano, Hammond, organ, brass, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

Rates Professional and other rates available.

Direction Professional and other rates available. Also a professional studio grade piano, Hammond, organ, strings, synthesizer, drums, Yamaha, Mellotron, sequencer, and other professional studio instruments. Also a professional drum set, and other instruments available.

•••• EVERGREEN RECORDING STUDIOS, INC

4403 W Magnolia Blvd Burbank CA 91505
(213) 841 6600

Owner Robert Frank Amador
Studio Manager Robert Amador
Engineers Robert Amador, John F. Baker, Marty McFadden, Mike Hester, Gary L. Hester, Frank J. Smith, Conrad J. Smith, Robert Amador
Dimensions of Studio(s) Studio A 40' x 10' (variable room), 12' x 12' (control room), 12' x 12' x 8' (studio), 12' x 12' x 8' (studio), 12' x 12' x 8' (studio)
Dimensions of Control Room(s) Studio A & B 20' x 20'
Tape Recorders Ampex 44 4 track stereo and mix capability MM 44 4 track Ampex 44 AIH 44 4 track Ampex 51 4 track 4 track Multitrack 60 saddle three four and 6 track 4 track stereo and mix capability
Mixing Consoles Hartwell Automation Studio A 4832 48 in x 32 in Studio B 4832 48 in x 32 in
Monitor Amplifiers B+W SAE 2 in control room and for play back
Monitor Speakers JBL Time Altered JBL 4311 Hitachi Avants

Echo, Reverb & Delay Systems (2) two chambers (2) EMT 9000 (4) 12' x 12' x 8' 12' x 12' x 8' echo plate

Other Outboard Equipment Marshall Time Modulators Even tone generators, JhF, Inc., Lexicon, Dolbys dbx, Auralson EMO Time Co. and WMT

Microphones Neumann, Avants, Sennheiser
Instruments Available Yamaha electric and acoustic piano
Other Services Complete studio facilities, multi-track recording

Rates Professional and other rates available.

•••• FANFARE RECORDING STUDIOS

(div. of Rondel Audio Ent. Inc.)
Studio 120 E. Main St., El Cajon, CA 92020
(619) 447-2555

Owner Ronald Amador
Studio Manager Ronald Amador
Dimensions of Studio(s) 12' x 12' (control room), 12' x 12' (control room), 12' x 12' (control room)

Dimensions of Control Room(s) 12' x 12'

Tape Recorders MCI 44 4 track MCI 44 4 track MCI 44 4 track Ampex 44 4 track Ampex 44 B4 4 track 4 track 4 track Nakamichi 4 track Reel-to-reel

Mixing Consoles MCI 4832 48 in x 32 in Hartwell Automation 4832 48 in x 32 in
Monitor Amplifiers B+W SAE
Monitor Speakers JBL Avants

Rates Professional and other rates available. (continued on next page)

GREAT RECORDINGS START HERE

Your console is the heart of your studio. When it comes to producing a great recording, your choice of equipment makes all the difference. APSI makes that choice easy with the Model 3000 Multitrack Recording Console. The Model 3000 will help you maintain control of your signals and voices - control that is critical to good recording. The Model 3000 provides a powerful and comprehensive operating system with mixing flexibility and features never before available. It is modular and adaptable to an extraordinary degree, and the quality and versatility have been proven over years of use. When every signal counts, can you afford to settle for less? Make the Model 3000 your choice. Call us and let's discuss your requirements - we'll build a Model 3000 especially for you.



Photo: Sound Design Recording Studios
Burlington, MA

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Innovation and Excellence in Sound, 90 Oak St., 4th Floor, PO Box 8, Newton Upper Falls, MA 02164

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SOUTHERN CALIFORNIA 24 TRACK



FANFARE RECORDING STUDIOS
 El Cajon, CA

Echo Reverb, and Delay Systems — MTR, EMT, Lexicon, and others.

Other Outboard Equipment — Ampex, AWA, Bostwick, and others.

Microphones — Neumann, AKG, Beyer, Sennheiser, Shure, and others.

Instruments Available — Acoustic guitar, electric guitar, piano, and others.

Rates — \$100 per hour, \$500 per day, \$1000 per week.

•••• FIDELITY RECORDING STUDIOS
 4414 Whittsett Ave., Studio City, CA 91604
 (213) 763-6323
 Owner: [Name obscured]

•••• FIFTY FOUR EAST SOUND RECORDERS
 54 E. Colorado Blvd., Pasadena, CA 91105
 (213) 356-9305
 Owner: [Name obscured]
 Studio Manager: [Name obscured]

•••• FOOTPRINT SOUND STUDIOS
 13216 Bloomfield St., Sherman Oaks, CA 91423
 (213) 872-1854
 Owner: [Name obscured]
 Studio Manager: [Name obscured]
 Engineers: [Name obscured]

Dimensions of Studio(s) — 12' x 14' x 10' (Control Room) x 12' x 14' x 10' (Studio)

Dimensions of Control Room(s) — 12' x 14' x 10'

Tape Recorders — Ampex, AWA, Bostwick, and others.

Mixing Consoles — MTR, EMT, Lexicon, and others.

Monitor Amplifiers — MTR, EMT, Lexicon, and others.

Monitor Speakers — MTR, EMT, Lexicon, and others.

Echo Reverb, and Delay Systems — MTR, EMT, Lexicon, and others.

Other Outboard Equipment — Ampex, AWA, Bostwick, and others.

Microphones — Neumann, AKG, Beyer, Sennheiser, Shure, and others.

Rates — \$100 per hour, \$500 per day, \$1000 per week.

Extras — [Name obscured]

Direction — [Name obscured]

Other Outboard Equipment — Ampex, AWA, Bostwick, and others.

Microphones — Neumann, AKG, Beyer, Sennheiser, Shure, and others.

Instruments Available — Acoustic guitar, electric guitar, piano, and others.

Rates — \$100 per hour, \$500 per day, \$1000 per week.

Extras — [Name obscured]

Direction — [Name obscured]

•••• FOSS SOUND & VIDEO PRODUCTION (PRIVATE)
 also REMOTE RECORDING
 (No visitors) P.O. Box 414, Yorba Linda, CA 92686
 Owner: [Name obscured]
 Studio Manager: [Name obscured]

•••• FRONT PAGE RECORDING
 (714) 548-9127
 Owner: [Name obscured]
 Studio Manager: [Name obscured]

•••• GOLDEN GOOSE RECORDING
 2074 Pomona Ave., Costa Mesa, CA 92627
 (714) 548-3694
 Owner: [Name obscured]
 Studio Manager: [Name obscured]

•••• GOLDMINE RECORDING STUDIO
 1393 Callens Rd., Ventura, CA 93003
 (805) 644-8341
 Owner: [Name obscured]
 Studio Manager: [Name obscured]
 Engineers: [Name obscured]

Dimensions of Studio(s) — 12' x 14' x 10' (Control Room) x 12' x 14' x 10' (Studio)

Dimensions of Control Room(s) — 12' x 14' x 10'

Tape Recorders — Ampex, AWA, Bostwick, and others.

Mixing Consoles — MTR, EMT, Lexicon, and others.

Monitor Amplifiers — MTR, EMT, Lexicon, and others.

Monitor Speakers — MTR, EMT, Lexicon, and others.

Echo Reverb, and Delay Systems — MTR, EMT, Lexicon, and others.

Other Outboard Equipment — Ampex, AWA, Bostwick, and others.

Microphones — Neumann, AKG, Beyer, Sennheiser, Shure, and others.

Rates — \$100 per hour, \$500 per day, \$1000 per week.

Direction — [Name obscured]

•••• GOLD STAR RECORDING STUDIOS INC
 6252 Santa Monica Blvd., Hollywood, CA 90038
 (213) 469-1173
 Owner: [Name obscured]
 Engineers: [Name obscured]

Dimensions of Studio(s) — 12' x 14' x 10' (Control Room) x 12' x 14' x 10' (Studio)

Dimensions of Control Room(s) — 12' x 14' x 10'

Tape Recorders — Ampex, AWA, Bostwick, and others.

Mixing Consoles — MTR, EMT, Lexicon, and others.

Monitor Amplifiers — MTR, EMT, Lexicon, and others.

Monitor Speakers — MTR, EMT, Lexicon, and others.

Other Outboard Equipment — Ampex, AWA, Bostwick, and others.

Instruments Available — Acoustic guitar, electric guitar, piano, and others.

Rates — \$100 per hour, \$500 per day, \$1000 per week.

Extras — [Name obscured]

Direction — [Name obscured]

Microphones — Neumann, AKG, Beyer, Sennheiser, Shure, and others.

Rates — \$100 per hour, \$500 per day, \$1000 per week.

Extras — [Name obscured]

The 6120 is an original — not just a warmed-over copy of some other duplicator. It's brand new, and offers you more time-saving, quality features in one compact package than any other duplicator on the market today.

FAST

16-to-1 copying speeds from reel or cassette. Reel modules run at either 60 or 120 ips and cassettes run at 30 ips, which means you can copy up to eleven one hour programs in less than two minutes!

EFFICIENT

The 6120 accepts either 7" (178 mm) or 10½" (267 mm) reels, so you don't waste time rethreading from one reel format to another. All key setups and adjustments are made easily from the front of the system, so you don't have to waste time moving or disassembling the 6120. Accurate monitoring and precise adjustments of audio and bias levels are made possible even at high speeds, because of quick response LED level indicators. All cassette slaves are independent, so a jammed tape won't shut down the entire system. and a LED indicator warns you of an incomplete copy in case a cassette tape jams or ends before the master.

If you want good duplicates start with a great original

The new Telex 6120



You can produce eleven C-60 cassette tapes in less than two minutes!

EASY AUTOMATED OPERATION

The 6120 practically runs itself. The system features automatic end-of-tape stop and auto recue on the reel master, and a choice of manual or auto rewind on the cassette master, providing virtually uninterrupted operation. Changes in equalization are made automatically when you change speeds on the reel master, thereby reducing setup time and avoiding errors.

EXPANDABLE

The modular, building block concept lets you buy just what you need today and expand the system to meet your growing needs tomorrow. Modules simply plug together. There's no need to add people or space as the system grows, because the 6120 is so compact that even a full system can be operated by one person.

QUALITY TRADITION

For over 20 years now, Telex has been the choice of those who are fussy about the quality of their duplicate tapes. The brand new 6120 is made in the U.S.A. in the Telex tradition of quality, so parts and service are always available. To learn more about the 6120, write today for complete specifications and production capabilities. While you're at it, make an appointment to see our special 6120 video tape presentation entitled "Beating Real Time".



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 Boston, MA 02118

Name _____
 Title _____
 Company/Organization _____
 Address _____
 City _____ State _____ Zip _____
 Best time to contact _____
 Phone No. _____

SOUTHERN CALIFORNIA 24 TRACK



GROUND CONTROL,
Santa Monica, CA

◆◆◆ GROUND CONTROL.
1602 Montana Ave., Santa Monica, CA 90403
(213) 453-1255
Owner: Eric Fink
Studio Manager: Eric Fink
Engineers: Christopher Fink, Richard M. Mariani, Michael M. Stogdins
Dimensions of Studio(s): 4' x 10' w/ 10' x 10' isolation room
Dimensions of Control Room(s): 15' x 11'
Tape Recorders: 2 Sony 24 Track 44100 Hz Approx ATR 44100
mix 44100 Hz, Sony 24 Track 44100 Hz, TEA 24 Track
Mixing Consoles: Amek 24 Input M400, 24 Input 48 Channel
Monitor Amplifiers: 2x150 Watts, M. J. Crow
Monitor Speakers: 2x150 Watts, M. J. Crow
BMS 150 Watts NS-10
Echo, Reverb & Delay Systems: BMT 4 Input 7 Amp
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
Other Outboard Equipment: 2x150 Watts, M. J. Crow
2x150 Watts, M. J. Crow
Microphones: Neumann U 47, Neumann U 87, Neumann U 89, Neumann U 90, Neumann U 91, Neumann U 92, Neumann U 93, Neumann U 94, Neumann U 95, Neumann U 96, Neumann U 97, Neumann U 98, Neumann U 99, Neumann U 100
Instruments Available: 2x150 Watts, M. J. Crow
Video Equipment & Services: 2x150 Watts, M. J. Crow
Rates: 2x150 Watts, M. J. Crow

◆◆◆ GROUP IV RECORDING
1541 North Wilcox, Hollywood, CA 90028
(213) 466-6444
Owner: Arthur Repetto
Studio Manager: Arthur Repetto

◆◆◆ ◆◆◆ HAJI SOUND RECORDING CO
also REMOTE RECORDING
1032 No. Sycamore St., Hollywood, CA 90038

(213) 466-4213
Owner: Tom Harkin
Studio Manager: Tom Harkin



HIT CITY WEST
Los Angeles, CA

◆◆◆ HIT CITY WEST
6146 West Pico Blvd., Los Angeles, CA 90035
(213) 852-0186
Owner: Tom Harkin
Engineers: Arthur Repetto, Richard M. Mariani, Michael M. Stogdins
Dimensions of Studio(s): 4' x 10' w/ 10' x 10' isolation room
Dimensions of Control Room(s): 15' x 11'

Tape Recorders: 2 Sony 24 Track 44100 Hz Approx ATR 44100
mix 44100 Hz, Sony 24 Track 44100 Hz, TEA 24 Track
Mixing Consoles: Amek 24 Input M400, 24 Input 48 Channel
Monitor Amplifiers: 2x150 Watts, M. J. Crow
Monitor Speakers: 2x150 Watts, M. J. Crow
BMS 150 Watts NS-10
Echo, Reverb, and Delay Systems: BMT 4 Input 7 Amp
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
100 Hz AF 100 Hz, 2 Input 7 Amp 100 Hz AF 100 Hz
Other Outboard Equipment: 2x150 Watts, M. J. Crow
2x150 Watts, M. J. Crow
Microphones: Neumann U 47, Neumann U 87, Neumann U 89, Neumann U 90, Neumann U 91, Neumann U 92, Neumann U 93, Neumann U 94, Neumann U 95, Neumann U 96, Neumann U 97, Neumann U 98, Neumann U 99, Neumann U 100
Instruments Available: 2x150 Watts, M. J. Crow
Rates: 2x150 Watts, M. J. Crow

◆◆◆ HIT MAN RECORDING STUDIOS
815 N. Fairfax Ave., Los Angeles, CA 90046
(213) 852-1961
Owner: Tom Harkin
Studio Manager: Tom Harkin

◆◆◆ IMAGE RECORDING
1020 N. Sycamore, Hollywood, CA 90038
(213) 850-1030
Owner: Harry M. ...
Studio Manager: Harry M. ...

◆◆◆ INDIGO RANCH RECORDING STUDIO, MALIBU
P.O. Box 24A-14, Los Angeles, CA 90024
(213) 456-9277
Owner: Richard K. ...
Engineers: ...
Dimensions of Studio(s): 20' x 20' w/ 10' x 10' isolation room
Dimensions of Control Room(s): 15' x 11'
Tape Recorders: 2 Sony 24 Track 44100 Hz Approx ATR 44100
mix 44100 Hz, Sony 24 Track 44100 Hz, TEA 24 Track
Mixing Consoles: Amek 24 Input M400, 24 Input 48 Channel
Monitor Amplifiers: 2x150 Watts, M. J. Crow
Monitor Speakers: 2x150 Watts, M. J. Crow
BMS 150 Watts NS-10
Other Outboard Equipment: 2x150 Watts, M. J. Crow
2x150 Watts, M. J. Crow
Microphones: Neumann U 47, Neumann U 87, Neumann U 89, Neumann U 90, Neumann U 91, Neumann U 92, Neumann U 93, Neumann U 94, Neumann U 95, Neumann U 96, Neumann U 97, Neumann U 98, Neumann U 99, Neumann U 100
Instruments Available: 2x150 Watts, M. J. Crow
Rates: 2x150 Watts, M. J. Crow

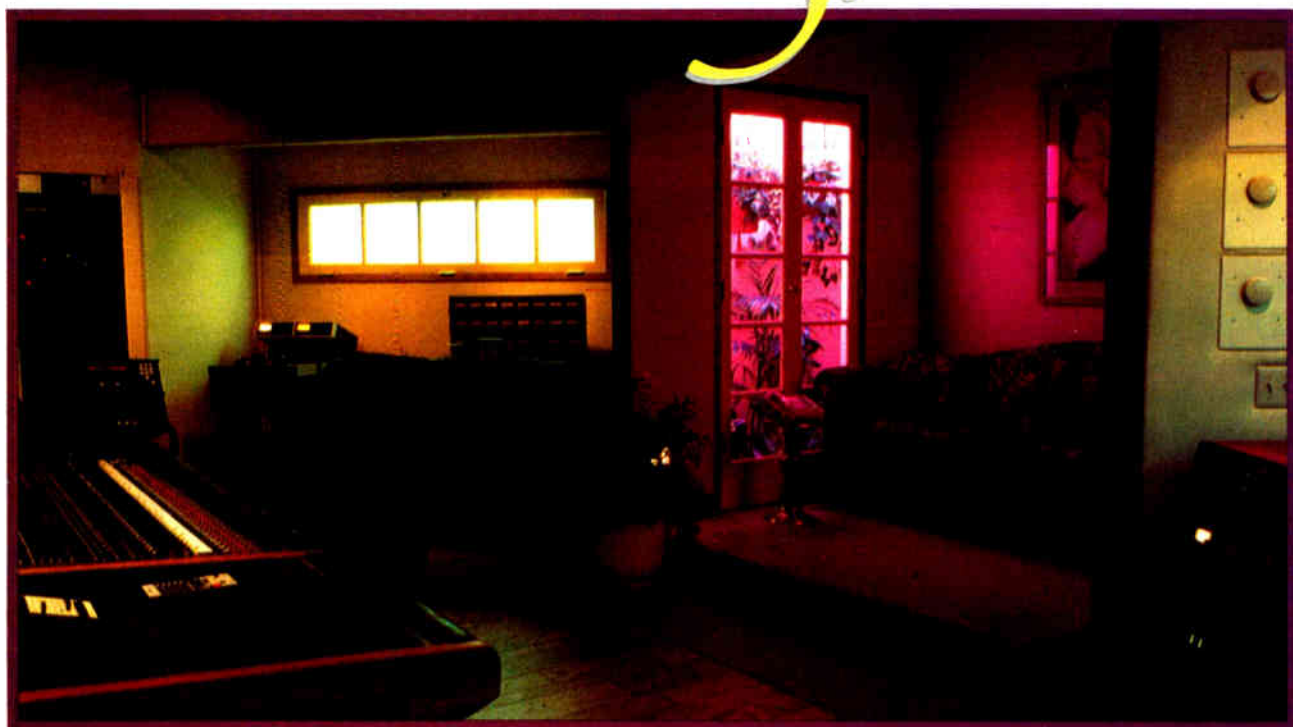


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- a MCI 600 series automated console
- a JH24 transformerless 24 track tape machine
- Eventide Harmonizer
- B+B noisegates
- Yamaha C-7 grand piano
- UREI 815 timealign monitors
- Lexicon 224 digital reverb
- PCM 41 digital delays
- Echoplate II
- UREI compressor/limiters
- a large collection of microphones, including vintage tube types

Prime time hourly rates are offered at very competitive prices as well as special cut rates for block-booked and after midnight hours.

For further information please contact Glen Heard at Weddington Studio.

11128 Weddington St. • N. Hollywood, CA 91601
(213)508-5660

SOUTHERN CALIFORNIA 24 TRACK

organ w/ Leslie in house drum kit in house guitars (acoustic guitars by Ovation - 6 and 12 string electric guitars and bass by Kramer) and a Roland Synthesizer Bass, Hohner piano, Fender Princeton Reverb amp, Wurlitzer
Video Equipment & Service: Ampeg UPR 2B, Sony BVU 200, Sony BVU 2850, Sony Betamax, Panasonic Hi 20
Rates: Call for information

•••• **LOCATION RECORDING**
 2201 West Burbank Blvd., Burbank, CA 91506
 (213) 849-1321
 Owner: Steve Guy, Al Fraiberg
 Studio Manager: Michael Verlick

•••• **MAD DOG STUDIO**
 1715 Lincoln Blvd., Venice, CA 90291
 (213) 306-0950
 Owner: M/D Productions
 Studio Manager: Mark S. Avnet
 Engineers: Mark Avnet, Dusty Wakeman, Eli Celia, Leah Blake, and independents
Dimensions of Studio(s): 500 sq. ft.
Dimensions of Control Room(s): 500 sq. ft.
Tape Recorders: Otari MTR 90 24 16 track, Ampex ATR 100 2 track, Technics RS 1500 284 track, Technics cassette decks, Otari MTR 90 24 16 track



MAD DOG STUDIO
 Venice, CA

Mixing Consoles: Amek Angela 28 x 4 w/parametric EQ, transformerless submasters can be configured to 56x24x2
Monitor Amplifiers: Crown and BGVW
Monitor Speakers: UREI 811 Time Aligned, JBL 4311s & Auratones, Westlake Tune Aligned
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb with new program, MICMIX Master-Reverb XL 305, DeltaLab DL 2 Acousticcomputer, MXR digital delay with 4 cards, various tape delays
Other Outboard Equipment: UA 175 tube limiter, dbx RM 161 and 165 limiters, System voltage control flanger, EXH Exciter, Orban stereo synthesizer, Roger Mayer and Symtix noise gates, Roland CB 78 Compuhythm, Alembic tube pre-amp, UREI LA4s, White an-1 hiamp EQ, various tape delay processors for special effects
Microphones: Neumann U 87s, Shure SM-81, SM 7, SM 33, SM 57, SM 5E, Model 300, AEG D12E, E2000, Electric Voice DS-35, RE 10, Beyer M 500, Sony ECM 96F, ECM 280, Sennheiser 405, AKG 414 EB

Instruments Available: Yamaha C-1 5'3" grand piano, Alembic & Turner basses, Guild acoustic 6 and 12 string guitars, Fender Precision bass, Mighty Mite Strat, 1933 Martin acoustic guitar, assorted amps, Peterson strobe tuner
Rates: \$55/hr 24 track, \$45 16 track, call for pricing structure
Extras: Musicians, synthesizers and programmer available. Dealer for various esoteric guitars, basses, audio gear, Shure mics, Ampex, Scotch, AGFA tape, Free parking, coffee, Refrigerator, oxygen tank on premises
Direction: NBC's "The Rainbow Patch" Walter Egan, Bruce Gary, Berton Averre (The Knack), Billy Bizeau, Robert Forman, Robbie Krieger, The Doors, Flo & Eddie, The Malibu's, King Cotton, Arthur Lee, Spirit, Wilko & Phillip, Buzzy Linhart, The Singers, The Willys, The Tan, Billy Sheets Undercover, various commercials

•••• **MAD HATTER STUDIOS**
 2635 Griffith Park Blvd., Los Angeles, CA 90039
 (213) 664-5766
 Owner: Chuck Corea
 Studio Manager: Susan Garson
 Engineers: Bernie Kirsh, Eric Westfall
Dimensions of Studio(s): Studio A 35 x 30, Isolation room 16 x 10
Dimensions of Control Room(s): 25 x 20
Tape Recorders: Studer A 80 Mk II 24 track, (2) Studer A80 BC stereo mastering recorders (modified by Mark Levinson Audio Systems), Otari 8080 4 track, (2) Nakamichi 582 cassette decks
Mixing Consoles: Trident modified series 80, 40 in x 24 out
Monitor Amplifiers: John Meyer
Monitor Speakers: John Meyer ACD system, Auratones, Yamaha
Echo, Reverb & Delay Systems: (2) EMT 140 stereo plates, EMT 240 Gold Foil, Lexicon 224X digital reverb, Lexicon Super Prime Time, Lexicon Prime Time
Other Outboard Equipment: Teletronix LA2A limiters, UREI 1176LN limiters, Klark Technic graphic EQs, Sontec parametric EQs, Kepexes, Eventide instant phaser/flanger, Eventide 9494 Harmonizer
Microphones: Neumann, Schoeps, Bruel & Kjaer, AKG, Sennheiser, Shure, Sanken
Instruments Available: Steinway D Hamburg 9' concert grand, Bosendorfer 9' concert grand, Yamaha C5-1, Rhodes 88, Rhodes EK 10, OBX A, Clavinet, Yamaha CP 80, Poly Moog, Mini Moog.
 (continued on next page)



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MAD HATTER STUDIOS
Los Angeles, CA

Twin reverb: Yamaha combo organ YC-45, Oberheim DMX drum machine, Oberheim 8 Voice
Rates: Rate available on request

**** **MARTINSOUND RECORDING STUDIOS**
1151 W. Valley Blvd., Alhambra, CA 91803-2493
(213) 283-2625
Owner: Joe Martinsin
Studio Manager: Annette Martinson

**** **MCA WHITNEY RECORDING STUDIO**
1516 W. Glenoaks Blvd., Glendale, CA 91201
(213) 507-1041
Owner: MCA Records
Studio Manager: Frank Kejmar
Engineers: Frank Kejmar, Tom Baker, David Browning, Paul Limore, David Hernandez, Kevin Gray
Dimensions of Studio(s): 35 x 45, 25 x 35, 18 x 20
Dimensions of Control Room(s): 20 x 20, 20 x 20, 18 x 20
Tape Recorders: Studer A800 24 track, MCI JH24 24 track, Ampex ATH 102 2 track, Ampex ATH 104 4 track, Hitachi 2200M cassette
Mixing Consoles: Neve 094 36 in x 24 out, Neve 1085 24 in x 24 out, Neve 102 10 in x 2 out
Monitor Amplifiers: Haller, Bryton, Crown, Cerwin Vega
Monitor Speakers: UREI 813As, JBL 4401, 4313, 4311, Auratone
Echo, Reverb & Delay Systems: EMT 251s, 1405 2 live chamber
Other Outboard Equipment: Limiters: LA2s, 1176, Neve dbx F2, Neve-Lutes, Sphere, Trident parametric, Kepex 11s, Eventide Harmonizer, DDL Phaser, Roland Chorus Echo, Noise reduction, Dolby dbx, Digital metronome, Orban De-esser, EXR Ex or
Microphones: AKG C12s, C24, C414, 451, EV RE1E, RE20, Neumann U67, U87, KM84, KM66, M49, 1147, FF7, 47, RCA 7 DX, 44BX, Sennheiser MD421, MD441, Shure SM57, SM58, S-cup, C600, Telefunken 251
Instruments Available: 2 Steinway B tri-inds, Yamaha C7 grand, Hammond W Leslie, Robert Morton 33 rank pipe organ, Celest electric piano
Rates: Please call for rates

**** **MEDIA MASTERS SCORING AND ADR**
Main office: 3015 Ocean Park Blvd., Santa Monica, CA 90405. Studios located in N. Hollywood
(213) 450-2288
Owner: Media Masters
Studio Manager: Mandy Dalton
Engineers: House choice, I.A.T.S.E.
Tape Recorders: Ampex 1200 24 track, Ampex ATH102 2 track, Ampex ATR104 4 track, Studer/Revox A77 2 track,



MEDIA MASTERS SCORING AND ADR
N. Hollywood, CA

Studer/Revox A77 2 track, Sony BVJ800 video 24" (2) Studer A800 24/48 track, Studer A90 1/2" 2 track
Mixing Consoles: SSL, 5.2 in x 48 out, Sphere custom, 54 in x 24 out
Monitor Amplifiers: Crown, BGW
Monitor Speakers: UREI 813, Time Alkon monitors, JBL 4311s, Tannoy Auratone c11s
Echo, Reverb, and Delay Systems: Lexicon 224 live chamber, AKG BX 10, EMI Roland 361, tape delay
Other Outboard Equipment: Dolby M24 (24 channels), Valley People Kepex-8 and Chain Brans, Eventide H917 DDL Harmonizer, Orban parametric EQs, Systech phase shifters and Harmonizers, UREI LA 3As, UREI 11 octave EQ, UREI 910 digital metronome, Audio Kinetics Q Lock
Microphones: Special setup, assortment of Neumann, AKG, Sennheiser and Shure mikes
Instruments Available: Bush and Lane '9' concert grand, various other electronic and synthesized sound keyboards
Video Equipment & Services: Complete sound-to-picture recording, Foley, SFX, dialogue replacement and final dubbing, computer controlled four machine EECO sync system, dual 25" Sony Trinitron monitors, 34" Sony B7U 800 for playback and record, streamer capability, video to film transfer. Special software provides lightning fast cue readiness for all machines, complete print-outs of all events
Rates: Please call for details
Extras: Complete in-house film scoring/composition and record production available, 48 track production easy with sync system. Triple remote machine operation, Audio Kinetics X1 24 Inter-caster, Audio Designs Vuo-S an digital level metering system for special recording chain, electronically insured, extremely clean tracks in a superb transient response
Direction: The Doctors, Van Morrison, Barry Manilow, Fleetwood & Mac, The Beach Boys, Shaun Cassidy, Star Trek I, Lou Grant, Pierre Cossette Productions, MGM, David Geffen Co., Saturday Howard Production, Erratic Pictures

**** **MERCANTILE RECORDING**
also REMOTE RECORDING
P.O. Box 2271, Palm Springs, CA 92263
(619) 320-4848
Owner: Kent Fox
Studio Manager: Kent Fox

**** **MONTEREY SOUND STUDIOS**
230 S. Orange St., Glendale, CA 91204
(213) 240-9046
Studio Manager: Jackson Schwartz
Engineers: Phil Brown, Jackson Schwartz
Dimensions of Studio(s): 25 x 40 live area and 20 x 25 dead room, floor to ceiling sliding room divider opens for 1500 sq ft total studio area
Dimensions of Control Room(s): 20 x 20 terraced
Tape Recorders: Ampex 1200 24 track with input transformers removed and fast punch in/out, Ampex ATR 100 2 track, Tannoy RS 1506HS 1/4 track
Mixing Console: Sphere Eclipse C 33 in x 24 out with all transformers removed and equipped with Allison 65K automation
Monitor Amplifiers: 5GV, 750C, 250D, 100B
Monitor Speakers: JBL/Augsburger custom design, JBL 4311, Yamaha NS10M, Auratones
Echo, Reverb, and Delay Systems: EMT 140, BX 20, Lexicon Prime Time digital delay
Other Outboard Equipment: UREI 1176, LA4, In-sonics 20 Orange Country 75-1, Eventide Flanger, Harmonizer, Kepex 11 and Orban parametric EQ
Microphones: AKG 452, 414 D224E, Sony C 37, Shure SM 57, 545, Sennheiser 421, 441, Neumann, U47, U 87, KM 84, E7, RE 20, 665, 666, Beyr-M 88, M 500
Instruments Available: Yamaha C7 grand piano, Fender Rhodes, Linn drum synthesizer
Rates: Please call

**** **MORNING STAR SOUND RECORDERS**
4115 N. Maine Ave., Baldwin Park, CA 91706
(213) 960-7308
Owner: Steve Brown
Studio Manager: Steve Brown

**** **MOTOWN/HITSVILLE**
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 Studio(s): Sunset 40 x 40, Sunrise 18 x 25, Dawn 14 x 12
Dimensions of Control Room(s): 18 x 25, Sunset & Sunrise 18 x 20
Tape Recorders: Ampex ATH 124 24 track, ATH 2 and 4 track, Sony PCM 161C
Mixing Consoles: Neve 8078, Neve Necam Automation
Monitor Amplifiers: UREI 6500
Monitor Speakers: UREI 813As, JBL 4311, Auratones
Echo, Reverb, and Delay Systems: (7) Acoustic Chambers, EMT Plate, Lexicon 224 Prime Time DDL, EMT 156
Other Outboard Equipment: Dolby Noise Reduction, dbx noise reduction, LA 3A limiters, 1176 limiters, Kepex, 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: \$165/hr live recording, over dubbing, mixing, \$265/hr video scoring, sweetening, mixing, \$325/hr film scoring, sweetening, mixing, dubbing, \$100/disk mastering
Extras: Disk mastering—Neumann console, Sony PCM delay & 1610 Neumann cutina electronics, Sontec CD-80N disk computer film scoring, video scoring, Q Lock (SMPTe synchronizer) video monitors, sync & time code generator

**** **MUSIC GRINDER STUDIOS**
7460 Melrose Ave., Los Angeles, CA 90046
(213) 655-2996
Owner: Gary Skardina and Ron Filecia
Studio Manager: Ron Filecia

**** **MUSIC LAB**
also REMOTE RECORDING
1831 Hyperion Ave., Hollywood, CA 90027
(213) 666-3003
Owner: Chaba Mehes
Studio Manager: Tony Melendez



NEW WORLD RECORDING
San Diego, CA

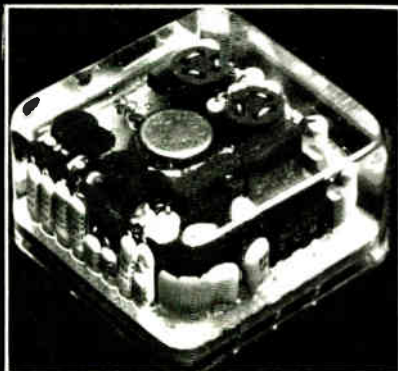
**** **NEW WORLD RECORDING STUDIOS**
also REMOTE RECORDING
4877 Mercury St., San Diego, CA 92111
(619) 569-7367
Owner: New World Audio, Inc.
Studio Manager: Charles DeFazio
Engineers: Jim Scott, Charles DeFazio, Steve Conrad, Alan Harper, Bill Heald, Garth Hedin
Dimensions of Studio(s): 27 x 27
Dimensions of Control Room(s): 19 x 16
Tape Recorders: Otari MTR90 II 24 16 track, Otari MTR 10 2 2 track, Otari MTR 10 4 4 track, Otari Mk III-B 8 track, Otari 5050B II 2 and mono
Mixing Consoles: Quantum Audio Labs 1010 (modified), 25 in x 16 out
Monitor Amplifiers: Crown PS200, PS400, D150, D75, QSC 52, Ashly FET-200
(continued on next page)

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SOUTHERN CALIFORNIA 24 TRACK

Monitor Speakers: JBL 4415s, 4415s, 4401s, Auratones
Echo, Reverb, and Delay Systems: Lexicon 224, Lexicon Super Prime Time, Lexicon Prime Time, Deltalab Electron 1024
Other Outboard Equipment: MXH pitch transposer, dbx 105, 106A, K2, K2mk, Lexicon DN3030, Valley People Keyboxes, Valley People Gian Brans, UREI digital metronome, Orban 424A, 622B, 674A
Microphones: Neumann U87, U47, U89, KM84, KM85, Sennheiser MD421, MD441, AKG C414, C452, C451, C535, C60, Shure SM57, SM57, SM57, SM57, SM57, FV HE 20, Countryman, Crown, PZM, Beyers AT
Instruments Available: Yamaha 74 grand, emulator, digital synthesizer, Fender Rhodes, Fender bass, Fender bass amp, Ampex 8, 5, Hammond B3 Leslie
Video Equipment & Services: Bix Shadow, Bix Cypher, Sony 5800, 74 recorder
Rates: 24 track \$75/hr, 16 track \$60/hr, 8 track \$40/hr, 4, 2, and mono \$35/hr

•••• OCEAN PARK STUDIOS

Please see listing Media Masters Scoring & ADR
(213) 450-2288
Owner: Media Masters scoring
Studio Manager: Melroy Daitch

•••• ODD E O ENGINEERING

REMOTE RECORDING (tracks only)
1740 North Gramercy Place, Los Angeles, CA 90028
(213) 465-1762
Owner: Jeff M. Lane
Studio Manager: D. Moxley



PARAMOUNT RECORDING STUDIOS
Hollywood, CA

•••• PARAMOUNT RECORDING STUDIOS

6245 Santa Monica Blvd., Hollywood, CA 90038
(213) 461-3717
Owner: Brian Bruderdin
Studio Manager: Don Sankleter
Engineers: Larry Hirsch, Don McIntire, Roger Dollarhide, Larry Williamson, John Cooley, Dennis Moody, Chris Huston, Matt Hyde, Dick Hart
Dimensions of Studio(s): A 45 x 37, B 15x 20, C 45 x 38 x 22
Dimensions of Control Room(s): A 19 x 26, B 18 x 38, C 28 x octagon
Tape Recorders: Dual SM 79 24 track 1/2 inch, Studer A 80 2 and 4 track
Mixing Consoles: B AHP Model 2 188, C Harrison 4032 auto mated
Monitor Amplifiers: Crown, BGV Yamaha
Monitor Speakers: C UREI 815, B UREI 813, A Westlake TM 1

Echo, Reverb, and Delay Systems: Three live chambers stereo EMT 140s

Other Outboard Equipment: EMT 250 digital delay, Harmonizer, flangers, phasers, Dolby, Tektronix LAZAs, UREI 1176LN, Cooper Time Cubes, K2, K2mk, Gian Brans, Bix 4500 & 4600 sync meters, and complete video capability
Microphones: AKG C 24, 414, 451, 452, FV HE 15, HE 20, Sennheiser 441, BIA 771X, Neumann U 47, U 67, U 87, KM 84, KM 86, M 49, Sony ECM 22, C 8/A, C 500, Shure 545, Synchron 510

Instruments Available: 9 on vert grand 1 Fender Rhodes HH Hammond B3 with Leslie, AHP 2600 msn percussion
Video Equipment & Services: Video post production, up to 4 machines in-line with Bix 46, center servers and 4500 sync meters

Rates: Upon request. Substantial discount to first time clients
Direction: Andrae Crouch, Thelma Houston, Grammy Award 1 George Duke "Heath For It", Johnny "Guitar" Watson, "A Real Mother For Ya", and "And That A Birth", Dana Ross, Love Händel, Frank Zappa, "Coversation", Sensation, and "Apostrophe", Also Kim Carnes, Mavis Staples, Bob Dylan, Chris Hillman, Billy Joel, Donna Summer, Stevie Wonder, and more! (at amount is striving to be the most welcoming place to record in)

•••• PASADENA (SOUND) RECORDERS

276 N. Raymond Ave., Pasadena, CA 91103
(213) 796-3077 and 681-9258
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. Proffer
Studio Manager: Mikey Davis

•••• PERSPECTIVE SOUND

also REMOTE RECORDING
11176 Penrose St. #4, Sun Valley, CA 91352
(213) 767-8335

Owner: Vince Devoni, Devon Enterprises, Inc.
Studio Manager: Gene Nasir
Engineers: Greg Healy, Rick Hart, Tom Wason, Leslie Baer, w/7
Dimensions of Studio(s): 35 x 26 x 10 plus 15 x 18 live stage + 10 chamber 12 x 10 and mix isolation booths 12 x 12 drum booth 60 x 30 x 18 live room
Dimensions of Control Room(s): 14 x 18
Tape Recorders: Car. MTR 91 24 track, Orban MTR 10 2 track, Orban MX5050 2 track, Technics HS M85 cassette
Mixing Consoles: Sound Workshop 16 stereo transformerless 28 in. x 74 out

Monitor Amplifiers: HH 500D, HH 50, Uni-Sync 100, Hater DH 500

Monitor Speakers: UREI 813, Time Aligned, Auratones
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Lexicon 95 DDL, Eventide H910 Harmonizer, Yamaha ME1010 analog

Other Outboard Equipment: (2) dbx 105 compressor limiter, 14 S&P, P 300 gate exp. and 21501 curing resistor limiters, (2) UREI 1176 peak limiters

Microphones: Neumann U 87, KM 84, AKG 414, C452, B1, D100, Sennheiser 441, 421, Electro-voice HE 20, 666, Shure SM 57, Beyers M101, Sony ECM50 direct boxes, Countryman FET, UREI 515, Shure Passive

Instruments Available: Mason & Hamlin 9' upright piano, Yamaha ho piano CP-30, AHP Omni 2, AHP Odyssey
Video Equipment & Service: Full service video
Rates: Please call

•••• TIM PINCH RECORDING

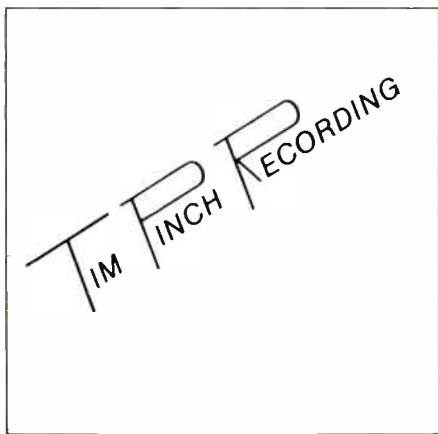
also REMOTE RECORDING
6600 San Fernando Rd., Glendale, CA 91201
(213) 507-9537

Owner: Tim Pinch
Studio Manager: Rex Olson
Engineers: Tim Pinch, Rex Olson
Dimensions of Studio(s): 15 x 20 remote track, 15 x 15 studio
Dimensions of Control Room(s): 8 x 8 x 10
Tape Recorders: Ampex MM1200 24 track, Ampex Ab 4400 4 track, Ampex Ab 4400 2 track
Mixing Consoles: Ampex 28 x 24 portable with trougoud, 16 in. reverse trans amp, miki pre-amps, Dean Jensen line amps, Two B input outboard mixers for a total of 44 inputs
Monitor Amplifiers: BGV 2505, BGV 100, B 1W 750A
Monitor Speakers: Remote track, Altec 604E w/Mastering Lab crossovers, Auratones studio 813, Time Aligned

Echo, Reverb, and Delay Systems: EMT 250, 1176 limiter, LAZA limiter, HFS and Clear Com comb

Microphones: AKG 414s, 451EHS, C12, Neumann U87, U47, Sennheiser MD421, K2U shotguns. All others available

Instruments: Kawai upright piano, Fender Rhodes stereo piano
Video Equipment & Services: Video, wet-plate and mix to picture, Color video monitor and camera
Rates: Please call for rates
Extras: Our remote recording truck is specially designed for



TIM PINCH RECORDING
Glendale, CA

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 clients as Al DiMeola, John McLaughlin and Paco DeLacia, Merie Haggard, Humble Pie, The Jacksons, The Go-Gos, Little Feat, DEVO, The Police, Roseanne Cash, Johnny Van Zant, Quiet Riot, Modern English, People's Choice Awards, King Biscuit Flour Hour, BBC, Rock Hour. We have recorded everything from small night club acts and television specials to major outdoor festivals.



POIEMA 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 Studio(s): 17 x 18 iso booth 8 x 9

Dimensions of Control Room(s): 12 x 13

Tape Recorders: Stephens H21B 16 & 24 track with Autolocator, Ampex ATR 100 with 4 or 12 head assemblies, Scully 2804 and 2 tracks, Technics 1520 2 and 4 tracks, Technics RM 85 cassette decks

Mixing Consoles: Soundcraft Electronics Series 2400 28 in x 24 cut fully automated transformerless with 56 input mix capability

Monitor Amplifiers: Ab Systems Series 720, 810, 730, Spectra Series 700 840 watts (14 cards)

Monitor Speakers: JBL 4311As damped JBL 4411s Westlake Audio BB SM6Bs Nearfields Yamaha NS 10s Auratones

Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb system, EMI 140 plate reverb, Lexicon Prime Time digital delay, Lablinal A distortion filter, Marshall Time Modulator MXH digital delay

Other Outboard Equipment: dbx 900 Series noise gates, compressors & De-essers, Eventide Harmonizer/DDI, Eventide Instant Flanger, ADX Vocal Stressor, ADX Express limiter, Aja New Auro, Exciter, dbx 100 compressor/limiter, Orban/Parasound 622B parametric EQ, Orban stereo synthesizer, multi sync VSO

Microphones: Neumann U 87s, Telefunken 251, AKGs 414s 451s 501s 202s, Sennheiser 421Us, Shure SM7, SM53, SM81s, Electro-Voice RE 20, Crown IZMs, Sony ECM 22P

(continued on next page)

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TresVirgos Studios

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SOUTHERN CALIFORNIA 24 TRACK

Instruments Available: Mason & Hamlin 7 grand piano, Kawai Poly 61 digital synthesizer, 2 Polytone Matabrate II guitar amps, Conn strobe tuner.

Rates: Rate available upon request.

Extras: Full kitchen facilities, overnight accommodations easily arranged. Wide range of studio musicians available, just in situ in packages.

Direction: Poems Studios provides an alternative to the hectic and high pressure of the city, but yet maintains a state of the art recording environment. Situated on a national route, the country is just 45 minutes north of L.A., the studio provides a relaxed, restful atmosphere. We desire to serve artists and producers with affordable rates without compromise to quality.

**** PREFERRED SOUND

22700 Margarita Dr., Woodland Hills, CA 91364
(213) 883-9733

Owner: Scott Borden

Studio Manager: Meryl Starob

Engineers: Robert Stamp, chief engineer

Dimensions of Studio(s): 25 x 22, isolation booth: 11 x 10 x 12, isolation booth: 12 x 12

Dimensions of Control Room(s): 18 x 14

Tape Recorders: Otari MTR 90, 24 track, Otari 5050B 2 track

Scully 280B 2 track, Hitachi D2200M cassette

Mixing Consoles: Amek 2002B 28 in x 24 out

Monitor Amplifiers: Aoustit, BGW, Crown

Monitor Speakers: UREI 57's, Time Altec, JBL 4401's, Auratones



PREFERRED SOUND
Woodland Hills, CA

Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Echoplex II, Masterlabom XL305 reverb, (2) Lexicon Prime Time

Other Outboard Equipment: (2) Lexicon Prime Time, Eventide Harmonizer, Holm 4 stereo chorus/doubler, MXR flanger, (4) Kepex noise gates, (2) dbx 165s, (3) UREI LA4s, (2) UREI 1176s peak meters, Baxandall graphic EQ, digital limiter, UREI universal tuner set

Microphones: Neumann U47 (tube), RM96 (tube), U87's, KM44s, AK 414Kbs, 4E2, 45, RCA 77DX, Senn C3/As (tube), ECM90s, EV HL20s, Beyers M500, M88, Shure SM56s, 57s, 58, AK's Sennheser 421, 441, MKH405s, MKH 105 MD402U

Instruments Available: Grand piano, Kawai GS 40, Fender Rhodes, Hammond B3 organ, wurlitzer and vintage guitars available through Nerm's bar. Guitars: Ampeg B15, full selection of vintage Fender amps.

Video Equipment and Services: Sony U-Matic 4" video machine. Full video services upon request.
Rates: Upon request.

