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THE RECORDING INDUSTRY MAGAZINE

Mix

Interview: Humberto Gatica

AES Issue

Listings:

Northeast Recording

Digital Owners Forum

TEC Voting Ballot

Holophonics

Emmylou Harris

Digital Reverberation

New York Producers

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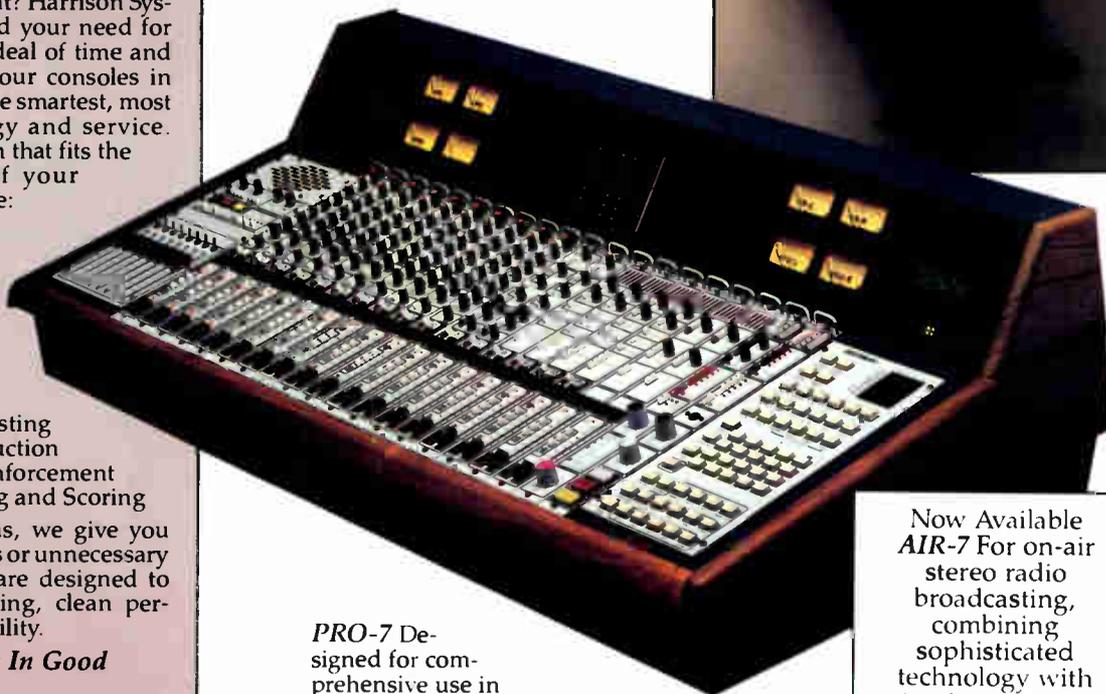
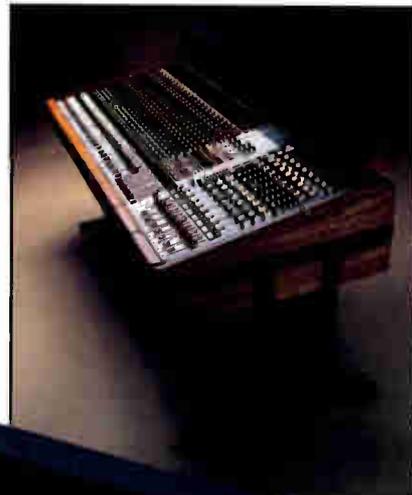
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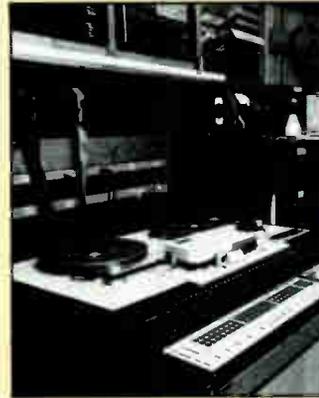


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**Harrison**



Cover: Millbrook Sound, Millbrook, NY
Photo by: Ronald Villegas
Opened in November of 1984, Millbrook Sound is situated in the Hudson Valley, one-and-a-half hours from New York City. Equipment, supplied by Tekcom, includes an Ampex MM1200 24 track recorder and a Neotek 3C console.