**** PRESENT TIME RECORDERS

5154 Vineland Ave., N. Hollywood, CA 91601
(213) 762-5474

Owner: Bob & Grace Wurster

Studio Manager: Bob Wurster

Engineers: Bob Wurster, Bruce Ablin, Irvin Kramer

Dimensions of Studio(s): 26 x 17

Dimensions of Control Room(s): 17 x 14

Tape Recorders: MCI Autolocator JH 100 w/VSO 24/16 tracks, Tascam 80 8 track, Technics 1500 2 tracks, (5) Hitachi cassette decks

Mixing Consoles: Quantum QA 4000 w/full patch bay, 24 in x 24 out

Monitor Amplifiers: S A F

Monitor Speakers: Altec (balanced) 604E, with Master Lab cross over, Auratones

Echo, Reverb, and Delay Systems: Custom built stereo reverb, Yamaha delay, MXR doubler, Lexicon Prime Time and plate echo

Other Outboard Equipment: dbx limiters, MXR flanger, Pitch Transposer, Kepex outboard EQ direct boxes

Microphones: Neumann U 87, AKG 414, 451, 2000, 1000, 202, Sennheser 421, 416, Beyers 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 \$22/hr

**** PRIME TRACK

7437 Laurel Canyon, N. Hollywood, CA 91605
(213) 765-1151

Owner: Danny Tarsha

Studio Manager: Daniel Chaney

**** PRODUCERS WORKSHOP

6035 Hollywood Blvd., Hollywood, CA 90028
(213) 466-7766

Studio Manager: Anne Butkiewicz

**** QUAD TECK STUDIOS

4007 W. 6th St., Los Angeles, CA 90020
(213) 383-2155

Owner: D C T Corp.

Studio Manager: Hank and Joani Warino

**** 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 Jaramas, Ricky Delena, David Bianco, Don Wallin (Stereo Mixer)

Dimensions of Studio(s): A: 40 x 20 x 15, with isolation booth, B: 8 x 15 x 20, C: 50 x 35 x 23, with stage & 2 iso booths, D: 23 x 46 1/2 x 22, M: 70 x 80

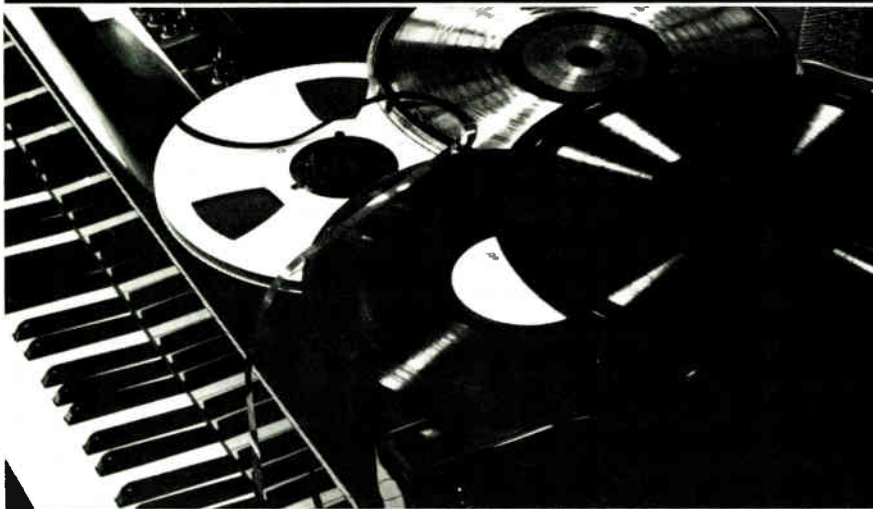
Dimensions of Control Room(s): A: 15 x 15, B: 16 x 16, C: 16 x 20, D: 19 x 22, M: 35 x 45

Tape Recorders: Studer Mark III 24 track, 3M 79 4 track, 3M 79 24 track, 3M 64 2 track, 3M 64 4 track, Ampex 440-C 4 track, Ampex ATH 100 2 track, Technics HMS280 cassette decks

Mixing Consoles: Solid State Logic E Series 48 in x 32 out, Solid State Logic 4000E, 40 in x 32 out w/Record Plant custom, 32 in x

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2980 N. Ontario Street, Burbank, CA 91504

Tel. 213 841-3400 or TWX No. 910-498-5700

Circle #057 on Reader Service Card

SOUTHERN CALIFORNIA 24 TRACK

8 out (film submix console), SSL E Series 48 in x 32 out, custom designed consoles, all have automated mixdown and groupers

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

Monitor Speakers: Westlake TM 1 Altec 604Es with Mastering Lab crossovers JBL 4312s Record Plant custom JBL BM3 Klipsch M1900, Auratone 5Cs anything available by request TAD 2 way system available

Other Outboard Equipment: Any Eventide UREI Pultec EMI ADR dbx Dolby Allison (inc Allison 65K computers) units in house, including live chamber EMI 251 digital echo, EMI 140ST and 240 plus AKG BX 20 Any item on request

Microphones: Neumann AKG Shure Electro-Voice Altec Sony, Sennheiser Studer, Telefunken, etc. Any mike on request

Instruments Available: Hammond B3 organ and Leslie Yamaha piano and grand piano (Piano and organ included in rates)

Rates: Call studio manager for rates

Extras: Two jam rooms, Jacuzzi suite, Private banquets living room with full bath and TV Private bedrooms with full bath Projection with multi track magnetic film chain fully equipped Record Plant has opened a new scoring facility Studio M on the Paramount lot at 5555 Melrose Avenue

Direction: Record Plant Studios has diversified music recording into 3 divisions Scoring records & remote We feel in this way we can best serve our segment of the video & film audio industry We remain the premier state of the art music studio with 5 studios digital recording, new 35 mm film chain & 4 recording trucks

•••• RECORDING SERVICES CO
REMOTE RECORDING (trucks only)
10824 Ventura Blvd., Studio City, CA 91604
(213) 766-7191
Studio Manager: Vai Vakrentis



ROC SHIRE STUDIOS
Anaheim, CA

•••• ROC SHIRE STUDIOS
4091 E. La Palma, Suite S, Anaheim, CA 92807
(714) 632-9452
Owner: Clyde L. Davis Shirley J. Davis
Studio Manager: Lester Claypool
Engineers: Lester Claypool Wilho Harlan Rick DeLono Clyde Davis, Linda Schaler, Linda Henman
Dimensions of Studio(s): 40 x 21 x 4, including
Dimensions of Control Room(s): control room 20 x 12, edit room, machine room 16 x 8
Tape Recorders: Studer A80 VU Mark III 24 track 1/2 and 1/4 Studer A80 VU Mark III 2 track 1/2 and 1/4 Studer A62s Studer Hevox PR 99, digital Sony PCM 1610 2 track available on request
Mixing Consoles: New 8128 32 inputs 8128 64 line inputs, 8128 24 inputs
Monitor Amplifiers: Conrad Johnson MV45A MB75A
Monitor Speakers: Available at push button, control from console

desk UREI Time Align 81s, 3-way Time Align TAD system, Tannoy 12" Time Align speakers, Yamana NS10s M&K satellites, Yamaha MS10s Auratone 5Cs

Echo, Reverb & Delay Systems: PCM42 digital delay with 3 second delay and additional memory capability Super Prime Time with 3 second delay

Other Outboard Equipment: EMT 140 echo plate Eventide Harmonizer Model 910, Marshall AH300 tape eliminator, Publication B9B2 w keyboard expander and 5 second delay capability, Lexicon 224X digital reverb

Microphones: AKG C414Es, C451Es 452s, C452EBs D58E/200s, E-V PL80s, RE15s, RE20s, Milab LC25s, Neumann U47 tubes (6) M49 tubes (4) SM69 stereo (2) KMB5s (2) U87s (2) U67s (2) M269Cs (4) PML ST H stereo Shure SM7s SM57s Sony C37As, C37Ps, Sennheiser MD421s (6), Telefunken ELAM 251s (6)

Instruments Available: Double bass set of Simmons drums Moog Prodigy synthesizer, 1910 Steinway B acoustic piano, 1957 Martin acoustic guitar 1959 Martin acoustic guitar, Rockman guitar amps Roland guitar amps, custom Charvelle electric guitars available, assorted percussion instruments also available upon request

Rates: Studio rates available upon request call (714) 632-5046 Rocshire Studios or (714) 632-9452 Rocshire Records



RUMBO RECORDERS
Canoga Park, CA

•••• GRAHAM NASH'S RUDY RECORDS
1522 Crossroads of the World, Hollywood, CA 90028
(213) 467-0000
Owner: Graham Nash
Studio Manager: Nancy Gensic

•••• RUMBO RECORDERS
20215 Saticoy St., Canoga Park, CA 91306
(213) 709-8080
Owner: Daryl Dragon
Studio Manager: Nick Boxden
Engineers: Greg Edward Chief Engineer, Ian Minns Chief Maintenance
Dimensions of Studio(s) Studio A 2500 sq ft Studio B 2000 sq ft
Dimensions of Control Room(s): Studio A 500 sq ft Studio B 450 sq ft

Tape Recorders: (1) Studer A 800 48 tracks Otari MTF 901 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—all studios

Monitor Speakers: Studio A 2 way custom Studio B Festec LS 4s

Echo, Reverb, and Delay Systems: Echoplate EMT 140, live chamber, Lexicon 224 digital reverb; (3) Lexicon Prime Times AKG BX-20, AMS phaser

Other Outboard Equipment: (2) UREI LA4 (4) UREI 1176, Teletronix LA2A (tube) (4) dbx 160 Orbion D-basser Harmonizer, Q-Link synchronizer, Voca Stresser Neve compressor-limiters (2) Stamp rack

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

Instruments Available: The keyboards of Daryl Dragon (The Cat in Hat & Tennis) are available upon request

Rates: Call for rates

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Where's the bass?

Why aren't these meters moving?

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Awards or recording Men At Work for a live radio special, you can be sure that we'll take the same care in providing you with the finest recording possible.

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"Hey, what's that buzzing sound?"

TIM FINCH RECORDING

(213) 507-9537

6600 San Fernando Rd., Glendale, CA 91201

Circle #058 on Reader Service Card

DOCTOR CLICK

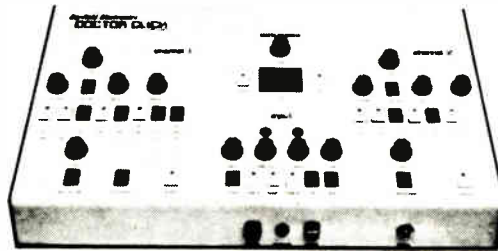
The Doctor Click Rhythm Controller makes it possible for the first time to synchronize the world of sequencer, drum machine, synthesizer composition with any one of the systems on the market or combinations of the systems on the market. Furthermore, the Doctor Click will cause sequencers, drum machines and synthesizers to play in time with a human drummer. It will also read click tracks and sync codes. The internal metronome provides both beats per minute and frames per beat calibrations.

THE DOCTOR CLICK RHYTHM CONTROLLER BREAKS THE BRAND BARRIER

SEQUENCERS		DRUM MACHINES		SYNTHESIZERS*	
DSX	Bass Line TB303	Linn LM-1	CR5000	Prophet 5	Modular Moog Juno 6
Prophet 10	CSQ600	LinnDrum	CR8000	Prophet 10	OBX Juno 60
Polysequencer	SH101	DMX	CR68	Prophet 600	OBXa Polystix
Pro One	Emulator	Drumulator	CR78	Prophet T8	OB8 Poly 61
Model 800	Fairlight	TR808	KPR-77	Minimoog	JP4 Voyetra-8
Microcomposer MC4	Synclavier	Drumatics TR606		Memorymoog	JP8
Chroma					

*(VCA, VCF, VCO, Gate, Trigger or Arpeggiator as provided on each unit.)

Measures
17½" x 11" x 4½" x 2½".
Weight is 8 pounds.



Warranty is one year.
Call or write for location
of your nearest dealer

ONE DOCTOR CLICK CONTAINS ALL OF THESE PROBLEM SOLVING DEVICES

- 4 Fixed Clock Outputs
- 2 Variable Clock Outputs
- 2 Metronomes
- 2 FSK Sync Code Decoders
(Covers Linn, Oberheim, Roland)

- 2 Rhythm Envelopes
- Pulse Counter
- Pulse Shaper
- Gate Output

- Headphone/Speaker Output
- Roland 5 Pin DIN Sync Output
- External Clock Input
- Footswitch Controls

The brand to brand problems of timebase, voltage level and polarity are solved by the Doctor Click's diverse output capability.

The ability of the Doctor Click to connect to many units at once coupled with its footswitch control capability makes it ideal for multiple sequencer, drum machine, synthesizer live applications.

Since the Doctor Click metronome produces beats per minute and frames per beat calibrations it is always convenient to get just the tempo you need. It is even possible to get fractional tempos such as 118½ beats per minute.

The Doctor Click's two independent rhythm actuated envelopes allow VCF, VCA and VCO parameters of synthesizers to be modulated in 32 rhythm values ranging from four measure cycle to 64th note triplet with variable attack, decay, sustain and amount. This eliminates the problem of rhythmic drift when using a conventional LFO.

The ability of the Doctor Click to transform metronome click tracks into timebase clocks allows frames per beat music film work to be

done with virtually any sequencer, drum machine or synthesizer.

The ability of the Doctor Click to read live tracks allows sequencers, drum machines and synthesizers to play in sync with the varying tempos of a human drummer or a built click track.

The ability of the Doctor Click to accept external clocking or either of the types of FSK sync to tape codes allows sequencers, drum machines and synthesizers to be synced to any existing track.

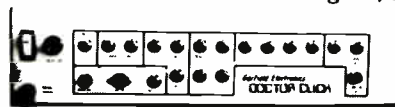
The pulse shaper circuit turns a pulse from an instrument into a trigger waveform allowing synthesizers to sync to a drum fill.

The headphone output allows click tracks in multiples of the tempo to be generated and is capable of driving a speaker.

The pulse counter can be used to program sequencers in higher timebases, quickly combining greater rhythmic resolution with step programming accuracy.

The step programming switch can be used to step program sequencers that normally do not have this capability.

Used on tracks by Brian Banks, Tony Basil, John Berkman, Michael Boddicker, Kim Carnes, Suzanne Ciani, Joe Conlan, Chris Cross, Bill Cuomo, Jim Cypherd, Paul Delph, Barry DeVorzon, Don Felder, Paul Fox, Dominic Frontier, Terry Fryer, Albhy Galuten, Lou Garisto, Herbie Hancock, Johnny Harris, Hawk, James Horner, Thelma Houston, Michael Jackson, Quincy Jones, Jeffrey Kawalek, Gordon Lightfoot, Jerry Lilledahl, Johnny Mandel, Manhattan Transfer, Paul Marcus, Jason Miles, NBC Movie of the Week, Randy Newman, Keith Olsen, Paramount, Joel Peskin, Oscar Peterson, Greg Phillingaines, Jean-Luc Ponte, Steve Porcaro, Phil Ramone, Lee Ritenour, Steve Schaeffer, Mike Sembello, Mark Shifman, John Steinhoff, Sound Arts, Ian Underwood, Universal, Donna Washington, Stevie Winwood, Pia Zadora.



GARFIELD ELECTRONICS P.O.B. 1941, BURBANK, CA 91507 (213) 840-8939

SOUTHERN CALIFORNIA 24 TRACK



RUSK SOUND STUDIOS
Hollywood, CA

•••• RUSK SOUND STUDIOS
1556 N. La Brea Ave., Hollywood, CA 90028
(213) 462-6477
Studio Manager: ANAFATI
Engineers: Independents
Dimensions of Studio(s): Approximately 1500 sq ft. Several areas may be isolated by sliding glass doors if desired.
Dimensions of Control Room(s): 500 sq ft. Fastlane type.
Tape Recorders: Stephens Electronics B21 24 track, Ampex ATH 102 2 track, Dekoder 1140 4 track, Studer Revox HS77 2 track, Sony 654 4 track, Yamaha and Aiwa cassettes.
Mixing Consoles: Harrison with some amp movements.
Monitor Amplifiers: BGW Crown etc. with White 27 band EQ.
Monitor Speakers: Sierra Eastake, etc. JBL 4311s and 1100s. Avartones (if requested).
Echo, Reverb & Delay Systems: EchoPlate I (large EMT 140S type) acoustic chamber, originally Liberty Records in the 60s; Eventide Harmonizer H910; Deltalab DDL 4 output DDL Delta Lab 1024 1 second full bandwidth delay; MXR doubler flanger analog delay; Sound Workshop 24 reverb; Roland Space Echo; various tape delays.
Other Outboard Equipment: Teletronix LA2 (tube) limiter; (2) UREI 1176LN (2) dbx 1661 (2) x 154 4 channels Omnicar noise gates; Eventide instant flanger; MXR auto flanger; Furman parameter EQ; SAE trapdoor EQ; Phase Linear 1000 auto compressor; Aphex Aural Exciter; Orban 3 channel De-esser; Valley People Dynamic UREI LA 4A.
Microphones: Telefunken 251; Neumann U87 (2); U87 (1); U47; FET KM84 (4); KM 85; AKG 414EB (2); 451EB (4); D1000F; D1000; RCA 77DX; Sanyo C-7A; ECM 221 (2); Sennheiser 441; 421 (2); MK40; E-V RE20; RE15 (2); (see Crown PZM...); Shure SM57s (4).
Instruments Available: Steinway grand piano; ARP 2600 synthesizer; Fatsis organ; various percussion; various guitars and amplifiers available on request.
Video Equipment & Services: Wired for video loop through studios; video hookup available; HTX 4800 synchronizer and HTX 4200 SMPTE time reference generator.
Rates: As quoted from \$177 per hour to \$400. Please phone for special "new client" rates before booking any other 24 track studio.
Extras: Any equipment available on request. We have a comfortable private lounge with video games, coffee, etc.
Direction: Rusk is a fully equipped world class recording studio that recognizes the importance of service, comfort and privacy to our clients. Rusk has been used to record platinum and gold records for artists such as Deanna Summers, Blondie, Steel Breeze, Billy Idol, The Snyvers, Giorgio Moriconi, Laura Branigan, Elton John, John Cougar and also film scores, trailers and radio and TV spots.

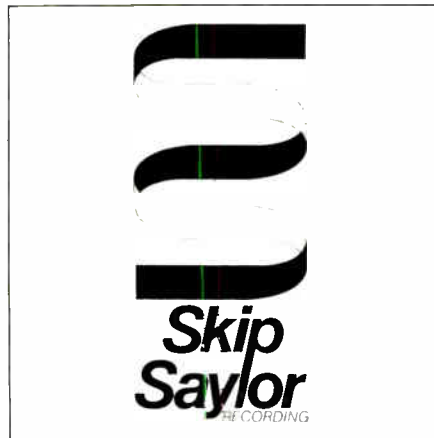
•••• SAGE AND SOUND RECORDING
1511 Gordon, Hollywood, CA 90028
(213) 469-1527
Owner: Jim Mooney
Studio Manager: Tony Verta



SALTY DOG RECORDING
Van Nuys, CA

•••• SALTY DOG RECORDING
14511 Delano St., Van Nuys, CA 91411
(213) 994-9973
Owner: David Cow
Studio Manager: Tina Campbell

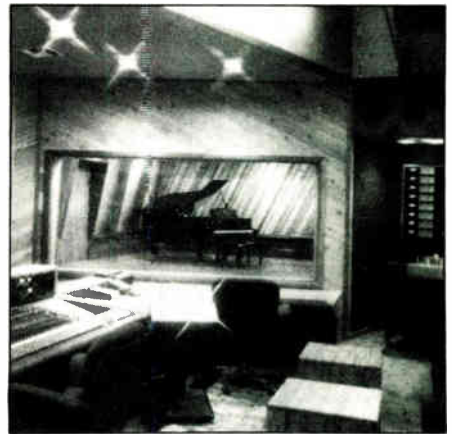
•••• SEACOAST RECORDING
926 Turquoise St., San Diego, CA 92109
(619) 270-7664
Owner: Elliott Audio Enterprises
Studio Manager: Jack Elliott



SKIP SAYLOR
Los Angeles, CA

•••• SKIP SAYLOR RECORDING
506 N. Larchmont Blvd., Los Angeles, CA 90004
(213) 467-3515
Owner: Skip Saylor
Studio Manager: Katy Saylor
Engineers: Jon Cass, Skip Saylor and various independent engineers.
Dimensions of Studio(s): 2,100 sq ft. main room. Isolation rooms 15 x 10 and 17 x 4.
Dimensions of Control Room(s): 7 x 11.
Tape Recorders: Ampex MM 2000; Ampex ATR 102 (4) and (2) new 1/4" x 5/16" Sully 260 (2); TEAC 6340 4 track; Technics cassette machines.
Mixing Consoles: Trident Spectra Sone's customized 42 in x 24 in.
Monitor Amplifiers: Crown
Monitor Speakers: TBI monitors; Yamaha NS 10Ms; Heins phone; Aural Exciter; Behringer 133; George A. Adams; etc.
Echo, Reverb & Delay Systems: (2) stereo EchoPlates; (2) Studio Teletronics reverb processor; Eventide Harmonizer 910; Eventide DDL 1745M; Lexicon Prime Time; Roland Chorus Echo; SBE 555; Roland digital delay; SBE 2000.
Other Outboard Equipment: UREI 1176LN (2) dbx 166X (stereo); UREI LA4A (2); Kopyex 14; Dr. Zwoyer noise gates; Roland phase shifter SH 11 G; Roland stereo thumper SBE 425; Roland Dimension D SDD 40; Orban parameter EQs; Orban De-esser; Furman parameter EQs; UREI 1176A Hi Lo pass filters; SMPTE and 60 Hz sync; UREI digital metronome; VSO; AKG and Koss headphones and more.
Microphones: AKG 414s; 451s; D12E; Neumann U87; Sennheiser 421; Sanyo M400; E-V RE-0; RE15s; Shure SM57s and more.
Instruments Available: Yamaha grand piano; Yamaha electric

grand piano; Mini Mooq; Music Man and Ampeg amps
Video Equipment & Services: Rental equipment available
Rates: Please call for rates



SKYLINE RECORDING CO.
Topanga, CA

•••• SKYLINE RECORDING CO.
1402 Old Topanga Canyon Rd., Topanga, CA 90290
(213) 455-2044
Owner: Ron Bacon
Studio Manager: Lisa Bacon

•••• SOUND ADVICE
also REMOTE RECORDING
7611 Slater Ave., Suite N, Huntington Beach, CA 92647
(714) 842-2213
Owner: David Kennedy
Studio Manager: Teri Lundberg

•••• SOUND AFFAIR
also REMOTE RECORDING
2727 Crodgy, Santa Ana, CA 92704
(714) 540-0063
Owner: Ron J. Leeper
Studio Manager: Virginia Leeper
Engineers: Ron Leeper, Dave Kennedy, Randy Sterling, independents John Thomason, Brook Johnson
Dimensions of Studio(s): A: 16 x 25, B: 25 x 23, C: 18 x 12, B&C have 15' ceiling. Isolation A: 12 x 9, B: 8 x 10, A: 12 ft. piano trap.
Dimensions of Control Room(s): A: 20 x 18, B: 18 x 12
Tape Recorders: Ampex MM1200 24 track; Ampex MM1200 16 track; TEAC 702 9 track; Ampex ATR 100 2 track; TEAC 35 2 track; Otari 5050 1/2 track; all recorders have VSO and remote.
Mixing Consoles: MCI automated JH600, 16 in x 36 in, Sound Workshop para EQ 1500, 20 in x 20 in.
Monitor Amplifiers: Crown DC 300A; Crown D175; BGW 100; BGW 210 (2); UREI 6500; UREI 6150
Monitor Speakers: JBL 4430; 4311; Tannoy SRM 12 B; Yamaha NS 10M; Avaratone 5C.
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb; Eventide Harmonizer 949; MICMIX Super C and ADR Time Shapes; Effectron Deltalab; Lexicon Prime Time.
Other Outboard Equipment: ADR and dbx limiters; EXR (2) Aural Exciter; UREI LA2A, LA4A limiters (tube); ADR noise gates and expanders; Sound Workshop vocal doubler; full Scamp rack; White room EQs; 949 Harmonizer; ADR Auto Panner; Furman para EQs; HP visual scope.
Microphones: Neumann U47 tube; U87; AKG 414, 451, 452, E-V PL95; RE20; Sennheiser MD421; MK405; Calrec D202E; Crown PZM; Alter 195-A; Shure SM56, SM57; RCA rare vintage tube.
Instruments Available: 7' grand piano; 5' grand piano; Steinway upright; Hammond B3 w/Leslie speakers; Rhodes electric; large outlay Rogers drums, cymbals, various percussion, sound effects library; music library.
Video Equipment & Services: Remote recording and video in house video.
Rates: Very reasonable; no extra charges for studio instruments.
Extras: High ceiling string rooms, large volume cassette duplication; remote for recording and video; kitchen.
Direction: Our goal is for Sound Affair to be one of Southern California's finest with reasonable rates. This past year has been our best and most successful and the future is even better. Some of our clients have been returning for 5 years. We are proud of our steady growth in many directions.

•••• SOUND ARTS
2825 Hyana St., Los Angeles, CA 90026
(213) 487-5148
Owner: Bob Walter, Jim Cypher, John Berkman, Rick
(continued on next page)

Skip Saylor

RECORDS—FILM—COMMERCIALS
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 Customized 32-Input Console
 JBL Yamaha Monitors
 Auratone Monitors
 Ampex ATR 2174 1/2" & 1"
 Scully 2" Grand Piano
 Yamaha Electric Grand Piano
 Mini-Moog
 Music Man & Ampex Amps

2 Stereo Ecoplates
 2 Studio Technologies Reverb Processors
 Eventide Harmonizer 910
 Lexicon Prime Time
 Eventide DDL 1745 M
 Roland DDJ w/Chorus
 Roland DDJ w/Chorus
 Roland DDJ w/Chorus
 3UREI 1176 NL
 2UREI 110X Limiters stereo
 UREI LA 4A

5 Keepers
 Roland Phase Shifter
 Roland Stereo Flanger
 Roland Dimension D
 Orban Parametric EQ's
 Neumann AKG Sennheiser Deyer
 Shure Electrovoice Microphones
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 UREI 550A Hi-Low Pass Filters

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(213) 645-2281

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SOUND ARTS
 Los Angeles, CA

Technician: Aseley Otten
Studio Manager: Bob Walter and Aseley Otten
Engineers: Jim Cypherd, Aseley Otten, Rick Bowls, Resident
Synthesists: Rick Johnston, Jim Cypherd
Dimensions of Studio(s): 36 x 22
Dimensions of Control Room(s): 24 x 22
Tape Recorders: Ampex MM 1220 24 track, ATR 104 4 track, Ampex ATR 102 2 track
Mixing Consoles: Trident Series 3G, 3 1/2" x 24 out
Monitor Amplifiers: Crown DC 300s, DC 150s, HGW 250B
Monitor Speakers: Sierra Hideley III's, JBL 4315s, 431s, Auratone 5Cs
Echo, Reverb, and Delay Systems: Lexicon 224, AKG BX 10, Eventide DDL and Lexicon Prime Time
Other Outboard Equipment: Orban Parametric EQ's, UREI 1176, LA 3A, LA 2A, digital metronome, Eventide 949 Harmonizer, Allison Gain Brains and Kepexes, Orban Sibillance Controller, Moog Vocoder, dbx 162 compressor/limiter, Ampex VSO, 360 Systems and Bode frequency shifters, Roland Space Echo w/Chorus, Dr. Click
Microphones: C-Mack D-63s, Neumann U 87s, KM 84s, E-V RE-20, RE-15s, AKG 451s, 124E, D-1000E, RCA 77Ds, Shure 3M-54s, SM-57s, SM-58s, Sony C-55Ps, Sennheiser 421s, 441s
Instruments Available: Fairlight CMI Memory Moog, Roland Jupiter 8, Moog Model 55C expanded modular system, Prophet 10 & 5 voices, Yamaha CS80, Oberheim 4-voice, Polymoog ARP 2600, Mini Moog, ARP Strmo Ensemble, Moog Model 15, Max/Moog, Roland Jupiter 8, Roland SH 1000, Sequential Circuits digital sequencer, Baldwin electric harpsichord, Hammond B-3 Hohner clavinet, Steinway grand piano
Rates: Call for rates

•••• **SOUNDCASTLE RECORDING STUDIOS**
 2840 Rowena Ave., Los Angeles, CA 90039
 (213) 665-5201

•••• **SOUND CHAMBER RECORDERS**
 27 So. El Molino Ave., Pasadena, CA 91101
 (213) 449-8133

Owner: Randy Farrar, Richard McIlverly
Studio Manager: Richard McIlverly
Engineers: Randy Farrar, Richard McIlverly, Peter Beraren, Loyd Cliff
Dimensions of Studio(s): 18 x 40 x 18 ceiling, w/12 x 12 drum booth
Dimensions of Control Room(s): 18 x 17
Tape Recorders: Stephens 821 24 track, Technics 1500 2 track, TEAC 3340 4 track, TEAC A300 cassette
Mixing Consoles: Trident (modified) 7216, 24 in x 24 out
Monitor Amplifiers: Metron 400C, Cerwin Vega A1800 PGW 250
Monitor Speakers: UREI 81s, JBL 4311, Auratone 5C
Echo, Reverb & Delay Systems: EMT 140S tube plate, Master



SOUNDCASTLE RECORDING STUDIOS
 Los Angeles, CA



SOUND CHAMBER RECORDERS
 Pasadena, CA

Room XL305 MXR digital delay
Other Outboard Equipment: UREI 1176LN limiter, dbx 163 compressors (2), BiAmp quad limiters, Orban stereo parametric EQ, Moog 12-stage phaser, MXR flanger/doubler
Microphones: Neumann U87 (2), KM84 (2), AKG C414s, C452 D1000E, D190, Shure SM57, 546, 54, Sennheiser MD421s
Instruments Available: Yamaha C7 74" grand piano Hammond B3 w/Leslie, Hohner Clavinet, Fender Rhodes, Sequential Circuits Prophet 5 synthesizer, Mini Moog, Rogers drums, Fender amps
Rates: Please call

•••• **SOUND CITY INC.**
 15456 Cabrito Road, Van Nuys, CA 91406
 (213) 787-3722, 873-2842

Owner: Joe Gottfried, Tom Skeeter
Studio Manager: Paula Salvatore
Engineers: Richard Polakow, Ray Leonard, Bill Koetnick, Bruce Barnes, Maintenance, William Elswick, Dave Harrelson, Clyde Norwood, Jim Sandweiss
Dimensions of Studio(s): Studio A 40 x 50, Studio B 40 x 30
Dimensions of Control Room(s): Studio A 26 x 20, Studio B 20 x 20
Tape Recorders: Studer A800 24 track, Studer A80 MK II 24 track, Studer A80 1/2", Studer A80 1/4", (2) B67 2 tracks, Revox/Sony 1/4" track
Mixing Consoles: Neve (Studio A) w/Necam computer mix, 26 in x 32 out, Neve (Studio B), 28 in x 32 out
Monitor Amplifiers: Crown DC-300, for the Q system, Yamaha P-2200
Monitor Speakers: A & B JBL (custom designed and tuned by George Augspurger)
Echo, Reverb, and Delay Systems: EMT AKG Lexicon Delta-T digital delay, (2) Harmonizer, 949 Eventide flanger, Orban Deesser, Eventide digital delay, AMS RMX-16 digital reverb
Other Outboard Equipment: Parametric EQ, dbx 165a's, Pultec EQs, filters, Teletronix LA2A limiters, Neve limiters, UA 1176 Dalby's
Microphones: Neumann U 47, U 67, U 47 FET, U 84, U 86, U 87, KM-84, KM-86, M 49, AKG 541Es, C-451E C-24 C-12A, 460s, M49, Electro Voice RE-20, E 15, 635s, Shure 545s, SM-57, SM 58, Sennheiser MD 421, Sony C-37s, EC 50
Instruments Available: Hammond C-3 organ with Leslie, two Steinway grand pianos
Rates: Call for rates

SOUTHERN CALIFORNIA 24 TRACK

**** SOUND CONNECTION

11724 Ventura Blvd., Studio City, CA 91604

(213) 985-3805

Owner: Haim Saban Shuki Levy

Studio Manager: Theresa Abrock

**** SOUND IMAGE

6556 Wilkinon, N. Hollywood, CA 91606

(213) 762-8881 (office); (213) 761-5205 (studio)

Owner: Sound Image Entertainment, Inc

Studio Manager: Chuck Kopp, Head tech Mike Paradiso

Tape Recorders: Studer A80/VU 24 track, Ampex 2 track, Revox 1/4 track; Technics cassette deck; Ampex ATR 2 track or 4 track

Mixing Consoles: Neve 30 x 24 x 4, Class A console

Monitor Amplifiers: Crown DC300A, BGW 250

Monitor Speakers: JBL 4311, Auratones

Echo, Reverb & Delay Systems: AKG BX 10 reverb Lexicon

224 digital reverb system, DeltaLab digital delay DL-1

Other Outboard Equipment: (4) UREI 1176 limiters, (2) UREI

176 limiters, (2) Altec 436B compressors, (2) Altec 436C com-

pressors, (2) RCA BA-6A limiters, Collins 26U2 limiters Langevin

limiter, (2) Orban 622B parametric EQs, ADC graphic equalizer,

Fairchild Conax, Eventide flanger, Omnicraft noise gates (4-chan-

nel), Dolby NR

Microphones: Neumann U87s, U47s, KM84, Altec M20s and

M30s; AKG 414s, 451s, 452s, C60, F.V. RE20, 635s; Sony

ECM22, ECM989; Sennheiser 421, Beyer M160, RCA 77DX,

Shure SM57s, SM58s

Video Equipment & Services: SMPTE generator, Adams-Smith,

Q-Lock or BTX synchronizer, 3/4" video cassette deck and color

monitor

Rates: Please call



SOUND LABS
Hollywood, CA

**** SOUND LABS

1800 No. Argyle—2nd floor, Hollywood, CA 90028

(213) 466-3463

Owner: Frankie Valli, Bob Gaudio

Studio Manager: Lee DeCarlo, Traffic: Ken Topolsky

Engineers: Tony D'amico, Jim Bell

Dimensions of Studio(s): I 10 x 15, II 30 x 45, III 10 x 12

Dimensions of Control Room(s): 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

tracks & mono, 3M 64 4 track

Mixing Consoles: Quad Eight, 32 in x 24 out, Neve/Necam

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

RECORDING STUDIOS®

* SOUND MASTER AUDIO/VIDEO
North Hollywood, CA

**** SOUND MASTER AUDIO/VIDEO RECORDING STUDIOS

also REMOTE RECORDING

10747 Magnolia Blvd., No. Hollywood, CA 91601

(213) 650-8000

Owner: Brian & Barbara Ingoldsby

Studio Manager: Barbara Ingoldsby

Engineers: Brian Ingoldsby, Joe Benech, Ken Ingoldsby,

James Daly

Dimensions of Studio(s): 33 x 35 x 14'H plus drum booth and vocal booth

Dimensions of Control Room(s): 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) Revox 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 3/4" 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: Tri-amped Ashly crossover, Soundcraftsman Model 5001, BGW 750C and 100B

Monitor Speakers: Custom design Goodman control room quad; Studio L300 JBL, various auxiliary monitors available

Echo, Reverb, and Delay Systems: AKG BX 20, Quad/Eight CPR 16, Soundcraftsman 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 Dynalanger Limiters dbx 165s, UREI 1176s, dbx 161s, Quad/Eight compressor/expanders, Quad/Eight De-Essers Noise gates 16 Quad/Eight and Kepelex, Orban parametric, UREI S27A, MXR phaser, Eventide Instant Phaser, Marshall Time Modulator, Eventide DDL 1745

Microphones: Shure Bros complete line, Electro-Voice, Audio Technica, PZMs, AKG, Sony, Beyer, Neumann, Altec, RCA, Sennheiser, Vega wireless, Edcor wireless, over 350 microphones including old tube types

Instruments Available: Steinway 77" 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: 30' x 40' Computerized post production editing with Chromakey character generator, digital special effects, freeze-frame and frame store, Ikegami 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 lathes with Ortofon heads, and computerized digital Cyberonics console Also, three mobile trucks, Remote Recording, Sound Reinforcement, and Video

Direction: Looking ahead to the future, Sound Master has incor-

(continued on next page)

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Recording Studio (bookings) 1-800-854-2006 (except CA) 1-714-569-7367



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ported 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.

SPINDLETOP RECORDING STUDIOS also REMOTE RECORDING

3449 Cahuenga Blvd. West, Hollywood, CA 90068
(213) 851-1250
Owner: Hal and Vio Michael
Studio Manager: Paula Sauls
Engineers: Steve Thum, Chief Engineer, Al Gustin, Keith Schweyung
Dimensions of Studio(s): Studio A: 30' x 14' w 15' x 10' iso room; Studio B: 31' x 17' w 15' x 15' iso room
Dimensions of Control Room(s): Studios A & B: 20' x 16'
Tape Recorders: (2) MCI IH4 24 track; (2) MCI IH10B 1/2 4 track; (4) MCI IH10B 1/2 2 track; MCI available upon request IH110B 1/2 2 track
Mixing Consoles: MCI 6 channel dual IH636 46 in x 36 out; MCI 6 channel IH 46 in x 36 out
Monitor Amplifiers: Studio A: BGW 750, 250, 150; UREI 6500; Studio B: BGW 750, 250, 150; UREI 6500
Monitor Speakers: UREI 815 Time Align; UREI 811; JBL 4311; Yamaha NS10M; Auratones
Echo, Reverb & Delay Systems: (2) EchoPlate II; Lexicon 224 MasterRoom; (2) Marshall Time Modulator; Cooper Time Cube; Lexicon Prime Time
Other Outboard Equipment: Techniques LA2A Harmonizer 449; Eventide Harpex; Kepex II; Gain Brain II; MaxiEQs; Orban De-esser; Orban EQ; Orban 622 F; UREI 1176LN; UREI 548; EQ Dual parametric; dbx 165; dbx 160; UREI 1A4a; UREI digital metronome; M24 Dolby; 461 Dolby; K9; dbx; DeltaLab Acousticomputer; EXR Aural Exciter; dbx 165A; UREI LA5A; dbx 900 series; Orban 4.45

Microphones: Neumann: 49, 145, KM54, KM85, KM86, KM88, U47 tube; FF1 47; AKG C45, C414, D12, 190E, Shure SM81, SM57, SM58, Sennheiser MD421, MD431
Instruments Available: Yamaha C7 grand piano; Fender Rhodes
Video Equipment & Services: Sony 5800 (2) Sony 14 monitors; Q-Link 4; Sony projection TV; IVC 6800
Rates: Available upon request

STUDIO 55

5505 Melrose Ave., Los Angeles, CA 90038
(213) 467-5505
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 Hodze, Jim Shiflet, Tim Lacquette
Dimensions of Studio(s): Studio A: 40' x 40' w 20' x 18' isolation room
Dimensions of Control Room(s): 20' x 15'
Tape Recorders: Ampex (2) MM1200 24 track; Studer (3) A R0 2 track; Ampex AG440 4 track
Mixing Consoles: Harrison 36x24 36 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-Link (4R track recording), Neumann disk mastering, Allison & Kepex

Microphones: All types
Rates: Please call for rates

STUDIO ORANGE

421 N. Tustin, Orange, CA 92667
(714) 633-8200/(714) 633-8201

Owner: Ted Veavari
Studio Manager: Karen Dark
Engineers: Tim Veavari, Chief Engineer, James Melonakos, Ricardo Ortiz

Dimensions of Studio(s): A: 40' x 50' x 25' w 2' arm booth, 10' x 10' isolation booth. Designed by Status 1 Audio
Dimensions of Control Room(s): A: 20' x 20' designed by Tom Hirdley/Westlake Audio
Tape Recorders: 3M 79 24 track with Selektak II; 3M 64 2 track 30 15 ips
Mixing Consoles: Custom console (transformerless) designed by Eddie Kramer 30 in x 24 out
Monitor Amplifiers: Crown Soundcraft Q5C
Monitor Speakers: JBL 4330s and 4311s; Auratones
Echo, Reverb, and Delay Systems: Sennheiser Plate Reverb; Harmonizer 3; tape delays; Lexicon 224 & 224X; Prime Time; Marshall Time Modulator; various DDLs
Other Outboard Equipment: dbx noise reduction; LA 3A; Eventide Harpex; Orban 3-channel De-Esser; compressors; limiters; gates; (3) Dyna mites. Others available by request
Microphones: PML; AKG; Neumann; Sennheiser; Electro-Voice; Shure; Sony; C61s
Instruments Available: Grand piano: Les Paul L6S Precision bass; percussion; Banjo; Mellotron; Rhodes organ; Leslie; Ludwig drums; Yamaha 12-string
Rates: Call for information



STUDIO SOUND RECORDERS
North Hollywood, CA

STUDIO SOUND RECORDERS

11337 Burbank Blvd., N Hollywood, CA 91601
(213) 506-4487 (506-HITS)
Owner: George Tobin Productions Inc.
Studio Manager: Brad Schmidt
Engineers: Staff: Les Brockmann, Alan Hirschberg, Mark Young; Independents: Howard Wolen, Hal Hellerman, Steve Mitchell, Ryan Ulyate
Dimensions of Studio(s): Studio A: 45' x 25' w two isolation booths approx. 10' x 12' each; Studio B: 30' x 15'
Dimensions of Control Room(s): 20' x 20' each (Both control rooms were built to identical specs)
Tape Recorders: Ampex MM1200 24 track (2); Ampex 3 ATR 2 track 1/2 and 1/4
Mixing Consoles: Harrison 3624 w/Alisor 65K automation 36 in x 24 out
Monitor Amplifiers: Phase Linear; BGW; H&H; M900
Monitor Speakers: UREI 815 Time Align; JBL 4313; Auratones; Yamaha NS10
Other Outboard Equipment: EMT 251 digital reverb; (2) Lexicon 224 digital reverbs; Lexicon Prime Time; EMT 240 Gold Foil; AKG BX 10; (2) Eventide 949 Harmonizers; Pultec EQH 2; MEQ 5; and Lant; PEO-2 equalizers; Allison Gain Brains; and Kepexes; 1176 compressor/limiters; dbx 165 limiters; ADR Vocal Stressor; (2) EXR Exciters; Orban De-Esser; Klark Teknik graphic EQ

Microphones: Telefunken 251 tube; Neumann U-47 tube; U67 tube; U87; KM 86; KM-84; AKG 452EB D 12; Sennheiser 406; MD416; 421; 441; EV RE 20; RE 15; RE 10; RE 11; 635A; RCA 77; Sony EC 9F; ECM 50
Instruments Available: Kawai acoustic grand piano; Hammond organ; Rhodes; Wuritzer; Sequential Circuits Prophet Pro I; Linn drum machine
Rates: \$135 hr. Negotiable. Please call for quotes

STUDIO II (affiliate of Indigo Ranch)

9733 Culver Blvd., Culver City, CA 90230
(213) 558-8832

Owner: Richard Kaplan, Jason Wolchin
Studio Manager: Jason Wolchin
Engineers: Richard Kaplan, Carl Lange, Jason Wolchin
Dimensions of Studio(s): 18' x 45' designed by Jeff Cooper
Dimensions of Control Room(s): 12' x 12' designed by Jeff Cooper
Tape Recorders: Stephens 821A 24 track; Sully 280B 2 track
Mixing Consoles: Aenus Jensen, the only other Indigo Ranch type console 32 in x 24 out

Monitor Amplifiers: BGW 75X's; Crown DE 400A; Marlos 100; Technics Class A; McIntosh, etc.
Monitor Speakers: custom JBL (biamp'd)
Echo, Reverb & Delay Systems: Live chamber; EchoPlate; MasterRoom; Sennheiser reverb; old Technicon reverb; (2) Eventide 1745As; Eventide 1745M; (2) Eventide Harmonizers; Marshall Time Modulator; (2) Cooper Time Cubes; and EMT 250's available
Other Outboard Equipment: Limiters: LA tube; LA tube; LA2A tube; dbx 165; (2) UREI 1176LN; (2) UREI 548; 466C tube; Fairchild 602 tube; EQ; Pultec; SAF; inphix; AIFs; High; Aenus Graphics; Cinema Enclosures; EQs with Pultec boosters; and much more!
Microphones: AKG C12A (50); C45; C452; 414; Neumann U47; M50; KM53; KM54; KM56; KM54; U64; SM57; stereo; KM44; KM46; U87; F V RE 12s; omni; CS15; 731; 670; Calrec 1050; Altec 22 29A; EMOA 125A; Sony C37A; C225; ECM 16; ECM 22; ECM56; ECM45; ECM 64; Shure SM57; SM57; 545; 565
Video Equipment & Services: Available
Rates: Please call



STUDIO WEST
San Diego, CA

STUDIO WEST

5042 Ruffner St., San Diego, CA 92111
(619) 277-4714

Owner: LeRoy Carroll, David Hansen
Studio Manager: Dan Miller
Engineers: LeRoy Carroll, Dan Miner, Steve Penacho, Larry Owens
Dimensions of Studio(s): Studio A: 26' x 35' with another 12' feet in 2 isolation rooms; Studio C: 15' x 2' (voice production)
Dimensions of Control Room(s): Studio A: 20' x 17'; Studio C: 12' x 12' (voice production)
Tape Recorders: Stephens w/Autocore computer 821A 24 24 & 16 tracks; Sully 280B 2 track; Ampex 447B 2 track; MCI IH10 mono; MCI IH 110 2 track; Studer 240 mono; Ampex 447B 4 track
Mixing Consoles: (A) MCI greatly modified to discrete with 8 sub groupings; Model 428, 24 in x 24 out; (C) Auratones 110-2MF 10 in x 2 out
Monitor Amplifiers: Studio A: Threshold 400A/SAE 2200 (4 units); BGW 250 (1 unit); Studio C: Crown DC 60 (3 units)
Monitor Speakers: Studio A (control): JBL 4311A; Studio B: JBL 4320; Studio C: JBL 4311

Echo, Reverb, and Delay Systems: Studio A: live chamber; Eventide Harmonizer; Studio C: MK Mix echo unit
Other Outboard Equipment: Allison limiters; (2) UREI 1176LN limiters; (4) UREI 1A4a limiters; (2) Allison Kepex noise gates; 3 channel Orban; De-Esser; (2) Tri-tone parametric; Euz dual channel Technics parametric; EQ; UREI graphic EQ; UREI digital metronome; (2) TC broadcast cart machines; (5) digital production clocks; (2) Gray SMPTE code reader; character generators; (3) Sony transistor monitors; Sony U-matic video cassette recorder; Pollard Co. in-phix; Detector; BTX 450C synchroizer; Audio Design Yu-zawa (60 channel); Modulator's IBS AM transmitter for broadcast comparison; dbx 155; (2) broadcast ORK limiters; (3) cassette decks in Studio; Pioneer CT F 1030 for client roughs; (2) Taitex EQP 1A equalizers; MXR; danner/doubler; Orban 245E stereo synthesizer

Microphones: Neumann condensers; U87; U86; KM-84; KM-84; KM 88; U44; U67; U7; Sennheiser 421s; 441U; RCA 77HX; 44BX; F V RE 12s; 660s; 635As; AKG; Shure; Sony
Instruments Available: Steinway F 7 grand; Rhodes electric piano; Synclairs; Hotter clavinet
Video Equipment & Services: SMPTE video interlock in Studio A & C
Rates: Studio A: SMPTE video interlock—16 & 24 track \$100; 24 track \$80; 16 track \$80; 2 track \$40; Studio C: 8 track \$35; SMPTE video interlock \$50; 4 track and mono \$30. Same rates for live and mix, no increase for evenings or weekends.
Extras: Musicians lounge area and ovens; room arrangers; room with free use of bond receipt; cassette duplication department with

SOUTHERN CALIFORNIA 24 TRACK

Otari 81 6 position high-speed cassette duplicator

Direction: We mainly specialize in commercials & radio/TV productions. We have 24 national "Clio" award nominations & 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, Denny's Restaurants, 50 Budweiser radio commercials, Michelob Michelob Light & Budweiser TV post screenings, Buster Brown, STP, Sanyo & Glass Plus. We also lead the nation in the number of nationally produced spots for TV promotional music.



SUNSET SOUND
Hollywood, CA

**** SUNSET SOUND

6650 Sunset Blvd., Hollywood, CA 90028
(213) 469-1186

Owner: S. Camarata

Studio Manager: Warren Salyer

Engineers: Eric Renton, Chief Engineer, Terry Christian, Bill Jackson, David Leonard, Peggy McCreary, Richard McKernan, Murray Kunis, Steve Shelton

Dimensions of Studio(s): Studio 1 22 x 36 w/separate string room, Studio 2 30 x 40, Studio 3 20 x 50 w/2 isolation rooms
Dimensions of Control Room(s): Studio 1 16 x 19 Studio 2 16 x 23, Studio 3 18 x 21

Tape Recorders: Ampex 1200 24/16 track, Ampex ATR-100 2 track, Nakamichi 1000-II cassette, Audio Kinetics Q-lock 210 for back-up of 2 or 3 multi-track-machines

Mixing Consoles: Custom designed in all studios 32 in x 24 out, console in Studio 2 features Neve Necam automation

Monitor Amplifiers: BGW 250, BGW 750

Monitor Speakers: JBL custom designed

Echo, Reverb, and Delay Systems: (3) acoustical "live" echo chambers, Eventide 1745M DDL, EMT 250, EMT 251, EMT Hates, Echoplate reverb, AKG Echo Chamber, Lexicon Prime Time, Lexicon 1025 DDL

Other Outboard Equipment: Harmonizers, phasers, parametric EQs, Inovonics 201 limiters, UREI LA2A, LA3, LA4 limiters, VSO, ADR Vocal Stressor, Allison Kepex and Gain Brain, Foother Mayer noise gates, B&B Sub-mixer Grouper

Microphones: Neumann M-49, U-87, KM-84, U-67, U-47, U-64, AKG 414EB, 451, ELAM 251, E-V RE 20, RE-15, 635, Shure SM-56, SM-57, 546; Sennheiser 405, 421, 441 Sony C-37A, EDM-22P, Altec 21D, RCA 44, Crown PZM 130, 150

Instruments Available: Steinway "B" concert grand piano in each studio, upright "lark" piano

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

Extras: Main lobby game room, snack and coffee bar, lounges for each studio equipped 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 Helven, Doobie Bros., Elton John, Neil Diamond, Bette Midler, and many others. Our staff is highly qualified to provide the back-up necessary to insure a smooth session.

An "oasis on Sunset Blvd" where the client is provided with the relaxing atmosphere necessary to feel at home. For over 20 years in the same location, our highly trained staff has provided the assistance to insure a smooth session leading to a lengthy list of clients from Walt Disney to Paul Anka to Toto to Van Halen.

**** SUNSET SOUND FACTORY

6357 Selma Ave., Hollywood, CA 90028
(213) 467-2500

Owner: Paul Camarata

Studio Manager: Philip MacConnell

Engineers: Jeff Minnich, chief engineer, Peter Doell, David Leonard, Tchad Blake

Dimensions of Studio(s): A 26 x 16, isolation room 20 x 12 1/2, isolation booth 12 x 7, B 20 x 22, isolation booth 9 1/2 x 6 1/2

Dimensions of Control Room(s): A 19 x 13, B 18 x 16

Tape Recorders: Ampex MMI 200 24 track, 3M M79 24 track, Ampex ATR 102 2 track, Ampex ATR 1/2" 2 track, 3M M79 2 track, 3M M64 2 track, Technics 1500 1/2 track 1/4 track, Nakamichi 700 cassette

Mixing Consoles: A API 28 in x 24 out, B API 32 in x 32 out

Monitor Amplifiers: Phase Linear, McIntosh, Crown

Monitor Speakers: Alter 604E w/Mastering Lab crossovers (both rooms) Yamaha NS10s, JBL 4310s, JBL L19s, Braun L500s, Auratones

Echo, Reverb & Delay Systems: EMT 140 stereo EchoPlates, EMT 251, EMT 970 delay, Cooper Time Cubes, Lexicon 224X, Eventide 1745 delay

Other Outboard Equipment: Dolby Kepexes, Gain Brains, 1176s, LA3As, LA2A De-esser Harmonizers, Hangers Fairchild 602, EMT 156, Lang PEO-2, UREI 550A, Lang EQ 259A, ITI MEP 230 PEO digital metronome

Microphones: Neumann U67s, U47s, U47 FETs, U87s, KM84s, KM86s, KM88s, M49s, Telefunken ELAM 251s, RCA 77s, 44s, Altec RDC 123, Sony C65, ECM50, ECM22P, C37As, 201, C500s, AKG C12As, 414EBs, 202s, 224s, 452s, E-V RE20s, 666s, 1751s, Shure SM53s, SM56s, SM57s, 585, 544, Sennheiser 421s, 441s, 815s

Instruments Available: Steinway model B grand pianos (both rooms), Hammond B3 organ w/Leslie speaker

Rates: Call for rates

**** SUNSOUND STUDIO

9590 Chesapeake Dr., San Diego, CA 92123

(619) 565-8011

Owner: Peters Productions, Inc

Studio Manager: Judy McWeeny

**** SUNSWEPT STUDIOS

4181 Sunswept Drive, Studio City, CA 91604

(213) 980-6220

Owner: John Hojar

Dimensions of Studio(s): Studio A 20 x 15, Studio B 30 x 20
Dimensions of Control Room(s): Studio A 15 x 15, Studio B 15 x 30

Tape Recorders: MCI JH114 24 track, 30 ips, Otari mixdown

Mixing Consoles: Modified MCI 400 series

Monitor Amplifiers: All Crown amplification

Monitor Speakers: UREI Time Aligned monitors

Echo, Reverb, and Delay Systems: EMT, Lexicon, Ursa Major, MICMIX

Other Outboard Equipment: We have all the usual equipment and we can get anything in short order

Microphones: We have a full collection of microphones, including many tube Neumanns

Instruments Available: Both studios have Yamaha grand pianos

Also Fender Rhodes, various other instruments upon request

Video Equipment & Services: Video sweetenna capabilities

Rates: Still only \$35/hr

Direction: The studios are nestled in the hills above Ventura Blvd in Studio City, and there's ample parking

**** SUNWEST STUDIO

5533 Sunset Blvd., Hollywood, CA 90028

(213) 463-5631

Owner: Robert Williams

Studio Manager: Rena Winters

Tape Recorders: (2) Ampex 1200 24 track, (2) Ampex 1100 16 track, Ampex ATR 104 4 track, (2) Ampex ATR 102 2 track, (2) Ampex 440C 2 track, (2) Ampex 440B 2 track; Tomcat cart machines 2 track, ITC and Rapid Q cart machines 1 track

Mixing Consoles: Quad Eight Coronado, 40 in x 24 out; API, 20 in x 8 out, API modified 1604, 16 in x 4 out

Monitor Amplifiers: BGW, Yamaha

Monitor Speakers: UREI 813A, 813, Altec 604-8G, Auratone 5C, JBL 4301, 4311

Echo, Reverb & Delay Systems: Lexicon 224, EMT 240, 140, (2) live chambers, Eventide Harmonizer

Other Outboard Equipment: Dolby CAT43, Kepex noise gates and limiters, UREI 1176LN, LA3A, dbx 160, 165, Burwen DNF1100, UREI 565, SAE 500, 2700 EQ, Urban De-esser

Microphones: Neumann U47 tube, U67, U87, KM84, KM86, Sony C37A, C37, Shure SM7, SM57, SM59, SM81; AKG 414, C12A, 424, D19E, 242; Beyers M160, M260, M500, E-V RE20, 666; Sennheiser 421, RCA 44; Altec 165A

Instruments Available: Yamaha grand piano, Kimball tack

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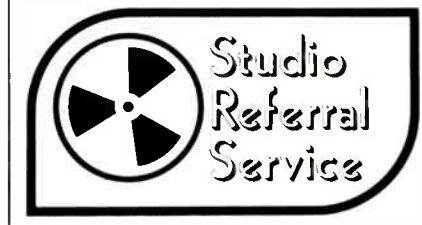
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6669 Sunset Blvd., Crossroads of the World
Hollywood, California, 90028

Circle #064 on Reader Service Card



•••• THE SYNTH ROOM
 923 N. Victory Blvd., Burbank, CA 91502
 Owner: EFX Systems
 Studio Manager: B.B. Cooper
 Direction: This 24 track recording studio is designed especially for the composer/keyboard musician. With access to over fifteen modern electronic instruments (including Emulator Drumulator Memory Moog, Prophet, etc.) and sequencers.
 This room is well suited to do music, film, television or advertising projects.
 This concept differs from conventional recording studios in that no microphones are required (although they may be used) and the composer/musician can work directly with the engineer. The room is set up in a logical manner so that the composer can work alone if it is desired.
 Synchronization equipment is also available for doing music in sync with film or video.
 Modern technology has allowed complete songs and entire film scores to come out of this studio with no microphones used at all!
 Prices from \$45.00

piano, Hammond B3 organ
Video Equipment & Services: Ampex VPR2 Ampex AUR2 Sony BVU800, JVC 8000 Adams Smith and EECO synchronizers Grey Engineering and EECO character generators Ampex resolvers, EECO Time Code generator
Rates: \$140/hr laydown, sync \$200/hr sweetening. Video sweetening facility special rates in music recording sessions

•••• TAJ SOUNDWORKS
 8207 W. Third St., Hollywood, CA 90048
 (213) 655-2775

Owner: The Beltre Group & The Hugh Benjamin Corporation
Studio Manager: Leslee Emerson Ross
Engineers: Chief engineer: Ed Bannon
 Dimensions of Studio(s): Main 25 x 50 Iso 8 x 10 Cont 16 x 18
Tape Transports: MCI JH 10x24 R/R MCI JH 110x27 R/R MCI JH 110H 3-LB R/R, Tascam 52 Sony SLC 583 Beta I VCR/H 15mm film and mag transports MTM 40 1/2 single stripe R/R Videola V 1000 Telecine
Mixing Consoles: MCI JH 528, 28 in x 28 out w/B&B Auto VCA's
Instruments Available: Bakuwin (1943) 7 grand piano, Fender Rhodes '73 Mini Moog, Hohner clavichord D6, Hammond B3 Organ
Video Equipment and Services: Inlight V Star 4 Stewart Film screen 7 x 9 Silver Synchronizer Audio Kinetics Q Lock 310 3 w/ADR, SFX and Q-Scan
Rates: Please call for rates
Extras: Taj Soundworks (formerly One Step Up Recording Studio) has recently undertaken major studio renovation and reconstruction. The primary focus is now film and video post production sound, including automated dialogue replacement (ADR) sync sound effects (Foley) scoring and audio sweetening for video. It is a compact, highly efficient video based facility capable of the flexibility necessary to cost effective post production. As always, we remain committed to audio excellence for the record industry and now offer a broader range of services to all

SUCCESS STORY:

Michael Boddicker
 Jackson Browne
 Lindsey Buckingham
 Mick Fleetwood
 Steve Miller
 Bob Siebenberg
 Soundtek Studios
 Mastertrack Prods.
 Triad Productions
 Mountain Mobile Recdg.
 Quad Teck Studios

Goldmine Recdg.
 Sound FX, Inc.
 Towerhill Prods.
 Live Oak Sound
 Radio Station KCRW
 Radio Station KBPS
 Trinity Bdcast. Ntwk.
 KWGN-TV
 Star Trax Recdg.
 Golden Era Prods.
 Lutz Thomas Prods.

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SALES AND SERVICE OF NEOTEK CONSOLES

•••• T.A.P.E. RECORDERS
 1606 N. Highland, Hollywood, CA 90028
 (213) 464-1106
 Owner: John Bahler Jerry Whitman Kevin Clark
 Studio Manager: Jim Griffith

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

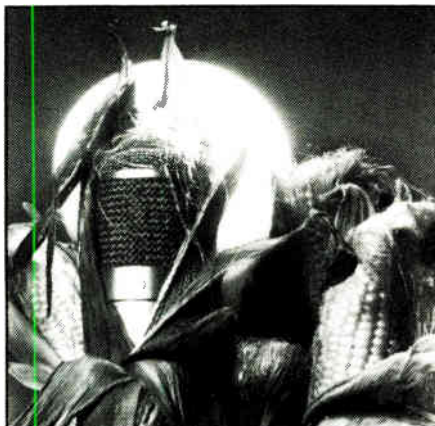
•••• TOTAL ACCESS RECORDING
 612 Meyer Lane, #17 & 18, a, b
 Redondo Beach, CA 90278
 (213) 376-0404
 Owner: Allan Davis
 Studio Manager: Phyllis Koor.
 Engineers: Allan Davis Ron Pate
Tape Recorders: Ampex MM1200 24 track w/VSO and search to cue (2) MCI JH110A 2 track w/Autolocator and VSO
Mixing Consoles: MCI Series 500 automation sub grouping, 12 effects returns stepped and shelving EQ
Monitor Amplifiers: UREI Time Alkane
Monitor Speakers: Jbl 4311 4315 EV Sentry III
Echo, Reverb & Delay Systems: EMT 240 Gold Fall reverb AKG BX-20 reverb
Other Outboard Equipment: Eventide Clockworks Harmonizer Lexicon Prime Time digital delay, Datalab DL4 DDL, 28 channels dbx noise reduction Orban stereo parametric EQ UREI stereo outboard EQ Land outboard EQ dbx limiters UREI 1176, LA 5A limiters, Alison Kexex gates UREI LC band graphic EQ Orban dynamic sibilance controller and more
Microphones: Neumann U87s U6s U64s 67s et AKG 414s 451 Sennheiser MD441 MKH415s Boyer Shure Sony EV and more
Instruments Available: Steinway grand piano
Rates: Please call

•••• TRAC RECORD CO.
 170 N. Maple, Fresno, CA 93702
 (209) 255-1717
 Owner: Stan Anderson
 Studio Manager: Stan Anderson
 Engineers: Stan Anderson
 Dimensions of Studio(s): 45 x 20
 Dimensions of Control Room(s): 15 x 15
Tape Recorders: MCI JH414 24 track Ampex 4400 2 track Ampex PR10 2 track
Mixing Consoles: MCI JH416 24 in x 24 out
Monitor Amplifiers: Crown & Ampex
Monitor Speakers: Altec A7 and 604
Echo, Reverb & Delay Systems: EMT 140 reverb Datalab delay
Other Outboard Equipment: Altec compressor and dbx compressor
Microphones: AKG Neumann RCA Sennheiser Electro-Voice
Instruments Available: Yamaha grand piano Elka strings Fender tube amps
Rates: \$40 - \$60 per hour

•••• TRACK RECORD
 also REMOTE RECORDING
 5249 Melrose Ave., Hollywood, CA 90038
 (213) 467-9432
 Owner: Thomas M. Murphy
 Studio Manager: John Carter
 Engineers: Tom Murphy Bill Metzger John Carter Dave Jenkins, Alex Gordon Jackie Gutmed, Mike Webb, Ion Schiack.

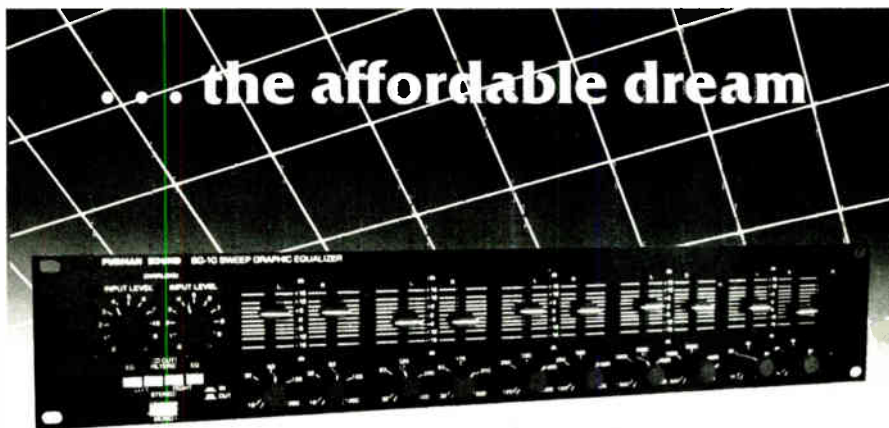
SOUTHERN CALIFORNIA 24 TRACK

Brian Fukui, Peter Blackman, Jim Bilbo
Dimensions of Studio(s): 14 x 15 x 13 and 14 x 18 x 14
Dimensions of Control Room(s): 15 x 20 x 12
Tape Recorders: MCI JH24 24 track, Ampex ATR 100 2 track, Otari 5050B Mk III 1/2" 4 track, Technics 1520 2 track, Sony TC854-4 4 track
Mixing Consoles: Trident Series 80, 40 in x 24 out
Monitor Amplifiers: H&H, SAE with White 1/2-octave EQ
Monitor Speakers: UREI 813 Time Align, JBL 4301s, Auratones
Echo, Reverb & Delay Systems: EchoPlate I and II, live chamber, Harmonizer 910 Lexicon Prime Time, DeltaLab DL1 and DL2 Acousticcomputer, Cooper Time Cube, MXR digital delay
Other Outboard Equipment: (2) UREI 1176LN, Teletronix LA2A, (4) Trident limiter compressor, dbx 165, (2) Altec 436C, (2) Pultec EQH2, (2) Trident parametric EQ CB9066, UREI 535 graphic EQ Cinema Eng program EQ, Phase Linear Autocorrelator, Wattnot Product generator, (4) Kepex, tube direct boxes and overdrive units, custom stereo Aural Exciter
Microphones: U47 tube Telefunken, U47 FET Neumann, (3) U87, (2) KM84, (3) KM64 tube, AKG (2) 452, (3) 451, 414P48, 414EB, RCA 77DX, Sennheiser (3) 441 (2) 421, E-V (2) RE20, Shure SM7, (6) SM56, PML DC63
Instruments Available: 7 Kawai grand
Video Equipment & Services: 1/2" 4 channel with sync, 24 track interlock with video
Rates: 24 track \$50/hr 2 track \$40/hr Video rates on request



TRIAD RECORDERS
Fresno, CA

•••• TRIAD RECORDERS
 2727 N. Grove Industrial Dr., Fresno, CA 93727
 (209) 255-1688
 Owner: P F Communications, Inc
 Engineers: Eric Seaberg, Jeff Hall, various independents
Dimensions of Studio(s): Studio A 28 x 42 x 14, Studio B 20 x 28 x 12, Studio C 12 x 8
Dimensions of Control Room(s): Control Room A 24 x 20 w/ machine room Control Room B 24 x 20 Control Room C 17 x 11
Tape Recorders: Studer A800 Mk III 24/16 track; Ampex MM1200 15/8 track, Studer A80 RC 1/2" 2 track, (2) Studer A80 RC 1/4" 2 track; (2) Studer A810 2 track, (2) Studer A710 2 track, (5) Revox PR-99 2/1 track; Nagra IV SL 2 track
Mixing Consoles: Harrison MR-3, 48 in x 24 out, Harrison MR-3, 32 in x 24 out, Quantum Audio Labs Series 22, 8 in x 4 out
Monitor Amplifiers: (12) Crown 300-A/II, (9) Crown DS-75, Crown PS-200
Monitor Speakers: Augspurger custom, E-V Sentry 500, E-V Sentry 100, Auratone 5C
Echo, Reverb & Delay Systems: Live echo, EchoPlate III (2), Lexicon 224X, Eventide Time Squeeze Jr., Lexicon Super Prime Time, Lexicon Prime Time II (2)
Other Outboard Equipment: Melkuist GT800 automation sys.
(continued on next page)



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The Furman Sound SG-10

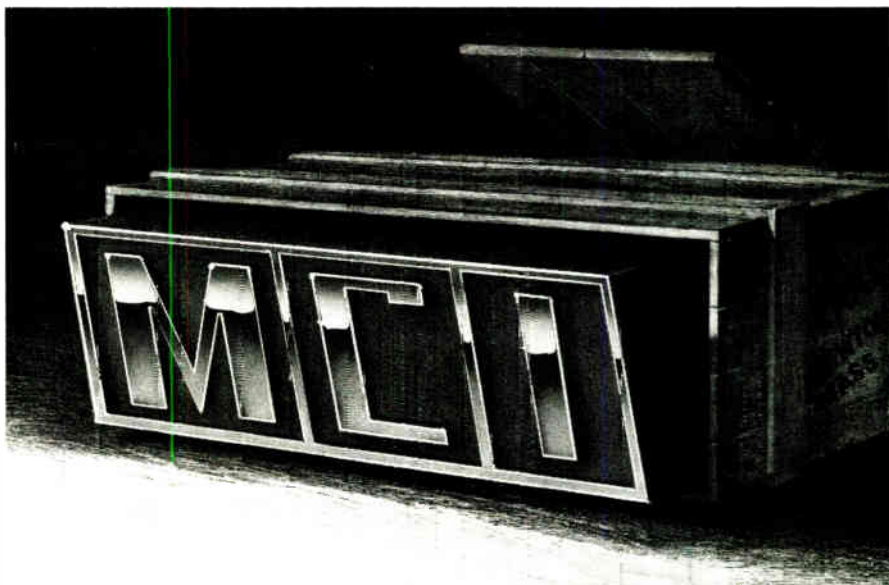
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 30 Rich Street
 Greenbrae, CA 94904
 (415) 927-1225

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capabilities are there to serve you whether you need a microphone or a full turn-key system.

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SOUTHERN CALIFORNIA 24 TRACK

tem w/floppy disc, 1/4" tape, UREI 1176LN, UREI LA4s, UREI 1176LN, UREI LA4s, EXR 4 Exciters, UREI 565, Orban para sound stereo synthesizer, Orban parasound silencer controller, Burwen DNF 1100, UREI 545, SAE 5000, Eventide Omnipressor, Avidio Kinetics 410 Q Lock.

Microphones: AKG 414s, 460s, C34, E.V. RE20s, Sennheiser 421, 441s, Wahnbrook PZM 140s, Crown PZMs, Altec 29Bs, Audio Technica ATM 41B, plus more.

Instruments Available: Yamaha C7B piano, guitar amps, Rhodes. Available on request. Sequential Circuit Propector, Oberheim's Yamaha synthesizers, also Synclavier.

Video Equipment & Services: Syn to Sony EVH 100, 211, Sony 2860/2860A 1/4" 45 x 50 video studio Hi8 Hi8E/70 SK80 and CEI 410 cameras, Grass Valley 1600 HL switcher, etc.

Rates: A 24 trk \$75/hr, 16 trk \$60/hr, B 16 trk \$50/hr, B trk \$40/hr, C \$40/hr. Broad cast production. Blocks available.

•••• T.T.G. INC. RECORDING STUDIOS

1441 N. McCadden Pl., Hollywood, CA 90028
(213) 464-7391

Owner: Ami Harkin.
Engineers: Am. Harkin, Assat Samir, William Parr, Mike Martin, etc.

Dimensions of Studio(s): Studio I: 65' x 41' w/20' ceiling plus iso booth, (can accommodate 90 musicians). Studio II: 61' x 18' plus iso booth. Studio III: 40' x 20' plus iso booth. Theater on street corner.

Dimensions of Control Room(s): Studio I: 22' x 17'. Studio II: 21' x 14'. Studio III: 20' x 17' (under construction).

Tape Recorders: MCI JH 16, 24 track, 3M 56, 16, 16 track, Ampex and MCI 4, 2 track and mono.

Mixing Consoles: Custom 42' x 60' in x 4 out plus 4 track 4 track 2 track stereo and mono and independent buses, API 2488, 24 in x 24 out with optional Focusmix 10 in.

Monitor Amplifiers: Crown's 18L.
Monitor Speakers: JBL.

Echo, Reverb, and Delay Systems: 5 built-in reverb chambers, 4 electronic reverb chambers.

Other Outboard Equipment: Dolby noise reduction system, UREI Fairchild Teleflex limiters, Spectra Sonics comp limiter, Lano API, UREI Palco Mavee, Cinema Engineering EQs, 35 mm projection, 35mm film recorders (4 stripe or single stripe) in series between projects, in-mat recorders and any type of tube Dummies, optical limiters.

Microphones: Neumann, UREI, EM 64, EM 84, M 4, AEI 414, 452, Sennheiser 421, 441, Electro-Voice RE 20, BE 20, BE 20, RCA 77, Sony C 42, Shure SM 57, 545.

Instruments Available: Pianos, Hammond B3, organs with Leslie speakers, Console 30 x pianos, Fender Rhodes (CS80).

Rates: Available upon request.

•••• UNICORN RECORDING STUDIO

1454 5th St., Santa Monica, CA 90401
(213) 458-1661

Owner: Daphna Fawcett.
Studio Manager: Lonny Kelem.

•••• UNITED/WESTERN

6000 Sunset Blvd., Hollywood, CA 90028
(213) 469-3558

Owner: United Recording Corp., Jerry Barnes, V.P.
Studio Manager: Jerry Barnes.

Engineers: On call roster and independents.

Dimensions of Studio(s): Four multitrack, tube, all stereo, ranging from one to 75 musicians.

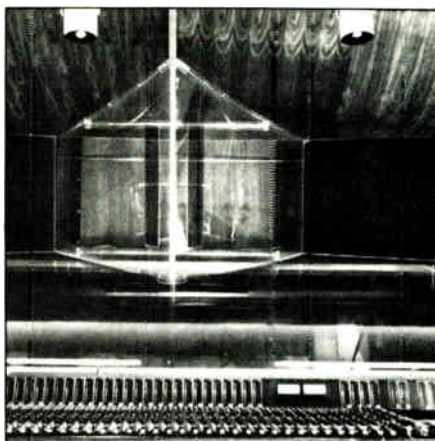
Tape Recorders: MCI JH 14, 24 track, MCI JH 14, 16 and 16 tracks, Ampex ATR 102, 2 and 14, 2 tracks, MCI 16, 16 and 2 tracks, Sony PCM digital 2 track, Sony EX 1010 cassette decks, TFAO 4X cassette decks, Magna Tech 35mm film recorders, Magna Tech Projection.

Mixing Consoles: Neve 8, 08 w/Neve 56 in x 48 out, Harrison 40 1/2 (2) MCI 24 in x 24 out.

Monitor Amplifiers: UREI 6500s, an McIntosh 2 000s.

Echo, Reverb, and Delay Systems: Six live chambers, eight EMI 140STs, three Cunningham, Echoplex, a stereo digital reverb (EMI AMS 10x, etc).

Other Outboard Equipment: A complete selection of gear including K1X SMPTE interface, Dolby system, all studios UREI limiters (1176, 1178, LA2s, LA4s) etc. etc.



UNITED WESTERN
Hollywood, CA

Microphones: Neumann, AKG, Beyer, Shure, Sennheiser, Sony, Telefunken tubes, E.V. RCA 77s and 44s.

Instruments Available: Steinway pianos, Hammond B3s, Fender Rhodes, Trax piano, Celeste.

Rates: Available upon request.

•••• VALENTINE RECORDING STUDIOS

5330 Laurel Canyon, No. Hollywood, CA 91607
(213) 769-1515

Owner: Jim Valentine.
Studio Manager: Eve Valentine.



VILLAGE RECORDERS
Los Angeles, CA

•••• VILLAGE RECORDERS

1616 Butler, W. Los Angeles, CA 90025
(213) 478-8227

Owner: Giorgio Hormel.
Studio Manager: Joel Fein.

Engineers: Siles Mor, Dick L. Edum, Chief Engineer, Alan Gellman, Trish, Kathy Karp, Engineering Assistants, Robin Lane, Cliff, Ross, Jim Faris, Don Williams.

Tape Recorders: Studers and Ampexes.

Mixing Consoles: Studio A: Neve 8058, 32 in x 42 out, Studio B: Neve Neveam 8108, 48 in x 42 out, Studio C: Neve Neveam 4078, 48 in x 42 out.

Video Equipment & Services: Video post production facility, 2 track 410, 3 track TSS (A) on transfer, 16 video to audio mixing.

•••• WARNER BROTHERS RECORDING AMIGO STUDIO

11114 Cumpston St., N. Hollywood, CA 91601
(213) 980-5605

Owner: Warner Bros. Records.
Studio Manager: Ed Ouzwater, Leo Hershkowitz, Director of Recording.

Dimensions of Studio(s): Live recording room, 42 track, mono & 24 track.

Dimensions of Control Room(s): Large.

Tape Recorders: 3M digital 32 track, 3M 24, 8, 16, 24, mono tracks, ATR 2 track, 14, and 16.

Mixing Consoles: 2 Harrison, 4 in x 42 out, MCI 32 in x 42 out.

Monitor Amplifiers: FGW Crown.
Monitor Speakers: Monitor+Westlake monitors.



WARNER BROTHERS RECORDING AMIGO STUDIOS
North Hollywood, CA

Echo, Reverb, and Delay Systems: (6) stereo EMTs, one mono EMT, & other digital analog delay line.

Other Outboard Equipment: UREI limiters, Lexicon Prime Time, Lexicon 224, Loft delay line, Eventide Harmonizer, & anything else you could desire.

Microphones: Full selection.

Instruments Available: Hammond organ, Steinway grand piano, Yamaha grand, & upright pep piano.

Rates: Available on request.



WEDDINGTON STUDIO
Hollywood, CA

•••• WEDDINGTON STUDIO

11128 Weddington St., No. Hollywood, CA 91601
(213) 508-5660

Owner: Robert Cotton.
Studio Manager: Glen Heard.

Engineers: Wally Grant, Mike Ross.

Dimensions of Studio(s): Approx. 1200 sq. ft.

Dimensions of Control Room(s): Approx. 500 sq. ft.

Tape Recorders: MCI JH24 24 track, 2) Ampex ATR 102 2 track, Otari 5050 2 track, Technics MK 85 cassette, Mitsubishi DT10 cassette, Otari 5050 8 track.

Mixing Consoles: MCI 600 (automated) 36 in x 24 out.

Monitor Amplifiers: Hafler 220s.

Monitor Speakers: UREI 815 Time Auger, UREI 814 Time Auger, Yamaha NS10M, Airtone.

Echo, Reverb, & Delay Systems: Lexicon 224 digital reverb, EchoPlato II, (2) Lexicon PCM 41, Eventide Harmonizer model H949, Orban digital reverb model 1118.

Other Outboard Equipment: (2) UREI 1176, compressor limiters, (2) UREI LA4A, compressor limiters, 4 B&B 110 noise gate compressors, (2) dbx 904 noise gate, UREI digital metronome.

Microphones: Neumann KM84, KM86, KM85, U47, U47 (tube), U67 (tube), AKG 414, 451, Shure SM56, SM81, Sennheiser 421, 441, Crown PZM, Sony C17A (tube), E.V. RE2C.

Instruments Available: Yamaha C70 grand piano.

Rates: Available on request.

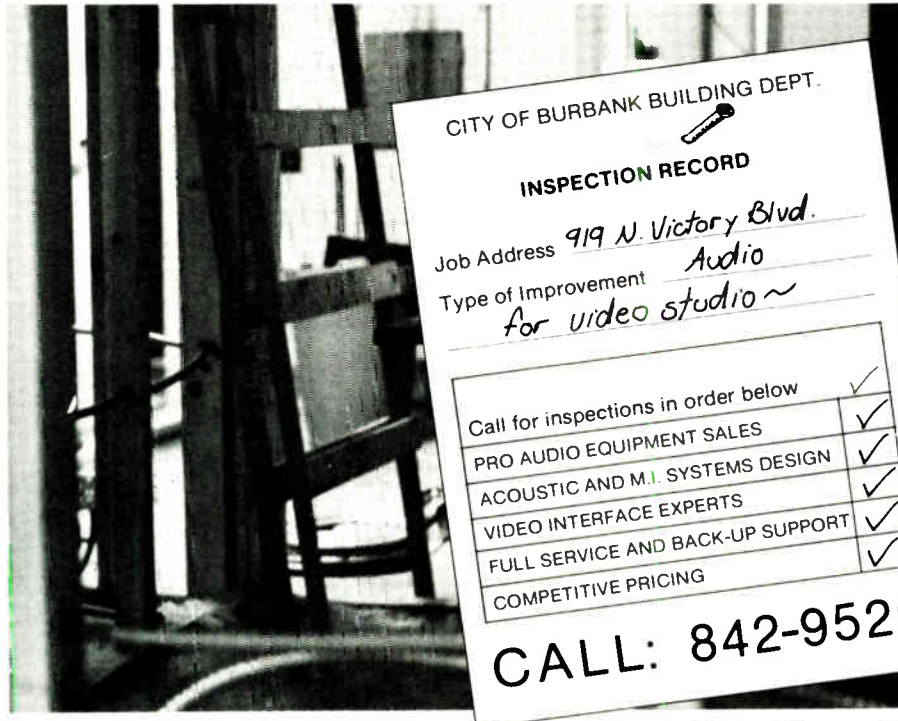
•••• WESTERN AUDIO RECORDING STUDIOS

8050 Ronson Road, San Diego, CA 92111
(619) 292-9805

Owner: Harlan Lapsky, Bob Bishop.
Extras: Our 20,000 sq. ft. audio and video facility includes an 8,000 sq. ft. soundstage, CVS video tape editing system, game-

STUDIOBUILDERS

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Se habla SMPTE time code. Nous Parlans 35mm Mag.

919 North Victory Boulevard, Burbank, CA 91502

SOUTHERN CALIFORNIA 24 TRACK

room including pin ball, kitchen and band dressing rooms
Direction: Western Audio Recording Studios was formed with the philosophy of combining 24 tracks and video in one complete facility. Using this unique combination, our clients who have included Casablanca, Atlantic, Warner Bros, A&A & MCA Records, have the option of performing a live concert with a 24 mix to video or bringing pre recorded tracks and lip syncing.

**** WESTLAKE AUDIO STUDIOS
 8447 Beverly Blvd., Los Angeles, CA 90048
 (213) 654-2155
 Owner: Glenn Phoenix
 Studio Manager: Deni Kiri



WESTWIND
 Westlake Village, CA

**** WESTWIND
 41 North Duesenberg Drive, Westlake Village, CA 91362
 (805) 497-6911/497-8052
 Owner: Larry Muhoberac/Billy Walker
 Studio Manager: Ron Capone
 Engineers: Ron Capone
Dimensions of Studio(s): 40 x 40
Dimensions of Control Room(s): 24 x 20
Tape Recorders: MCI JH-16 w/VSO 24 track, MCI JH 110 w/VSO 2 track, MCI JH 110 w/VSO 2 track
Mixing Consoles: MCI 24/16 24 track
Monitor Amplifiers: (2) BGW 750 C, BGW 250 D, BGW 150
Monitor Speakers: UREI Time Aligned #8.3B
Echo, Reverb, and Delay Systems: EMT AKG Eventide Marshall
Other Outboard Equipment: An array of outboard equipment
Microphones: AKG, Neumann, Shure, Sennheiser, Electro Voice
Instruments Available: Yamaha grand piano Yamaha CS 80 Fender Rhodes, Mini Moog synthesizer/Ludwig drums
Rates: Call for rate quote
Extras: 35 min from Hollywood offers a "safe" and relaxing atmosphere. Offering lounge, kitchen, privacy video games and 5000 sq ft of the latest in acoustic & interior design. Hotel accommodations nearby
Direction: With the studio we have an in house production Company that writes, performs, records and produces radio and TV commercials. Some of our commercial accounts are 7-11, AKG, CBS, Olympia Beer & Bob's Big Boy

**** WESTWORLD RECORDERS
 7118 Van Nuys Blvd., Van Nuys, CA 91405
 (213) 782-8449
 Owner: Robert Schreiner
 Studio Manager: Jerry Pearson
 Engineers: Robert Schreiner Roy Braverman Dan Yokum
Dimensions of Studio(s): Studio A 500 sq ft Studio B 15 x



WESTWORLD RECORDERS
 Van Nuys, CA

45 w/vocal booth
Dimensions of Control Room(s): 350 sq ft
Tape Recorders: MCI JH 100 24 24 track, Ampex 352-2 2 track Telex Magnaord 728 2 track, Sciv 77 (two units) 1/4 track 2 track Sony cassette
Mixing Consoles: HLS sound console 46 in x 36 out, 24 track cue & monitor
Monitor Amplifiers: Phase Linear, Marantz, McIntosh
Monitor Speakers: JBL Alter and Quadralox
Echo, Reverb, and Delay Systems: EMT 40 tube stereo plate, AKG BX 20 spring system and one custom spring system Misc tape loop systems and Eventide digital delay
Other Outboard Equipment: Melcor limiters, UREI 1176e, SAE & Alpha graphic EQs Melcor peaking and custom parametric EQs flanger, phasers, Eventide Harmonizer, Lexicon Prime Time
Microphones: Shure SM-57s, AKG 451s, C-2, C-28s, C-61, Sony C-37, Neumann M-49 many U-47s, RCA 44s, Telefunken CM 61s, Sennheiser 421s & misc Alter E-V & others
Instruments Available: Yamaha C-3 grand piano Fender Rhodes 73 piano ARP Omni string and horn synthesizer
Rates: Please call for rates
Extras: The studio is conveniently located among three freeways in Van Nuys. We are close to five restaurants. We can assist or contract all phases of musical services. Please call for rates.
Direction: Westworld Recorders is the cost-effective answer to the dilemma facing producers who must choose between high ticket studios and poorly run garage-type operations.
 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 growing list of loyal producers and we invite you to become one of them.

**** WHITE FIELD STUDIO
 2902 W Garry, Santa Ana, CA 92704
 (714) 546-9210
 Owner: White Field Studios, Inc
 Studio Manager: Thom Roy
 Engineers: Chris Taylor, Dan Willard, David Daugherty Thom Roy
Dimensions of Studio(s): A 25 x 25; B 20 x 25 w. 2 iso booths Video 40 x 40 (lighting grid at 18")
Dimensions of Control Room(s): 20 x 25
Tape Recorders: Stephens B21 A24 24 track, Ampex ATR 102 1/2" 2 track, Ampex ATR 102 1/4" 2 track, Ampex AG-440-C 2 track
Mixing Consoles: Ford Audio/BA Roth custom w/Allison automation, 32 in x 24 out
Monitor Amplifiers: AB Systems, Spectra Sonns, Crown 300A, Crown D150 Uni-Sync 100
Monitor Speakers: Altec 604E/Utah w/Mastering Lab crossover, JBL, Auratone
Echo, Reverb & Delay Systems: EMT 240, EchoPlate II, Lexicon 224 Prime Time Loft 450, Eventide #49 Harmonizer, CL2
Other Outboard Equipment: UREI LA2A LA3A Universal 175, 1176, Orban Deesser, Stephens Deesser, EXF Roger Mayer noise gates, Kexex II, BiAmp graphics
Microphones: Neumann U47 tube, U67, M49, M269, KM54, KM56, KM84, Sony C37A C57 C500, Telefunken 250, 251E, AKG C12A, C24 C60, 414, 452, 224, Baye 160 RCA 77DX E-V RE20, Sennheiser 421, 441
Instruments Available: Steinway G concert, B3 with 2 Leslies, Rhodes, Wuritzer 140, quatar amps drums
Video Equipment & Services: 34" production and post services Fortel Y-688 enhanced A/B roll edit Crosspoint switchers 28" truck
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 Suesou, Ray Blair
Dimensions of Studio(s): Studio I 40 x 40, Studio II 20 x 27
Dimensions of Control Room(s): Studio I 20 x 20, Studio II 16 x 20
Tape Recorders: (6) Ampex ATR 100 2 track, MCI 1/2" 2 track, 24 track MCI w/Autolocator; Ampex MM1200 24 track
Mixing Consoles: MCI 636 automated 36 in x 24 out, Audiotronics Son of 36 Grand, 26 in x 16 out
Monitor Amplifiers: Carver, Yamaha, Crown, Phase Linear
Monitor Speakers: UREI Time Align, JBL
Echo, Reverb, and Delay Systems: EMT 140, Lexicon 224
Other Outboard Equipment: Eventide Harmonizer, Eventide digital delay, Lexicon Prime Time, Kexex, UREI LA3A, EXR Exciter etc
Microphones: Neumann U 87s U-89s U-67 M-49 AKG 414s 451s, Sennheiser 441s 421s Shure KM 80s etc
Instruments Available: Yamaha C7 74" Yamaha grands, Gretsch drums
Video Equipment & Services: Video duplication film chain, and video tape services
Rates: Studio I 24 track \$125/hr Studio 2 24 track \$85/hr 16 track \$65/hr
Extras: Current hits out at Wilder Bros. Studio are Karla Bonoff's hit single "Personality" and her album "Wild Heart of the Young" also Glen Frey's "I Found Somebody" and Glenn album "No Fun Allowed" also Jackson Browne's production of Greg Copeland's album heading up the charts



WINETREE VILLAGE RECORDING STUDIOS
 Claremont, CA

**** WINETREE VILLAGE RECORDING STUDIO
 also REMOTE RECORDING
 224 N. Indian Hill Blvd., Claremont, CA 91711
 (714) 625-3288
 Owner: Robert S. Dire
 Studio Manager: Robert S. Dire
 Engineers: Michael Hutchinson
Dimensions of Studio(s): 27 x 27 x 20, drum cage 8 x 8, iso booth 7 x 8
Dimensions of Control Room(s): 21 x 20 x 20
Tape Recorders: Otari MTR90 Series II 24 track, Otari MTR10 2 track, Otari 5050B 2 track, Technics 1520 2 track
Mixing Consoles: Harrison MR4, 28 in x 24 out fully automated, 32 segment L E D S
Monitor Amplifiers: Yamaha
Monitor Speakers: Tannoy M100 (biamped, time aligned), E-V Sentry V, Visconics, Auratones
Echo, Reverb & Delay Systems: Lexicon 224X (16 programs), "live" echo chamber, MasterRoom "Super C," ADA DDL, Delta-Lab Acoustrocomputer
Other Outboard Equipment: UREI LA2As, LA3As, 1178, dbx 1650s, 164, Kexexs, Dynomites, Eventide 949 Harmonizer, Bang & Olufsen turntable
Microphones: Neumann (FET and tube), AKG, Sennheiser, E-V, Shure, Crown, Countryman, Countryman direct boxes
Instruments Available: Yamaha C7 74" grand piano, 6 piece Ludwig drum set w/Zildjian cymbals, Fender P-bass, Ampeg bass amp, Fender quatar amp. Available at extra cost is a Soundchaser 8 voice, 16 osc poly KMS
Video Equipment & Services: Three camera color w/effects, studio and remote. Complete 1/2" editing. Mastering & dupe. Low rates, good quality
Rates: Call for color brochure and rate card
Extras: Secure, private parking, easy access, lounge w/color TV and video games, full kitchen and local restaurant menus, list of independent engineers, musicians, arrangers, complete production services, real-time cassette duplication, block rates
Direction: Winetree is centrally located between L.A., Orange and San Bernardino counties in the beautiful college town of Claremont. Our state-of-the-art facility is run by a highly qualified, friendly staff to assist you in all your recording needs. We are the link between the music and the product.

SOUTHERN CALIFORNIA 24 TRACK

•••• WIZARD RECORDING STUDIOS

308 N. Edinburg Ave., West Hollywood, CA 90048
(213) 655-1322

Owner: Hank Donig

Studio Manager: Sally Stevens Operations Mar Judy Elliott

Engineers: Hank Donig, Glen Holquin, Ira Rubnitz and Patty Small

Dimensions of Studio(s): Studio 28 x 18 Piano isolation 17 x 13 drum booth 12 x 10, vocal isolation 5 x 9

Dimensions of Control Room(s): 22 x 17

Tape Recorders: MCI JH 16 Autolocate 24 track, MCI JH 110A-2 track, Ampex ATR 700 2 track, Ampex ATR 100 2 track, Technics RMS 85 cassettes, TEAC 3340S 4 track slap echo

Mixing Consoles: Trident TSM 42 in x 24 out

Monitor Amplifiers: Brystons

Monitor Speakers: Augsburg designed JBL system, Augsburg tuned UREI 813 Time Aligns, JBL 4311, Braun L1030

Echo, Reverb, and Delay Systems: EMT 140 ST EMT 240, Cunningham echoplate, Marshall Time Modulator, Eventide Harmonizer, Eventide 1745M DDL, Lexicon Prime Time, Eventide phaser flanger

Other Outboard Equipment: Orban De-Esser, UREI 1176, Roxyer Mayer noise gate, dbx 160 stereo, Orban 8-band parametric EQ, Gain Brain Kepex, Eventide Compressor, Dolby all channels, EXR Exciter, ADR Vocal Stressor, LA4A, Inovonics 201

Microphones: Neumann tube U 67 U 87 U 47, KM-84, U-89, AKG 414 EB, 452, Sennheiser 441, 421, E-V RE-20, RE 15, Shure SM 57 58 545, P2M's, PMI DC-63, Beyer 500

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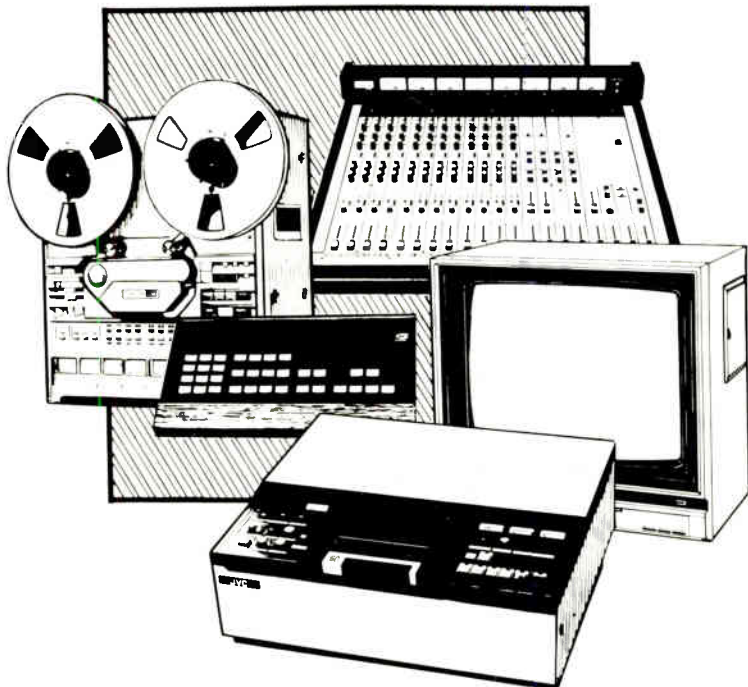
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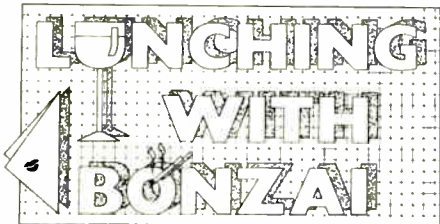
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Laraine Newman

L I V E



PHOTO MR BONZAI



by Mr. Bonzai

Laraine Newman invited me for lunch at her home in the Westwood district of Los Angeles. Dressed in tights, she was breathless from a work-

out when she opened the door and apologized for not being ready. She zipped into the kitchen to slice some cheese and fruit and while I uncorked the beaujolais she produced an artistic array of goodies.