In tune with this month's AES Convention in Anaheim, CA, we are presenting three articles dealing with various facets of digital technology. George Petersen talks to digital studio owners on page 14, Ken Pohlmann looks at the digital revolution on page 22, and Larry Oppenheimer begins an exhaustive study of digital reverberation on page 28.

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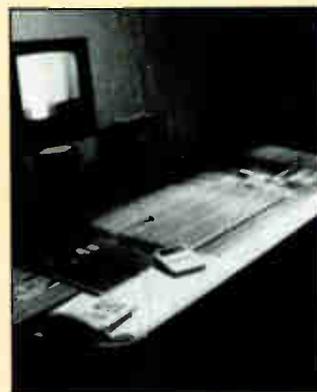
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Holophonics: Fact or fiction? These are some of the questions posed in *Mix's* investigation into this mysterious method of three dimensional sound perception. Mr. Bonzai chats with inventor Hugo Zuccarelli, and skeptic Barry Fox debunks claims about the system, while Holophonics marketing manager Larry Phillips provides a rebuttal. Page 44.



This issue spotlights studios of the Northeastern U.S., with facility listings beginning on page 142. Accompanying that is an update of regional studio activity (page 132) by writer Brooke Comer, who also interviewed several New York producers on page 122.

In an in-depth interview, Emmylou Harris recounts her greatest challenge: writing and co-producing *The Ballad of Sally Rose*, a remarkable concept album which is not only her first Nashville LP, but also her first digital project. Alanna Nash's conversation with the country superstar can be found on page 85.



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Announcing the arrival of the MTR-90's little brother; Otari's one inch, 16 channel MX-70. A multitrack mastering recorder that lets you do virtually anything you want to do in audio, affordably.

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PUBLISHER/
EDITOR
David M. Schwartz

PUBLISHER/
GENERAL MANAGER
Penny Riker Jacob

ASSOCIATE PUBLISHER/
ADVERTISING DIRECTOR
Hillel Resner

MANAGING EDITOR
Blair Jackson

ASSISTANT EDITOR
George Petersen

ASSOCIATE EDITOR
Ken Pohlmann

MUSIC EDITOR
David Gans

EDITOR AT LARGE
Mr. Bonzai

FILM/VIDEO EDITOR
Lou CasaBianca

CONTRIBUTING EDITORS
Mia Amato Bruce Pilato
Elizabeth Rollins Tony Thomas
Neal Weinstock Joe Van Vitsen

EDITORIAL ASSISTANT
Linda Johnson

ASSISTANT ADVERTISING DIRECTOR
Jeffrey Turner

NO. WEST/NO. CENTRAL ADVERTISING REP
Harton Firmin

SO. CAL/SOUTHWEST SALES OFFICE
4000 MacArthur Blvd., Suite 3000
Newport Beach, California 92660
(714) 851-1706

Cecilia (Cece) Hernandez
ADVERTISING REPRESENTATIVE
DIRECTORIES/CLASSIFIED MANAGER
Lauri Newman

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Dear Mix:

One of the most delightful acronyms to emanate from the computer culture is GIGO: Garbage In - Garbage Out. That is, no matter how sophisticated the **hardware**, the quality of the end product is entirely dependent upon that of the original information (and the software controlling its disposition).

Digital audio in and of itself has opened up a whole new realm of ways to befoul musical sounds—and for this, engineers are likely going to be blamed. As a **method of information storage**, digital has one potentially overwhelming advantage over analog: It separates the **data** from the **coding**. This effectively does an end-run around analog's limitations, and, perhaps more importantly, permits (with the right control software), artistic manipulation of the data **only**, without touching the coding system itself. On the surface, this would seem to deny the GIGO principle. Think of it! We could take, say, some old Berliner Gramophone disks, run them into a black box that effects (digitally) the appropriate transformations, and voila! concert hall realism (well, almost)—a veritable silk purse out of a sow's ear.