My first questions were regarding her comedic roots. To give a graphic idea of her childhood she went to a closet and pulled out a medieval contraption of steel and leather. It was a backbrace she had worn between the ages of 13 and 15. "Good years for such an attractive fashion item," she remarked.

I asked about her adolescence. "Well, puberty was intercepted by the backbrace," she explained. "I had scoliosis, which is a spinal disorder. I was one of the last girls to start menstruating and I never did get any boobs. The only trait that I was bestowed with ahead of everyone else was acne. It wasn't enough to be skinny and have a large nose and curly hair - I needed that little something more."

Laraine grew up in L.A. where she focussed on drama, art and English in high school. At 15 she was hired by the county to do improvisational theater in the parks and ended up developing her skills in the barrios and in Watts.

Following high school she left for Paris and was accepted as a student by Marcel Marceau. She studied mime for a year and a half. "It was a good discipline," she reflected, "but at nineteen I knew that being cute and whimsical was not the form of comedy for me. I liked the hard stuff."

Back in L.A. she joined an improv group that became The Groundlings, a quite successful comedy theater. From there she landed a part in a Lily Tomlin TV special produced by Lorne Michaels. When he was preparing for a late night summer replacement he looked her up and said he was planning a show that would be a cross between Monty Python and "60 Minutes." "It sounded like a show I would enjoy watching," she told him. For five years she was under contract with Saturday Night Live.

Since SNL she has done both dramatic and comedic television, a music video with Tommy Tutone, and 3½ months on Broadway in "The Fifth of July." "I was adequate," she said. "But it drove me nuts doing the same show eight times a week. You do learn the character and how to shade and color the performance, but improv and writing are what I enjoy the most."

Bonzai: What is the work you are most proud of?

Newman: I think I did a good job on Saturday Night Live and in "Stardust Memories." Doing my own material is what pleases me most, though.

Bonzai: Was there something in your character as a little girl that led you to the life you lead now?

Newman: I fantasized a lot. Everybody else's thoughts about what I was going through with the brace were more severe than my experience because I had such a good facility for fantasy.

Bonzai: Can we talk about your first sexual experiences?

Newman: When I was five I watched a cartoon where a missionary was being cooked in a kettle by cannibals and it got me off. I drew a picture of a witch holding a knife and fork and cut it out and sat her in a chair. I had a large wicker clothes hamper which I loaded with broken crayons, which were meant to be vegetables. I got into the basket, naked, and I got off. I won't elaborate on what I've become now, but you can see there were promising beginnings.

Bonzai: You've been working out, haven't you?

Newman: Well, I was sick of being underweight. I don't think it's attractive and I never did. Now I weigh more than ever, and it's muscle.

Bonzai: Would you mind talking about your cosmetic surgery?

Newman: Not at all. I lived all my life with the previous nose and I felt like a change. I talked to four surgeons and I chose one who felt that just because you have a beak it doesn't mean you should end up with a button. He just



PHOTO MR BONZAI

Bonzai: Have you ever been in love with a musician?

Newman: Unfortunately, it has been a pattern in my life. I must have a need to be a mother. Part of the charm of musicians is that they have dedicated so much time to their craft that they are socially retarded. There are some exceptions, of course. They're still adolescents, which is very charming.

Bonzai: What is the most attractive part of a man's body?

Newman: The area where the extra rib curves in. I don't know what it's called but it's a feature that only men have. It's so beautiful - it's this area right here.

[She indicates the area of the upper abdomen where men in good shape have ridges of muscle.]

Bonzai: What is the most attractive part of a woman's body?

Newman: Boobs. Boobs are the best thing, and the bigger the better.

gave it a prettier shape. He was very conscientious, he didn't even break it, and I like what he did. You have to remember I went to Beverly Hills High, which is a Jewish ghetto. After every major holiday you'd see kids come back to school with black eyes and a bandage over their nose. "I was in a hunting accident." I'm glad that I waited to do it, because I had existed somewhat successfully with the way I had looked.

Bonzai: If you could play any figure in a film, who would it be?

Newman: I would love to play Anais Nin. I think I would be perfect to play her. I identify very much with the things she has written.

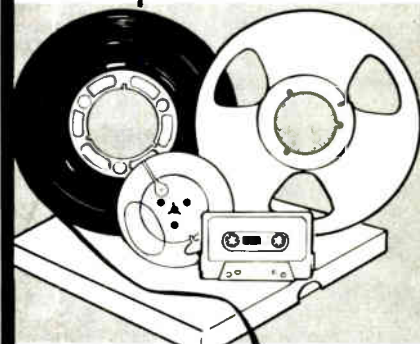
Bonzai: If you could be any man, who would it be?

Newman: FDR.

Bonzai: Who is the Norman Rockwell of comedy?

Newman: Richard Pryor. He does

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everything – he's got heart. He's very sophisticated in a lot of ways and in others ways he's not. He does real characters, and he has a very interesting empathy for women and children.

Bonzai: Who is the Cecil B. DeMille of comedy?

Newman: Lorne Michaels. First of all, he's got the patience. He's a manipulator, but in a very gentle and nurturing way. He gives you a lot of time and he gives a lot of himself. When you take into consideration all of the elements and the personalities of the show we worked on – this man made it possible for everyone to be happy, and that's tough. And he's not a cut-throat.

Bonzai: Who is the Sigmund Freud of comedy?

Newman: Woody Allen. Woody is so fine, and he's also very specific about the humor of human beings.

Bonzai: What is the newest drug among the jetsetters and the trendsetters these days?

Newman: Well, there's a new drug around called "Empathy." It's in the psychedelic category, from the family

of MDA and synthesized psilocybin. It has the emotional benefits of psychedelics without the terrifying elements. Because it's an empathy drug you can almost predict what your partner is thinking. You can't take this drug with a stranger. You have to take it with someone you know very well and trust. With a stranger you get sick and throw up.

Bonzai: What are your favorite fun spots in L.A.?

Newman: I love Leo Carillo beach, 'cause there's caves and good surfing. I love the Magic Castle, and Disneyland, and Pasadena. I love downtown L.A. and the Flower Mart. I love Los Angeles. The truth of the matter is that most of the people who adopt the trappings of a faddish culture, which are associated with this city, are not natives. I'm a native and I don't eat Granola.

Bonzai: If you were a car, which would it be?

Newman: I would want to be something that has the torque of life. I love to drive and I love to speed. I love a car with fast pickup. I would be a Trans Am.

Bonzai: Do you have groupies?

Newman: Yes. Being from the suburb that I am from, I am not starstruck. It's a quality that I don't really like. It's the same as being a sycophant and it's what killed John [Belushi]. It's empty. People were willing to supply him with stuff that would kill him just to be around him, just to say they were his friend. I've been through that—I've done heroin, cocaine—those people aren't your friends. Groupies are people who will put up with a lot of bullshit in your character.

When asked about her place in history, Laraine didn't consider herself one of the "stars" of Saturday Night Live. Her role in the show was overshadowed by the mad Belushi, the suave Chevy, the gritty Gilda. But if you take a look at the re-runs you'll notice an assured consistency and an inventiveness in Laraine's prophetic valley girl, her posed out celebrity princesses, her teenage Conehead, her women on the street.

"I was one of a group; I was a team player. I would just like to be known as someone who has a good body of work and has done good characters."



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DIGITAL

PART 12

DISCUSSIONS

DELTA MODULATIONS

by Ken Pohlmann

Audio digitization may be accomplished in a variety of ways. The linear PCM system which has formed the basis of our previous discussions is considered to be the classical digitization method and has proven itself to be the overwhelming choice of digital manufacturers. However, variations on this classical scheme, as well as more innovative methods, promise to incite raging episodes of technology confrontation for years to come. Once again, battle lines of consumers will be drawn and, armed with the manufacturers' newest audio weaponry, they will do battle to the death, or at least to an incompatibility armistice - such is the way of global marketing warfare. The armed digital audio camps each represent a particularly desirable aspect of digitization, either in terms of cost or technical expertise, and perhaps it will not be until a truly superior method is devised—one which encompasses all of the assets of the others—that a standard digital system will prevail. (Are you young digital designers listening? (\$\$\$\$).)

Consider some of the digitization techniques currently being employed. Floating-point systems are variations of the linear PCM method in which the data are divided into two parts, exponent and mantissa. The exponent acts as a scaler which varies the gain of the signal entering a PCM A/D. By adjusting the gain of the signal the A/D is used more effectively; *i.e.* a low level signal is boosted and a high level signal is inversely attenuated. As a hardware advantage, a shorter word A/D may be employed. A variation on the variation is block floating point systems in which an A/D precedes a scaling system. The highest value in a block of words is determined and one appropriate exponent is transmitted

with a block of many mantissas. Thus a very efficient data rate is achieved. Satellite transmission of digital audio data, for example, could be more economically accomplished. The price of a block system is a high quality A/D at the front end.

Nonlinear systems comprise another conversion variation on PCM. Essentially, the quantization level spacings can be varied to more effectively distribute them over the audio dynamic range. To accomplish this, a PCM element is sandwiched between a compressor system to affect and inversely affect the audio data in a manner similar to that used in analog noise reduction systems. The net result is a more effective information distribution across the quantization range - higher S/N and lower noise.

Differential PCM systems are significantly different in their conversion philosophy; they employ the cunning technique of digitizing only the difference between two successive samples. Intuitively, we can see that we don't need the entire bulk of a waveform - only how it changes from instant to instant. And mathematically the derivative between low frequency samples is small, as is the dynamic range of the difference signal. Thus, fewer bits are needed to encode it.

One method for accomplishing this technique is even trickier than its underlying theory: a prediction for the upcoming sample is derived from output data and the error between the prediction and the input value is sent to the decoder. The decoder thus outputs the prediction plus the error value and the waveform is reconstructed sample by sample. This technique greatly reduces the number of bits needed to encode an audio signal, but its success ultimately depends on the type of function used to derive the prediction signal and its ability to anticipate the changing

signal.

Delta modulation is a form of differential PCM which carries the method toward an extreme and particularly attractive culmination. As we have seen, a prediction differential scheme encodes a prediction of the difference between samples. As the sampling rate increases, the possible difference decreases; the prediction becomes more accurate. With a very high sampling rate, only a 1-bit digitization of the error signal is needed. This is delta modulation.

From a hardware standpoint, the technique is very efficient. A block diagram of encoder and decoder is shown in Fig. 1. Its operation is slightly unbelievable in terms of simplicity. The past approximation is compared to the present input and a 1-bit correction pulse is generated at sample time. In other words, the system merely determines if its error is positive or negative, and correspondingly moves its next value up or down one increment, closer to the present value. The system can correct only once per sample period, but a fast sampling (and prediction) rate, of perhaps 100 mHz, might theoretically equal the performance of a 14- or 16-bit linear PCM converter.

There's a problem, however. This high sampling rate enables the delta system to encode frequencies up to 50 mHz - but that's not very practical for an audio system. In other words, the information encoding distribution of the system is out of whack. In more practical terms, there are slow rate problems yielding transient distortion - that single sign-changing bit can't keep up with a complex audio signal.

However, the delta modulation technique has proven to be a little too irresistible to be shelved. Researchers have graduated to variations on the scheme. One such variation is adaptive delta modulation, as shown in Fig. 2, in



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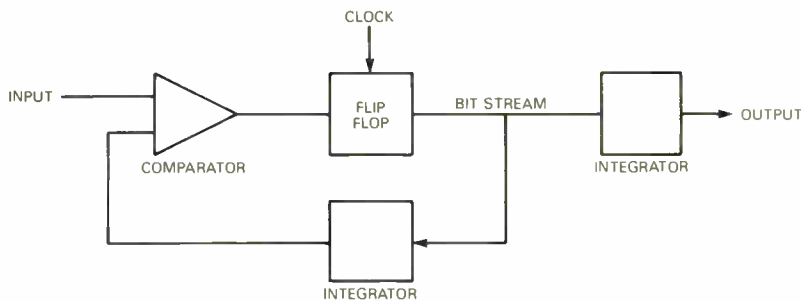


Fig. 1: Delta modulator

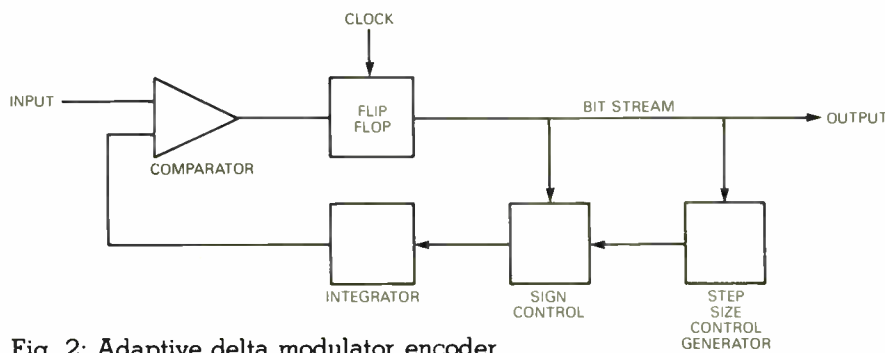


Fig. 2: Adaptive delta modulator encoder

which the increment size may be varied to more quickly respond to the signal-dictated error code. For example, a series of positive errors would indicate a rapid change from the approximation

and the increment size would increase (positively) to follow suit, thus overcoming slew rate problems. Interchanging positive and negative errors from the integrator would indicate good tracking

and increment size would be reduced for even greater accuracy. Through clever adaptive algorithms, and hardware to synchronize the decoder to the varying strategy, adaptive delta modulation has yielded good results. Similarly, other variations on delta modulation have been devised.

Enter dbx and Dolby. Exactly how these two noise reduction adversaries got involved with delta modulation might make a good audio detective story. At any rate, as their systems are gradually revealed to the public, their expertise in noise reduction is curiously reflected in their latest work, as are their underlying and differing design philosophies. Both systems potentially promote delta modulation as an alternative to linear PCM.

The dbx Model 700 digital audio processor uses a variation of delta modulation to encode and decode an audio signal, with any format VCR accomplishing the storage requirements. dbx rejected adaptive delta modulation in favor of a companding system which, as we shall see, is reminiscent of their noise reduction designs. Their objection to ADM centered on the limitations in varying increment size to satisfactorily meet slew rate and noise floor criteria. High frequency, high amplitude signals demand large incre-

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ments, but quantization noise becomes larger, too. Thus a kind of noise modulation is potentially present. In addition, there is no easy provision for dither in an ADM scheme for masking of the non-white noise floor. Since the increment sizes change, a fixed amount of dither is ineffective. Instead of varying step size in relation to the signal, dbx chose to vary the signal prior to a fixed delta modulator. To lower the quantization floor, a linear predictive filter is used in which the simple integrator is replaced with a circuit which utilizes many past samples to better predict the next sample. Thus the companded linear prediction delta modulation (CLPDM) system is born, personified as the Model 700.

The companding subsystem consists of a VCA in both the encoder and decoder sections. However, unlike the analog noise reduction versions, the VCA gain controls are digitally derived. With the VCAs, the signal is continually adjusted over a million to one range to best fit the fixed step size of the delta modulator. Additionally, the optimal dither level is held constant. The output of the delta modulator consists of a bit stream in which data and sample rate are synonymous. If applied to Fourier analysis, the bit stream would reveal the analog signal itself. The speed of the gain change may be either fast or slow, depending on the musical dynamics present, and a transient sensor specially speeds up the RMS detector, to catch percussion attacks, for example. Since all control voltages are derived from the bit stream itself, compander mistracking is minimized. The compander curve is essentially linear with a knee bend to an infinite ratio for the RMS speed-up provision; an overload may be recovered at the output of the system. A 16k-bit RAM buffer provides for wow and flutter smoothing, data interleaving and video formatting.

Delta modulation presents pleasant surprises in terms of error performance. In a linear PCM system without error correction, the most significant bit might be an error resulting in a large discontinuity in the signal. With delta modulation, there is no MSB; each bit merely tracks the difference between samples, thus inherently limiting the amount of error to that difference. Consecutive bit errors of 50 or more reportedly prove to be inaudible.

Tape degradation, however, necessitates error correction circuitry. The Model 700 adds a parity bit for every three data bits. The parity code is determined from the data such that a playback error pattern can be decoded to determine which bits are in error; the bad bits are corrected. Interleaving distributes a long error through good data to permit more accurate reconstruction.

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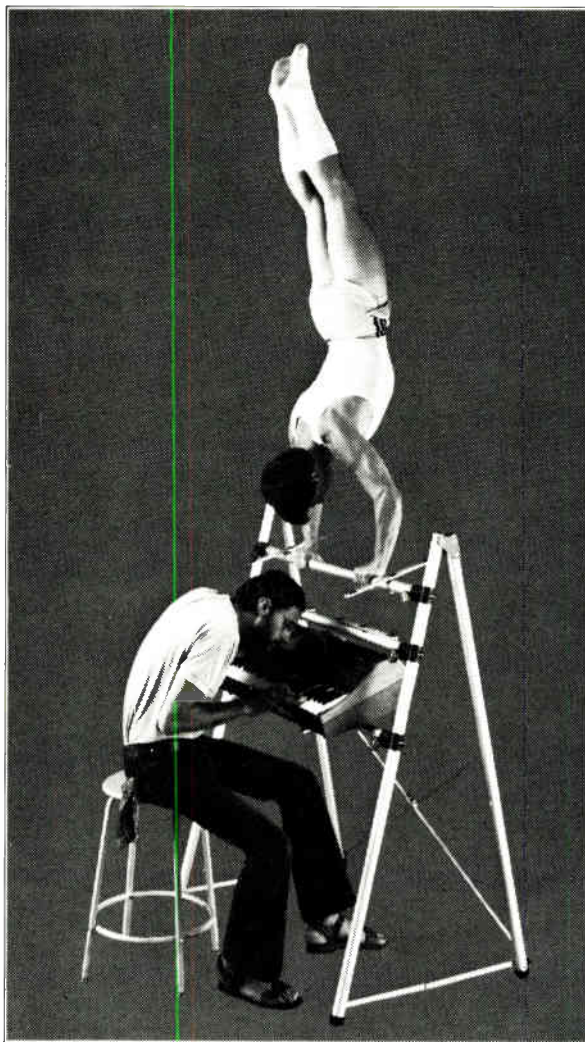
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The system uses a data bit rate of 700 kHz, plus parity overhead, yielding a theoretical limit of 350 kHz signal throughput, half the sampled rate. While that headroom isn't directly necessary, it does permit the anti-aliasing filter to be set to -60 dB at 200 kHz, resulting in a phase shift of less than 100° at 20 kHz. The nagging questions of large phase shifts present at audio frequencies in brickwall PCM systems is thus avoided.

On the other hand, Dolby has apparently begun its delta modulation research project with the stipulation that any fixed delta modulation scheme is inadequate. They have, as you might expect, decided that an adaptive strategy is more viable as a low cost alternative to PCM. They point out that a fixed system with companding causes the quantizing noise to rise with the signal level. Yet the spectrum of the noise is independent of signal. Thus, companders exhibit noise modulation. High bit rates can overcome the problem - with a cost-effectiveness penalty.

Dolby proposes a digitally controlled adaptive delta modulation (DCADM) system in which step size is variable at the syllabic rate with respect to the peak value of the slope of the input signal. The modulator always operates close to full scale and no overload is reached so long as step size increases. Of course, the question of slope remains critical, so high frequency limitations can exist. The system incorporates error feedback to reduce the quantization noise common to delta modulation. In this case, error feedback is applied within the audio band to reduce in-band noise. However, noise above the audio band is increased, with apparently negligible effect.

Pre-emphasis is used to create a family of emphasis characteristic curves to reduce subjective noise in small amplitude signals, mask the change in noise with changing step size, and reduce low frequency noise in high amplitude/high frequency signals. The response shaping network is controlled by the bit stream, specifically its slope. For example, when the signal slope is small, high frequency components are passed to provide a high frequency boost of 12 dB at 10 kHz. Simultaneously low and middle frequencies are negatively fed back for a gain reduction of 6 dB below 200 Hz. As the audio slope increases, a control signal from the delta modulator (the same signal used to control the step size) raises the frequency of the high pass filter and attenuates low frequencies.

The adaptive algorithm devised by deFreitas examines bit strings to manipulate the control signal with syllabic variations. Data errors are handled by an algorithm which reads the density of bit stream transitions over

an averaging period. Single errors will not drastically affect the average density and the decoder control signal will at most mistrack dynamically, in proportion to the error rate, with an audible result of an amplitude modulation by a noise source.

Perhaps most importantly, from a marketing standpoint (does any other standpoint really mean anything?) the entire converter can be integrated on a single chip with only a few external capacitors, and clock. There is, therefore, a great potential for this system as a low cost consumer digital audio system using relatively low bandwidth storage.

Thus delta modulation, or variations thereof, might offer economical alternatives to higher-priced PCM systems. Future consumer systems, perhaps using Phillips cassettes as the storage medium, could significantly upgrade listeners' expectations of the quality of their music, and in turn force professionals to again re-think their own technology and technique. Of course, nothing is ever simple. Just when you thought it was safe to consider delta modulation as an alternative to PCM, they had to confuse things with CLPDM and DCADM. But then the competitors involved happen to be dbx and Dolby, so I guess it's inevitable.

I remember a conversation I had a few years ago with a digital designer. He was waxing philosophical on how good digital audio would be, and how, at last, the invention of the perfect system would end all of the scabbling about standards and formats. Well, he's probably still in his lab, dreaming of the ultimate system. Meanwhile, here in the trenches, we are battling it out. All of you walking wounded, bloodied with arguments over dbx, Dolby, or 30 ips, staunch those wounds, take courage, and take sides. . . .

Next month, we conclude our digital discussions with a glimpse into my digital crystal ball. ■

REFERENCES

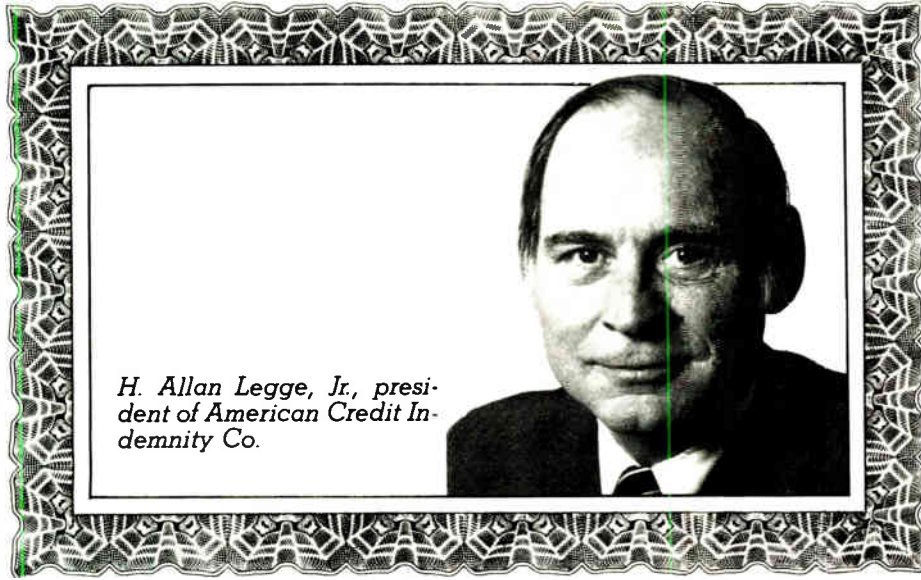
Robert Adams, "Design Parameters and Systems Implementation," *Recording Engineer/Producer*, October 1982.

Barry Blesser, "Digitization of Audio," *Journal of the Audio Engineering Society*, October 1978.

Richard Elen, "dbx Model 700 Digital Audio Processor," *Studio Sound*, February 1983.

K.J. Gundry, D.P. Robinson, C.C. Todd, "Recent Techniques in Digital Audio Developments," *Audio Engineering Preprint No. 1956(B5)*, March 1983.

H.R. Schindler, "Delta Modulation," *IEEE Spectrum*, October 1970.



H. Allan Legge, Jr., president of American Credit Indemnity Co.

BAD DEBT INSURANCE

by H. Allan Legge

Like most business activities, the recording industry is subject to credit losses. Record, film and television enterprisers have to consider the marketing imponderables that involve the popular mood as well as the state of the national economy.

Financial pressures which continue to face business managements are cited as the major reason for the rise in bankruptcies. Innovative entrepreneurs in home and theatrical entertainment, along with many "old timers" in business managing, are not to complacently assume that the serious shocks of bad debts cannot happen to them.

Every recession generates bankruptcies, but the recent recession produced a bumper crop. Businesses have been failing at an annual rate of about 80 per 10,000, a failure rate that is higher than anything since the 1930's depression.

What are the alternatives? Well, a firm could stop extending credit altogether, an absurd notion today, or it can opt to protect itself.

Protecting the supplier's working capital from excessive or abnormal credit losses is the essential role of commercial credit (bad debt) insurance of business receivables. Ideally, it supports maximum sales at minimal risk. When

customers covered in the policy cannot pay on time, or if they declare bankruptcy, the insurer reimburses the policyholder. In this way, catastrophes experienced by the customer firms do not become catastrophes to the supplier.

Typical victims of credit loss clients may be businesses with numerous small accounts or firms that custom-make or design. Bad debt insurance coverage expense varies from company to company depending on the quality of the accounts receivable being insured and the options that are desired. The policy premium is a direct function of the creditworthiness of the insured company's commercial clientele. Credit insurance policies are flexible with many options and endorsements such as methods of coverage tailored to the constituency of the musical and entertainment recording industry in terms of sale granted to the customer base.

An insurance policy against bad-debt loss can provide several prudent advantages, both for the insured and for its customers, such as:

- Reducing the impact of bad-debt losses on the supplier-seller's capital and cash flow.
- Permitting the business owner to extend more favorable terms to customers to broaden the selling and service base and potential for more revenues.

- Providing a bad debt reserve which is reinstated annually regardless of depletion by losses.
- Helping the business—and its banker—to be more sure about the creditworthiness of customers, particularly where it may have multiple locations or is headquartered in a distant part of the country.
- Enabling the company to obtain a larger secured loan or line of bank credit. The policy gives added security because that bad-debt insurance provides a guarantee that the business receivables may be used as collateral.

The advantage of having the insurer monitor the receivables is another aspect of bad-debt insurance which many business owners find especially useful. This is important in analyzing small localized operations whose credit histories may not be available or current through the standard credit rating agencies.

Bad debt insurers refer to this as the "preventive medicine" aspect of bad debt coverage. Indeed, many policy holders over the years will testify to its value more so than the actual payment or collection of past due debts.

Actually, insurance of accounts receivable is insurance on inventory after title passes to the purchaser. A new entity is created—an account receivable. When that has a guaranteed value, cash invested in the creative talents, services, and products is assured a return into working capital.

Credit insurance of business receivables is really more than bad debt, working capital protection or insurance against insolvency. When the studio owner and producer is assured of collecting, the management can better plan operations, inventory, cash flow, cash need and borrowing need. The sales and credit evaluating functions can operate more effectively. The marketing go-ahead can aim for the guaranteed financial coverage surrounding the receivables. The insurer is watching over the policy holder's accounts and is ready to pick up the pieces if the worst should happen. ■

H. Allan Legge, Jr. is president of American Credit Indemnity Co., a Baltimore-based underwriter of commercial credit (bad debt) insurance of business receivables and a subsidiary of Commercial Credit Co., which specializes in equipment/computer/vehicle/aircraft leasing and financing, commercial loans, factoring and related activities.



**PETER
COLEMAN**

The Importance of *PRODUCTION*

by James Riordan

Peter Coleman started his career in engineering and producing in his native London at the ripe old age of sixteen. "I wrote to all the studios in London and was lucky enough to get a job at CBS. I was real lucky because there were about two thousand people trying to get that job. The official position was Trainee Engineer, but it was mainly making tea and running errands. Gradually I was able to do things like make tape copies. I started engineering full time when I was eighteen. The majority of the people that I knew in the other studios all started young. In fact, three of the members of the band I was in from ages thirteen to fifteen all started in the studios at age sixteen and

were all engineering by eighteen. I think as a rule you can start working in the studios earlier in England."

Coleman hooked up with Mike Chapman and Micki Chin less than a year after he began full time engineering. Working with them over the next eight years exposed him to scores of top artists, including Blondie, Exile, Sweet, Susie Quatro, and Nick Gilder.

Towards the end of those eight years Coleman began producing on his own, while still maintaining a working relationship with Chapman and Chin. "I think it's a natural transition. I'm sure there are a few who don't, but most engineers can't help but get ideas about how they would produce a particular project. It's only natural to want to take that step."

Coleman doesn't use a first engineer on the projects he produces, feeling that he can work better by handling most of the engineering himself. "I always work out at MCA Whitney Studios and I have a second there who can also engineer if I can't be there. But I think it would be difficult for me to use an engineer. Sometimes I think I would like to do it, but I'm very skeptical about it. I would have to say what I feel and hope that this other bloke is going to understand exactly what I mean. There are certain things about engineering that you can't put into words. If you have to keep telling this guy and reaching over and doing it yourself, it gets frustrating."

Coleman sees the producer's role as varying with each artist and each new situation. "If you're working with someone who just got his first deal he's obviously going to be a little bit green and you are going to have to contribute a lot more than you will when you are working with acts that have already made three or four albums.

"I would say an important part of the producer's role, at least the way I do it, is to help in the selection of songs. I'm always there for the pre-production work, which takes maybe two to three weeks in a rehearsal studio. I think a lot of the important groundwork is really done in pre-production. That way, when you hit the studio you have more than a good idea of what you're going to do. It's always seemed a bit strange to me how some people can go into the studio without pre-production. It just gets expensive."

Coleman's production credits include two Pat Benatar albums including her latest one, *Get Nervous*, three Nick Gilder records, and albums for Paul Warren, Marv Walley, Robbie Patton, Spider, and Exile. His criteria for taking on the task of producing a record centers on two areas: the material and the artist. "Normally, if someone calls me to discuss producing, the first thing I do is ask for a cassette. It can be a rehearsal or something simple, because the quality doesn't matter too much. The songs are important and I want to hear what they have in mind right away. Seeing the group live is also important and I want to be sure that we're going to get along as people. We're going to have to be able to communicate well if we are going to get anything done in the studio. Also, the

artist has an idea of how he wants the final product to come across so I want to make sure at the outset that we're on the same wavelength."

Coleman sees the songs as being the most important element in making a good record. "With Pat's [Benatar] last album we first went through songs that came in from the band and the artist and we cut six of those. The idea was to record the majority of the album material. When that was finished, we listened to a tremendous amount of material looking for the best outside songs for her to record. Of these we picked nine or ten songs and worked them all up in rehearsal, finally settling on four of them to cut for the album."

Working with major artists means you must deal somewhat with an established image and a sound that is already well known and viewed as somewhat of a commodity. I asked Coleman how he handles this situation. "It's very important to bear in mind the amount of records that an artist has sold in the past. You have a certain responsibility to that artist's hard core fans. You don't want to lose those people who will walk into the record shop and buy the album just because it has the artist's name on it. They expect something. You try and bear that in mind, but at the same time you don't want to get stuck in a rut. You want to try and progress a little bit and the fans expect that as well. I think that Pat's last album was a little bit different from her other albums and we feel it was a step forward for her, but we tried to stay aware of pleasing her hard core fans as well."

Coleman tries to limit his projects to three or four albums a year in order to give maximum attention to each record and still have a life outside of the studio. "I normally spend two or three weeks doing the pre-production and seven or eight weeks in the studio and a couple of weeks to mix. It depends on the project, of course, but anything more than three or four albums a year is just impossible."

Coleman sees the new music as having firmly taken root with the record buyers. "I was never keen on the new wave stuff until recently. The new stuff has a different sound but there is still a great song in there that comes across and that's why the popularity is growing. I still think there will always be a big market for more traditional rock. There are certain things that the new music doesn't have that you can only get with a big rock 'n' roll band with ten stacks of Marshalls up there. The more popular the new music gets, the more there will be a solid market of committed rock 'n' roll fans. When you get right down to it there must always be music to meet the tastes of the record-buying public."



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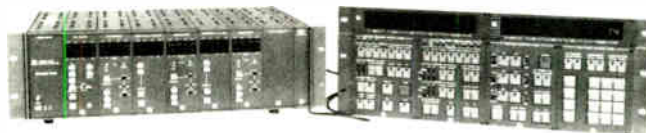
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EQUALIZERS

by George Petersen

Few topics in the audio realm (with the exception of the ubiquitous tube vs transistor debate) are as controversial as the subject of equalizers. At one extreme are the sonic purists to whom anything other than a preamp in the microphone-to-recorder/amplifier signal chain constitutes blasphemy. The opposite end of the spectrum includes those who somehow feel the need to utilize every available device from their outboard racks at all times. The rest of us lie somewhere in the middle, and see equalizers as creative and useful tools which have much to offer when properly used.

—page 102

Optimizing the Parametrics

by George Massenburg

Let's face it. The audio analog device has been given the short shrift. To date many manufacturers have introduced devices to store audio in digital form. Fine. Even considering the increased cost, storage is certainly a provocative application of digital technology.

But now manufacturers are beginning to introduce fully digital techniques to audio processing. Yet any critical analysis between A) the data conversion devices and digital processing systems, and B) analog (linear) processing (given the same bandwidth and resolution) must consider this:

Digital approaches currently promise to be many times more expensive than their analog counterparts, enough so that even anticipating regular decreases in the cost of digital parts, it will be years before digital audio processing will compete on a dollar for dollar basis.

The alternative? We successfully

apply digital control technology to our GML [George Massenburg Laboratories] moving-fader automation system. It is time to evaluate digital control of the other audio processing elements rather than to risk the unknowns of a fully digital audio environment solely for reasons of programming and/or automating processing. Let's review our original objective: the improvement of the normal audio presentation versus a given cost. What may be achieved when the same amount of time, money, and talent thrown into digital processing is applied to the mature linear domain? The case we'll choose is, not incidentally, one of our products.

The Parametric Program Equalizer

What should a parametric equalizer do? Should it be agreed that it should offer wide, continuous control over EQ frequency, level and shape?

Consider the snare drum. There

is usually a low frequency ring inherent in an undamped snare drum that is often essential to the "fatness" of the sound, although often somewhat too loud, out of tune or out of context with the overall sound. This artifact is quite sharp, and the features surrounding the peak are essential to maintaining the weight and the "thwack" of the drum; and a minimal amount of high "Q" correction will suffice to control the "boink."

Also consider the acoustic guitar. It is inherently a resonator, which enhances its sonic character as distances increase. But, close miking this instrument with directional mikes accentuates low frequencies. Removing the "boom" without losing the warmth of the instrument calls for a tight, high "Q" dip at a frequency easily found by sweeping back and forth through the low frequency region.

Too often, the shape, or "Q"

—page 107

Programmable Equalizers

by George Petersen

Programmable equalizers are a relatively new development in the world of audio. Existing in both graphic and parametric form, these microprocessor-controlled wonders have much to offer, especially in the fields of automated music mixing, disk mastering, media production, electronic music, and broadcasting.

The Pro-Graph PEQ-1, made by Polyfusion, Buffalo, NY, is a 16 band, $\frac{2}{3}$ octave graphic equalizer with a memory capacity of 32 equalization programs. The setting in each band is created or manipulated by a step up/

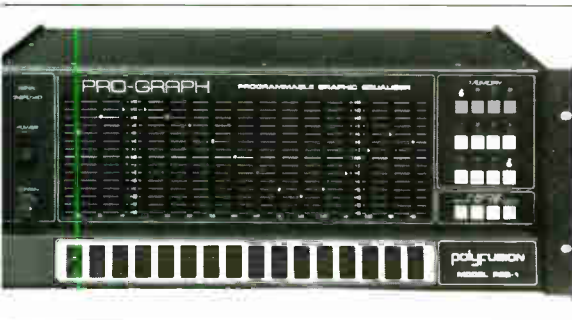
step down control under each band. LEDs indicate the relative amount of boost or cut (± 14 dB) on a variable intensity screen marked in 2 dB increments. Inputs and outputs are either electronically balanced or unbalanced, and the PEQ-1 has a guaranteed minimum signal-to-noise ratio of 105 dB.

A variety of options are available for the unit. The addition of either the remote control unit or the memory expander increases the storage capability to 64 programs. A sequence interfaces with the PEQ-1 to create real time sound manipulations such as sweeping

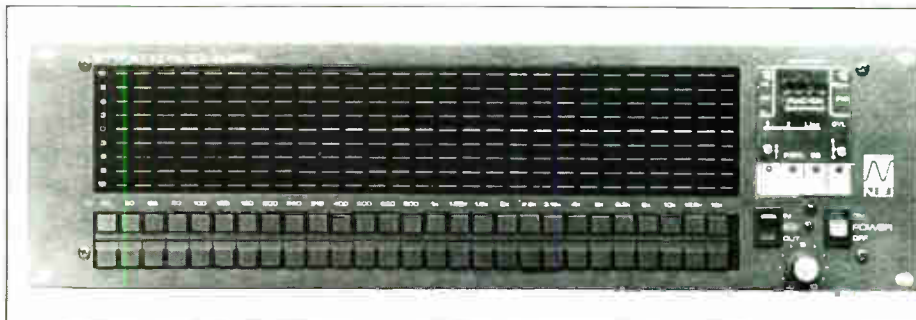
band pass, comb filter simulation, and unique phasing effects.

The 2711X Digital Equalizer/Real Time Analyzer was recently unveiled by Neptune Electronics. This computer assisted unit combines a 27 band graphic equalizer with an RTA and pink noise generator. Equalization is automatically achieved by the on-board computer to either a flat or a pre-selected response curve. Up to 27 programs can be stored for instantaneous recall. The 2711X is priced at \$1995.

—page 102, Programmable



Polyfusion PEQ-1 Programmable Equalizer



NEI Programmable Equalizer/Real Time Analyzer

Matchless skill in equalisation

Klark-Teknik Research is setting a new standard for equaliser stability — and now the company's diverse experience of world markets has produced very different versions for very different needs, all using the same five-year warranted, state-of-the-art thick film engineered microcircuit filters.

Typical is the DN360 with thirty $\frac{1}{3}$ octave filters to each channel for the most exacting applications, while the DN332, with sixteen $\frac{1}{3}$ octave filters per channel, is a perfect match for many good modern sound systems — without outstretching most budgets.

Both are built to the same high standard with features such as electronically balanced inputs and subsonic filters as standard.

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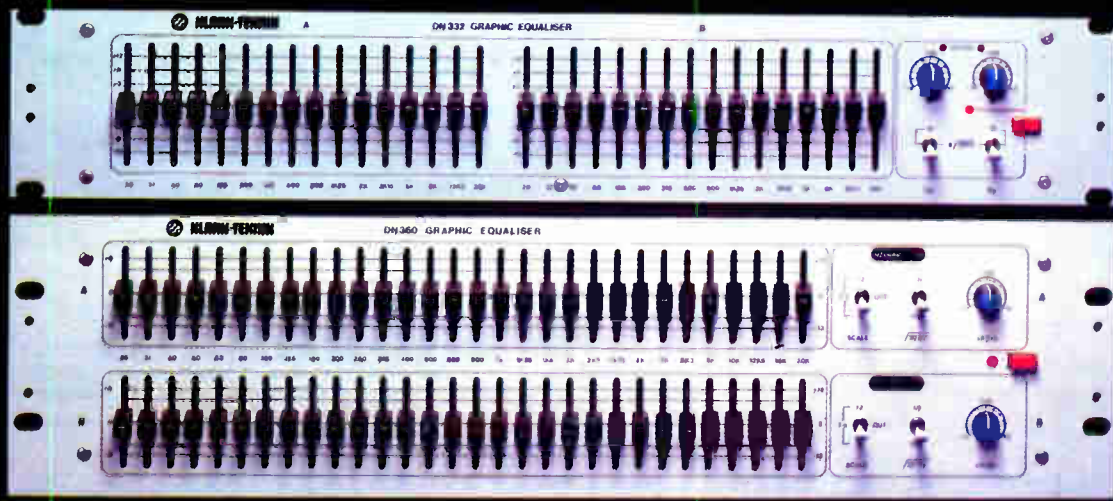
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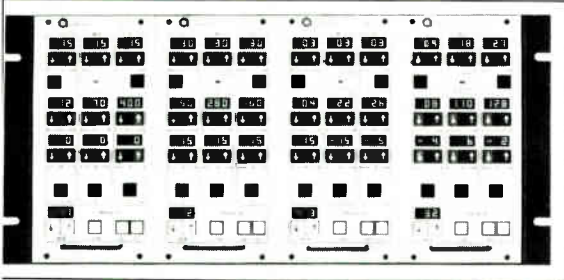


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Auditronics PPEQ-1 Programmable Parametric Equalizer

—from page 101, *Programmable*

The Auditronics programmable parametric equalizer model PPEQ-1 is a four channel, three band rack-mounted device which allows for the programmable control of frequency,

bandwidth, amount of boost/cut, peak/shelf selection, and a separate in/out bypass for each band. Each channel allows up to 32 non-volatile memories. Each separate parameter is visually displayed and is accessible at all times. External computer/editor interfacing and a full function remote control are available.

Orban is now completing the development of a programmable parametric equalizer whose audio circuitry is based on their 622B stereo, four band equalizer. The unit, to be released next year, will have 32 non-volatile memories for storage and recall, as well as an optional IEEE 488 interface for remote controls, automated production, and outboard memory storage. ■

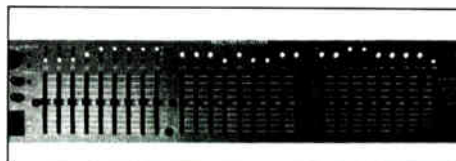
—from page 100, *Equalizers*

While equalizers are hardly the quick cure-all for every situation, they certainly make life easier for those of us working in the very real (and often imperfect) world of sound reinforcement, disk mastering, facility design, music recording/mixing, audio for film and video, and TV/radio broadcasting.

Equalizers generally fall into one of two varieties: those having fixed bandcenters (such as graphic equalizers) and those having variable bandcenters (such as parametric and quasi-parametric types).

Graphic equalizers divide the audio bandwidth into fixed divisions based on musical octaves. Thus, an octave-band equalizer has nine to eleven controls, and a 1/3 octave equalizer has 25-30 frequency controls or "bands." For room acoustical adjustments, the 1/3 octave equalizer is usually used in conjunction with a scope or RTA (Real Time Analyzer).

Room "tuning" is accomplished by running pink noise (a test signal comprised of random audio frequencies of equal intensities) through the system. The pink noise is picked up by a strategically-placed calibrated microphone and the mike's output is fed into the RTA, whose screen displays the

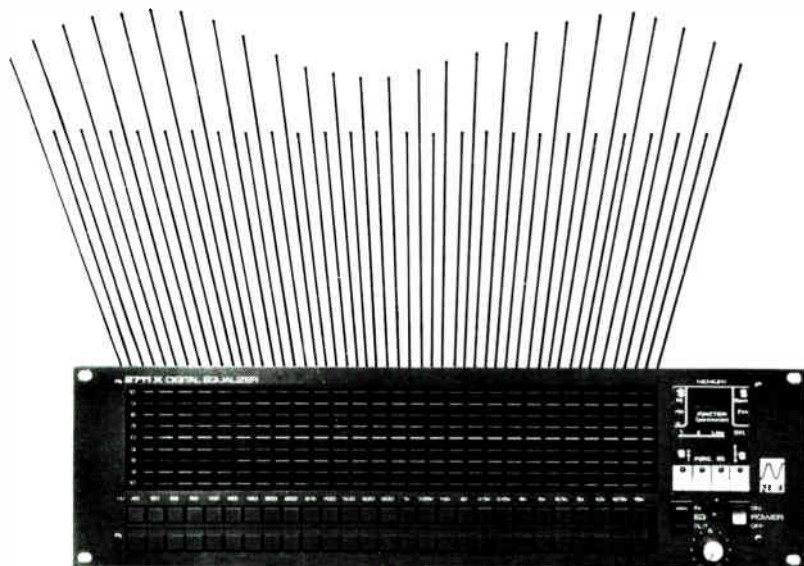


Rane RE 27 Real Time Equalizer

resulting frequency response. The equalizer is then adjusted until the desired balance is achieved.

The UREI 539 attenuation equalizer is designed specifically for critical room equalization situations, such as control room tuning. The 539 utilizes L-C (inductor-capacitor) filter circuitry for its 27 bands of control. High and low cut filters are also provided, and an optional security cover is available.

Several products have combined RTAs and graphic equalizers into single integrated units. The Soundcraftsmen AE 2000 and the dbx EQ 610 include real time analyzers with their stereo ten-band equalization capability. The EQ 610 also offers storage of up to nine equalization programs. A 27-band RTA/equalizer (model RE 27) is made by the Rane Corporation. The RE 27 includes a calibrated microphone and tunes the system to ± 1 or ± 3 dB by adjusting each frequency band until the green LEDs light up. The unit features state variable filters in both EQ



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NEI's superb 2711X Digital Equalizer/RTA combines an RTA, a 27 band EQ, and a micro-computer to make control of complex sound functions a piece of cake. Professionally astute, technologically innovative, the 2711X is also user friendly. A 4-character alphanumeric display makes for easy interaction and always lets you know what function the 2711X is performing.