Question: How can one record musical sounds so that, upon later playback, the listener feels like part of the original audience?

Answer: One can not.

Microphones are not ears, loudspeakers are not musicians, and living rooms are not concert halls. Furthermore, short of, perhaps, some kind of direct stimulation of the listener's hypnotically prepared cerebral cortex, one can **never** reproduce a live event.

The conditions under which a recording session takes place can be quite apparent to the end listener—in some cases, comically so. Take extraneous noises: studios are far from ideal places to record classical music. Consequently, most such recordings are done in auditoria, churches, and other large reverberant rooms, few of which are well isolated from outside noises (one of my favorite spaces is situated directly under the flight path of a major airport), or even

internal ones like noisy ventilation systems, etc. With many analog recordings low-level extraneous sounds tend to get lost in the "mud," but with digital they stand out like a sore thumb. In lieu of training the buying public to enjoy the "grunge," the only simple solutions to this problem are to make more use of **controllable** locations such as studios (although this is often undesirable acoustically and too expensive for many worthy projects; besides, many studios are not all **that** quiet.)

Unshackled from analog limitations, it is tempting to approach the recording with the attitude, "we've got it; let's flaunt it." But, as they say, with freedom comes responsibility; much needs to be considered if all that dynamic range is to be put to good use. For one thing, the residual analog components must be as noise free as the recording system itself. Also, meters and the way they are used (this is quite intuitive on the part of the engineer) need to be rethought. Analog systems overload somewhat gracefully, so what the engineer really needs to know from his meters is approximately how close he can come to the saturation point (the further he is above the noise floor the better); a few clipped transients are not disastrous. In this context, the ubiquitous VU meter, which reads averages, is quite useful. On the other hand, digital systems, especially those using PCM coding, suffer industrial strength distortion if allowed, even momentarily, to reach maximum level (which, incidentally, makes the use of analog limiters imperative whenever large transients are expected). Thus, their meters need to read absolute peaks. And they must be wide ranging, since nothing is to be gained by running "hot" and since distortion in digital systems, unlike analog, **increases** at very low levels. Though this shouldn't be a significant problem if the system is properly dithered.

MICROPHONES

The noise floor of a well designed system is often determined by the self-noise of the microphones used. Thus,

—PAGE 70

CURRENT

Spring AES to feature "Change"

Anaheim's Disneyland Hotel plays host May 3-6 to what may be the final Spring AES Convention. The Audio Engineering Society has agreed upon sponsoring one "show" per year, alternating from New York City to Los Angeles. This May show is intended to put the new schedule into the proper sync.

While last year's May conference was criticized by many and bore somewhat of an identity crises, AES sources indicate that this year's 78th convention is significantly tweaked. "Change" is the key word for audio engineering technology in the eighties, says the AES, and the full scale convention with 75,000 square feet of exhibits and demonstration rooms aims to take

stock of the rapid changes in the industry by formatting the event with specialty days of papers, workshops and seminars. Friday, May 3, will feature "Instrumentation/Electronic Hardware"; Saturday focuses on "Architectural Acoustics and Sound Reinforcement"; Sunday will deal with "Recording Technology"; and "Sound Reproduction" will headline the Monday activities.

For more information on the 78th AES Convention, call 212/661-2355.

NAMM Visits New Orleans

The National Association of Music Merchants has chosen New Orleans as the site for their annual International Music and Sound Expo, to be held June 22-25. This conference, open to owners and employees of retail or supplier companies in the music products industry, will be held in both the new New Orleans Convention Center and the Rivergate Expo Center, with exhibit space expected to reach 300,000 square feet. NAMM officials expect to see an increase from the 515 instrument

manufacturers, equipment suppliers and other exhibitors who participated last summer at the Chicago market. Additional information is available from the NAMM office: 619/438-8001.

Record Plant Rebuilds

After 16 years on Third Street, in Los Angeles, the Record Plant will pull up its roots and replant itself on Hollywood's Sycamore Street, at the former home of the Radio Recorders Annex. Recording facilities at the new Record Plant will consist of two large scoring stages plus a video scoring/record overdub and mix room.

Along with the studios, the new site will house the Record Plant's satellite companies: equipment sales and consulting group Audio Intervisual Design; rental division Livingstone Audio; Digital Electronic Equipment Leasing; plus scoring companies Studio M, Inc. and Record Plant Scoring. The Record Plant will continue to operate its Studio M scoring stage on the Paramount Pictures lot and the Record Plant Remote trucks.

notes

Sony Corporation of America has completed the integration of its MCI manufacturing facility in Ft. Lauderdale, Florida, into Sony's worldwide manufacturing operations by renaming the facility as Sony Professional Products Company. Show-Biz Expo '85, a business and computer show for the television, film, video and music industries will be held June 27-29 at the Santa Monica Civic Auditorium, in L.A. Call 213/668-1811 for details.

Community Light and Sound, Inc. has been purchased by the visual and audible signaling devices manufacturer, Whelen Engineering Co., Inc., of Chester, PA. Hiroshi Sawano, former Executive Director of the Magnetic Tape Division of TDK Corporation in Japan, has been named President of TDK Electronics in the U.S.

Gregory A. Green has been chosen North American Sales Manager for the Professional Products Division of dbx Inc. Robert Fead is the new President of Pacific Arts, replacing David Bean. Alan G. Hershner and Daniel P. Marchetto have been named Professional Product Marketing Coordinators at Shure Brothers, Inc. Jeff Cohen has recently joined New York City's Sound Shop, Inc. as director of marketing. Dan Minikus has been promoted to general manager of the Music Division of ElectroSound Group, Inc. Audio Engineering Associates, of Pasadena, CA, has been chosen Soundcraft Electronics' Dealer of the Year.

TOA Electronics has added Joseph V. Green as head of the commercial sound group and Gail Martin Sr. as head of the engineered sound group.

Syn-Aud-Con will be offering a workshop on Grounding and Shielding, May 14-16 in Minneapolis. Call 714/728-0245 for more info. TAD, a division of Pioneer Electronics, has added Powerlines Marketing, of Evanston, IL, to represent their professional speakers and studio monitors.

Red Acoustics, of Lansing, MI, has opened a European branch at 77 Jeddo Rd., London, UK, W12 9ED. Pacific Video, Inc., of Hollywood, CA, has acquired the assets of Versatile Video, which will remain operating in Sunnysvale, CA.

The Droidworks (an affiliate of Lucasfilm Ltd. and Convergence Corp.) has appointed Craig Sexton as director of national sales.

Otari Corp. has announced the appointment of Joe Hanf as sales manager of their Industrial Products Division. Phoenix Systems, Inc. has relocated to P.O. Box 338-B, Stone Mountain, GA 30086, ph. 404/934-9626.

Koenig Sound has changed their name to Multicom and relocated to 4630 Lindell, Suite 200, St. Louis, MO 63108, ph. 314/351-2336. audio/video fabricators the Bertech Organization has moved to larger quarters at 6804 Foothill Blvd., Tujunga, CA.

Frank K. Sterns has been appointed director of marketing and sales at Acoustat. Neil Selvin has been appointed to the newly creat-

ed position of marketing manager, digital video processing, at Ampex. Gexco International Inc., a new company owned by Paul Goldstein, is taking over business activities of Gotham Export Corporation (a former subsidiary of Gotham Audio Corp.) and is relocating to 317 St. Paul Avenue, Jersey City, NJ 07306, 201/653-2582.

Joseph Wolf III is succeeding Caddy Swanson as president of Reeves Teletape in New York.

Attorneys David Ladd, David E. Leibowitz and Charles Owen Verrill, Jr. have joined the legal firm of Wiley & Rein, 1776 K Street, N.W., Washington, D.C. 20006 to specialize in intellectual property and international trade law.

Robert Mayben has joined the Pro Audio General Store in Marietta, GA, as sales engineer.