The 2711X microcomputer can store and recall as many as 27 memory units at the push of a button. There's so much to this imaginative unit you really need to check it out in person. And the price is right too. The 2711X is priced favorably with RTA only units.

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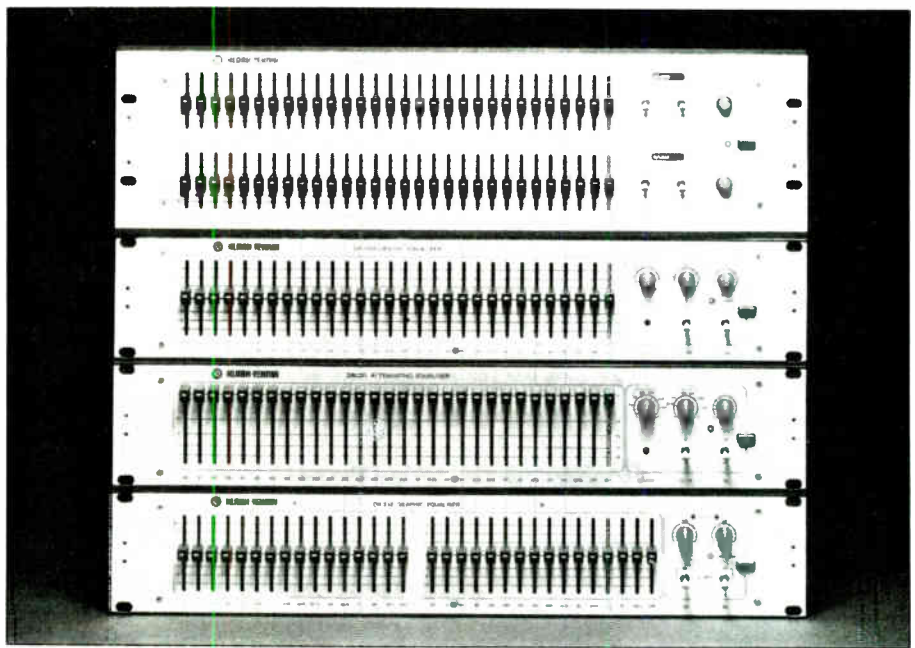
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and RTA sections, balanced and unbalanced inputs/outputs, and a built-in pink noise generator.

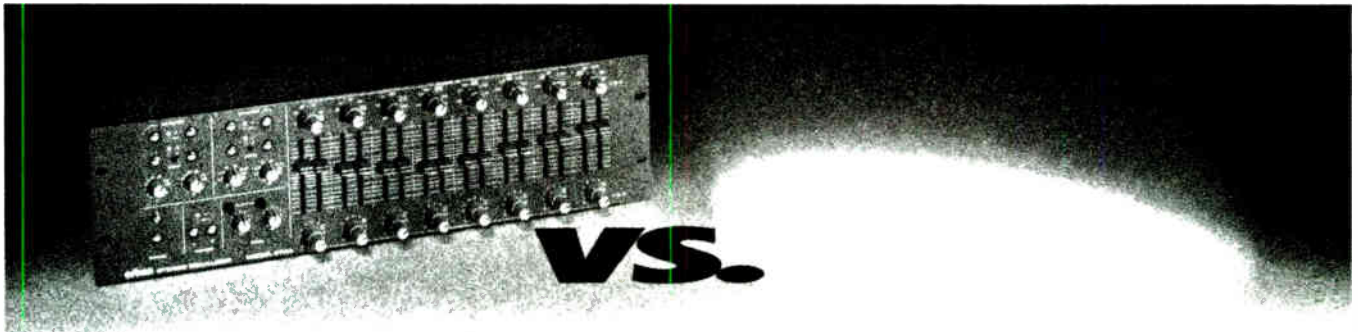
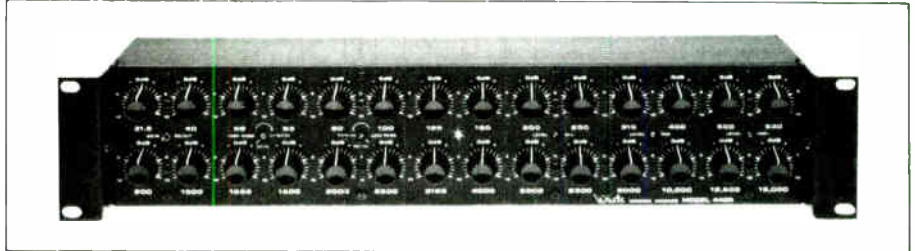
A number of companies produce "cut-only (attenuating) equalizers as well as the usual "boost and cut" equalizers which dominate the market. Attenuating equalizers are used most commonly for the tuning of fixed installations and tend to have smoother broadband curves than the boost and cut variety. The Klark-Teknik DN301 is a 30-band attenuating-only version of their DN 300 cut and boost equalizer. The DN 301 has thirty 15 dB cut faders and high and low cut shelving filters.

White Instruments manufactures an extensive line of equalizers, filters and test equipment. Their graphic equalizers utilize rotary faders rather than conventional slide pots. Company spokesman Emory Straus explained the rotary controls were chosen for greater precision and reliability: "... rotary controls also have a great deal more tolerance than slide controls, unless you're willing to use Penny & Giles sliders, which would make an absolutely terrific 1/3 octave equalizer!"

The White Model 4400 is a 28 band unit which uses L-C networks, containing an inductor (coil) and a capacitor to achieve the resonance of each filter band. This greatly reduces



Above: Klark Teknik DN 300, DN 301. Below: White Model 4400 Equalizer



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They clearly appreciated the versatility and functionality of eight bands of EQ with fully adjustable center frequency and bandwidth, plus the availability of 12dB/octave highpass and lowpass filters to limit signal bandwidth or to serve as a full electronic crossover.

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The DOD Dual 15 band graphic equalizer R-830A offers quality and performance at an incredible price.

The R-830A was designed for both professional sound reinforcement and studio recording use. With balanced and unbalanced inputs and outputs, low cut and bypass switches with LED indicators, center detented potentiometers, 12 db of boost or cut, and illuminated power rocker switch, the DOD R-830A offers a great deal of flexibility. The DOD R-830A has two sets of 15 band EQ sliders on 213 150 centers placed at 25, 40, 63, 100, 160, 250, 400, 630, 1K, 1.6K, 2.5K, 4K, 6.3K, 10K, and 16K Hz. Each R-830A is individually tested at the factory to insure a high level of reliability, quality and performance.

Specifications:

Intermodulation distortion:	<0.01%
Signal to noise ratio:	>95 db
Maximum input level:	Balanced + 20 dbm Unbalanced + 24 dbm
Maximum output level:	Balanced + 20 dbm Unbalanced + 17 dbm
Input impedance:	(ref: 1mW/600 ohms) Balanced 80K ohms Unbalanced 40K ohms
Output impedance:	Balanced 940 ohms Unbalanced 470 ohms
EQ control range:	+ 12 db
Suggested retail:	299.95

Call or write:
DOD Electronics Corp.
2953 South 300 West
Salt Lake City, Utah 84115
(801) 485 8534

the number of the circuit's active components. The company also produces a number of passive equalizers in a variety of configurations.

The Furman Sound SG-10 is a unique 10 band "sweep graphic" equalizer, with a center frequency adjustment (with a four octave range) on each band. The unit, which features built-in instrument preamps and low cut filters, also has a switch that converts the equalizer to a stereo five band mode.

Another equalizer which departs from the "traditional" design is the SP 9510 Signal Processor from Broadcast Technology, Inc. The SP 9510 is a ten band graphic equalizer having both static and dynamic controls for each band. The dynamic equalization allows compression or expansion of the signal within each band. Switchable preset parametric boundaries are available to adjust the energy in each band to suit various applications: AM, FM, TV, disk, tape, film, or custom user-selected settings. Each band also has controls for slope, threshold, and boost/cut, and LED metering monitors the signal in each band as well as the stereo inputs/outputs.

Equalizers are a crucial part of live sound reinforcement work. Pat Nefos, the chief engineer at Stage Sound, Inc., in Phoenix, was preparing for a Waylon Jennings tour when asked about some of the problems of live sound equalization: "The main problem in live sound is getting enough gain before feedback," he explained. "It's a matter of the speakers and mikes you're using and how much equalization you have. With a PL-95 [Electro Voice microphone] you can get real loud - rock and roll loud. Other microphones may have more fidelity, but you can't get as loud." Stage Sound uses a flown Meyer speaker system with Yamaha Q-1027 31 band equalizers. "We also use the dbx 900 series, with the three band parametric cards [model 905] that slide into the mainframe. That's what I use for the really difficult situations."

Bill Cheney of Applied Technologies, Inc., in North Salt Lake City, Utah, also feels microphone selection is crucial to live sound equalization: "One of the reasons we need a lot of equalization is due to the microphones. A lot of the microphones on the market have a proximity effect (which accentuates low frequencies when close miking vocals) and that bass boost is costing them a lot of monitor." Bill explained a microphone's rear pickup pattern is an important factor to consider when selecting mikes, since the rear axial response feeds directly back into the monitors. He chose Spectra Sound Model 1500 27 band equalizers for the ATI system. "We put them in our system because

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SEPTEMBER 1983

World Radio History

105



Orban Model 622B Parametric Equalizer

they're inaudible, and their distortion [THD and IM are rated below .0018%] is unmeasurable." The model 1500 features hand calibrated band centers and selectable ± 6 or ± 12 dB equalization ranges.

Parametrics are equalizers which allow the adjustment of center frequency, bandwidth (shape of the equalization curve), and the amount of

boost or cut. True parametrics have non-interacting controls so for example, a change in bandwidth should not affect the center frequency and vice versa. Quasiparametric equalizers have this problem. The same results can be achieved as with a parametric, but it may take much longer and the repeatability of settings is poor. The main advantage quasiparametrics offer is

price: they are significantly less expensive than true parametrics.

Parametric equalizers, by their very nature, offer the capability for notch filtering. This involves the elimination of certain undesirable noises of a fixed pitch, such as camera noise in motion picture work. Other specialized applications of parametric equalization include the restoration of historical recordings (for more information, see the series on Record Restoration, *Mix* December 1982, January and February 1983) and in the analysis of airplane cockpit flight recorders. The Naval Air Hework Facility in San Diego, CA, recently purchased an Orban 622B parametric equalizer for the purpose of unmasking voice information from background engine and cockpit noise.

The Orban 622B is a two channel parametric unit with controls for boost/cut, equalization in/out, bandwidth, and tuning for each of its four bands. Active balanced inputs and unbalanced outputs are standard with transformer balanced outputs available. A mono version, the 622A, is also available.

The Audioarts 4200A is a stereo four band parametric which utilizes a reciprocal curve design, rather than infinite notch characteristics. A 10x switch expands the frequency range of each band by a factor of ten to a wide overlap range between bands. The filter set uses variable-gain state variable technology. A similar version, the Audioarts 4100, is available with built-in instrument preamps.

The Sontec MES-430B Mastering Equalizer, a five band parametric, was designed specifically for disk mastering applications. Frank Kejmar, at MCA Records in Glendale, CA, talked about equalization in the mastering process: "In disk mastering, we use a Sontec. It's probably the most elaborate equalizer available for disk mastering. Generally one of the problems with tape masters is the rooms they were mixed in. Not all mixing rooms are equalized correctly. Occasionally somebody has had to mix in two different studios because of time problems - running out of time in one studio and moving to another room or to another studio. That's the reason such extensive equalization is needed in mastering rooms - you can balance the tunes out so it sounds like it's been mixed at one time."

The selection of an equalizer for any sound engineering application may be difficult indeed. Equalizers vary widely in price, form, function, and circuit design/topology. The examples cited in this article represent only a fraction of those available. Certainly the best way to select an equalizer is to try several and see which one "fits." Then let your ears decide. ■

GE 27 STATE VARIABLE THIRD OCTAVE EQUALIZER

The GE 27 State Variable filters maintain a constant $\frac{1}{3}$ octave bandwidth at all slider positions, unlike all other graphic designs which suffer increasing bandwidth with decreasing amounts of boost or cut. The consistent precision of the GE 27 allows significantly greater feedback control without adverse effect on overall sound quality. And it yields a much higher degree of system accuracy in less time, due to reduced adjacent filter overlap at moderate amounts of boost/cut...a difference you can hear and appreciate.

GE 27
 $\leftarrow \frac{1}{3}$ Oct.

Others
 $\leftarrow \frac{1}{3}$ Oct.

The GE 27 State Variable design has indeed revolutionized the $\frac{1}{3}$ octave format, creating a new standard against which all other graphic equalizers will be compared, regardless of cost. And yet the GE 27 is only \$449 suggested list price.

Which proves that smart technology doesn't have to be expensive.

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control is missing. Bad choice. One can, with a bit of technique, match the EQ to attenuate an artifact or enhance a feature with the very minimum total overall effect. I would conclude a true parametric equalizer is always fully adjustable and offers continuous control of frequency, level, and "Q" (or shape).

History

International Telcomm Incorporated released the first commercial parametric program equalizer (the MP-230) in the spring of 1971 after some four years of experimentation. In years to follow, a substantial number of manufacturers were attracted to the parametric concept. By 1976 the natural resistance to non-detented controls had been subdued by clever, if wistful, salesmanship. Harrison offered a console with linear controls, take it or leave it. The basic objection—the difficulty of quick, precise resetability—is accommodated in a number of ingenious ways; there are consoles which automatically document the EQ data, but usually a second engineer is given the task of writing down settings (usually after 4:00 a.m.), and only until very recently one was obliged to laboriously dial settings back in. There were some attempts to do more, most notably by Automated Processes, but nothing really worked reliably . . . which more or less brings us to 1982 and the arrival of fully programmable equalizers.

The single most charming feature accompanying the recent advances in micro-computer technology is certainly the precipitous drop in prices of various data crunchers. A/D converters, glue parts (high-speed low-power logic elements), and micro-processors themselves are seductively accessible. Combine this with ever more dizzying performance, and more digital processing of audio seems imminent.

But just a minute, folks, we've been down this road before. We have seen the lunatic fringe and they are us. We are not impressed. Designers all crave executing a technically sweet design, right? And managers urge more towards profit and stability, eh? On the other hand, if we take the long view and decide to build high performance audio for the sake of craft, then perhaps we should, for a moment, soberly reflect on what constitutes usable, audible improvements in the art, if not the science, of recording. Our inclination might then be toward a standard audio design rule, and a standardized evaluation method.

Let's demonstrate a general set of design rules as they would apply to equalizer development.

1. Simplify the topology; reduce the complexity of the architecture itself. As Einstein said, "Everything should be as simple as possible, but not more so." Elegance and simplicity must prevail.

2. Improve the quality of the passive components in the order in which they audibly affect the performance.

3. Improve the active elements insofar as one can audibly detect the difference.

4. Improve and balance the reliability of the system taken as a whole . . . that is, improve system components symmetrically. The reliability of an entire system can never be better than the most unreliable part.

Now, any program equalizer is some sort of filter. For years inductors and capacitors alone were used to filter signals passively. Gain elements became smaller and cheaper, designers crammed more onto boards, and inductors began to disappear, succumbing to combinations of resistors, capacitors, and op-amps. Deleting inductors offered immediate improvements. Early Electrodyne, UREI, and Data-Mix consoles had active equalizers. Many parametric designs today are built around variations of a state-variable or bi-quadratic filter, but there are others.

Most of these new filters require at least three operational amplifiers and the audio passes through all three stages. In addition, to demonstrate more overall gain, some equalizers place the different bands in series. Two overlapping 12 dB peaks yield an 18 dB net boost in a parallel topology; but in a series equalizer overlapping peaks yield a 24 dB net boost . . . at the expense of passing through many more stages. How often do you use that much EQ? Certainly not very often. We got rid of all of the extra stages that we could and have also used a one-amp non-inverting T filter. For fifteen years this has probably been the key topological detail of our systems.

Many recording engineers have never screened a large number of common 5% or 1% carbon film resistors. There are significant variations in type and quantity of distortion; sometimes it's related to the manufacturer and sometimes to the batch. A worse problem is the measurable and audible non-linearity of electrolytic and tantalum capacitors. There are good ways of purchasing and selecting resistors, but we find the only acceptable bypass capacitors are polystyrene or polypropylene film, and we rely on DC servos to eliminate the need for

very large precision capacitors.

DC is sometimes found and often ignored on potentiometers. It not only causes noise during rotation, but effects an increase in measured distortion and seems to reduce transparency if not useful life.

But finally, the sound quality of a system is only as good as the quality of the individual signal processing elements. Few places in the modern control room demand as much out of a gain block as the filters in a parametric equalizer. If one desires wider selection of "Q" and greater boost capabilities, then quieter amplifiers are necessary (although this is somewhat dependent on topology). Monolithic operational amplifiers don't compare well with discrete blocks for critical performance. Discrete amps can be optimized to offer: a 6 dB or more real noise improvement; as much headroom improvement as an increase in the DC supplies will allow; and better optimized high frequency performance in amplifiers compensated for unity-gain, closed-loop stability. With discretely there is also an "intangible": an increase in transparency and detail in side-by-side listening tests.

What's Next

With expanded performance criteria, a programmable equalizer is not as easy as it looks. Variable gain elements (multipliers, V.C.A.s) are inherently non-linear elements. The highest quality approach to varying the R in any sweep filter, a pure switched resistor ladder, is extravagant and prohibitively expensive for good resolution. A motorized servo attenuator is inelegant in this application and quite bulky and expensive. The easiest and currently most popular approach is based on the state variable filter and multiple DACs. We think this is an unacceptable compromise, mainly because of the great numbers of high-quality amplifiers mandated. But more importantly, most non-programmable equalizers of this type haven't been judged to sound good in comparison to other topologies.

Now, we're not going to suggest a complete alternative here. We're looking into isolated electro-optical devices as gain controls, but the actual devices are secondary to the system standards. Where outstanding performance is desired, then an agreed-upon design rule and dogged attention to detail should prevail, not exotic new technologies for the sake of something new.

In addition to all of that, good construction, soldering, layout, and assembly techniques are important. Indeed, just as in mixing, there is importance to good old craftsmanship and attention to detail. ■

THE SOUND OF US

by Josef Woodard

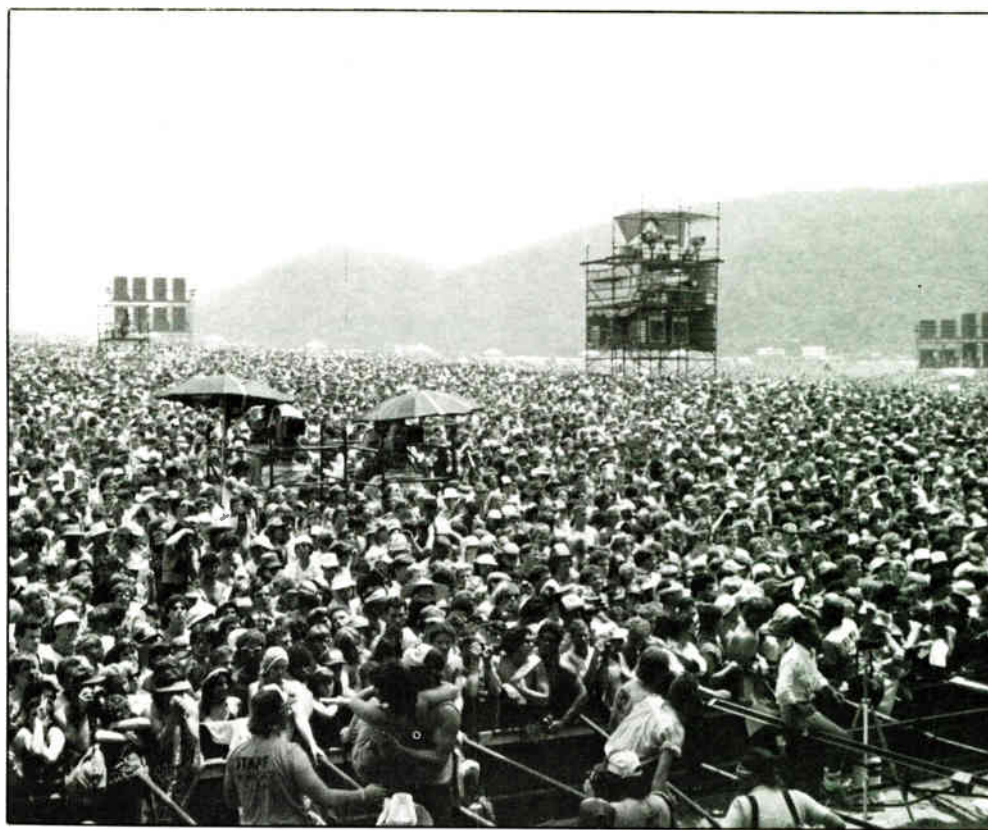


PHOTO: DEBBIE LEAVITT

US Festival crowd punctuated by sound towers

Outfitting the sound system for a musical fete on the Byzantine proportions of the US Festival is a task sure to challenge the most worthy sound professionals. Three days and 25 acts to be accommodated in the sweltering heat of east San Bernardino requires clockwork precision and sure-footed engineering in the face of a possibly unruly throng of up to 300,000.

But the computer company-bankrolled event came off remarkably well from an aural perspective. (Let's ignore the aesthetic end of the ordeal.) Providing the massive sound system were the Pennsylvania-based Clair Bros. on the nucleus and Dallas' Showco [see MIX, June '83] manning the four oil derrick-like delay towers spaced throughout the 500-acre Glen Helen Regional Park bowl.

Roy Clair, along with brother Eugene, has built their Lilitz, PA, company over 14 years into what Roy calls "the largest unknown sound company in the country." Experience dealing with a hetty roster of top-flight acts and numerous huge-scale concerts and festivals—including a Wembley, England, revelry in which the Clair Bros.' arsenal was flown overseas—gave Clair Bros. a foundation when slotted to do sound for the first US Festival last Labor Day. Amassing

the touted "world's largest sound system," Clair Bros. brought 280,000 watts of power and Showco upwards of 100,000 watts – a bogging 400,000 watts, enough to keep Devore, California ticking for the life of the town.

"This was the largest concert anyone's ever done," claims Roy Clair. "Maybe 12 times as much power as was used in Woodstock." Of course, the theme of Woodstock stressed counterculture unity; the US stressed better living through technology. A crew of 15 from Clair Bros. manned a sound matrix involving 200 stereo Phase Linear 700-watt amps and 190 speaker cabinets on stage and two main towers 300 feet out. The cabinets used were the Clair-designed S4s, measuring 4'x4'x22" and, according to Clair, "the longest lasting design around. Their magical sound involves a sophisticated coupling fashion which sounds better and better as you stack – the more speaker cabinets, the more dynamic and clean sound pressure."

One unreconcilable dilemma was the audio-visual discrepancy, the awry lip-syncing between the actual sound and the giant video screens on either side of the stage. The laws of nature—the speed of light versus that of sound—won't bend. On each of the

sound towers, though, one person was stationed to link the wired sound to a feed from the main tower. "It could have been arranged mathematically," says Clair, "but it was just a matter of when the drum hits you at the same time as the main tower . . . if you can count the teeth in a horse's mouth, why theorize?"

While Clair Bros. did much of the onstage monitor work, some acts chose to use their own. A fluid arrangement of wheeling off and on the different systems kept the schedule in check. Memorial Day's show was equipped with essentially the same sound system as the first time around, although Clair notes, "We never quite rest on our laurels. We added some devices this time to deal with the attenuation of high frequencies that occurs in high temperatures."

Overall, the US sound adventure proceeded virtually problem-free. None of the amps went out and the closest thing to traumas were mike mishaps, easily remedied via stage-to-tower communication. Clair points to the heightened cooperation of all involved in accounting for its success. Among the many sound people on hand, he says, "We found no jealousy, no professional envy. I think we're all getting very professional in our old age."

TOUGH CHOICE.



At some point you'll realize that you're ready for something better, something truly professional. That old sound system doesn't do it anymore, and you need something with increased acoustic output, low distortion, high power handling, ultimate reliability, and extreme ruggedness.

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tion around. Each cabinet is built out of seven ply high grade plywood and covered with rugged nylon indoor/outdoor carpet (Ever notice how other pro equipment manufacturers are starting to use this covering? We have. We were the original.) That adds up to a virtually indestructible enclosure.

As if performance and ruggedness weren't enough, when you choose one of our vocal reinforcement speakers you have the additional satisfaction of knowing it's completely expandable. So when you're ready to move into larger performing areas you have a choice from eight add-on systems for low and high frequency reinforcement.

Which Cerwin-Vega system to choose? That'll take some thought on your part and a visit to your local C-V dealer to decide. But whichever system you choose you can be assured of one thing: with Cerwin-Vega you always come up a winner.

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PREVIEW

ASHLY FET-500 POWER AMP

Ashly Audio Inc. of Rochester, NY, has announced the release of a new power amplifier, the FET-500. The new amplifier shares most characteristics and features with the FET-200 introduced a year ago. MOS-FET devices in the output stage are entirely self-current limiting, eliminating the need for any protective circuits.

The unit incorporates a total of 16 MOS-FET devices combined with a massive high-energy power supply, generous heatsink area and a carefully designed cooling system. Standard features include modular construction, balanced inputs, three color I.F.D. level indicators, mono and bridging switches, and quiet forced-air cooling. The FET-500 is housed in a roadworthy 16 gauge steel chassis with front handles. The front panel is heavy brushed and black anodized aluminum. Weight is 55 lbs. The retail price is \$995. FOB Rochester, NY.

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MICMIX MASTER ROOM DC-2

The new Master-Room DC-2 is a unique product, allowing one to vary the reverberation decay time of live chambers, plates, or spring reverb systems. The DC-2 also provides up to 30 dB of noise reduction on virtually any reverb device.

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DELTALAB SUPER TIME LINE

Deltalab has introduced the super Time Line series; low cost, full bandwidth (16 kHz) programmable digital delay signal processors. The ADM-512, with a suggested U.S. retail price of \$799, is a wide dynamic range, programmable special effects processor that features flanging, doubling, chorusing and echo effects with up to 512 milliseconds of high performance digital delay.

The ADM-2048 is identical to the ADM-512 except that it provides the user with over two seconds (2048ms) of high performance, full bandwidth delay. The ADM-2048 has a suggested retail price of \$999.

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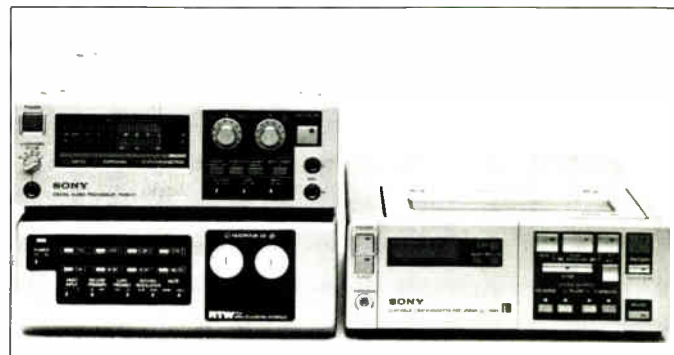


SOUNDCRAFT SERIES 200 STEREO MIXING CONSOLE

Soundcraft Electronics, the British based manufacturer of recording consoles and multi-track tape machines, has introduced a new stereo mixing console, the Series 200, available in three frame sizes: 8, 16 and 24 inputs, with the 8-input model being 19" rack mountable. Equipped with four group and two stereo outputs, the new Series 200 features balanced mike and line inputs, four band equalizer, and four auxiliary sends - two post and two pre-fader. Standard features include 48 volt phantom power, 1 kHz slate oscillator, input clipping indicators and 2-track replay. Input, group output, remix and auxiliary sends, are easily monitored via PFL switching in headphone outputs and metering.

Suggested list on the new Series 200 is as follows: 8 input frame size - \$1,995, 16 input frame size - \$3,250, 24 input frame size - \$4,500

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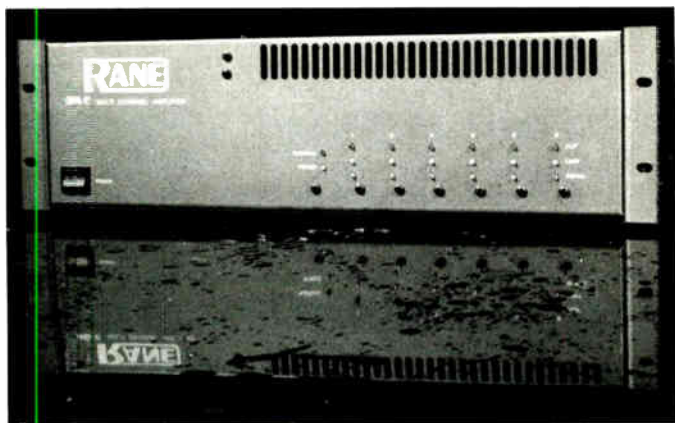


AUDITRONICS RTW STUDIO PROCESSOR SET

The RTW Studio Processor Set utilizes a modified Sony PCM-F1 Digital Audio Processor and a specifically designed interface unit to enable digital audio recording in a professional format utilizing any commercially available EIAJ standard video cassette recorder. Standard PCM-F1 operation is improved by the incorporation of balanced line level inputs and outputs, headroom optimization, more extensive status and error correction displays, and data translation to Sony PCM-1610 standard, thereby enabling direct digital copying and editing capability.

As the first unit to interface between the PCM-F1 and PCM-1610 standards, the RTW Studio Processor Set has many applications in ENG, EFP, and studio mastering, and is available in the United States exclusively from Auditrone.

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MULTI CHANNEL AMP FROM RANE

New from Rane Corporation is the MA 6 multi-channel amplifier, employing six separate channels, each delivering a minimum of 100 WRMS into 8 ohm loads, 150 WRMS into 4 ohm loads. With built-in automatic bridging the MA 6 will deliver up to three channels at 300 WRMS each into 8 ohms. All six channels include built-in limiters for 20 dB additional headroom before clipping, separate output relays, auto balanced/unbalanced transformerless inputs, signal present, limit and clip LEDs, and terminal block output connectors, all very neatly packed into a 5¼"H x 19"W x 11½" deep all steel chassis, fan cooled, EIA rack mountable. Ideal as a monitor mix amplifier, bi-amplifier, tri-amplifier or many other uses, the MA 6 carries a suggested list price of \$1,199.

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HAFLER P500 POWER AMPLIFIER

The Hafler P500 Power Amplifier is a full-featured version of the DH-500 Audiophile Amplifier that has been engineered to withstand the rigors of professional use. The P500 delivers 400 watts per channel into 4 ohms at less than 0.04% THD from 20 Hz to 20 kHz with both channels driven. In the bridged mono mode it is capable of delivering over 800 watts into an 8 ohm load.

The Hafler P500 uses a push-pull complementary symmetry circuit design which employs MOSFET output devices. Because the amplifier uses MOSFETs, which are inherently self protecting, the P500 has no need for complex and sonically degrading protective circuitry. It does, however, contain an AC line current inrush limiter and a protection relay for DC offset with turn-on delay to protect loudspeakers from switching transients.

The P500 is capable of operating from a 100, 200, 220 or 240 volt, 50 or 60 Hz AC line. It is equipped with a three-wire grounded AC power cord. Dimensions are 19" wide, 7" high and 14" deep including rack mount handles. A four-point suspension system ensures mounting integrity for road use. Prices: fully assembled - \$949.95; partially assembled - \$799.95.

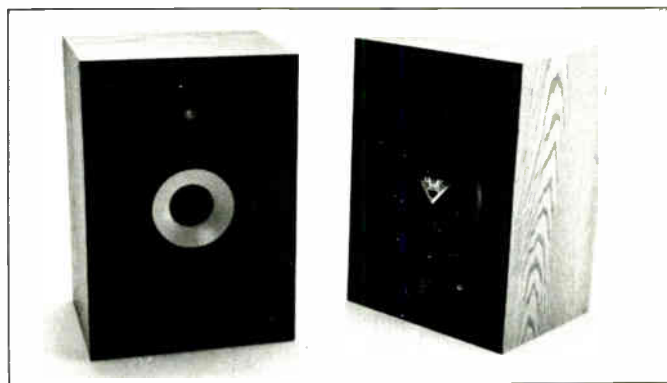
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AMS DIGITAL PREVIEW EDITOR

The DMX 16E digital preview editor system contains a total of 21 seconds of audio delay memory and allows capture of pre- and post-edit material from two recorders plus SMPTE time code from each. Edits can then be rehearsed at selected points at variable speed, or by reel rocking, with programmable crossfade times. This is performed with the tape stationary. The optimum edit points thus selected can then be loaded back into the digital recorders, to an accuracy of one hundredth of a frame if required. Control is effected via an RS 232 interface.

The unit can also be used to form audio loops, and to load, play back and dump digitally coded audio to a computer system. Current maximum audio storage time is 32 seconds. The unit is also suitable for use with digital tape recorders having SMPTE controlled editing facilities.

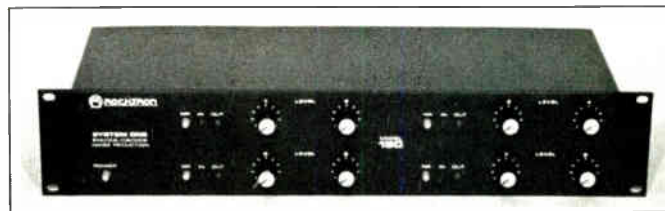
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KLIPSCH kg² LOUDSPEAKER

The redesigned Klipsch kg² now features a rear-mounted passive radiator, boosting the bottom octave of bass response. The crossover point between tweeter and woofer has been lowered to 1800 Hz and a new voice coil has been added to the woofer. Frequency response of the speaker is now 35 Hz to 20 kHz \pm 3 dB. Sensitivity is 90 dB, one watt at one meter. The cabinet is constructed of lumber-core with oak or walnut veneer. Suggested retail of the kg² is \$420 per pair.

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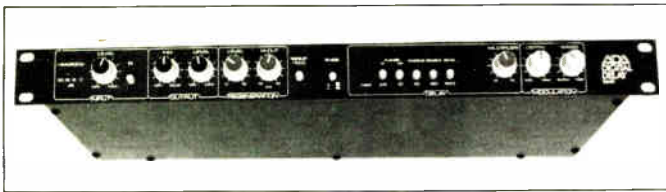


ROCKTRON SYSTEM ONE NOISE REDUCTION

Rocktron Corporation has announced the release of their noise reduction system, the System One. Available in two, four or eight channels, the System One is an encode/decode system that effectively doubles dynamic range by compressing the signal onto the tape during the recording process, and expanding it upon playback. It is said to provide an effective tape noise reduction of greater than 40 dB.

The System One (patent pending) is designed for use with high speed recording equipment (15 ips, 30 ips) and claims a flat frequency response (\pm 1 dB, 30 Hz to 20 kHz).

Circle #099 on Reader Service Card



ADA D640 DIGITAL DELAY

The ADA D640 produces delay times from 0.25 ms to 640 ms, all at 15 kHz bandwidth. For producing special effects, the D640 has regeneration, modulation and repeat hold features. The regeneration hi-cut control reduces the high frequency content in the delayed audio signal as it recirculates for more natural sounding repeat echos and reverb. The modulation section has a depth control which sweeps the delay time up to a 10:1 range for flanging that sweeps over three and one-third octaves. The speed control varies the sweep rate from 25 seconds to 0.1 second for a complete cycle. The repeat hold feature allows the entertainer to lock-in up to a 640 ms musical segment and repeat it indefinitely for background rhythm effects.

The D640 fits one standard rack space (19" x 1.75" x 9.17") and has a 4-step LED headroom indicator. Options include the FS-2 dual footswitch for effect bypass and repeat hold in/out and a 240 VAC power supply.

The D640 has a suggested list price of \$499.95.

Circle #100 on Reader Service Card



SHURE EXPANDS PE MICROPHONE SERIES

Shure Brothers Inc., Evanston, IL, has added two top-of-the-line new models, the PE86 and PE66 to the company's popular PE (Professional Entertainer) series of moderately-priced microphones.

Both microphones are unidirectional (cardioid), dual-low impedance models with shock-mounted cartridges for quiet, reliable operation. The PE86 has a frequency response of 50 Hz to 15 kHz; the PE66's is 40 Hz to 15 kHz.

Both models feature a fixed bass rolloff and an upper mid-range presence peak. The PE86 also features a built-in spherical windscreen to minimize wind and breath noise.

Both mikes are packaged with a professional swivel adapter and a vinyl gig bag. User net prices are: \$125 for the PE86L-LC and \$109.25 for the PE66L-LC.

Circle #101 on Reader Service Card



AURATONE INTRODUCES FIVE MONITORS

Auratone Corporation, manufacturer of compact monitor systems, has introduced five new models, including the T5 Ultra-Compact Two-Way, T6 Sub-Compact Two-Way, T66 Compact Two-Way, QC66 Quality Control Three-Way and RC 66 Road Cube Two-Way.

All models have six or ten element crossover networks with precision premium quality metalized film polyester capacitors and air core inductors mounted on specially designed fiberglass/resin printed circuit boards. With the exception of the RC66 Road Cube Two-Way, all Auratone Quality Sound Monitors are produced in mirror-image pairs for enhanced stereo imaging. The enclosures are manufactured from low resonance SuperAcousticwood™, a high density wood-based product.

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CASSETTE RECORDERS

*going
for
studio
quality*

by David Schwartz

Twenty years ago it was little more than a novelty item – a “Living Letter” at best. Since then the audio cassette has become a powerful communications device, as well as a common denominator for the music and recording industry.

The cassette’s level of success and acceptance in our society has created the demand by recording studios for “professional quality” cassette recorders, a concept that might have seemed absurd just a few years ago. But manufacturers have been responding to this rapid demand; both consumer level builders aspiring upward in quality and pro audio suppliers accepting the legitimacy and profit potential of the device. Their efforts have created a new line of “professional” quality recorders with performance and features aimed at studio applications.

The high end recording pros at Studer are among those manufacturers who believe strongly in the future of the cassette. One of their recent press releases opens, “The new Studer A 710 Microprocessor Controlled Cassette Deck, the first and only cassette unit to bear the Studer name, is designed specifically for the most demanding professional recording and

production applications involving the cassette tape format.”

Built for rack mounting and remote control operation, and carrying a price tag of \$2200, the A 710 is wired for the studio with XLR connectors, balanced and floating professional line level inputs and outputs and front panel calibration controls. With four motor direct drive and dual capstans providing gentle and accurate tape handling via microprocessor control, the unit features a 3-head design with Dolby B and C noise reduction, programmable start/stop in record or play and a headphone volume control.

Specwise, the A 710 carries on the Studer tradition. Using metal tape and Dolby C, the unit can achieve a 72 dB RMS value signal-to-noise ratio, relative to 3% distortion (IEC A weighted) according to the manufacturer. Frequency response for playback and record, at –20 dB, is listed at ± 3 dB from 30 Hz to 18 kHz with metal tape and no noise reduction (30 Hz to 14 kHz ± 3 dB with Dolby in).

Another major name in tape recorders, perhaps the most prolific of them all, the TEAC/Tascam group has targeted the studio as home for their Tascam 122 B Studio Cassette Recorder/Reproducer. A balanced XLR input/output, +4 dBm version of the 122 (which lists at \$750, no price yet on the ‘B’) the rack mountable unit includes Dolby B noise reduction and Dolby HX headroom extension, plus facilities for dbx noise reduction. It is a two-speed machine (1 $\frac{1}{2}$ and 3 $\frac{3}{4}$ ips) which claims a ± 2 dB frequency response at –20 VU of 35 Hz - 24 kHz in the higher speed (35 Hz - 14 kHz at 0 VU @ 1 $\frac{1}{2}$ ips). At standard speed, says the manufacturer, the 122 can squeeze out a 92 dB signal-to-noise ratio (A weighted with dbx, at a reference of 1 kHz, 3% THD level).

Nakamichi, a longtime favorite of audiophiles, has also recently shown an interest in the studio market. With the introduction of their DRAGON Auto Reverse Cassette Deck, Nakamichi has tackled what they consider the last frontier in cassette technology: play-head azimuth misalignment – which limits cassette interchangeability and precludes “reverse playback” with full fidelity. The Nakamichi Auto Azimuth Correction automatically determines the actual recorded azimuth on the

Studer A 710 Cassette
Tape Recorder



tape, aligns the playback head to it using phase compensation, and continues to track it throughout the program.

Nakamichi is known for impressive specifications and this machine is no exception. Playback frequency response is quoted by the manufacturer at 20 Hz to 22 kHz ± 3 dB using metal tape at -20 dB recording level. With Dolby C noise reduction on, signal-to-noise ratio is said to be better than 72 dB (@ 400 Hz, 3% THD, IHF A weighting RMS). List price is \$1850.

The engineers at ASC have developed a unique bias adjustment system for their \$1895 ASC 3000. Response Adjust Level Frequency, or RALF, offers user-controlled bias and equalization of six different oxides, enabling the user to set any one of the six tape memory pre-sets to a tape of choice. The ASC 3000 employs a 3 motor drive unit with dual capstan and Dolby B and C noise reduction. Frequency response is claimed to be 20 Hz

to 20 kHz $+2/-3$ dB with unweighted signal-to-noise ratio of 63 dB using Dolby C.

At a list price of \$1395, Tandberg's TCD 3014 packs a host of computerized features and impressive specs, highlighted by a frequency response of 18 Hz to 23 kHz ± 1.5 dB (metal tape @ -20 dB level, Dolby off) according to the manufacturer. Two exclusive Tandberg circuits also contribute to the audio performance of the TCD 3014. One is their Dyneq system, which dynamically varies the high frequency record equalization to maximize the amount of high-treble information that can be stored on the tape. The other is the new Actilinear II transconductance amplifier, which presents the record head with an ideal current source for audio and bias signals and increases the headroom of the record amplifier.

An advanced, 8-bit microprocessor with a 32k EPROM memory

controls all transport operations. The microprocessor allows almost any conceivable combination of Scan, Search, and Memory functions, all accessed by pressing "Stop" and an appropriate combination of the other transport buttons.

But let's face it. Not every studio needs to spend upwards of a grand for a cassette machine. Fortunately, many other manufacturers have improved the quality of their units and many of these should warrant serious consideration for that workhorse machine of the control room.

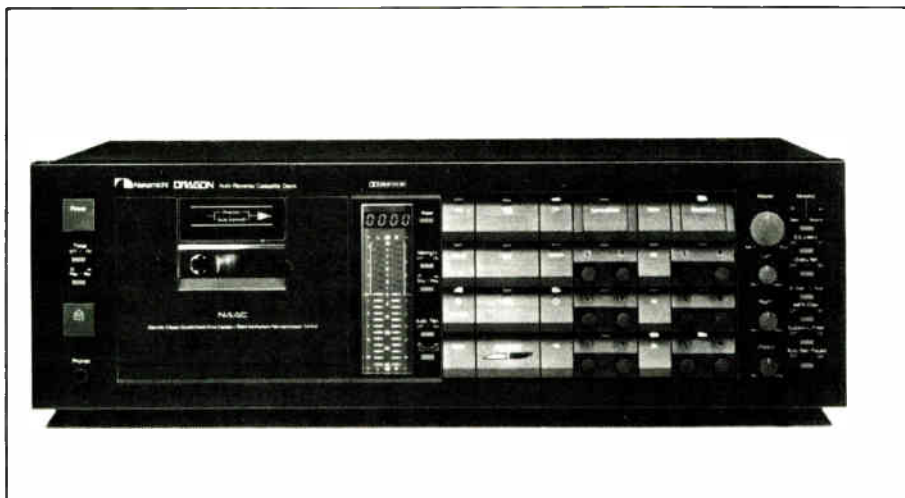
Priced at \$450, Technics' Model RS-M253X cassette deck offers three heads with dbx and Dolby B and C noise reduction circuitry. A remote control for transport functions is available and the unit has a repeat function that can automatically repeat a single selection up to 16 times (useful for musicians rehearsing a tune). A continuously variable bias control permits precise adjustment of the desired cassette being used.

Yamaha's K-2000, priced at \$795, includes Dolby B as well as dbx. It also incorporates an automatic bias tuning system called "ORBIT," which carries out the calibration process automatically every time a cassette is loaded and the REC, PAUSE button is pressed. The calibration process takes only two seconds, and when it is over there is no calibration tone left on the tape.

Boasting a frequency response of 20 Hz to 21 kHz ± 3 dB using Dolby C and metal tape, AIWA's new \$595 AD-F990 claims a signal-to-noise ratio of 80 dB above 5 kHz. The unit employs what AIWA calls D.A.T.A., or Digital Automatic Tape Adaption, a microcomputerized system which optimizes bias, sensitivity and equalization for virtually any tape automatically and within 16 seconds.

Pioneer also has a new deck that analyzes tapes and automatically adjusts the electronics: the CT-90 R, which lists at \$520. Its built-in microcomputer, with a quartz-referred servo system coordinates operation of the three motors for consistent tape speed and transport reliability.