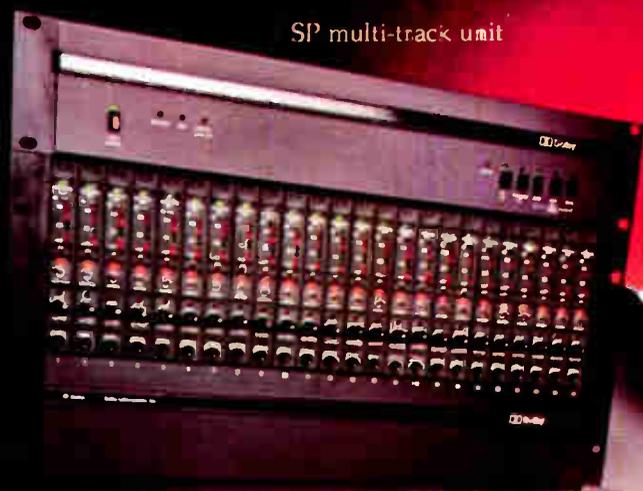
the Hollywood section of SMPTE is holding a one-day exploration seminar focusing on stereo parameters for production in film and tape. For more information, 213/743-7469.

Scientific Audio Electronics has moved into new headquarters at 1734 Gage Road, Montebello, CA 90640.

Northwest Teleproductions, Inc. has added James R. Bakkom, John C. Thomas and Kelly Cavanaugh to its production staff.

Industrial Sciences, Inc., the Gainesville, FL manufacturer of tele-production video and audio equipment, has changed its name to Intergroup, Video Systems, Inc.

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SESSIONS

NORTHWEST

The New Santana Band completed their latest album release at *The Plant* in Sausalito, CA with *Val Garay* producing. Also at *The Plant*, *Larry Graham* cut tracks with producer *Narada Michael Walden*, with *Jim Gaines* as engineer, and *Huey Lewis* was back producing new tracks for *Phil Lynott* (Thin Lizzy), *Jim Gaines* engineering. *Mutt Lange* was in to contribute background vocals. *Radhika Miller* was in Santa Rosa, CA's *Banquet Sound Studios* working on her second album with *Warren Dennis* at the board. *Shrapnel Records Inc.* released two metal LPs recently, both recorded at *Prairie Sun Recording* in Cotati, CA. *Trauma's Scratch & Scream*, and *Chastain's Mystery of Illusion* were both produced by *Peter Marrino* and engineered by *Steve Fontano*. Assistant engineers on the projects were *John X.* and *Brian Walker*. Producer/engineer *Ken Kessie* has been working with *Morey Goldstein* on their latest *Modern Rocketry* album for *Megatone Records* at *Starlight Studios* in Richmond, CA. Other recent record action includes *The Ruffians* with *Paul Zahl* producing. At *T&B Audiolabs* in San Francisco, *Mark Kelley* (formerly of *The Contractions*) returned to the studio after a long hiatus to lay down tracks for a performance tape; and *Richi Ray* finished an eight-song album project and is currently shopping labels. At *Sammy Gene Music* in San Anselmo, CA a reformed *Quicksilver Messenger Service* has been working on an album produced by QMS guitarist *Gary Duncan*, *Sammy Piazza* and *Bob Ohlsson* with *Sammy* and *Bob* at the board. *Robin and the Rocks* cut tracks at *Melon Studio* in San Francisco with *Ricky Sanchez*, formerly with *The Record Plant*, engineering. At *Studio C* in San Francisco, *Will Harvey* and *Luther Greene* mixed a *Colossal Pictures* *Levi's* spot, *Sesame Street* for *Korty Films* and a host of other projects. At *Avalanche Studios* in Denver, *Leon Russell* stopped in to lay down some tracks, and *Conly Productions* just finished the soundtrack for the movie *Kid Colter*.

SOUTHERN CALIFORNIA

Sound Image Studio, in North Hollywood had artist/producer *Ron Keel* in working with *Blitzkrieg* for *Phoenix Records* with *Mickey Davis* at the board. At *Group IV Recording* in Hollywood, producers *Frosty Horton* and *George Winston* remixed the *Rock 'n' Roll Gumbo* album by *Professor Longhair*, New Orleans piano legend, with original producer *Philippe Rault* and engineer *Steve Hodge*, assisted by *Andy D'Addario*,

for *Dancing Cat Records*. At *Clover Records* in Hollywood, *Bruce Springsteen* completed mixing "Trapped" for the *United Support of Artists* for *Africa* album with *Chuck Plotkin* producing, *Thom Panunzio* behind the board, and assistants were *Scott Weinstein* and *Miriam Stone*. Recent activity at *Preferred Sound* in Woodland Hills included a debut album by *Robert Tepper* for *Scotti Bros. records*. Producer/engineer *Joe Chiccarelli* was at the helm, with assistance from *Bill Thomas*. At *Conway Studios* in Hollywood, *CBS Records' Stanley Clarke* cut tracks for his self-produced LP. *Mick Guzauski* engineered with help from *Daren Klein* and *Richard McKernan*. *Csaba Petocz* also engineered on this project. At *Fast Forward Recording*, Hollywood, *Blues Caravan* finished their album to be released on *Crescendo Records*. Also, the hot new paisley group, *The Leopards*, were in tracking an album to be label-shopped. *Shepherd Ginzburg* was at the board. Recent projects at *Rusk Sound Studios* in Hollywood, have ranged from scoring and mixing for a *Care Bears* feature film to *Christian Death's* new album (engineered by *Eric Westfall* with *Karen Ohlinder* assisting). *Arwin Productions* booked time at the *Sound Solution* in Santa Monica to record demos for *Doris Day's* upcoming album. The project is being produced by her son, *Terry Melcher* and *Beach Boy Bruce Johnston*, and engineered by *Keith Wechsler*. Also there, *Idris Ackamoor* and *Snakepit Eddie* cut tracks for their upcoming album *From Europe with Love*. *Richard Jallis* engineered the project. At *Sea-West Studios*, Hawaii on the north shore of Oahu, *Graham Nash* has been working on his new Atlantic solo album. Also, *TKO* arrived to begin a new LP for *Music for Nations* in London.

SOUTHWEST

Dallas Sound Lab worked in collaboration with the *Global Satellite Network* to broadcast *Rockline's* hour-and-a-half show featuring a live interview with *Jimmy Page* and *Paul Rodgers* of *The Firm*, while also highlighting their new album. *Dallas Sound Lab's Studio A* was uplinked via satellite by the *D/FW Teleport* to the production studio in Los Angeles, CA, where it was then uplinked to radio stations across the country. *Pantheon Recording Studios* of *Scottsdale, AZ* has had quite a roster of local artists recording recently, including *Xstreams*, *John L. Niems*, *Chris DeVita*, *Steve Shepherd* and *Euphony*. *Reelsound Recording* of *Austin, TX* and *3rd Coast Video* teamed with *PBS producer Leo Eaton* to capture *Benjamin Britten's* opera *Curlow River*. The four-day shoot was staged at *Georgetown's Southwestern University* and marked the first time for video and multitrack recording since it was written in 1964. Reel-

sound's 46 track audio truck handled mono, stereo and 24 track recording with *SMPTE* time code to *3rd Coast Video*. *Malcolm Harper* and *Mason Harlow* were audio engineers on the shoot. At *Studio Southwest* in *Sunnyvale, TX*, *Michael Hossack*, formerly with the *Doobie Brothers*, is producing albums for the rock group *Black Horse* and a *Chaka Khan*-type performer named *Kim Farmer*. *Hossack* is also producing demos for the local rock groups *No Control* and *Station One*. *Radiohalo* band members were in at *Rivendell* in *Pasadena, TX* mixing their latest tunes. At *Austin Recording Studios*, *The Texas Revolution* finished mixing on their newest album and *Johnny Reno* was in overdubbing, engineered by *Joe Gracy*.