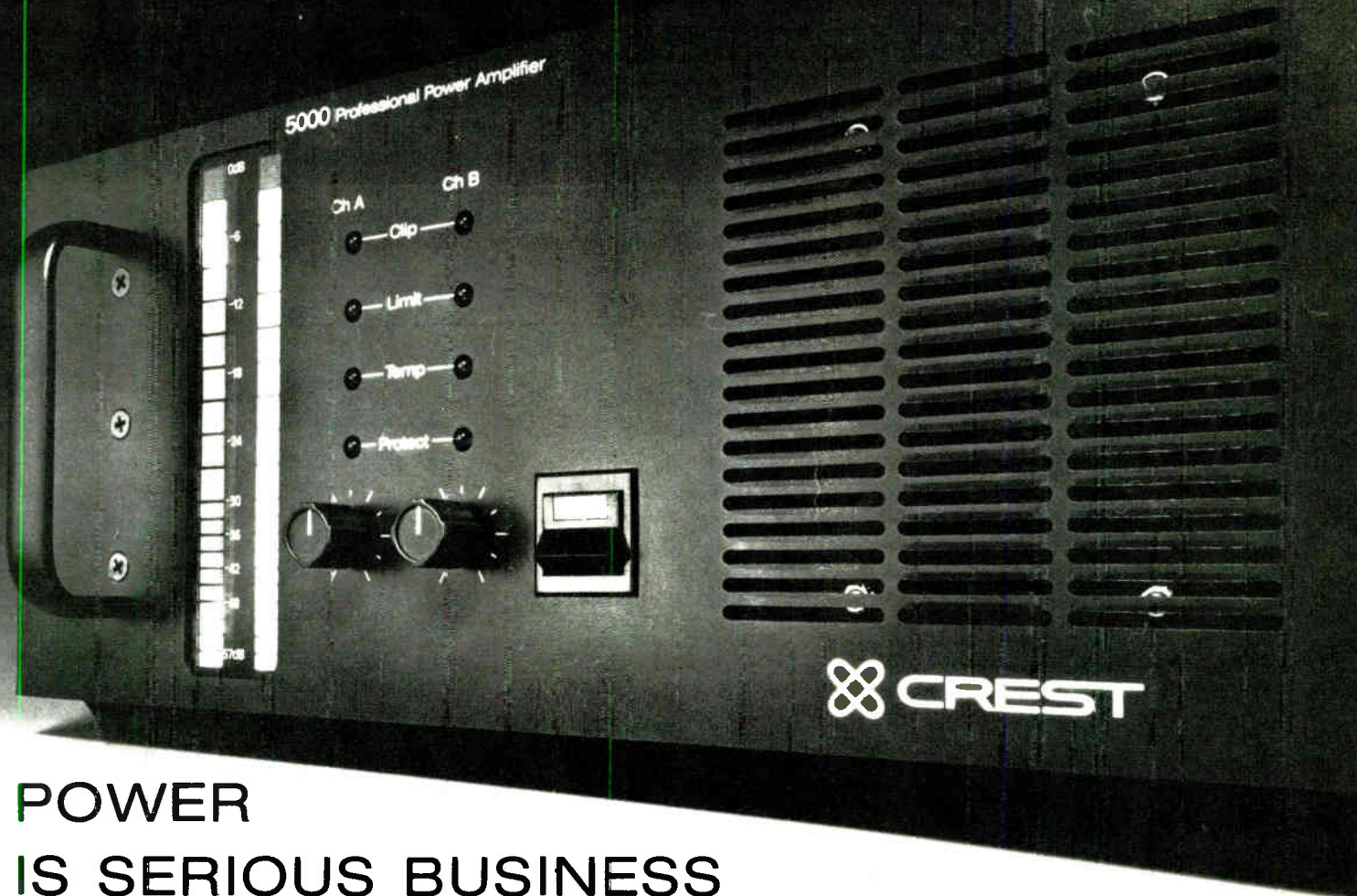
Sony has recently introduced what they consider to be the "world's first fully-computerized self-monitoring cassette deck." It's called the TC-FX1010 and it draws together the best of their Independent Suspension 3-head design (which claims to overcome the azimuth, flux leakage and tape contact problems associated with conventional three-head decks) with the computerized automation of their Audio



Nakamichi DRAGON Auto Reverse Cassette Deck

Tascam 122 Cassette Deck





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Signal Processor (ASP) IC. Before recording, the ASP automatically calibrates tape bias and record levels. During recording, the self-monitoring 3-head system automatically compares "tape" with "Source" to set the optimum record levels. The deck then commits these settings to memory allowing instant recall for the next recording session. List price is \$650.

JVC, like Nakamichi, has also focused on overcoming the problems of azimuth alignment in auto-reverse decks. Their top-of-the-line DD-V9, priced at \$800, includes a head assembly consisting of two basic parts: a head mount base and a rotating head holder. The head holder swivels 180° back and forth inside the mount base, and in each direction is restrained by a ruby-tipped azimuth adjustment screw. This JVC "jewel-lock" system makes it possible to adjust the head alignment for each path of tape travel independently, and maintain correct azimuth.

Other features of the DD-V9 include an Index Scan, which lets the user hear the first 10 seconds of every song on a tape; Blank Search, which permits the user to repeat between any two points on the counter; and the digital multi-function counter, which pro-

vides four useful functions: minute and second display of remaining tape time, four digit display of tape extended (for both directions of tape travel), minute and second display of elapsed time (elapsed time is continuously counted even if direction changes during record or play at either end of the tape) and Music Scan system program display, which means that the DD-V9 can be programmed to zero-in on a song up to 20 ahead or behind so that, in this mode, the counter acts as a countdown mechanism.

The latest release from AKAI is the GX-7, a \$400 deck which features what AKAI calls A SuperGX Combo Head, guaranteed for more than 150,000 hours of continuous operation. A 3-head system with Dolby B and C, the GX-7 also has a 'Record Cancel' feature to combat accidental recording of unwanted selections by quickly reversing to the end of the last recording, then recording four seconds of silence and waiting in the Pause mode for direction to record new material.

Onkyo has recently unveiled their TA-2070 3 head direct drive cassette deck. Their engineers have developed what they call "Acubias" which fine tunes the recording bias current

to match the tape in use. The TA-2070 also features Dolby B and C and a real time counter that can be set to show elapsed time after recording or play-back and time remaining to the end of cassette. Price is \$700.

Sansui has brought out a double recording cassette deck, the Model D-W9 priced at \$449, which allows the user the chance of recording two cassettes either simultaneously for quick copies or, sequentially, ad infinitum, for continuous programming. It also has a 15 - selection RMPS (Random Music Program Search) and a three function

memory enabling the user to program cuts at random, and the memory will search in that sequence. The D-W9 includes Dolby B and C.

At \$630, Nikko Audio's just-released ND1000 is rack mountable with optional remote control. The unit is a three head, two motor design with a microprocessor tape evaluation system for automatic bias, level and sensitivity adjustment.

Several other low-cost/high performance" decks deserve consideration for studio workhorse applications. For \$320 Kenwood makes a model KX-71R which claims a signal-to-noise ratio of 67 dB with Dolby B and 72 dB with Dolby C, for normal, CrO₂ and metal tapes. The \$650 C101 by SAE is a full logic, three head, two motor 19" rack mount top-of-the-line deck with remote control capability, employing alphanumeric and digital displays to indicate such functions as tape counter, tape size and time remaining. Also incorporated are biasing and EQ controls for all four tape formulations with 400 Hz and 10 kHz test tones. Denon includes a microprocessor-controlled tape tuning system in its \$550 DRD-M3, which is reported to have a frequency response of 20 Hz to 23 kHz ± 2.5 dB, using metal tape, and a signal-to-noise ratio of 73+ dB with Dolby C (at 3% THD).

Many other deck manufacturers are also orienting themselves toward quality and performance at about the same time that studios are beginning to take the cassette seriously. It looks like a mutually beneficial relationship. ■

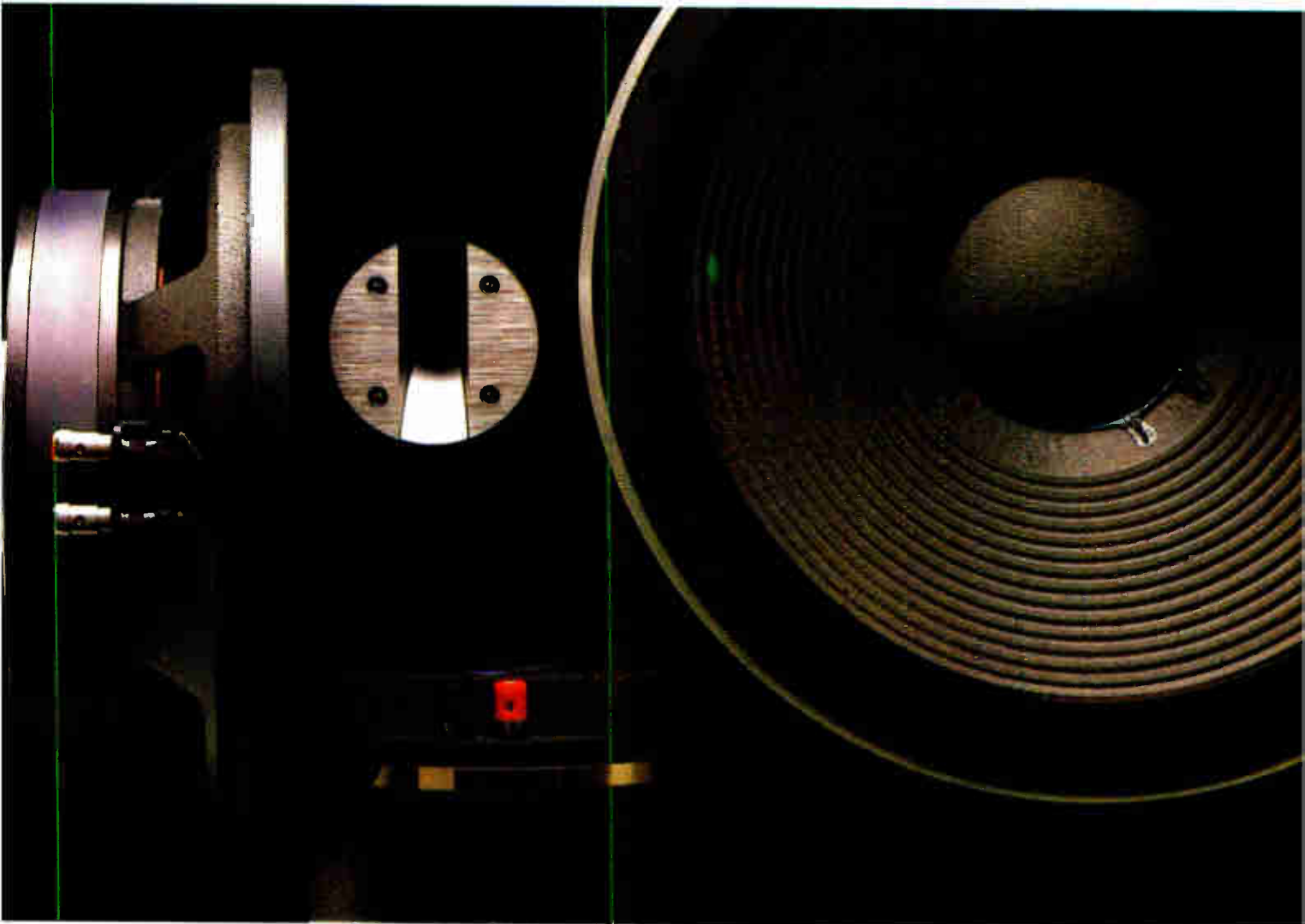
If you would like further information on any of the units mentioned here, circle the corresponding numbers on the Reader Service Card and we will forward your requests to the manufacturers.

- AIWA AD-F990 Circle #141
- AKAI GX-7 Circle #142
- ASC 3000 Circle #143
- Denon DR-M3 Circle #144
- JVC DD-V9 Circle #145
- Kenwood KX-71R Circle #146
- Nakamichi DRAGON Circle #147
- Nikko ND1000 Circle #148
- Onkyo TA-2070 Circle #148
- Pioneer CT-90R Circle #150
- SAE C2 Circle #151
- Sansui D-W9 Circle #152
- Sony TC-FX 1010 Circle #153
- Studer A710 Circle #154
- Tandberg TCD 3014 Circle #155
- Tascam 122B Circle #156
- Technics RS-M253X Circle #157
- Yamaha K-2000 Circle #158

Master Digital of Venice, CA, uses Sony TC-K777s for real-time duplication



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ARTIST - STUDIOS

Originally built for and named after one of keyboard wizard Chick Corea's own recording projects, Mad Hatter Studio now also records everything from rock to classical music while Chick maintains his busy touring schedule. Located on Griffith Park Blvd. in Los Angeles, with no identifying signs on the outside of the building, the facility houses beautifully designed administrative offices on the ground floor and a highly advanced studio on the second floor.

CHICK COREA'S **Mad Hatter** STUDIO

by Mick Thompson and Bill Friday

Included in the impressive equipment at Mad Hatter are a modified Studer 24 track machine with autolocate, two modified Studer master mix down machines (1/2" and 1/4"), a Trident Series 80 console (40 x 24), a custom monitor system by John Meyer, two EMT 140 stereo plates and one EMT 240 Gold Foil reverb unit, Lexicon 224X digital reverb, Lexicon Prime Time and Super Prime Time digital delays, as well as a host of other outboard equipment, two nine foot concert grand pianos and a wide range of electronic keyboards and synthesizers.

With the *Return to Forever* tour just completed, Chick and his trusty engineer Bernie Kirsh told us about the studio and its intent.

Bernie: The building was purchased in the summer of 1980 and construction began right away. We had our first album project in January 1981.

Chick: I did the album *Three Quartets* here. I also did *Touchstone* and my album *Trio Music* here.

Bernie: Initially, the idea was that this would be Chick's studio. The idea for others to use it didn't come about until later when it became unrealistic to have a facility like this and leave it unused. One of the ideas we had at the beginning was that it would be a

place where musicians could gather and create music together.

We wanted a place that would incorporate all the things we like about other studios and here was our chance to say, 'We want it this way.' It's a good room technically and acoustically and it feels good just as an environment to hang around in or to play music in or to listen to music in.

initially, but modified somewhat to suit our needs. There is basically 1300 square feet in the recording room and about 400-500 square feet in the control room. Ceiling height is 18 feet in the recording room.

Chick: The main thing we went for was a nice spacious control room... the place where we spend most of our time when we record. The other thing



Chick: We have as a goal connecting up artists, and making a really nice safe environment for artists. Secondly to that, Bernie and I, just as a fun game, really love recording studios. That was the initial idea that actually started back in 1975 when Bernie and I first met. I was recording *The Leprechaun* at Electric Lady Studios in New York where Bernie was working at the time.

Bernie: We wanted it to be comfortable and a place you wanted to be in even for a long period of time. We wanted it to have life in it. We have a skylight which lets natural light into the recording room. We took a survey to decide which color carpet to go with. Everybody liked maroon so we decided to go with green because that's what Chick liked. It's not always 3:00 in the morning here because of the skylight. It's nice because it lets you feel the difference in day and night time.

The design was by Tom Hidley

we went for was a studio room/recording room where we could get acoustic instruments to sound really nice using the air and the microphones. So we built mostly a wooden room with some stone in it which has a nice bright, very clear sound. We also have sliding panels in the recording room that open up into deep trapping so if louder music is played in the room it cuts off the bounce to almost nothing.

The equipment selection had a lot to do with Bernie's and my own tastes, combined with things we saw were practical as well. I think the guideline for our studio has been clarity and richness of sound. I don't think that's much different from other people who put studios together but we went for the clarity part in a big way by making sure that everything in the line was very clean.

We had modifications done on our Trident Series 80 board. The monitors are by John Meyer, a great

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combination of punch with the kind of sound that sounds good with just a pure acoustic piano or a violin with nothing else on it.

Bernie: We went for sonics all the way. We wanted it to sound good. We had made an acquaintance with Mark Levinson who was a hi-fi audiophile equipment designer—really top of the line hi-fi gear. He was doing some experimenting with stereo recording on his own and we found out about it and started to look into the recorders and decided we wanted some of that. So we got his stereo recorders. We have 1/2 and 1/4 inch capability on the recorders. They are basically Studer transports with Mark Levinson electronics. Studer allows him to put his

own name on it. They are called Mark Levinson ML5s. They are not VU machines because the VU machines have different head electronics. It was decided that it was sonically better to have the recorders without the VU meters—the RC model which is just a master recording machine. Other recorders have sync capability and so forth which alters them from the design of these recorders. These have no sync capability. They are designed to be mastered onto. We use the console to monitor the VU levels.

I think 1/2" mastering is a real positive step toward better sound. Some people have said it is a small difference, but I don't think it's subtle at all. The signal to noise is really

good and if you can keep the noise floor of the recorder down like we do on these, the machine doesn't add much noise at all. It's a very, very wide dynamic range.

It is a great recording room and we didn't design it to record any particular kind of music, although the early recordings done here were jazz. I did keep in mind, because of my background in rock, to do that music as well. We didn't want to limit ourselves to being a "jazz studio" or "rock studio" or a "classical studio." We wanted to have a good recording room.

Chick: The control room is big enough so that a keyboard player can bring his keyboards right into the control room anywhere he wants, either in front of or behind the board and be very comfortable.

As a side thing I usually make available most or all of my own keyboards to clients that record here. There's an Oberheim 8 voice and an old but very beautiful sounding Moog 55... that's the big fella, the patching Moog.

The acoustic pianos, as well as being some of my favorites, are also turning out to be other pianists' favorites. One is a Hamburg Steinway that's about 15 years old and is in great shape and has a wonderful sound to it, and the other is a 25 year old Bosendorfer concert grand that has a very different sound from the Steinway, a very clear, gorgeous sound. It would be really a fun thing to have a two-piano recording up here, to have a piano duo come up and record. We are probably one of the only places that have two great concert grand pianos that can be used.

We're constantly refining the studio in terms of modifications and gear here and there or experimenting with microphones. We are pretty well settled on how the room sounds; the design was really well put together. Some months down the road we are going to build Mad Hatter II, a second studio. It is probably going to be a smaller recording room but as big a control room with probably a larger and computerized board and two 24 tracks in there and maybe some digital recorders as well.

Bernie: We are really concerned that the product is the best we can deliver. We want each artist to get the best he/she can get. We are here to serve the artist; that is why we do what we do.

In and of itself the recording process is nothing more than interesting. But when you add the artistry into it, it becomes fun. That's what we like to do. Like anything else, if you do it the best you can, you enjoy it more. And I like to have a good time. ■

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ADA
ADA SIGNAL PROCESSORS

The • Studio • Musician's • Viewpoint

by Carol Kaye

This is the first of many articles on **The Studio Musician's Viewpoint**. I'd like to talk about not only what it was like to cut "Feelin' Alright," "Wichita Lineman," and "The Way We Were" but more importantly, to communicate what the studio musician is about and to help build better communication between the control room and "out there."

We all want the same thing: to make that special hit happen. It is a definite thrill to be on the winning take of something like "You've Lost That Lovin' Feeling" or "The Beat Goes On."

For those of you who are new to my background, I'll list some credentials. I've played on over 10,000 record dates, jingles, TV film shows and movies in all the Los Angeles studios (and some in Toronto and New York), first as a much-in-demand guitarist (1958-1965), then as No. 1 Electric Bassist (1964-1978). I've enjoyed the pangs and thrills of being on the classic Phil Spector dates, most of Sam Cooke, Jan & Dean, Beach Boys, quite a few Motown classics (a lot were recorded in L.A.), Johnny Mathis, Quincy Jones' movies, The Lettermen, early O'Jays, Sam & Dave, April & Nino, Trini Lopez, Hank Mancini, Dick & DeeDee, Monkees, Hondels, Marquettes, Mission Impossible, Ironsides, M.A.S.H., Hawaii Five-O, Room 222, Hogan's Heroes, Green Acres (guitar), Heat of the Night, Airport, Sweet Charity, Slender Thread, Pawnbroker, Thomas Crown Affair, On Any Sunday, Butch Cassidy, and on and on. I lived in the studios maybe 16 hours every day (sometimes 7 days a week) for many years and was a part of that '60s music happening. I worked predominantly on film calls in the '70s.

Today's sounds, musicians, arrangements, artists, and engineering techniques are better than ever. We started out on 2 track and were in heaven when 4 track came in. I'll be talking about some of those old times, when a prime requisite was to be able to find a parking place (to be on



FIGURE BOBVA FUSSELL

time), to read and invent hook lines, and not to talk about being a jazz musician - verboten! Some of it was boring (get the toothpick for the eyelids), frustrating, but for me (the only woman) it definitely was quite an experience.

Now I'll run down a typical date in the sixties (before the tons of layering) and share a few pointers on the care and feeding of studio musicians. Usually the rhythm and horn sections were recorded together (as at United, Western, or Steiner's on top of the garage studio where we cut the early Supremes, 4 Tops, Miracles, and some of Stevie Wonder, The Temptations, Martha and the Vandellas, and most of Brenda Holloway). The arrangements were not elaborate as a rule - horn riffs and ideas were written as were the skeleton roadmap of breaks, changes of key, codas, etc., but the rhythm section was fairly free to invent. Much time was spent tightening up the snare and bass drums.

Producers like Phil Spector and Lee Hazelwood (Nancy Sinatra) ran their "marathon group therapy" recording sessions until we found a groove that struck them. Some arrangers like Harold Batiste really

helped with interesting idea arrangements for Sonny & Cher. Often though, it was some little line that sometimes made the record - "The Beat Goes On" just sort of laid there and it was pretty easy for me to come up with that bass line (I played guitar, Bob West played bass). Leon Russell usually came up with some different gospel piano lines (Mack Rabinac, too). The singers would usually be there and it was a lot easier to play to the singer. Nothing like having Johnny Mathis, Ray Charles, Ed Ames, or whoever right in your ear. Sometimes a simple bass fill stoked the singer up into a better performance. It's very important to hear a good balance of whoever is there (not too much piano - they usually rush the time). It is very important also for the drummer and bassist to hear each other (earphone mix and maybe some live) as well as themselves, too.

There were fences (baffles) in those days but we'd always make cracks in them to see each other, kid around and smile when we'd accidentally hit a fill together or the fade. The rapport between horns and rhythm sections creates excitement as they bounce off of each other. The candor

of some engineers at just the right moment on the talk back mike kept us all going, too. A little praise helps.

If it sounds like one big party, at times it was. But mostly, we were there to do a job - make a hit or "starve," and we all had families to raise, so we lined up at the gritty coffee machines. I never saw so many \$75,000 a year musicians eat so much junk food, canned food and fast spaghetti in my life, yours truly included. We were busy.

Once the engineer knew who we were (we had the right quiet recording equipment, knew some of the engineering savvy, wouldn't play too loudly, wouldn't freeze on a take or start a silly argument), he was usually our friend for life. I still talk to engineers who say they miss recording the clean bass sound I usually got from my araps. I was always cut live up until around 1970. After that, they would split it between the amp and bass. The impact of the pick helped. I never liked the limiter and never really needed it. I always felt it was up to the player to play evenly to help keep the needle within limits.

A very common thread of all the biggest hits is GOOD RHYTHM TIME. This usually happens when the

rhythm section is relaxed and friendly. We had no saunas, rugs, or dim lights; the studios were bright, dirty, and messy, but the musicians had some personal freedom. The drummers I've worked with most were Hal Blaine and Earl Palmer and they had a terrific sense of humor. We used humor a lot to get us through some tense moments. For instance, sometimes a new drummer would come into town and have a cocky attitude and the date would be real tense - I'd ask the arranger if we were supposed to "RUSH" in Bar 39. The new drummer would then give me a dirty look, lock his groove in better and we'd really start playing. His anger would break his bad attitude and he'd be "ready" to really start grooving. He'd later thank me in a way. I guess maybe it broke the tension.

Keeping good rhythm and time is a critical factor - very important for the bass player and drummer to be tight. Also, the rhythm guitarist and pianist. It's a good idea to INSIST that they listen to the playbacks to correct any time problems - slowing down or speeding up. We musicians are a sensitive lot - very hard to get us to admit to mistakes or imperfections and LISTENING to the playbacks is

invaluable for getting a better take. Something could be said like, "It's almost there," or "I liked what you did in the front - can you put that in such and such part?" Coming right out and saying that we are rushing and dragging sometimes destroys any good feelings - letting the musician discover his/her own problems is usually the best course. Sometimes, you'll have a dodo who insists on "his" way - this musician is insecure. Just play him a record or tape of EXACTLY what you want, including style, feel and sound and make him/her imitate that.

Next month, I'll talk about Mike Curb, Lester Sill, Quincy Jones and much more. I have a feeling this is going to be a fun column - something like a hip Dear Abby Remember, this ole world needs some good records to keep on groovin' - hope it's yours someday.

Peace and love,
Carol Kaye

PS - Please write in any questions you might have. If I don't have the answers, I'm in close contact with my ol' studio buddies who do.

(Note: Carol's bass books are published by Gwyll Publishing Co., 177 Webster St., #272, Menlo Park, CA 94026 - see Classified Ads.)

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The advertisement features a background collage of numerous artist names in various orientations and sizes, including: CLIVE BULLOCK, MERLE HAGGARD, PATRICE KASNER, TOM SCOTT, FRANK ZAPPA, REX ALLEN, BURRITO BROTHERS, FRIZZELL & ID WEST, A TASTE OF HONEY, SARAH VAUGHN, WAGON LUNA, JENNIFER LANE, RUFUS, OZZY, PORTER WAGONER, LENNY WHITE, CLIVE BULLOCK, ERNEST TUBBS, SILVER BEATS, PETER MCCAIN, SILVER BEATS, DUKES OF HAZZARD, BRODY, JONI MITCHELL, COIN HUNLEY, TEENA MARIE, JAIN & DEAN, TAINY, ROY ROGERS, SHIRLEY BASSEY, PORTER WAGONER, MANHATTAN TRANSFER, TOMMY TUTOR, TOMMY TUTOR, PATRICE KASNER, JIM STAFFORD, STEVEN SOULES, SUSIE ALLANSON, SHIRLEY BASSEY, LEINNY, JONNY, BROTHERS, FUL ANKA, JOHN SCHNEIDER, TOMMY TUTOR, BROTHERS, STEPHANIE WINSTON, SLOTT, BROTHERS, BAIN, FROM THE HEART, PRARIE LEAGUE, RUIVER, MITCHELL.

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JIMMY WEBB

"I just do what I do. I don't ever sit down to write a song that's more complicated than someone else's - although I do like interesting chord changes. Even though I'm not always successful, I like to do something with a lyric that's a little different. The goal is originality - not to write the same things I or other people have written before."

"Originality" is a slippery concept—someone once pointed out to me that whether you're Chopin or Chuck Berry, there are only 12 notes—but Jimmy Webb has had more than a modest amount of success (record sales and the acclaim of his peers being principal indicators) in his more than 20 years of songwriting and performing.

Although his biggest hits—including "Up, Up and Away," "MacArthur Park," and a host of great records by the likes of Glen Campbell, The Fifth Dimension and others—were recorded in the late '60s, and his own recording career hasn't exactly kept him on the tips of American tongues, Webb has not been idle. In fact, he recently accomplished a long-term goal when he found himself active in three media: film, television and records. He wrote five songs and the score for an animated feature, "The Last Unicorn;" he wrote for the TV series "Seven Brides for Seven Brothers"; Linda Ronstadt included two Webb compositions on her latest LP, *Get Closer*; Willie Nelson and Waylon Jennings covered one on *WWII*, and Glen Campbell is still using Webb's material, too.

The "key thing" that Webb says "pushed me over the edge" into professional songwriting was an encounter with a professor at San Bernardino Valley College. At the end of a semester, Music Education student Webb was presented with an interesting and troublesome situation: his choral composition has earned Webb an A+, but his semester grade was a D. "You spend too much time in the practice room writing songs, and you don't do your homework," the instructor complained. "I think you're better suited for this dream of being a songwriter than you are for college. Why don't you make the commitment and do it?"

With a used VW and a \$1000 loan, Webb moved from San Bernardino to Hollywood and set himself to the task of becoming a professional songwriter. His first success came when Motown used "My Christmas Tree" on a Christmas album by the Supremes. He did "odds and ends" for Motown—lead sheets, a songwriting gig here and there including work with Billy Eckstine and Brenda Holloway—and eventually his first opportunity to arrange came, on a session with some former schoolmates then performing as the Contessas.



the goal is originality

Lacking confidence in his transposing skills, Webb charted all the instruments in concert pitch. But when he heard the playback of his very first recorded arrangement, "it sounded okay. It was one of the most incredible moments of my life!"

While working for Johnny Rivers, Webb was assigned to a gig as rehearsal pianist for a vocal band called The Versatiles. A song he submitted for their album became the title track, and at the age of 19 Webb became the author of a huge hit when The Versatiles (renamed The Fifth Dimension) scored a national smash with "Up, Up and Away."

"I felt like a real greenhorn," says Webb of his early success. "I didn't feel that I knew what I was doing. But I knew what I wanted to hear. I was in a formative stage, but I wasn't a street kid. I'd always been on a farm or in a small town, playing music in church or with my father or mother doing religious music or something—then school, and then Hollywood.

"I should have taken my career a little more seriously and

thought before I made some of the decisions I made," he says in retrospect. "That's easy to do when you're 35, but it's not easy when you're 17. One of the biggest mistakes I made was assuming I had a magic formula and that any song I wrote would be a hit." But it's easy to see how a very young man, given three or four big hits right out of the box, could make such an assumption.

When Webb decided to expand into performing and recording his own work in the early '70s, he saw the music business divided into two camps. "There was a socially responsive and politically sensitive faction that dealt with issues, and there was the other side—the one I saw myself associated with—that was more purely for entertainment," he observes. "As a songwriter for The Fifth Dimension, Glen Campbell or Richard Harris, my horizons were limited. I didn't want to be thought of as someone who wrote popcorn music, no matter how much money I made at it."

Webb made a conscious decision to "chop out a niche as a serious artist." In doing so he says, "I turned my

back on a lot of money. I made the *Words & Music* album, put together a four-piece band, and toured in buses." Though he got good reactions from his audiences, he didn't gain a lot of acceptance on radio or in the record stores. "I improved as I went on, but I couldn't seem to get past that initial changeover from pop songwriter to performer."

"I think it caused a backlash when people heard profanity and outrageous social statements in my lyrics. They'd say, 'What's he trying to do? Who does he think he is? Why doesn't he just write beautiful songs?'"

"It still isn't easy," he continues. "*Angel Heart* is the best album I've ever made—but despite the improvements in my chops and my concept of what I want to do, it's become clear that

my possibilities for success have declined because of tightening playlists and the general malaise of the recording industry."

But Webb won't change his colors to suit fickle fashion. "To stick around as a songwriter, you have to put the idea of writing hit songs out of your mind and work on writing *good* songs. Then you have to match those songs with artists who have the ability to make them come alive. If it turns out to be an album cut, fine; if the album is a hit, you make money and stay in the business."

Knowing how hard it is to get a hit on your own—no matter who you are—Webb has worked hard to get his songs on other people's albums, and to find other outlets for his work. "While writing for 'Seven Brides for Seven Brothers,' I had a different and chal-

lenging subject each week—chili, politics, a baby, a mountain lion—really off-the-wall projects."

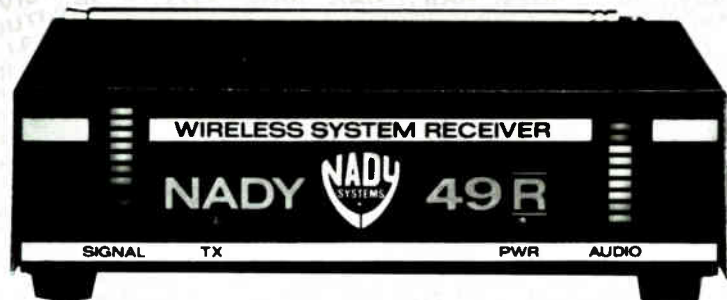
Keeping the ideas fresh and original is more important to Webb than being trendy and reactionary. "If I feel something starting to sound like something else I'll alter it to a degree to where I'm happy with its originality. I could never be happy shamelessly copying somebody else and thinking, 'I don't care – this is going to be a hit.'" Webb acknowledges the impact this attitude can have on his marketability, and therefore his wallet. "It drives me out of some of the more obvious approaches to the listener. Sometimes I hurt my chances of commercial success by not letting a song progress in the obvious and expected way—it's easier to walk down the road than to hike through the woods—but that's the only way I can do it. I'm *not* just writing to make money."

Key changes have always been important to Webb's style. "When I started out I emulated Burt Bacharach in certain ways, because his music is interesting to listen to; I always wanted interesting chords in my songs, too. Sometimes I'd say, 'I know I can't get out of this key, so I'm just going to go to *this* key.' Then the record would come out and some guy would say, 'Man, that's a wild change. How did you ever do that?' Nobody realized that a song like 'The Worst That Could Happen' [recorded by The Brooklyn Bridge] was just the pragmatics of ignorance."

Webb's first few albums, and Richard Harris's *A Tramp Shining*, credit him as writer, arranger and composer. But on each successive album he's gotten less involved with the production. "When my albums didn't get to be big platinum hits, the demand for me as a producer began to decline. I'd still like to produce, and I think I can—but I have to stick to basics," he says. "The bread and butter for me is writing songs and getting them recorded."

His plans include more recording and touring on his own, though. "The next time I'll probably go out by myself with a piano, and maybe Fred Tackett on acoustic guitar. It costs a lot of money to go on the road with anything more than that, and if the records aren't in the bins when you get to a town, you're wasting your investment. It's kind of heartbreaking to spend two years and \$125,000 making an album and not be able to find it."

"I'm not looking for Rod Stewart's audience," Webb adds philosophically. "I'd just like to be able to reach the people who want to hear me. The only response I've ever needed was enough to be able to sell 250-300,000 albums and fill small halls and clubs. The most frustrating thing is not to be able to communicate to my audience – and I have a feeling there is one out there." ■



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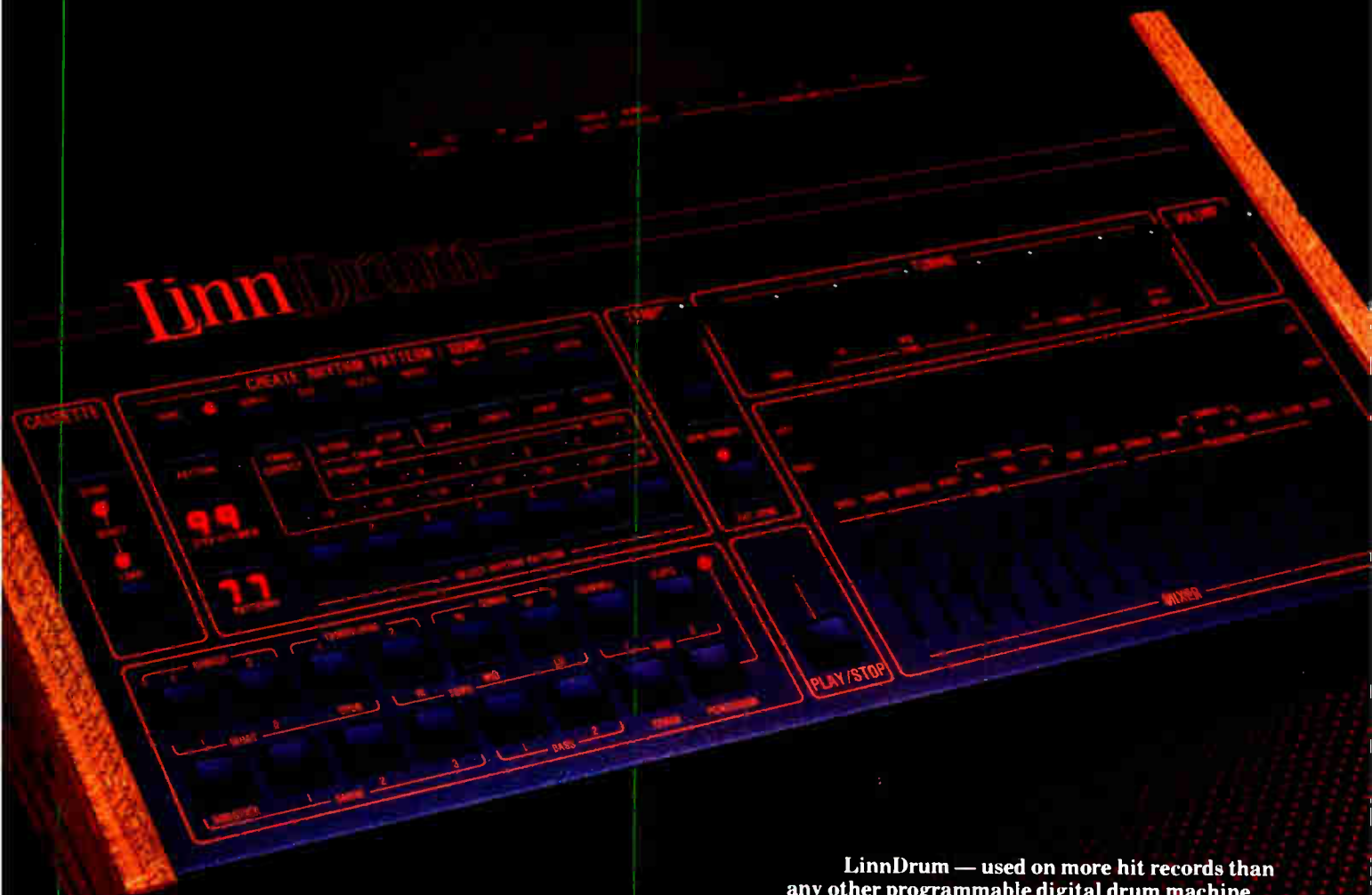


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World Radio History

venturous and critically well received, but things didn't really start cooking for the pair until they took matters into their own hands and began to produce their own records. *Voices*, released in 1980, was an exciting and very modern pop album that put them firmly back at the top of the music scene with no less than four hit singles.

Since taking the wheel of their bus, Hall and Oates have released three albums and an incredible 13 hit singles. For Daryl Hall, the success is sweetened substantially by the fact he and his partner are directly responsible for it. "The only time I would say we seriously thought about how long we were going to continue [working on the act] was just before the *Voices* album," says Hall. "We had been doing what we thought were a lot of interesting things like *Along the Red Ledge* and *X-Static*, and even though we were happy with what was going artistically, they weren't very well-received commercially. We said at that time we were going to produce ourselves - we were really going to be honest about it, and there'd be no one to blame but ourselves. We knew if people didn't like *Voices*, then they wouldn't ever like what we do together."

Prior to *Voices*, Hall and Oates had been produced by a host of major names, including Arif Mardin, David Foster and Todd Rundgren. Despite the hits they did make as other people's clients, the team now regrets not having produced themselves earlier. "I don't look fondly on that period," says Hall of the years they spent relying on outside producers. "I think that as good and as talented as Todd and Foster are, they weren't talented in bringing out what we had to say - and as producers, that is definitely a failing on their part. We certainly had the goods and the vision, and if I had been producing I certainly would have done everything I could to bring out our personalities.

"Although both those guys are extremely talented, I think they put too much of themselves into the music they produce. *War Babies* sounds like a Todd Rundgren record, and I think David was trying very hard to direct us toward that California/Toto sound, which we were not interested in."

Voices was indeed the turning point for H&O, not only because they made the commitment to produce themselves, but also because they made the record with their own band instead of studio musicians as they'd done

before. "It's the same thing I said about producers," says Hall. "Even though the studio players are extremely talented, they have their own styles; they're not necessarily open and sensitive to a style they're not used to. They have preconceived notions, whereas our band is just our band; they understand us perfectly. They know exactly what we want and they listen."

Now that they're their own producers, the recording studio has become a home away from home for Hall and Oates. Their recorded output has never been greater, and Hall says it's because the studio is now the center of their creativity. "We usually come up with ideas for songs and record them on our Portastudios at home. Then we go into the studio and develop them - things can go in various directions that way, and we can work spontaneously."

Oates characterizes the group as "co-soloists," and while they usually write songs separately they contribute to each other's ideas to make them as strong as possible. Sometimes, says Hall, this can turn one of John's songs into one of his own. For example, "John came up with the chorus of 'Maneater,' but it wasn't quite the same as it is now," Hall explains. "He sang it originally; I

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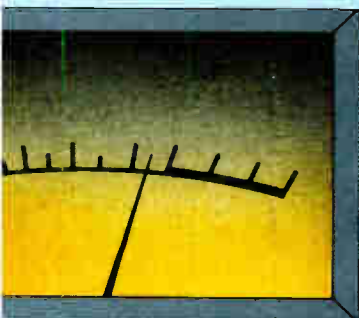
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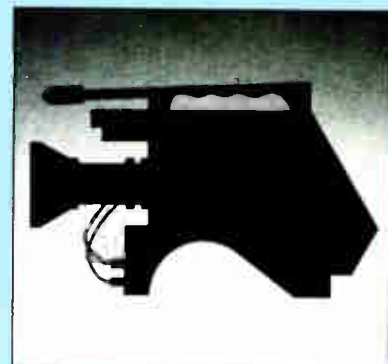


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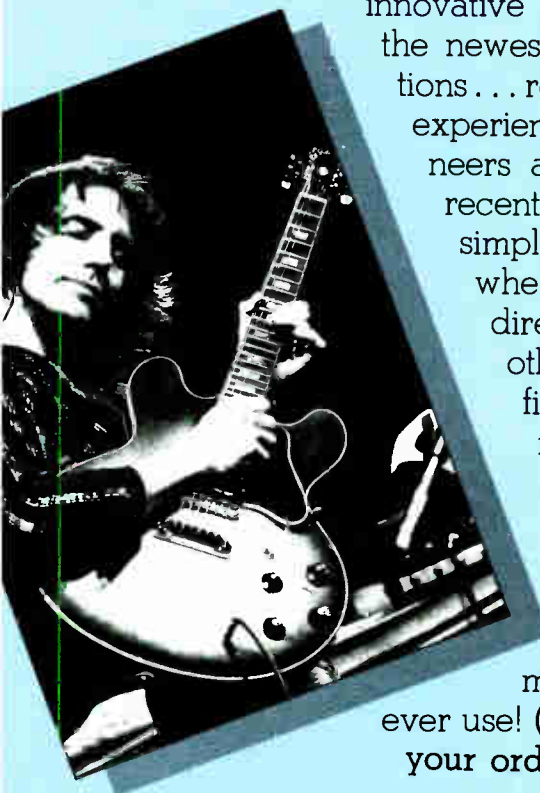
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PETER GABRIEL

by K.C. Camaro

"I'm not a musician who tries to reproduce a record on stage," says Peter Gabriel. "For me, it's a separate thing from recording. I like to look upon music as a living thing.

"I can drive a lot of people crazy in the course of recording an album. I'm stubborn, and I like to explore a lot of options." Although he doesn't rely on endless takes—five is the maximum—"I will quite often try different arrangements." Gabriel notes that his co-producer Peter Walsh works more on the sounds while Gabriel deals with "the total picture." Acknowledging that Walsh's suggestions in all areas are welcome, Gabriel concludes "we are a fairly balanced team."

Submitting to interviews is, Gabriel says, one of the worst forms of torture he has to endure—but on a bright Los Angeles day in late April, he steeled his nerve and dove in. "Get everything out of him you can" his manager warned. "This might be the only interview he'll submit to this year."

Mix: You've been projecting a growing interest in Third World rhythms, particularly African rhythms—and since you build your music from the rhythm up, it's had a strong effect.

Gabriel: A lot of rock rhythms get stuck in a boring area and cease to have the power they once had. In the same way a lot of white bands picked up on the phrasing and rhythm of reggae drummers and writers have picked up on other Third World ideas. People will be replenished by these new ideas, and they will filter into the mainstream.

Mix: All of the tracks for your live LP [*Plays Live*] were recorded during four concerts on your Autumn '82 tour, and then overdubbed in the studio on the grounds of your home. What did you do to the sound?

Gabriel: I cheated liberally. Overdub-



bing took place where I wasn't happy with the sound.

I insisted on using [wireless] microphones in concert so my arms would be free, but I was advised strongly that the quality wasn't good enough for live recording. The attitude I took in recording was to try and get a record I might want to listen to. Fuck-up is a part of what makes a live gig interesting, and we didn't try to make everything perfect. As far as the sound quality goes, I did some overdubbing to fix what I needed.

Mix: So why a live LP?

Gabriel: I thought I should do a live LP when I had sufficient material under my belt to make it justifiable. But it was Gefen [Records] that suggested the timing on this one.

Mix: All the material on *Plays Live* was written by you. Do you have any interest in other people's material?

Gabriel: I would like to do [some covers] at some point. I'd have a different attitude. With my own material there is a definitive arrangement, and I want to get it right. With old songs and other people's material—particularly if they're more well-known—you can be much freer. You're taking something that already has an arrangement and identity and playing with it. The first music to turn me on was the soul music of the '60s.

Mix: Have you ever written anything other than music?

Gabriel: Seven years ago I wrote a children's story, *Ursula Upside-down*. As a child I would look up at the ceiling and imagine it was the floor; Ursula took it so seriously it *became* the floor, and so one day she fell out the window and into the sky. It has to do with being different from everyone else—with being an outsider.

Jerry Marotta [the drummer on *Plays Live*] turned me on to anti-gravity boots, and I've been using them on my kids' climbing frame [monkey bars]. I'm really an outsized kid, that's all.

I have a water tank [isolation tank for sensory deprivation]. I'm really interested in dream research. I'm hoping to use dream material for video. There's a dream machine being experimented with in England; it monitors your skin resistance, which alters when you go into REM [Rapid Eye Movement, the dreaming stage of sleep]. The machine gives you a little electric shock to wake you up—but not fully awake—so you become conscious of what you're dreaming. It's a "lucid" dream. Dreams are undervalued. Some

friends I have in certain circles see fantasy purely as escapism, but they spend as much of their lives in dream activity as I do. With good visual images and symbols you can plug deep into the subconscious in a way that you can't otherwise. I have lucid-dreamed, but I haven't been good at steering them. I'm waiting for the machine now; at the moment all I have is a little nose clip which is how [the machine] delivers the shock. [laughs] It sounds like some offshoot from an S&M catalog—"Yeah, I'm into nose clips!"

I've always aimed to go for what I dream and accept what I get. Some of the songs definitely come from the

dreams, or if I'm reading around—like from *Memories, Dreams and Reflections*, by Carl Jung. I was reading that during the last album [*Security*]. It contains a lot of his dream images.

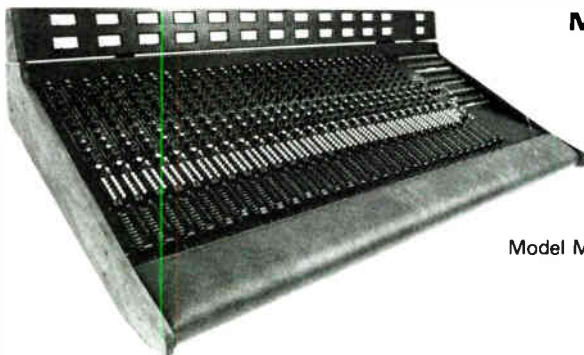
Your dreams will jiggle around the information you've fed your conscious brain that day. *An Assassin's Diary* was one of the sources for "Family Snapshot," which is on the new LP.

Mix: How did you come up with the song selection on *Plays Live*?

Gabriel: I did have to leave off some of my favorite songs. We have quite a lot of long numbers, and something had to give.



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Mix: How do you react to the shouts of "Gabriel is God" in concert?

Gabriel: [Giggling] I just pass the hat. No, I don't think for many people it's that serious. Most teenagers will find people they want to model themselves after or imitate, and it's partly through that process that they find themselves.

Mix: Lately there's been much discussion about good versus evil in rock 'n' roll—including backward masking. Do you ever purposely delve into those realms?

Gabriel: Some of my lyrics have plugged into some emotions in me. Some are negative and some are positive, but I haven't purposely put myself into the role of leader. I think of myself as a commentator, or observer if you like. I would like to demystify people's impression of me.

Mix: Do you have any interests outside music?

Gabriel: Skiing, windsurfing, underwater sports and WOMAD—the World of Music, Arts and Dance organization. The title is a bit grand, but it had to be serious enough to get grants from big business and art sponsorship groups.

The event WOMAD held in England was great, but it was a financial disaster. We were rank amateurs in terms of promotion. If we'd known then what we know now—and done it this year—it could have been commercially successful. The album is still available, and the debts have been paid off through a benefit I did with Genesis. That was very generous on their part.

Mix: I hear every once in a while you get off on watching the tube.

Gabriel: Well, while touring America I've really enjoyed coming back to the hotel after the show and watching a late night movie. Most TV stops in England by 12:30.

Mix: Do things get pretty crazy on tour?

Gabriel: During some of the dancing stuff we'd have these hide and seek games. Tony Levin [bassist] and David Rhodes [guitarist]... we'd do things you could never see from the front. Tony would have a camera set up and he would try and catch me in odd moments. The camera was triggered by a foot pedal so I would go and stamp on it. Childish games keep us amused.

Mix: Do you do anything in particular to maintain your voice?

Gabriel: I get out of bed [laughs]. No, I've never really worked on my technique, though I think sometimes I should. I will sometimes gargle or shout a bit before I go on stage; it takes me a while to loosen up the throat so I can get the high notes out clean.

Mix: There's a new record called *Attack of the Killer B's*, a compilation of Warner Bros. B sides, that contains "Shock the Monkey" sung in German. How do you feel about singing in a foreign language?

Gabriel: I'm reliant on the German translator, but I also have a free hand. Sometimes you get these accidents, putting emphasis on the wrong words, and that hurts.

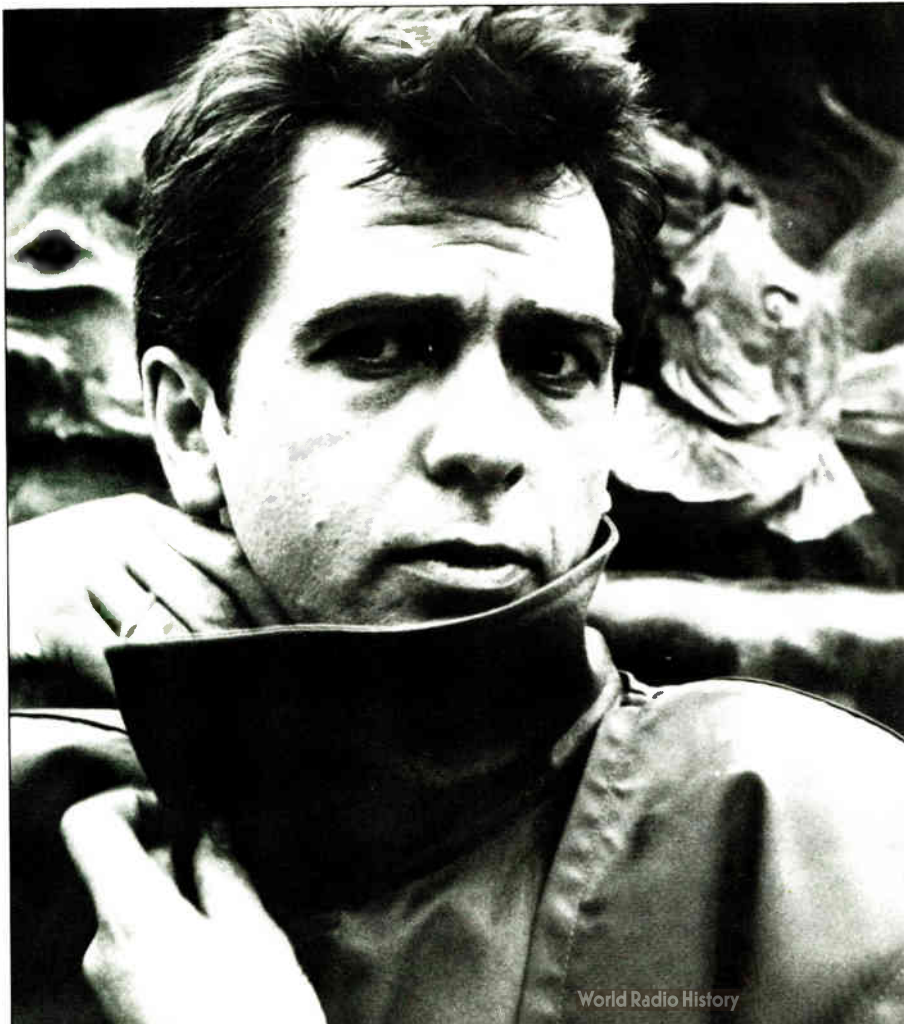
Mix: What do you see in your future?

Gabriel: Most of '84 will be concentrated on video work. There's this one-hour thing I want to put together with music and visual, which is conceived as a parallel project from the word go. What often happens at the moment is that bands do their songs and say, "Let's do a video now." Quite often the video may have nothing to do with the song, even though it looks good.

There are a lot of new approaches being formed for the music video medium. Putting collaborations together interests me, so we've set up a company in which I hope to function as a producer, not just as an artist. It's from these collaborations that new styles will emerge.

The amusement park is an unexplored medium I would like to see a lot of creative people get involved in, especially psychologists and people from the growth movement. Free of preconception, [the amusement park] is a very unpretentious place; it's an ideal situation for people to communicate and learn about themselves. My teenage fantasy was to use the concept of the amusement park as a vehicle for much more. Give people the opportunity to learn about themselves in an entertaining way.

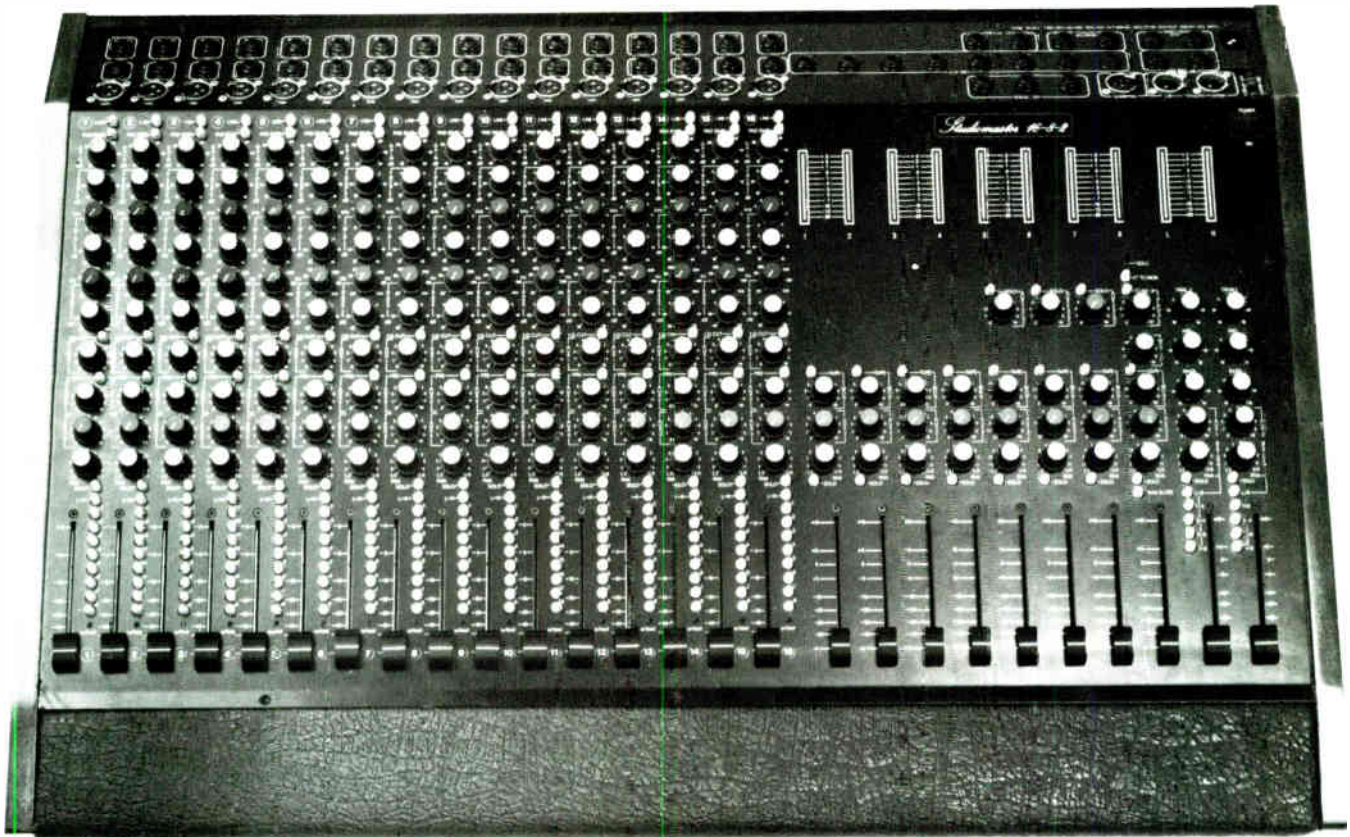
The video production company will be called "Real Television" and the amusement park will be called "Real World." In Disneyland you're a passive consumer; you'd get more out of it if there was a feedback loop and you were influencing what happens around you. As a platform it's very good, because anyone from any background can be attracted to a fun fair. You don't have any of the preconceptions you'd have at a rock concert, art gallery or analyst. ■



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NAMM Photo Highlights

The 82nd Annual Convention of the National Association of Music Merchants (NAMM) was held the third week of June at Chicago's McCormick Place, and with it the 1983 NAMM International Music & Sound Expo. People come from all over the world to see the newest products from established manufacturers and newcomers, multi-national corporations and one-man shops; the summer NAMM is where the designers and manufacturers unveil their innovations and inspirations. Dozens of popular musicians perform in demonstration rooms, manufacturers' booths, and special concerts at area venues, and hundreds more stop in at NAMM because they want to visit with friends and colleagues and see what's new.



Bobby Lee Sottile models a jacket made of his product, Bobby Lee Guitar Straps.

(Right) Andy West, formerly of The Dregs, introduced his new band, V-Disk, at Modular Sound Systems' 3rd Annual Bag End NAMM Party. Kirstin Dread opened the show, which was held at Chicago's beautiful Park West, whose sound system is described in the August Mix.



(Above top) Yamaha made a big splash with the DX7 Series of FM Digital programmable synthesizers. Gary Leuenberger, a dealer from San Francisco demonstrates the DX7, priced at \$1995, at an early-morning press briefing; Don Lewis (directly above), a popular performer from the Bay Area, plays the DX7 over a headphone system which enables listeners to hear the music and his answers to their questions without disturbing passersby.

(Below) Bassist Jeff Berlin (left) joins Steve Morse (late of The Dregs) in an impromptu jam in Lexicon's sound room. Morse performed several "demonstrations" each day of the show.





(Above) Accompanied by music he previously recorded on a cassette, Bobby Cochran demonstrates a variety of Ibanez acoustic and electric guitars as well as a battery of special effects.



(Above) Fender made some NAMM News by introducing a full line of professional sound equipment - including mixing consoles, powered mixers, power amplifiers, three series of microphones, and loudspeaker systems. Roger Balmer (left) and Roger Cox show off the Fender 2244 stereo power amplifiers and the model 2851 three-way speaker.

(Right) Emmett Chapman, inventor of The Stick, explains some of its features to an interested customer. Chapman and other Stick whizzes demonstrated the unique stringed instrument throughout the NAMM show.



(Below) Ray Brown stands up for Polytone's new bass pickup.



(Right) ▶ After four days of walking, talking and listening, a lot of NAMM attendees felt like doing what Buddy (an employee of Whirlwind Music, Inc., answering to Cliff Miller) is doing here. Despite their exhaustion, many people wished the show had lasted another day or two, because four days wasn't enough time to see all of the nearly 250,000 square feet of exhibits at the Chicago NAMM.



All Photos
by David Gans

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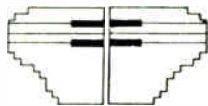
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MUSIC NOTES

Rundgren Helps Make Shear Magic

Jules Shear is, for all intents and purposes, virtually unrecognizable these days. Gone are the long, curly, out-of-control locks that characterized his look in his days as leader of the cult band Jules and the Polar Bears in the late '70s. Similarly shorn and streamlined is the writing style on Shear's first solo effort, *Watch Dog*, which finds his patented stream-of-consciousness verse stripped down to a simpler but more emotionally connective rhyme. The result, handsomely packaged by pop wizard Todd Rundgren, is Shear's most appealing work to date and one of the year's great undiscovered gems.

Given that Shear had co-produced his own albums before (in addition to recordings by Slow Children and Elliot Easton) and only went to an outside producer at his label's insistence, he admits "it very well could've gotten ugly. But I really thought, 'I'm not gonna hire Todd to do it and then try to do it myself.' It was a bit difficult for me to do that, but I really wanted to make A Jules Shear Record Produced by Todd Rundgren.

"Since I had produced, and I know how weird it is sometimes between an artist and a producer if they don't agree, I decided to try to be the exact kind of artist that I would like to produce - the kind of guy whose songs I really like, who has the arrangements totally together when he comes in and has his pre-production stuff all planned out."

With the aid of longtime cohort and best friend Stephen Hague, Shear recorded 8-track demos of 40 songs—all written since the early '81 demise of the Polar Bears—and presented them to Rundgren along with the authority to choose 10 for the album. "Todd actually ended up picking songs that I probably would've been afraid to choose," he says, citing the side-closers "Marriage Made in Heaven" and "The Longest Drink," which run nearly seven and eight minutes, respectively. "I said, 'Look, we can make a whole lot of different kinds of albums, depending on which ten you choose.' He ended up choosing a real varied selection, which I was glad about. But if he had preferred to do a straight rock album, or even if he had said 'Let's do the whole thing acoustic-oriented,' I would've done that too. I'm not worried about being called a wimp."



Wimpy, "sensitive" or whatever, Shear used to sing mostly in a high, nasal voice that sounded somewhat like Jonathan Richman raised an octave. But old fans may be surprised by the confidence and versatility of his vocals here, starting with his low, Lou Reed-like delivery on the moody, melodramatic single. "When Steve [Hague] first heard me sing 'Whispering Your Name,' I had to stop in the middle of the first verse because his laughter was getting into the microphone," Shear recalls. "That was the first time I realized that people who are into the Polar Bears are really going to think this sounds different." The opposite end of the scale is reached in the ethereal Beach Boys falsetto of "The Longest Drink," a bizarre and subtly funny narrative about a man taking a drug that cures fear by instantly erasing memory. "I think Todd saw it as being a psychedelic song, and that's why he liked it," Shear laughs.

Writer's block has never been a problem for Shear—he claims to be able to sit down and fill up a piece of paper at will—but only gradually, he says, has the art of editing come, his honing evident in the smart pop potpourri of *Watch Dog*. "It seems the longer I write songs, the more I work on each individual one," he notes. "It's weird because they seem in a lot of cases to be simpler. Instead of working on them harder to make them more complex, it's sort of the opposite with me."

—Chris Willman

Product News

Artificial Intelligence Sets Kurzweil 250 Apart

Ray Kurzweil is getting a somewhat late start in the field of musical instrument design, but he's got a pretty impressive resumé. At 13 his software package for statistical analysis was being distributed by IBM; by the age of 16 he had won seven national awards, including First Prize in the International Science Fair for a computer music analysis project; while an undergraduate at MIT he developed and sold (for six figures) a computer reference system.

Impressed yet? Intimidated? In the mid-'70s he developed the Kurzweil Reading Machine System, an "omnifont character recognition system" that uses artificial intelligence to scan and recognize printed text regardless of size or typeface. Coupled with his phonetically-based, unlimited-vocabulary speech synthesis device, the Reading Machine makes it possible for blind people to "read" virtually any book, freeing them from the constraints of what's available in Braille or audio editions. Xerox bought Kurzweil Computer Products, but Ray Kurzweil still serves as chairman of the company.

He has recently turned his attention to the application of artificial intelligence techniques to music synthesis. The resulting product, the Kurzweil 250, made its debut at the Chicago NAMM and caused (excuse the expression, audio phreaks) quite a buzz.

"They're somewhat secretive about how it all works," said electronic-music maven and frequent Mix contributor Craig Anderton. "But I was amazed at the 250's sound." Its most significant feature is the uncannily good version of an acoustic piano's complexities, produced by a technique which Kurzweil Music Systems calls "Contoured Sound Modeling." This method takes into account the fact that the characteristics of the notes on the piano—timbre, decay time, the shifting balance of overtones, etc.—change as you move up and down through the registers. Digital synthesizers—even the new generation of FM synthesizers, Yamaha's DX7 being an outstanding example—haven't the ability to duplicate the real-time sonic dimensions of most acoustic in-

struments, let alone a grand piano, even though they've come a long way in recent years. And sampling machines such as the Emulator and Synclavier can't store enough information to recreate the shifts in sound that occur at the extremes of an instrument's pitch range and through the duration of a note.

Beyond the grand piano sound, this compact music computer has 100 presets on-line (60 containing one or more acoustic instruments, and 40 synthesized sounds); this capacity can be expanded by use of plug-in ROM cartridges and offline floppy disk storage. The 73-note keyboard features full-size wooden keys and a playing action more closely akin to a grand piano than a plastic synth keyboard; different sections can be programmed for different voices, e.g. one octave for bass, two octaves for piano, four or five keys with one drum-



kit voice each, etc. There's a digital recorder built in, allowing the user to lay down up to 12 different tracks and then change the orchestrations around at will - plus transpose to a new key, change from major to minor mode, edit individual notes of a track, alter tempo, etc. Up to 15,000 musical events can be stored on-line and/or dumped to cassette or floppy disk.

Three pedals and several front-panel switches and sliders are fully software assignable for real-time control, and there are inputs for two more pedals. Vibrato, Portamento, Tremolo, Pitch Bend and Modulation are all individually controllable, and each can be programmed independently and saved with the other parameters for each preset on the Kurzweil 250.

A plain-English programming language, used in conjunction with a personal computer, allows the user to create waveforms, amplitude and filter

envelopes with an alphanumeric keyboard and then modify them graphically or mathematically on the computer's CRT. Many of these wave definitions may be combined for complex effects.

The most magical part of the Kurzweil, though, is its analysis feature. Any sound input by means of a microphone is broken down into its vital parts by the computer. "The more information you give it—loud sounds, soft sounds, high and low register—the better the sound you get back," reports Anderton. "The 'artificial intelligence' function means that it can interpret the extremes of the sonic information it's given and construct a logical set of sounds to put in between."

Each successive press release has corrected the retail price of the Kurzweil 250 in an upward direction; by the time it hits the market this fall it's expected to cost in the \$7,500 - 9,500 range. But with all its live-performance, compositional, educational and just plain excellent-sounding features, the experts are predicting the 250 will make sizable dents in both the grand-piano and electronic-music markets.—D.G. Circle #115 on Reader Service Card

Software for the Music Businessperson

A songwriter/publisher has teamed up with a systems analyst and former IBM systems engineer to form MetroGnome, Inc., a Nashville-based

THE FAR SIDE

By GARY LARSON



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outfit which has created a group of software packages designed specifically for music professionals. This isn't a performance system we're talking about here- MetroGnome's specialty is business software for studios, publishers, songwriters, session players, etc.

Sessions+, for example, contains several modules which enable studio operators to keep track of their time, tape and money. *Session Report* stores client, technical and billing information for each session and generates statements and invoices as well as overdue notices and listings of activity by date, producer, company, studio or engineer. *Rental Log* keeps track of rental equipment used during sessions, and *Rental Directory* keeps track of where to get various pieces of gear and how much they cost. *Scheduled Maintenance* and *Unscheduled Maintenance* monitor PM and trouble calls and costs, respectively, and print out several analyses. *Equipment Inventory* calculates depreciation, prints listings of purchase dates and values, etc. *Multitrack Inventory* and *Mix Inventory* are tape catalog programs that make all pertinent data available with out pulling the reels down. *Talent Directory* replaces the session-player Rolodex, and it prints mailing labels, likewise, *Client Directory* and *Supplier Directory* can generate lists, mailing labels and activity reports.

MetroGnome software is designed for any Apple or Apple-compatible system which has at least one diskette (but two disks are recommended), a video monitor and a 132-column printer. Other software packages available include *Royalty+* (for publishers), *Pickers+* (studio and live players for hire), *Writers+* (songwriters), and auxiliary software designed to cover all aspects of each business. Oh, and they'll be happy to sell you an Apple if you don't already have one.

Circle # 118 on Reader Service Card

Digital Guitar Option

The Synclavier II digital synthesizer can now be played with a guitar. A special hexaphonic pickup and an interface module which translates string action into Synclavier-compatible code are built into special Roland GR Series guitars, with the real time control features of the Synclavier available to the guitarist by means of a 16-pushbutton panel attached to the instrument. It's completely polyphonic, including pitch bend and dynamics; the immediacy and flexibility of the guitar's sound and

feel can be applied to the Synclavier's versatile sound generation capabilities. Circle # 119 on Reader Service Card

Wild Themes Run Fast

Joni Mitchell
Universal Amphitheatre,
Los Angeles
June 13, 1983

Metamorphosis and paradox have been the unifying threads of Joni Mitchell's career. She has tried her hand at varying thicknesses of rock, jazz, and ethnic musical bases over the years, the consistent feature being that she has surrounded her pensive, expressive voice with the sounds of scorching side men. The more she changes the more she remains the same as they say a point brought into relief on Mitchell's current tour in contrast to the conceptual jazz of her 1980 *Mingus* outing, to night's program included tunes from every corner of her long and winding career.

The internal contradictions of Mitchell's artistic being were echoed in the stage design, which featured lean, Navaho-ish lines executed in neon tubes. After receiving a nearly Papal welcome, she set out to clarify her post as not only one of the most lyrical of pop artists, but also one of the most somber. In her career-launching "Both Sides Now" she trailed off eerily, singing, "I really don't know life at all... I don't know... I just don't know," seemingly admitting existential defeat.

Whether accompanying herself on piano, guitar or dulcimer, or propelled by a lean and versatile backup band (Mike Landau on guitar, Russell Ferrante on keys, bassist and recent spouse Larry Klein, and drummer Vinnie Colautta), Mitchell asserted her musical dualism, playing the grooving Earth Mother opposite the truth-seeker ever hunting for a good time.

There is a thematic consistency in her body of work, though, that allows Mitchell's center to hold. Dealing with the vexing flux of life and love have been her poetic lot from square one, Mitchell has simply lost a little of her green idealism (and her sturdy upper vocal range). The songbird zest of "A Case of You" has turned into the cooler, more shrewd glance at love of "Wild Things Run Fast" which in concert peeled off into a spidery, swelling guitar solo and Mitchell paraphrasing "Wild Thing" (The Troggs' trashy classic) into



PHOTO: HENRI DELIZ

the fading spotlight.

Gutsy lyrical imagery has been Mitchell's strong suit, but we cannot overlook her tough and organic feel for music and players. Musical references were rife tonight, from "Playing for Free" (about Tom Scott) to "Chinese Cafe," which weaves cleverly around the memory-jogging "Unchained Melody." As much as Dylan depended on The Band and Springsteen, on the E Street Band for support, Mitchell has utilized ace instrumentalists—albeit a shifting lineup of them—to help her interpret her musical ideas, which blend the ethereal and the pointed. She buys the best, to be sure, but she always seems to bring out new facets of her players' personalities rather than relying on any trademarks of clichés of her own or theirs.

The new band rose admirably to the challenge of complementing her spacious open tunings and strange, stately melodies. Guitarist Landau seems to have replaced the melodious dervish, Jaco Pastorius, as Mitchell's instrumental foil, tastefully coloring the gaps in her lines with sonic effects. Klein, meanwhile, functions best on solid rhythmic ground in collusion with

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the thundering Colaiuta. A drums/bass lick-barter at the end of "God Must Be a Boogie Man" had an air of self-congratulation that defeated the teasing tone of the tune, but for the most part the arrangements gave the material lubrication and forward motion. Colaiuta and Ferrante could be caught answering Mitchell's lilting phrasing with subtle punches and spontaneous expressions. Their studio tenure was evident in the easy way they molded to the elegiac and long-winded patterns of "Refuge of the Road" and the fire of "You're So Square," which broke into a swing at the end instead of the frantic 6/8 of the recorded version.

If Mitchell has gained back a good deal of the appreciation she lost in recent years due to her stylistic promiscuity, part of the thanks should go to this svelte and solid band of LA players. But the new, streamlined Joni Mitchell illustrated in this sentimental concert journey that her poetic gravity still gets in the way of unchained rocking. She's done more than most any female pop musician toward breathing intelligence and grace into tired musical forms, but the price of her efforts is a sort of intimate, clutching melancholy. Her encores, "Heard It Through the Grapevine" and "Woodstock," sounded world-weary; she foisted new meaning on the latter, weighing down the line "We've got to get ourselves back to the garden" with the slightly compromised resolve of a wizened-up activist. She's learned that the definition of "garden" is completely relative. For me, a bed of tunes as resilient and catalytic as Joni Mitchell's will serve just fine.

—Josef Woodard

Violent Femmes:

Through Bein' Cool, but Raw Finesse Finds Its Charm

The crowd on the dance floor at the Midwestern new wave disco have got all the right clothes, asymmetrical haircuts, and the latest prescribed moves. Patent leather pumps gleam as they're caught in the complex, vertigo-inducing light show that has been recycled from another trendy era. The sound system, heavy on the low end, vibrates guts as it booms out the latest English synthesizer pop. The stage lights come up on three unobtrusive guys who launch into an upbeat, sharp-edged folk song; its twang of acoustic bass and sparkling wire-brushed drums is distinctly attenuated at the lower end

of the spectrum, and the in-crowd is taken aback.

"We'd like a wash of plain white light, with nothing flashing," announces Victor DeLorenzo from behind his street-drum setup of snares, cymbals and trancephone.

The in-crowd edges away. "Can you believe that singer is wearing a bathrobe over jeans?" At the same time, a steady stream of people are filling up to the edge of the stage. When the Violent Femmes strike up the next song, many of them know the words and sing along.

"I don't think we fit into the 'new music' scene, musically or philosophically," says bassist Brian Ritchie. "We have such different roots than all these bands that are around now."

"We listen to more music from the '30s than the '80s," adds songwriter Gordon Gano. "In Milwaukee, our hometown, we were ostracized for a long time. We couldn't get a weekend gig, so we went and played out on the streets."

One day in the late summer of 1981, the Violent Femmes had been doing just that, entertaining the ticket line

outside Milwaukee's Oriental Theatre, where The Pretenders were playing that evening. A man ambled up, complimented the band, and introduced himself as James Honeyman-Scott. Soon, the rest of The Pretenders were sitting on a car a short distance away, and after a few more songs, their dark-haired leader approached the band. "Hi, I'm Chrissie. Wanna open for us tonight?"

"It was real weird," recounts Victor. "When the lights went down the crowd was expecting The Pretenders to come on. Instead, they got us." Despite the startling introduction, the audience was won over by the end of the set.

Although a romantic story, this Schwab's drug store-like incident didn't lead to instant success for the adventurous trio. A number of demo tapes were sent out without the desired reaction, including one to west coast-based Slash.

The band raised some money themselves and recorded a ten-song demo at Lake Geneva, Wisconsin's 24-track Castle facility. With the help of producer Mark Van Hecke, the Violent Femmes came up with a clean, unslick tape that captured the unpretentious

—page 143

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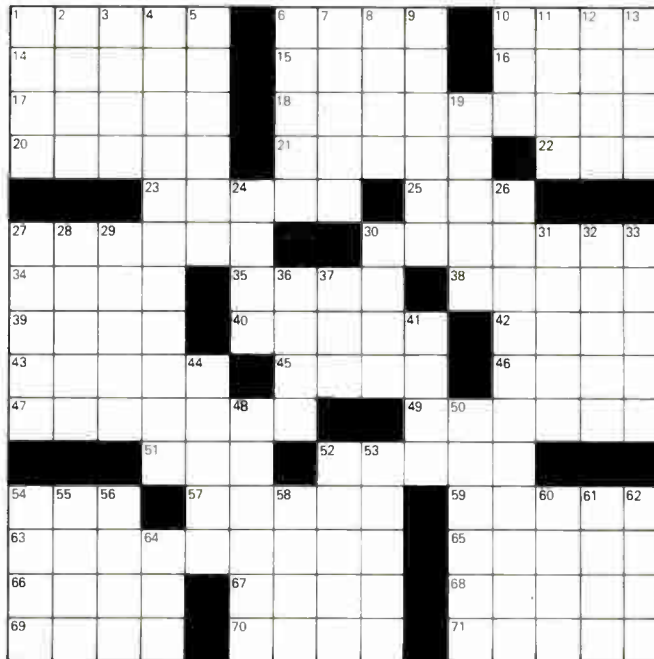
MIX WORDS

ACROSS

1. Certain synthesizers
5. Kitchen todo
9. Describing carbine caliber
14. Legend
15. Catamount
16. Egg
17. To be found in future studios
19. _____ the tape (Took a listen)
20. College figures
21. Least like Getty
23. Racetrack denizens
25. Establish
26. Prefix meaning bow shaped
27. Angle
29. Desire
33. Place to make connections
35. Beside
36. Pre-compressed input
37. Skull
38. Common biped hominid
40. River duck (Var.)
41. Run off
43. Something to clean your wire?
45. Sand hill
46. "_____ at the office."
48. _____ d'oeuvre
49. Turn of the _____
51. Clean
52. Color again
55. Liverpool hoosegows
57. Organic compounds
58. The act of reproducing or exhibiting artistically
62. Surprise
63. Archaic oath
64. Not atop
65. Past or future
66. Drunkards
67. Name in St. Lo

DOWN

1. See 50 down
 2. Arabian avian of lore
 3. Blanket term for studio activity
 4. Language group
 5. Made thread
 6. Stock terms
 7. Jacques' anima
 8. Game fish
 9. Inert gas
 10. Layer
 11. Not well, for sure
 12. Greek letters
 13. Bucky
 18. Dance step
 22. Gone
 23. Did a maple sugaring job
 24. I Ching, e.g.
 25. Elf
 27. Federal loan grp.
 28. Household god
 30. Able to react
 31. Chess men
 32. Become unclipped
 34. Garden implement
 35. Black bird
 38. Contemporary music marketing vehicle
 39. 100 sq meters
 43. Adage
 44. Love potion for signal sweetening?
 46. Prefix meaning colorful
 47. Categories
 50. With 1 Down, menu phrase
 51. Louis XIV, e.g.
 52. Musical space
 53. Italian family of note
 54. Mr. Getz
 55. Midge
 56. New stations giving airplay
 59. This is no problem in recording sessions
 60. Unclose, to Dickenson
 61. Direction
- (Solution next month)



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The solution to the "Mixwords" puzzle of the August issue is on page 166.

—from page 141, *Violent Femmes*

spontaneity of the musical framework that supports Gordon Gano's convincing vocalization of an introspective, often witty view of life.

This time Slash went for it. Charmed by its raw finesse, the record company decided to press the demo tape as is. The group's first album (*Violent Femmes*) was released last April. "On record we wanted to come off like we really sound," says Victor. "It turned out to be more raw than we realized." Producer Van Hecke, the band's "fourth ear," had opted to retain the unique characteristics that might have been smoothed away by a more formulaic consciousness at the controls, like the four-letter words deemed unsuitable for airplay, or the buzzing resonance of Brian's acoustic bass strings.

Strange enough as it is to find acoustic bass as a component in high energy music, Brian removes himself even further from a traditional rock sound by rolling the bass end off his Ernie Ball Earthwood (a variation of a Mexican instrument) during live performance. "I'd rather lose some of the fullness for the sake of clarity," he says. "I don't like a boomy sound. In fact, if anyone knows of a better pickup than the Barcus Berry I use now, I wish they'd let me know."

Victor's drum setup and technique also lean far away from typical rock percussion; his formal jazz training has yielded a complex sensitivity that strongly accents Gordon's hook-laden melodies. His version of a bass drum consists of a Dutch marching snare anchored on its side, played with a Gretsch pedal. Another DeLorenzoism is the tranceophone, a "cannibalized" washtub bass mounted on a slackerly tuned floor tom that can be played on its center, sides and rim.

"Playing with brushes is a tradition that is almost lost," says Victor, who uses them exclusively.

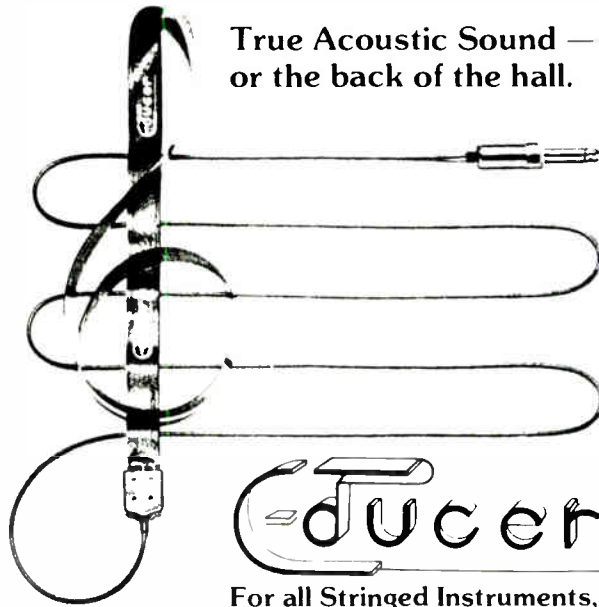
Relaxing for a few days in the home of friends between shows on their second national tour, the Violent Femmes are watching the "final" performance of The Who in Toronto on TV. "They look so . . . old," someone says.

At twenty, Gordon Gano is young enough to be one of their sons. As if sensing the inevitable transfer of artistic responsibility from one generation to the next, Gordon says nothing and silently leaves the room.

—Susan Borey

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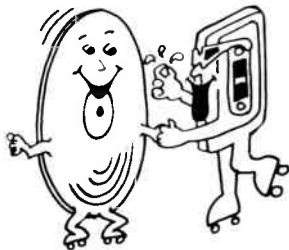
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Guthrie Doo- Wahs Her Way to Stardom

Gwen Guthrie always thought she would be a teacher. She earned a degree in Elementary Education and taught school for a year - but in her senior year at college she had started singing with a group that included drummer Larry Blackman, now producer for Cameo.

Opportunity knocked when Guthrie was called in on a session with Aretha Franklin for producer Arif Mardin. She sang backgrounds with Cissy Houston, and soon became a regular on many of Mardin's projects. "I broke in with a bang," she exclaims. She subsequently worked with such artists as Brook Benton and Oscar Brown, Jr.

In 1974, Guthrie started to write and sing jingles in the thriving New York commercial market. She broke into songwriting as the co-author of "SuperNatural Thing," recorded by Ben E. King, and several songs for Sister Sledge. The following year she got a call from Patti Austin, and at 23 she was on her first world tour as a background vocalist with Roberta Flack and an all-star band consisting of Idris Muhammad and Ralph McDonald on drums and percussion, Eric Gale and David Spinozza on guitar, and Anthony Jackson on bass. Together they toured Japan, Australia and Hawaii.

Guthrie's next major project was *Sounds and Stuff Like That* for Quincy Jones, which included a duet with Luther Vandross on "Taking It to the Streets." Then she started to do sessions with Phil Ramone, singing backgrounds on a number of Billy Joel tracks. She then went on to do sessions with Carly Simon, Kenny Loggins, Phoebe Snow, Burt Bacharach, Stevie Wonder, Ray Charles and others.

"Being a background singer is fine, and working with so many artists was an inspiration, but I wanted to make my own musical statement. I wanted people to hear me sing in my own style, so in '79 I did an album for CBS. After several release dates were pushed back, I was told that the album was going to be shelved - with no explanation. I was crushed."

To get away from it all, Guthrie took off to Jamaica, and that's where she met the man who would later become her husband. She also made another important contact there, meeting Sly Dunbar and Robbie Shakespeare, who would become her producers.



PHOTO: DAVID KENNEDY

After doing background vocals for Peter Tosh, she was heard by Island Records founder Chris Blackwell, who signed her and put her to work on an album of her own with Dunbar, Shakespeare and Stephen Stanley producing. The disk, *Gwen Guthrie*, did well enough in Europe that Island saw fit to pick up Guthrie's option for a second album.

Portrait, recorded at Compass Point Studios in the Bahamas, features the Compass Point All Stars rhythm section on tracks reminiscent of their work with Grace Jones. There are three "urban funk" dance tracks on the album, including "Peanut Butter," whose impressionistic lyrics establish a new "food funk" genre. "Hopscotch" is a rap track that bridges the Motown sound of the '60s and '70s with the Grandmaster Flash-style routines of today. "Family Affair" is an homage to Sly Stone, with a strong vocal rendition worthy of comparison to the original and an oriental motif and slightly more uptempo rhythm track adding a new dimension to this vintage funk masterpiece. Guthrie co-wrote two ballads—"Younger Than Me" and "Oh Wha: a Life"—on the album, showcasing both her vocal and lyric skills.

"The fresh air and tropical breezes combined with the living quarters right there at the site make Compass Point the ideal working environment for me," says Guthrie, adding that the fact that Sly and Robbie are virtual residents of the studio (commuting between Jamaica and Compass Point) makes it perfect. As *Portrait* aptly illustrates, the years of background sessions proved to be an apt training ground for the singer, who has now stepped into the spotlight on her own.

—Lou CasaBianca

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AIR STUDIOS LTD.

by Diana Wendling

Four stories in the air above bustling Oxford Circus is an odd place for a recording studio. The astute observer, learning that the studio is called AIR, might deduce a direct relationship between name and location. Although this would be a clever guess, "AIR" stands for Associated Independent Recording, the name George Martin chose for the production company he founded after leaving EMI in 1965.

Since it opened in 1970, AIR Studios Limited's four rooms have been an occasional home to such musical luminaries as Paul McCartney, Elton John, Roxy Music, The Pretenders, Madness, Elvis Costello, Grace Jones and Jeff Beck; the fresh faces of Duran Duran, Haircut One Hundred, Hayzi Fantayzee and Japan have also been seen in these colorful corridors. The vinyl impressions left by this diverse cast include *Tug of War*, *Too Low for Zero*, *Imperial Bedroom*, *Blow by Blow*, *Rio*, and many more.

Given the size of AIR and its staff (21 people), one might expect to encounter an impersonal atmosphere. Instead, a warm interior and attentive personnel combine to soften the cor-



Control room of AIR Studio One, with maintenance technician Steve Crane

porate edge and create a supportive environment in which to work. "We try to create a situation where a band can make a tape that they can play anywhere and know it's going to be true," says studio manager David Harries, "by giving them all the facilities we can and making them as comfortable as we can."

The close-knit feeling of the staff contributes to the uniqueness of the AIR air as well. Studio director John Burgess, one of AIR's founders, explains the policy of bringing people up through the ranks: "You start off as a gofer and work your way through from assisting the second engineer to being second engineer, then main engineer,

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co-producer and finally producer. This assures our people that they're not going to be stuck in a rut.

"They also know there's a ladder to be climbed, and if they're good enough they'll climb it," Burgess continues. "They also know that we are not going to let a superstar engineer or producer come in on the ladder above them." Burgess goes on to note that AIR staffers are allowed to do outside work: "If a client can't get time in our studio but would like to use one of our staff engineers, I will make a deal on [the engineer's] behalf. We started this relationship about seven years ago. The beauty of it is that it doesn't stop the engineer/producer from doing side work if the studio is booked. They earn more money this way, and so do I." Burgess also states that his staff works without contracts. "I don't believe in them. I've handled Geoff Emerick for ten years now; if he were unhappy with me or I with him, we could simply move on."

The esthetic, technical and acoustic design of AIR is the collaborative effort of Angus MacPherson (an interior designer who has emigrated to Australia), chief technical engineer Malcolm Atkin and manager Harries, who was also a technical engineer at Abbey Road. Harries is responsible for the acoustic design of the control rooms, and he recalls the transformation of AIR from a banquet hall into a four-studio recording facility. "It was the worst place to put a studio - the fourth floor in the building over Oxford Circus isn't a very quiet environment. To rectify this, the two main studios and control rooms were floated on springs, like boxes within boxes. The walls are outside the floor platform, and the ceiling is hung separately. This works really well in keeping the noise level down."

Large and live, Studio One (58' x 32') has three isolation booths and space for 50-60 musicians. It is ideal for orchestras as well as being the choice of other artists who seek a very lively sound. "In the mid-seventies, when the fashion was dead-sounding records, we put a lot of acoustic damping into Studio One," recalls chief technician Malcolm Atkin. "In 1979 we stripped it again, and the room is back to the way it sounded when it was built. It's had a phenomenal response, and it's now very famous for its drum sound." Duran Duran's "Hungry Like the Wolf" is a recent example of the Studio One sound.

Studio Two (30' x 28', with room for up to 35 musicians) offers a moderately live ambience - "acoustically tight," according to Emerick. In fact, Studio Two is the favorite of both Emerick and Paul McCartney.

Both One and Two have ex-

remely spacious control rooms. Because more and more overdub work is being done in the control room—thanks to the proliferation of synthesizers—British studios tend to make extra space in this area.

Adjacent to the control rooms are comfortable annexes offering a complete array of amenities: television, VCRs, coffee, refrigerators, and—most importantly—long, cushy sofas upon which to collapse. For visual distraction, there is an ongoing exhibit of Linda McCartney's photographs—artsy shots of Montserrat as well as nostalgic portraits of John, Paul, George and Ringo.

Both of AIR's main studios have custom Neve consoles. "Not only are they customized systems in the number of channel strips and the economic layout of the console, but we also had Neve redesign the innards of the electronics and remove a lot of transformers," says Malcolm Atkin, who designed and built both consoles. "The design features remote-controlled mike preamps, meaning that they're out in the studio itself but controlled at the desk. It's a unique feature; I don't think any other desk in the world has it."

Another unique feature developed by Atkin and Emerick is a flanger system that utilizes multiple Studer two-tracks with VSOs controlled from the console - and therefore Necam automated.

Atkin and Emerick redesigned the EQ pots in their boards (Neves in One, Two and Three; an SSL 4000E in Four) so they're less sensitive in the center and more radical at the extremes of control (± 18 dB), enabling more subtle tweaking of tone. They characterize this as "more musical" EQ.

The maintenance staff at AIR, half a dozen strong, offers full service until midnight and standby coverage throughout the early morning hours. Preventive maintenance is high on the priority list, and because their machines are run in quadruplets almost all problems are solved immediately through substitution.

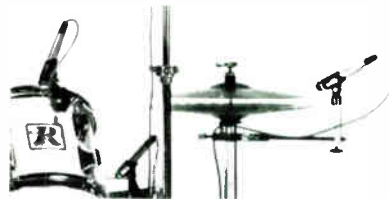
"The maximum down time is 20 minutes in any situation," says Atkin. "That's the time it takes to get a machine out of the control room and wheel in the replacement. We try and rotate the machinery so we can always have one in maintenance all the time."

Tape operators (same status as assistant engineers) are given basic maintenance training so they understand the whys as well as the hows of equipment operation. This fortifies the high standards of quality which constitute the strength of AIR studios, according to John Burgess. "It's the best-maintained studio in England," he claims, "and I would think in the world." ■



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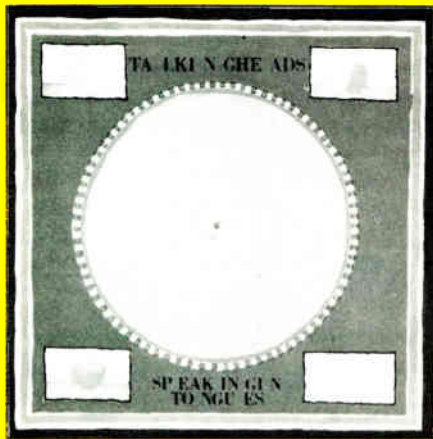
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TALKING HEADS *Speaking in Tongues* Warner Bros. 1-23383

Produced by the Talking Heads; mixed by Alex Sadkin; basic tracks recorded at Blank Tapes, New York City - Butch Jones, engineer, assisted by John Convertine; overdubbed and mixed at Compass Point Studios and Sigma Sound, New York City - Alex Sadkin, engineer, assisted by Franklin Gibson and Jay Mark; mastered at Sterling Sound by Ted Jensen

A working credo of the New York-based Talking Heads has been to raze the barriers between artistic and rhythmic obsessions in rock. The number of compelling art school combos you could count in one measure. The Heads (and head Head David Byrne in particular) were the instrumental coqs in making nervous, semi ethnic strikingly textured music that spoke to the cerebrum and the primal instinct to dance.

No surprise, then, the unorthodox, multifaceted marketing tack given the new *Speaking in Tongues*. To satisfy those of esthetic habit, a limited edition cover is available at a higher price tag, designed by the sagacious artist Robert Rauschenberg, whose way with multiple imagery and cultural mutiny you could say left its stamp on Byrne. In support of dance tribalism, the cassette version of the work boasts extended tunes for extended dance-floor catharsis. But strip away the conceptual amenities (which could easily be construed as product-stretching profiteering) and you have a Heads album that doesn't quite measure up.

Not to say that the record doesn't sizzle and pop with kinetic Heads panache. It just falters in comparison with bygone milestones. Byrne, of course, was the party responsible for making arty notions (not art rock) safe for pop music again. His quivering, half-mad vocals and prismatic lyrics—from some unlit reach of the psyche—carry a lunatic lucidity. Byrne upheld rock's manic fringe where Captain Beefheart and Pere Ubu's David Thomas were too demented to dent public interest. On *Fear of Music*, for instance, the line "This ain't no party, this ain't no disco, this ain't no fooling around" elbowed its way into the pop cul-

ture vernacular. His warped sentiments found masses of kindred ears.

On *Speaking in Tongues*, the band tries to reclaim its collective unity by fusing the crisp rock focus of *Fear of Music*—the spiking rhythm guitar and infectious lyrical nuggets—with the patchwork invention of *Remain in Light*, Byrne and Brian Eno's journey to their own private oscillator, Africa. Eno is absent this time, and the compositional credit awarded to the whole band suggest hands-on, democratic groove building. Grooving is the end-all on tunes like "Moonrocks," "Slippery People" and "Girlfriend Is Better," girded in the steady FOOM-THWACK of kick-snare implacability and one or two chord vamps.

The Heads' magic is in the mesh. Not unlike the African jubilation of King Sunny Adé or the sonic eccentricities of reggae dub techniques, the arrangements take on unseemly sounds and treatments. A brittle, reverberated clavinet sound jumps out of "Burning Down the House," like dancing flames. It is a canned steel drum effect at the center of "Moonrocks" and Shankar's thick, brooding violin giving apt passion to the Middle-Eastern mode of "Making Flippy Floppy." Guitar and synthesizer parts dot the aural landscape like impetuous rodents.

Something is awry, though. Byrne and company flex some hip muscles in the studio forging the style, but the thematic nucleus seems unusually thin and elusive. Armed with a voice partly urgent and partly miles away from the emotional action, Byrne sings, on "I Get Wild or Wild Gravity," "Some things are hard to describe / The sound of a cigarette burning / A place there where everything spins" — an incisive description of writer's cramp, or your basic state of confusion. Elsewhere on the album, the lyrics fail to carry any clout of cohesion or absurd epiphany (Byrne's specialty). Through all the fragments of ideas, only lines like "I got a girlfriend who's better than that" (than what?) and the delta dog change on "Swamp" (a how-how-how bit that ignites images of ZZ Top's "La Grange") stick to the memory.

If *Speaking in Tongues* makes an allusion to the indecipherable cant of pure inspiration (as in Pentacostal terms), its message falls flat on these ears. Of course, in the historical fore-shortening that has gripped new wave in the past few years, the dwarfing influence of the Heads has spawned a crop of crafty and heady synth rock that now forces us to hear the originators in a different mindset. What we've got here is an energetic platter with a failure to communicate.

All is forgiven, though, listening to the iridescent strains of the closing tune, "This Must Be the Place (Naive Melody)." After thrashing about, Byrne sings, over a cool, green rhythm bed, about the sudden and unexplained contentment—the power of love even over the disjointed. It hints that the Talking Heads are not dead yet, they're only dance happy for the moment.

—Josef Woodard



PETER GABRIEL *Plays Live* Geffen 2 GHS 4012 F

Produced by Peter Gabriel and Peter Walsh; live recording engineered by Neil Kernon; 'fix 'n'mix' engineered by Peter Walsh at Shabbey Road Studios, Bath; cryptosonic processing by Cryptosonic Ltd.; digital mastering by Sony P.C.M.; digitally mastered by Peter Woolliscroft; mastered at The Townhouse, London, and Artisan Sound Recorders, Los Angeles.

A symmetrical sampler of Gabriel's work since his exodus from Genesis seven years ago, the double disk *Plays Live* successfully showcases his most popular songs in the fluid atmosphere of live performance. The four-song sides deal out even hands that each contain a snappy rocker and an elegant, slow mood piece combined with two mid-tempo favorites. Paying close attention to Gabriel's rediscovery of The Beat, *Plays Live* features six songs from the 1980 *PG* album that was composed around a rhythm machine, and appropriately gets underway with the heartbeat pulse that introduces "Rhythm of the Heat," with the audience responding wildly as the band makes an entrance from the back of the hall, marching down the aisles beating drums.

Gabriel sets the task of reproducing his lifework live in fine hands; Tony Levin (who seems to be everywhere playing with everyone these days) lends his bass and Stick wizardry to the bottom of the sound in communion with drummer/percussionist Jerry Marotta, while guitarist David Rhodes and veteran synthesist Larry Fast provide indispensable detailing to the songs that never gets flashy or overstated. The success of this ensemble's teamwork is most evident on the slower pieces like "The Family and the Fishing Net," where Mr. Levin (or his clone) lays down a solid pulse amid the shifting textures applied by his partners.

For the most part, the band reproduces the originally recorded arrangements of the songs, with striking trademarks like the slow scratch down the guitar strings that introduces the chilling "Intruder," as well as subtleties that shade the songs with familiarity. *Plays Live* tea-

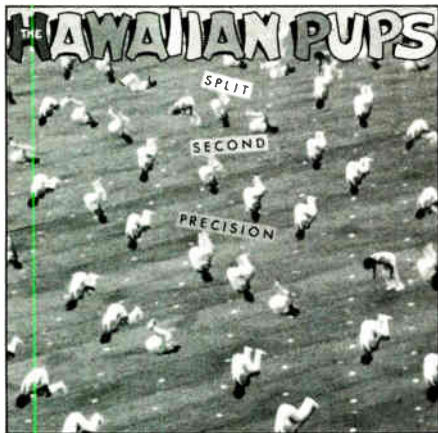
tures one previously unreleased song, "I Go Swimming," a bouncy ode to creative action couched in water imagery.

One sore spot is the disappointing version of "Solsbury Hill" which, buoyed by the exuberance of the crowd, moves too quickly to retain the musing 7/8 lilt it deserves. The electric guitar and keyboard are too harsh a substitute for the whimsical acoustic guitar part (played by Robert Fripp) that originally framed the song.

Gabriel introduces many of the songs with a relaxed tone that might be used in a small room between friends, yet he delivers the songs with an isolating concentration that often eclipses his rapport with the audience. Strengthened by this introspection, the songs are also aided by the skillful mix of the headset mikes worn by each band member which places in correct perspective the full range of Gabriel's voice, from sibilant whisper to unique whining shout.

Applying to "Biko" the same heartbeat rhythm that opens the album, *Plays Live* ends on a politically conscious note. Neatly tying up the loose ends that can characterize a live recording, rock's Renaissance man has taken his listeners on an armchair tour of his art gallery, humbly displayed a few masterpieces, and dapperly switched off the light.

—Susan Borey



THE HAWAIIAN PUPS *Split Second Precision* Portrait 5R 38551

Produced and engineered by The Hawaiian Pups; executive producer Lennie Petze for Red Sox Music Productions, Inc.; recorded at Penny Lane Studios, New York City; mastered by Herb Powers, Jr. at Frankford/Wayne, New York City

The Hawaiian Pups are three engineers from New York City—John Terelle, Tara Shanahan, and John Klett—who have worked together making other people's records for years and decided to make one of their own. *Split Second Precision*, their debut EP, is the result of nearly two years of recording and mixing done piecemeal while the studio was not otherwise occupied.

Like the studio projects of engineers such as Alan Parsons and Mike Oldfield and studio bands like Steely Dan, this record shows the use of recording as art. However, it approaches that concept from a slightly different angle: the Pups are technicians first and musicians second. That is not to say they are not musi-

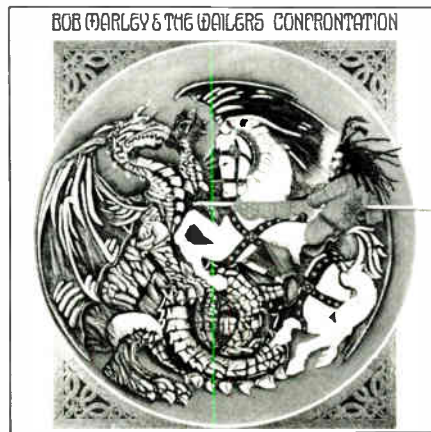
cal – what it means is they use technology to take a very simple musical concept and bring it to a unique plateau.

Most of the songs on this disk are basic riffs and chord changes carefully woven together with immaculate production values and tasteful percussion odds and ends thrown in for dynamics. "Infinite Roads," the opener, is the most accessible track, with a rock-solid rhythm and a nursery-rhyme chorus; Shanahan charges through the vocal without ever losing her cool, *à la* Patti Smith, and delivers her best performance here. "Trash," although not as listenable as some of the EP's other tracks, excels in its use of percussion and wet reverb sound. Shanahan's vocal invites comparison with Debbie Harry.

"Young Boys" is both erotic and spacy, with interesting sax work by session man Marek Norman – but the record's highlight is the powerful and bizarre "Baby Judy," which closes side one and reappears at the start of side two in an extended version. "Baby Judy" is unquestionably hot, especially the dance mix. The group's buzzing synthesizers and pulsating drums drive the tune home, while Terelle and Shanahan recite a first-grade reader back and forth to each other ("Run, see Spot run / Jump, jump up, said Baby Judy") in voices that are sped up and slowed down in the manner of the opening track of Jimi Hendrix's *Axis: Bold as Love*. Lyrically, it moves from the elementary school textbook to a dance party in India, and by the end of the song we're facing total havoc.

Split Second Precision is not something one can listen to all the time; it demands too much attention. However, if you're looking for something that successfully blends serious production techniques, modern music and a large dose of humor, this is probably it.

—Bruce Pilato



BOB MARLEY AND THE WAILERS *Confrontation* Island 90085-1

Produced by Bob Marley & the Wailers and Errol Brown; executive producer Rita Marley; recorded and mixed at Tuff Gong Studio, Kingston, Jamaica; recording and mixing engineer: Errol Brown; assistant engineer: Michael Reed; mixed by Errol Brown, Chris Blackwell and Aston Barrett

The fire burns brightly on *Confrontation*, a musical offering commemorating the second anniversary of Bob Marley's death. Marley was a voice singing out loud and clear, with a

sense of urgency about man's inhumanity to man and woman. Hunger, racism and injustice – his message and his passion burned through his music.

Although he was its best known voice, Marley's influence and appeal reached beyond reggae. His live appearances in London, Milan, Zimbabwe and America were marathons of rhythm and emotion. Now, through the magic of magnetic tape, his voice rings out with new music. *Confrontation* is essential Marley: the sound is more sophisticated, more well arranged, with more studio effects than most of his work.

The standouts on side one are "Chant Down Babylon" and "Buffalo Soldier" (videos of the latter, as well as "Get Up, Stand Up" and "I Shot the Sheriff," from previous Wailers albums, have recently been accepted for airplay on MTV). The I-Threes' backing vocals, the horns and syncopated reggae rhythms are as much a signature of Marley's sound as his voice, which is as powerful and riveting as ever here.

Marley's reggae is both a religious and a political statement, a modern gospel that confronts blind authority and corrupt power with an unrelenting call for justice. "I Know," on side two, is a personal message to each of us for our souls to take courage when we feel like victims of the system. This track is probably the most pop sounding in arrangement and instrumentation of any Marley track; it hints at feelings similar to those of Buddy Holly's last recordings.

Two years after his death, Bob Marley continues to have a staggering effect on international music and Third World culture. *Confrontation* contributes to the growth of his acceptance as one of the most important musical voices of our time, as well as being a required album for Marley fans and reggae lovers.

—Lou CasaBianca

New and Noteworthy

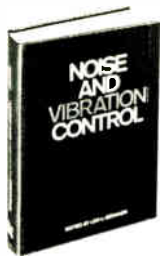
Kronos Quartet, *In Formation* (Reference Recordings) – This putatively classical ensemble's playful bent is reflected in the titles of the pieces on their first recording for Reference: "The Funky Chicken," "The Junk Food Blues," and "Whatever Happened to the Hoodoo Meat Bucket?," to name but a few. *In Formation* was recorded at St. Mary's Cathedral in San Francisco by Keith Johnson with his one-of-a-kind three-track analog deck, mastered by Bruce Leek at IAM, and pressed by KM Records. Reference's 12" disks spin at 45 rpm and sound wonderful, as do the performances embodied on this one.

—David Gans

Explosives, *Restless Natives* (Ready Go) – A Texas-based trio with roots in the '50s and '60s, their punchy sound belies the country-pickin' dues each member has paid. The Explosives have put out a couple of EPs and a single that did pretty well, and bassist Waller Collie III calls *Restless Natives* "an expensive demo." It ought to succeed in getting them some major-label interest: there's melody to match the rhythms, plus songwriting depth and plenty of good vocal ideas. Producer Stu Cook got a tight drum sound and solid instrumental performances out of the trio, plus an amazing sax solo from Link Davis, Jr., on the surfstalgic "Headhunter."

—D.G.

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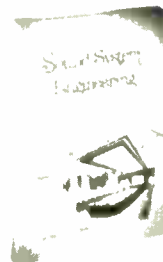
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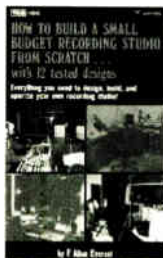


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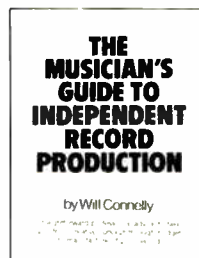
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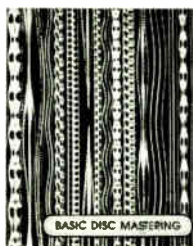
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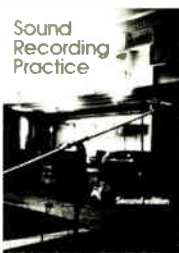
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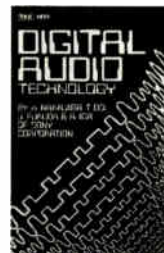


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—from page 128, H&O

wrote a verse for the song, and when we went in the studio it changed so much that I changed the chorus completely — and ended up singing it. It worked because we did it in the studio.”

Having become more and more involved with producing and using state-of-the-art recording studios hasn't changed Hall's attitude about developing songs from home demos. He says he really needs or wants nothing more than a Portastudio to get his song ideas down. "I'm very basic," he says unashamedly. "I have no sense of technology at all; I'm totally ignorant of all that stuff. I use equipment that's easy to work, that requires no thinking. I can get the idea directly onto some form of tape without having to deal with hardware.

"In the studio we work with great engineers," Hall adds. "Guys like Neil Kernon and Hugh Padgham are very quick. I leave them to deal with the equipment, and I'm free to develop the ideas."

Oates spends more time with the technical side, says Hall. "His home demos sound a lot better than mine—he has his own effects racks and all that stuff—but that's more his personality."

While studio work is certainly a top priority for Daryl and John, they are equally concerned with their visual presentation and have put much effort into the creation of their videos. One of the earliest bands to jump onto the video bandwagon in full force, H&O have produced over a dozen clips in the last few years and received one of the highest doses of MTV exposure of any group.

Usually simple, but never simplistic, their videos offer striking images, with a minimum of technical effects. But most importantly, they never take the emphasis off the music. Says Hall: "On all the H-2-O videos we're working with Mick Haggerty, the same guy who did the album cover. He's extremely talented. He's an artist, as opposed to a commercial artist, and he's one of the few people I've met in the music business who has a sense of vision. Usually you get these guys that work on album covers and it's just another form of business. I've yet to find someone other than him who can really take the music and put it into something that you can see.

"The thing about our videos is that we try and keep them simple; they should never overpower the music. They should always be secondary to the music, because music is what it's all about. Hopefully, the viewer's attention is directed back into the music; I think a lot of videos detract from it."

Hall & Oates are plunging

head first into the marriage of music and video. They recently completed a 90-minute live concert for HBO which they will also release worldwide on a laser video disk. "That's basically just a live performance thing," Hall concedes. "I'd also like to do some things that go beyond live performances, but that takes time. I'd like to do some things where we're in different environments, where we're playing the music live, but we're in situations where . . . hmmm, how can I put it? [Pause.] We could do it the same way that people do videos, but instead of lip syncing we'll actually be playing live. But that's down the road and it's gonna take a lot of time."

Hall and Oates—especially

Hall—want to be able to branch out and do outside projects, including solo albums and production of other artists. Hall says he expects both of them will do so within the next couple of years. In the meantime, Hall and Oates as a duo have plenty to keep them busy.

As to the question of whether or not Hall and Oates will go their separate ways, Hall notes, "It's kind of an open question all the time. We leave it open ended. We'll stay together as long as it feels vital and things stay interesting. As long as it's easy to do and we both have the same vision, and it means something to us as well as other people, we'll stay together. If that stops happening, then we'll do something else." ■



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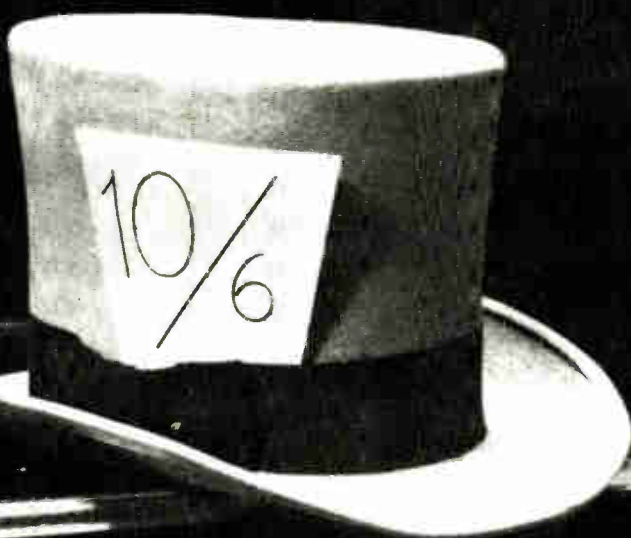
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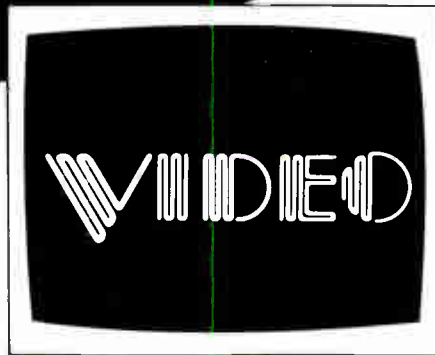
by Neal Weinstock

New York City is full of audio/video/film studio projects these days – too full, according to most industry observers. So now cut-rate studio time is the norm and “state-of-the-art” has become a dirty four-word-phrase, because some of those SOTA places look like they’ll never be finished.

Well, of all the everything-under-one-roof/SOTA A/V/F stages in planning, in construction, temporarily abandoned, or just announced, there is one project that’s actually, finally, in existence, real, (almost) complete. Its name is Silvercup.

It used to be a bread factory, but the name is not so bad for a movie studio either, considering that the giant name in lights still shines on half the East Side of Manhattan from just across the river. With the addition of the word “Studios” underneath, and with their own private exit ramps off the Queensborough Bridge, and with some \$14 million in studio improvements alone, the sign now advertises a dream factory.

An important part of that dream is the owners’ desire to “integrate the legitimate theater with film and the electronic media,” by offering facilities to emerging producers, writers, and directors for backers’ auditions and tryouts in its Showcase Theater. It’s just the kind of place for audio people to start getting interfaced with the eye



INTERFACE



Alan Suna, President of Silvercup Studios

side, as well as for a few Hollywood productions at once to move in. And, what can’t be reiterated enough (well, maybe it can – surely you’ll turn the page if it is), it exists!

In other words, there’s been a lot of blue sky about these sorts of things. There are indeed a few other giant studio projects in town that have the look of success, like MTI over in East Harlem, National Video Center on the West Side, Astoria, also in Queens, and Reeves Teletape and EUE – which seem to spread their tentacles all over Manhattan. But then there are old garages, rotting piers over the Hudson, old high schools and even old studios that all stand half-renovated; picturesque, yes, and mostly usable, but not the thing to speed along a production like clockwork. Every other success story named has been built on years of incremental growth. All of the above that look like they may never be finished are newcomers attempting to start from scratch. Silvercup is also a newcomer, and its sound stages are already being used.

What are the Silvercup differences? For one, the people involved represent what may be a very necessary combination of:

- A) real estate and construction acumen;
- B) old fashioned civic boosterism;
- C) Hollywood, Broadway, and TV production know-how.

For one, that’s *three* already. On the subject of real estate, Silvercup may be said to be, at \$50 million, one of the smaller projects in which its builders, Suna Associates, Nab Construction, and Simpson Metal Indus-

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tries, have been involved. Some slightly larger projects have been Yankee Stadium, the Brooklyn Army Terminal, and the New York Passenger Ship Terminal. Says Silvercup president Alan Suna, "While we're talking, the value of this property goes up. Even if the shit hits the fan, we've picked up a whole second story here, cleaned out all of the old interior walls. . . ." In others words, even if everybody at Silvercup is dead wrong, a quite profitable apartment complex can still happen.

But, to address Issue B, "We simply need studios here," says Suna. Although many competitors are saying there are already too many, "If there are 30 stages here, New York will do a 1,000% better production business than if there are three stages."

The need for stages may escape some stage owners who are currently desperately discounting their facility rentals. But the Silvercup strategists are basing their plans on somewhat unorthodox thinking for studio managers these days. "Nobody wants to be a landlord," they say. "We'll be taking pieces of the action, and winning and losing right along with the producers."

The marketing services of some pretty experienced movie people—such as producer Norman Leigh, publicist Harold Rand, producer Mersh Goldberg (with maybe 1,000 films between them)—will be available along with the facility. "We're not just four walls," says Suna. "We expect to be as close to what the word 'studio' symbolizes to people as anyone is today."

Central to their plans is the talent available in New York — who in the recent past had to fly to L.A. for film and tape productions. That means a heavy Broadway emphasis, and also a heavy video music emphasis.

The one stage that is already complete and in use, Stage Five, is what Silvercup envisions as its hottest room for video music. At 68' x 46', with a 45' ceiling, it is not the largest room at Silvercup by any means, but it is deep enough for all sorts of camera angles (including shots from a camera pit). Also, particular attention has been paid to how the room will sound. Most sound stages are, first and foremost, stages — which also happen to be soundproofed. Little attention is paid to the quality of that sound. Of course, you can never say what a room will sound like until some bands get in there and make sounds.

"Video music is a good example of how we're all getting into uncharted waters in the production industry," says Suna. "Technology is

Product Reviews

BT Systems, Ltd.'s Bidform

Bidform is a computerized version of just what it sounds like: a film or video producer's job bid. It is a program designed for the Apple IIe (or various compatible machines) that immensely simplifies the production bidding procedure. The program reproduces a standard bid form, and also features a split screen capability for working on two parts of a bid at the same time. It will handle split hours for overtime, and have a column for actuals.

For beginning video producers, a bid form is a veritable text of what one ought to be taking into account in a production. The computerized version presupposes that the user make a lot of bids: why else automate the procedure, and why else spend \$4,000 for a program to do so? (Perhaps to look like you do a lot of bids!)

Of extreme importance, BT Systems says they have burned this program in through extensive use by several major commercial and indus-

changing so fast. We could have built one 80,000 square foot stage, like George Kauffman at Astoria (also in Queens), instead of four 15,000 square foot stages. What size studios are really needed now? Do we know? No! But we are building so that we can convert it later if necessary. . . .

"They're not even certain of the market for video music yet. How long will record stores last?" he asks — a question that nobody can really answer. However, the answers that a brand new Silvercup can provide involve efficient, and therefore less expensive production, as well as shared cost arrangements, and especially, marketing arrangements with producers.

"You don't just make a product available. You sell it." Co-production, marketing, and superior facilities are what Silvercup's own team of producers expect will combine to "fill all those \$100,000 a month transponders up there."

This is not just a group of builders entranced by the glamour of the production industry. If they prosper, it will be because they are carving out their own virgin territory. Meanwhile, the first shoot—a Cool Whip commercial made in what was once a grain silo—is now under Silvercup's amply girthed belt. A new studio lives. . . .

trial film producers. BT Systems is at 137 E. 18th Street, NY, NY 10003.

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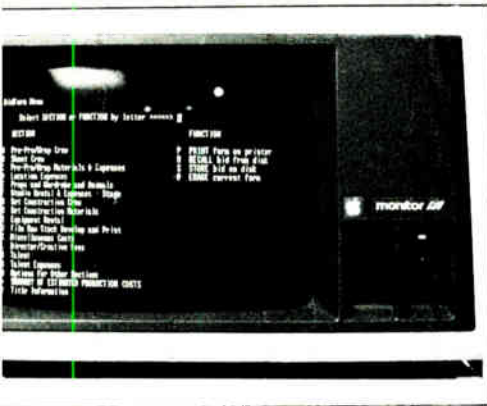
Quadram Quadlink

Quadram Corp. describes its Quadlink as functionally equivalent to an Apple computer on one board. The board fits into an IBM PC expansion slot, thus allowing any IBM (or IBM-compatible PC) to run all Apple-compatible software. This was the hit of the recent Computer Faire, described by one computer book editor as "how to make your 16-bit micro work as well as an 8-bit micro, for only \$680." Quadram is at 4357 Park Drive, Norcross, GA 30093.



Saft America, Inc. Battery Belt

Saft claims that this small \$100 battery belt carries four hours of continuous power for video cameras and recorders. Saft manufactures the patented Gelyte cells in two of the belt's pouches. The third pouch is for charger and car cords, both included. Though the belt is made in Mexico, Saft is HQ'ed in Valdosta, GA.



BT Systems Ltd.'s Bidform

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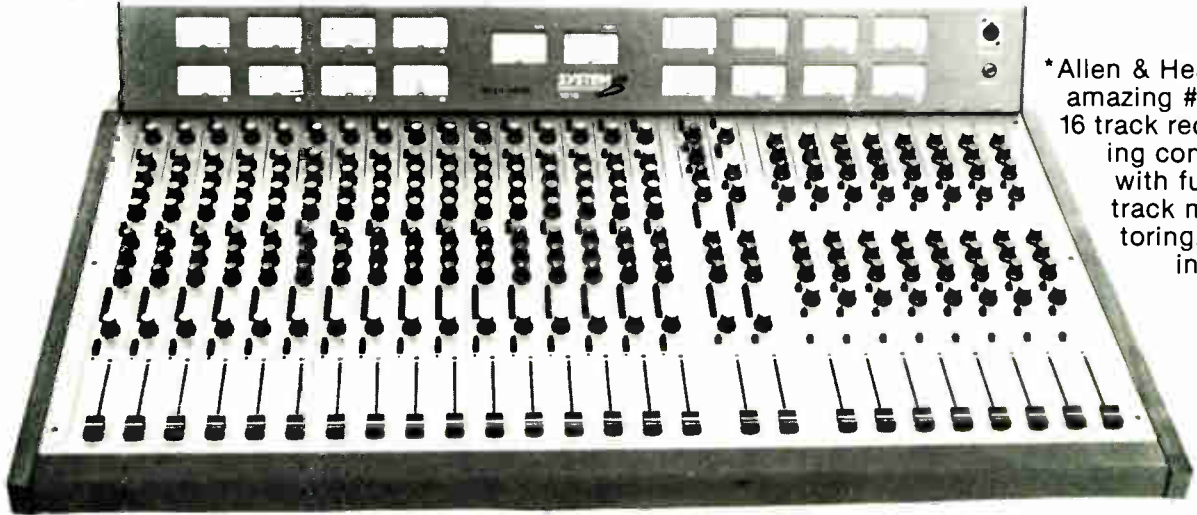
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YES

by Lou CasaBianca

Music video" might more correctly be called "music on film." Possibly as much as 80% of the broadcast quality music videos produced today are photographed on film. The look and feel of film is an automatic plus in the maze of factors that must be brought together to create an exciting visual music production. The immediate enhancement of light, texture and color by the hot resolution of film (1200 lines 16mm versus 600 lines of horizontal resolution high band video) can more easily transport the viewer into another time or place. Videotape allows for immediate playback and reads as a cool viewing experience, like a real life event that could be happening right now — like television.

Let's trace the roots of this alleged new art form — Music Film and Video. In the beginning . . . film was music. Among the most logical experiences to transfer from real life to the experimental realm of film, for Thomas Edison and his contemporaries, was music, simple recitals — one camera, one microphone . . . the new technology.

The first Talkies were musicals — drama spanning the form of straight photographic documentation of theatrical productions to elaborately staged Busby Berkley Hollywood period musicals. More cameras, better film and better sound created Disney's "Fantasia," the MGM musicals and "The Wizard of Oz." Bing Crosby, Fred Astaire and Judy Garland were the first pop artists performing on records, on the radio and in the movies.

In 1955, MGM again created movie and music video history by releasing "Blackboard Jungle." It contained the first use of rock and roll, Bill Haley's "Rock Around The Clock," as part of a film soundtrack. The

picture starred Glenn Ford as a dedicated high school teacher who confronts the late Vic Morrow as a leather jacketed, slickhaired, occasionally violent rocker in an especially bleak and unsettling picture of juvenile gang activity in the New York City public school system. Along with "The Wild One" (1954), "Rebel without a Cause" (1955) and "Love Me Tender" (1956), "Blackboard Jungle" helped to create a series of heroes and villains who became the cultural archetypes for a new generation. Teenagers were drawn by the lure of the forbidden — views of gang rumbles, switchblades, ducktail haircuts, a steady flow of images revealing an emerging sub-cultural phenomenon.

"Blackboard Jungle" was a major international movie hit, and Bill Haley's "Fox Trot," as it was described

on the initial Decca release, sold millions of copies. It became the first authentic Number One rock and roll single, the first movie industry/music business hybrid of the Rock Era. In late 1955, Hollywood B-movie producer, Sam Katzman, signed the off-screen star of "Blackboard Jungle," Bill Haley and his Comets, to appear in the movie named after his hit single, "Rock Around The Clock." Also signed were The Platters and DJ legend, Alan Freed. The film became one of the top grossing films of 1956 and caused teen theater riots here and in England. Neither rock nor the movies would ever be quite the same again.

Now the way was paved for "Don't Knock the Rock" and "Shake, Rattle and Roll." The first major studio big budget rocksploitation musical, "The Girl Can't Help It," with Gene Vincent, Eddie Cochran, Little Richard, Fats Domino, The Platters and Jayne Mansfield, was a landmark film. It set standards that wouldn't be achieved again until Richard Lester's and the Beatles' "Hard Day's Night."

Although television became a factor in the evolution of the "music video," it was more a communications delivery vehicle than an exciting new musical format. At first television was black and white, the sound was poor, and music performance was usually shot flat with no apparent connection between the music and the editing. If the music was rock and roll, that usually meant the cameras could go wild, zooming in and out with the beat, ad nauseum — a technique "re-invented" and resorted to in many of today's new wave music videos.

Nam June Paik, a Korean-born musician/composer, was one of the first to use video as art. In 1963 in Cologne, Germany, he displayed ten

—page 160

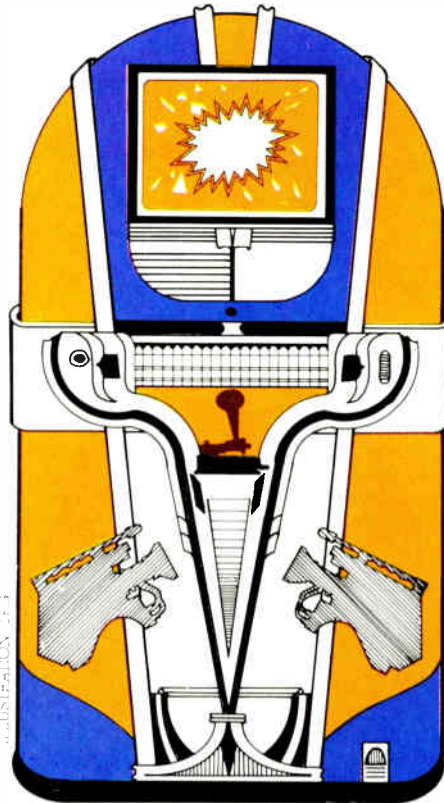
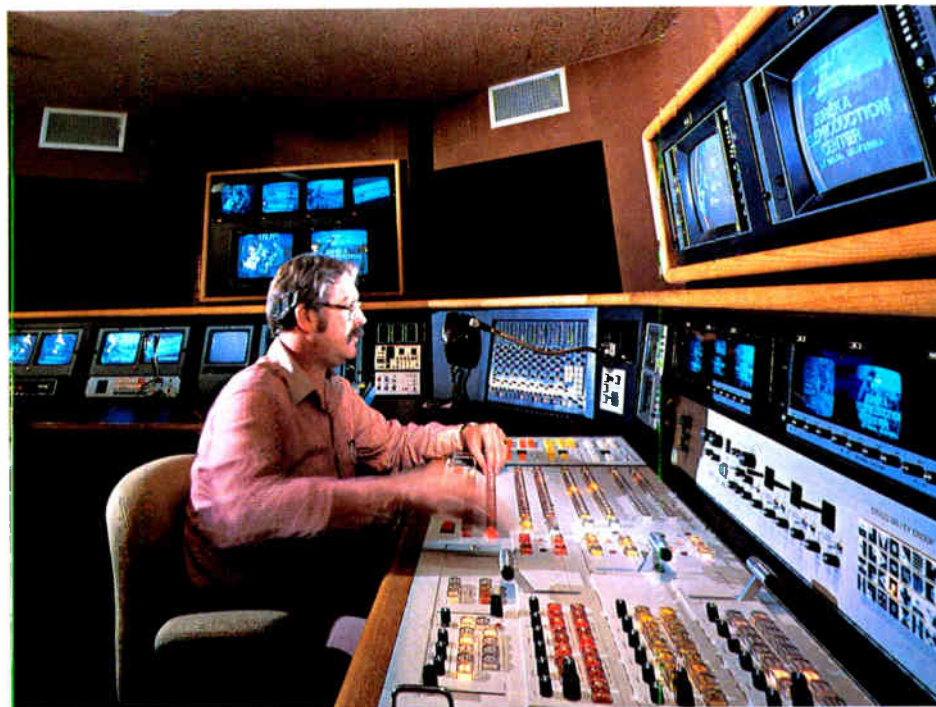


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World Radio History

—from page 158, *Beginnings*
radically altered TV sets as part of his "Exposition of Music/Electronic Television," a multiple-screen program of video art and electronic music presented at the Galerie Parnasse. Later he acquired one of the first Sony videotape recorders and made what is acknowledged to be the first personal videotape created by an artist. Supported by a Rockefeller

into the deflector plates of a cathode ray oscilloscope, it was Whitney who developed an esthetic out of this embryonic technology. He built his own homemade analog computer from a surplus anti-aircraft gun detector and composed a series of elaborate circular abstractions that he called "Permutations." In 1966 he became artist-in-residence in IBM L.A., gaining access to the most advanced compu-

Buddy Holly, Elvis (from the waist up) and The Beatles were catapulted into America's hearts and mind's eye by network television—The Ed Sullivan Show, Your Hit Parade and Dick Clark's American Bandstand—music on television, but hardly music video.

In marked contrast to television is the advent of Scopitone, the classic story of a great idea before its time. Visual music from machines that appeared and, almost as quickly, disappeared from bars in Europe and America. The Scopitone was a jukebox with a screen that played a variety of film clips for about 25¢ a pop. Original clips were produced for this new medium, while existing material was re-cut from movies of the day. Multiple screen installations augmented with pro audio sound systems were prototypes for the first discos and today's new music video dance clubs.

Cut to: The VideoJukebox 1983. It is 20 years later, and you can now see your favorite video for only 50¢. Large-screen video with 1/2" tape playback started shipping to bars and clubs this summer, and microprocessor-controlled videodisc versions are on the way. The combination of live and pre-recorded video in clubs and concerts is establishing music video as a generic part of the live entertainment menu.

Buddy Holly, Elvis (from the waist up) and The Beatles were catapulted into America's hearts and mind's eye by network television . . .

grant, he created the term "video synthesizer" using horizontal and vertical modulation and sync pulse reversal to create images never before seen on television. His first videotape recital, with John Cage in attendance, was at the Cafe A Go Go in New York 1964.

John Whitney is another pioneer in the development of video art. While Ben Laposky was the first to generate graphics from electronic machines, in 1950, by feeding electric oscillators

ter equipment and further extending the complexity of his work. Much of the special effects wizardry seen in movies and increasingly in music video today was developed by these two video art pioneers.

Television's impact on the popular music scene was exposure.

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Richard Lester and The Beatles set a standard in music video that has only recently begun to be approached.

Meanwhile, back on the trail of the evolution of music video, with the U.S. movie industry deep into its beach movie period, the focus of popular music shifts to England and The Beatles. "She Loves You," "I Wanna Hold Your Hand" and "I Should Have Known Better" explode onto the world music scene. The Liverpudlian accents and the incredible persona non persona of each of The Beatles set the stage for their first feature film, "A Hard Day's Night."

Tilted photography and finger-snapping choreography had been fused into the video music production techniques used by the popular British television shows "Ready Steady Go" and "Top of the Pops." Richard Lester was the first to incorporate those and other trendy and trend-setting filmmaking techniques in a feature film, "It's Trad Dad" (1962). Its musical stars were Gene Vincent, Gene McDaniels, Del Shannon and Gary U.S. Bonds.

Lester shot one sequence through a dotlike grid, creating a Roy Lichtenstein pop art look. In another, he had the musical actors placed next to huge photographic blowups of themselves, a multi-image approach still being used in music videos and television commercials today. He pioneered the editing of jump cuts to the beat with members of a musical group switching places with one another with every change of shot. His use of lightweight cameras and film equipment helped to create and capture images filling the screen with the visceral excitement of The Beatles' fans in action. All these were techniques that became his trademark in "A Hard Day's Night" and "Help!"

"What's Happening" (1964), is a cinema verite documentary about The Beatles' arrival in New York, produced by the Maysles brothers. The Beatles were each so aware of the camera and so naturally in tune with each other that they were never caught off guard. They were always themselves, and because seemingly there was no front, it proved impossible to catch them behind the scenes. Lester parodies the Maysles' film style in the press party sequence of "A Hard Day's

Night." One critic called the film "the 'Citizen Kane' of Jukebox Musicals." Through this one film, The Beatles and director Richard Lester brought rock to a new level of respectability.

"Help" (1965), "Magical Mystery Tour" (1967), "Yellow Submarine" (1968) and "Let It Be" (1970) have become classics in the development of rock on film. Rarely seen are some of the first promotional

shorts produced by The Beatles of "Strawberry Fields Forever," "Penny Lane," "Revolution" and "Hey Jude." Indeed, The Beatles brought to movie-making the same originality and good natured iconoclasm they infused in their music. They set a standard in music video that only recently has begun to be approached.

In the next issue of Mix, we'll see how the stage was set by The Beatles, Richard Lester, British television and the '70s for the next step in the evolution of MTV music video as we know it today. We'll meet some of the hot contemporary directors who have begun to stretch the music video medium and see how they're using leading edge technology in shaping it into a "new" art form. ■

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VIDEO NEWS

by Mia Amato

NEW FALL TV LINEUP

Network affiliates have rediscovered pop music! *NBC*, casting about for a way to regain the youthful audience deserting *Saturday Night Live* and *SCTV*, hopes to woo them back with *Friday Night Videos*, a clip-only show with off-camera announcer. Produced by *Dick Ebersol* (formerly with *Saturday Night Live*), the show is just one of several experiments in broadcast TV which run the gamut of formats from interview shows to concerts to game shows.

Most ambitious project to date is *Alive Enterprises'* eight-week series, *Rock and Roll Tonight*. The show has been barter-syndicated in several major markets including placement on *NBC's* flagship station in New York City. The ninety minute show is built around live performances.

"We use no clips on our show, there's no lip-synching on our show, there's no live to track," explained producer *Bob Emmer*. The performances are live-switched in a six-camera video setup; 24-track audio is mixed on the spot via *Record Plant's* LA-based mobile truck. The stereo sound is simulcast over local radio.

Alive Enterprises arranges radio tie-ins on its own as well as selling its own national advertising. Under their barter-syndication deals with TV stations, *Alive* retains nine minutes of advertising while each station retains another nine minutes to sell to local sponsors. National ad fees run "\$10,000 to \$15,000 per 30 seconds," *Emmer* said, against a cost per show of about \$125,000.

The performers include a few big names and a lot of lesser known acts. All are paid AFTRA scale wages for their appearances. "We like to think our show is like the Johnny Carson of rock," said *Emmer*, adding that despite the financial risks, the creative freedom of self-syndication is heady indeed. "I don't have some network pressuring me to put on top ten acts, or questioning me as to why I have the *Divinyls* on the show."

Other syndicated shows are in fierce competition for station berths in the late night fringe period. *FM-TV*, produced by *ATI Video*, is in its second season playing on TV stations in over 40 cities. The show airs clips, interviews, and has recently added "The FM-TV Dancers," in spandex and spangles, to help boost the show's ratings. Other syndicated shows appearing in wee-hour slots are the *Rock and Roll Show*, produced out of Philadelphia by *Somach-Nelson*, a bandstand-type clip show called *We're Dancin'*, and a clip-based game show, *The Pop and Rocker Game*, which is being tried out by some ABC affiliates.

Another strong contender is *Night Tracks*, which has been running on *WTBS* for the past several months for six hours each Friday and Saturday night after midnight. Similar to *MTV* in its format, that show is being produced by *Thomas Lynch*, formerly associated with *Rock Concert*. *WTBS*, beamed from Atlanta, reaches a national market via cable affiliates to the tune of about 20 million homes.

In the cable area, both *MTV* and *Night Flight*, the *ATI Video* omnibus running on *USA Network*, are still acquiring concerts, rock movies, and other long-form product, albeit cheaply (in the range of \$2,000 to \$10,000 per hour). Viewers will also notice more rock and pop concerts on broadcast stations on late night, as many concert shows first aired on *MTV* and *Night Flight* move into their second phase of distribution as broadcast product.

VIDEO SINGLES UPDATE

More video 45s released through *Sony's* Software Operations include concept videos from *Utopia*, *Todd Rundgren*, and *Rolling Stone* bassist *Bill Wyman*, the latter featuring *Wyman's* rare solo recording "Si, Si, Je Suis Un Rock Star." *Sony* has also branched out with three longer tapes (25 minutes instead of 15) of jazz performance. The releases of *Lionel Hampton*, the *Bill Watrous Refugee Band*, and *Rob McConnell's* big band were produced by *Gary Reber* and *Wesley Ruggles*. Significantly, these

video programs have their soundtracks duplicated directly from digitally encoded audio masters. "It's as pure as if it's right off the microphone at the recording session," *Ruggles* avowed. The cassettes will sell in stereo Beta for \$19.95 and VHS stereo at \$24.95.

MIX TAKES A MEETING

Over 400 attended *Rock-america's* Video Music Seminar, a day-long confab on the making of rock promos and their distribution to club venues and television outlets. The crowd, a mix of videomakers, record company execs, nightclub owners and VJs, by day's end helped to crystalize video's role in the music industry.

Video's greatest value to the recording business is its ability to break new acts; that theme was reiterated time and again by speakers on the dais and by participants who munched bagels in the back of the ballroom of New York's St. George Hotel. "We have a new formula... clubs plus college plus retail plus video plus radio," enthused *Randy Hock*, director of national marketing for *Arista*. *Hock* was one of several panelists who observed that *MTV* and club play of videos can circumvent radio airplay to achieve album sales. According to *Hock*, the sequence of video exposure, after touring, is the key. "*Flock of Seagulls*... [and] *Duran Duran* laid a base through touring.

Bands like *Planet P*, which have heavy *MTV* airplay without that base haven't done all that well."

Rock publicist *Howard Bloom* noted that every band listed in *Billboard* Magazine's Top Ten in the past few months can also be found listed a few pages later as receiving heavy rotation (3-4 plays a day) on *MTV*.

He added that video exposure shaves a lot of time in an act's development. "It used to take three or four years on the road and a few albums to get a successful record. Now we see first-album successes, *Stray Cats*, *Culture Club*, *Missing Persons*, gold on their first product. If you looked at the charts a year ago you wouldn't have found a single act in the Top Ten that went gold on its first album."

Still, videomakers and musicians voiced discomfort with the notion that music video's most viable form is that of a retail tool for pop acts. The topic of longer-form programs often surfaced, yet examples shown (samples of broadcast music shows and a lip-synched film starring ABC) proved stale. *Gerald Casale of Devo* was one of many criticizing "too many shots of breaking glass, slow-pouring liquids" and a lack of imagination on the video side.

Arnold Levine, director and consultant to *CBS Records*, cautioned, "Record companies don't want to get involved in long form" and added producers with such innovative projects should stop looking to the still ailing record industry for financing. Instead, he urged the pursuit of co-productions with cable nets. Even in the area of clips, Levine pointed out that some of the most elaborate videos of the past year, Billy Joel's "Allentown" and Michael Jackson's "Beat It" were in a large part financed personally by the performers.

Label representatives on the dais did nothing but reinforce the status quo of corporate foot-dragging and an understandable lack of enthusiasm for speculative projects in the face of layoffs and disk price hikes. Yet optimism reigned on the panel devoted to production of television and cable series like *Radio 1990* and *Rock & Roll Tonight*.

As *Bob Emmer* of *Alive Enterprises* revealed, one 90-minute episode of *Rock & Roll Tonight* is produced on a budget of about \$125,000. That figure is only slightly under the cost of an earlier Emmer project, the *Eat to the Beat* video cassette produced for *Chrysalis* act *Blondie* in 1980. The point left begging is that such a six-figure number, which signifies a very large commitment by a record company, is reasonable for series television.

What all this means to recording studios is that the visual music business is maturing into not one but two distinct forms. Promo clip production, under restraints of label control even to the point where performers must go out-of-pocket to provide sufficient budgets, will probably never lose minor-league status.

On the other hand, the creation of outlets for this promo product—syndicated TV programs, concert programs for cable, new video pools for club use—has begun to flourish. Location recording for these projects, audio mixing to picture and other post-production will be a more lucrative business for the studio and for the audio pro. Facilities people grasping that fact will be the first to catch the future's brass ring. ■

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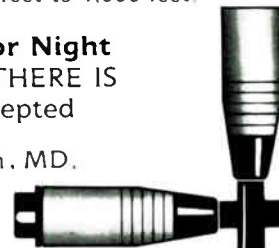
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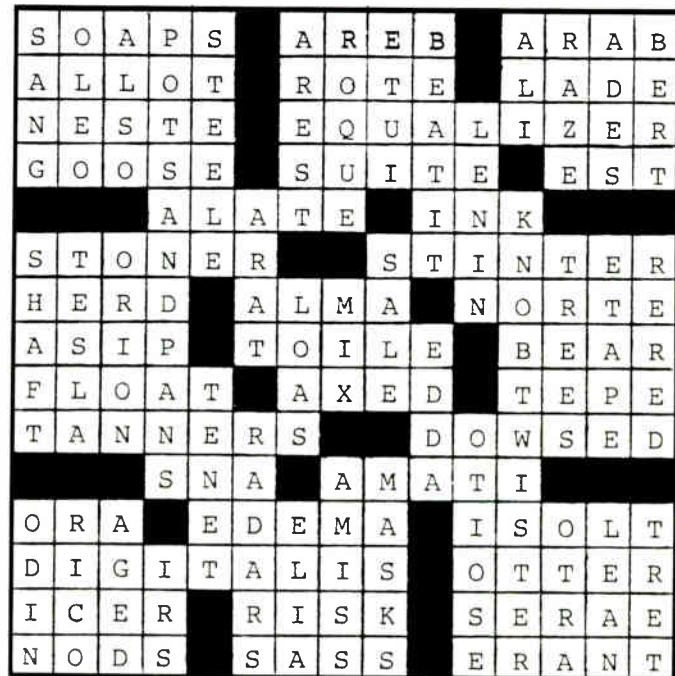
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This is the solution to "Mixwords," August issue. For this month's "Mixwords" puzzle see page 142.

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