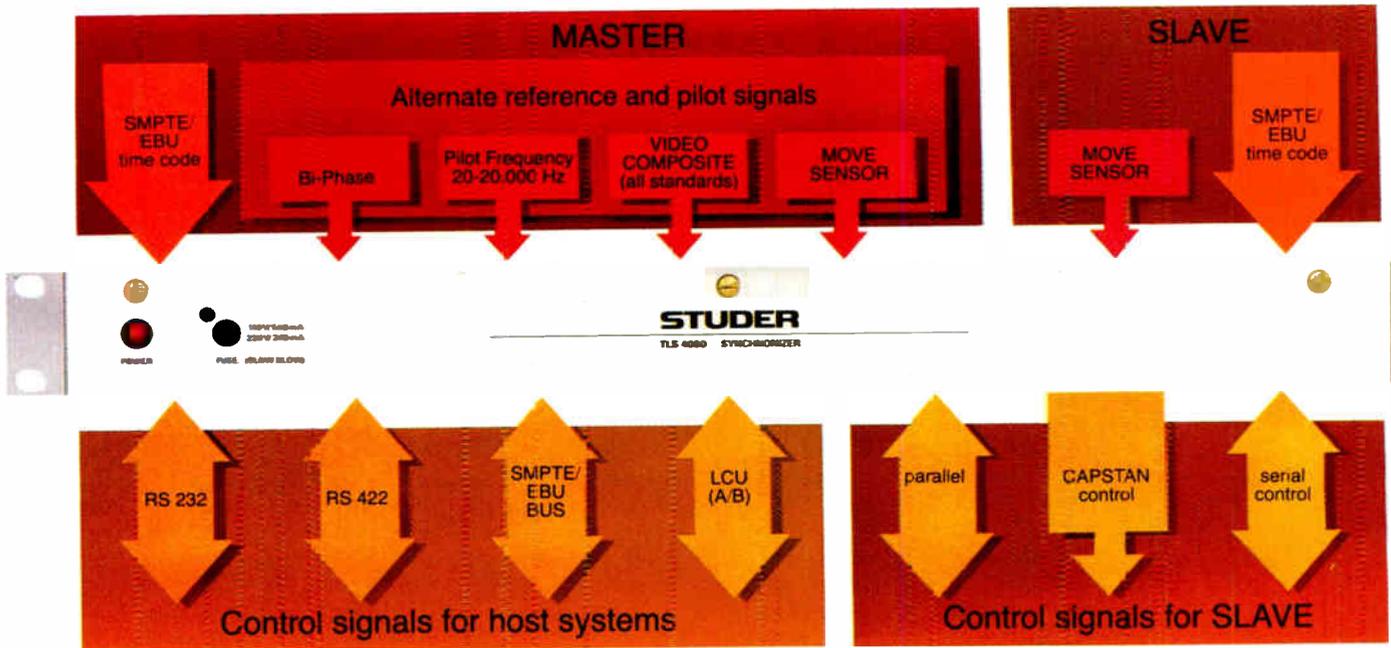
NORTH CENTRAL

Titan recording artists *Avalanche* completed their album to be distributed by *GreenWorld Distribution* at *Titan Recording* in *Kansas City, MO*. *Mike Frazier* produced and engineered the LP. At *Studio A*, *Dearborn Heights, MI*, *Critique Records* recording artists, *Megatwa Fatman*, put finishing touches on their next release, with *Bill McKinney* producing and *Eric Morgeson* behind the console. At *Comfort Sound* in *Toronto, CFNY's* *Thursday Night Live* featured *Comfort's* recordings of *The Waterboys*, *Long John Baldry*, *Tom Robinson*, and *Images in Vogue*. Recent in-studio projects included a digital solo piano LP for *Franz Loesgen*, and two bands produced by *Steve Webster: Ona Radio* and *Sinbad*, engineered by *Jane Siberry*. At *Lansing Sound Studios*, *Okemos, MI*, tracks were completed for an album project by *R&B* artist *Robert Penn*. The project was produced by *Sid Chainey*, engineered by *Dave "Duke Reno" Joslyn*, *Jim Risgin* and assisted by *Marc C. Moore*. *Algebra Suicide* has returned to *Soto Sound* in *Evanston, IL* with their mixture of rock guitar and unique poetry. They recorded four new pieces soon to be released on compilation albums in *Spain, Belgium, France, Germany* and the *U.S.* *Jerry Soto* was at the board. *Rough Justice* recently recorded a 45 at *A.R.S. Recording* in *Alsip, IL*. After a five year hiatus from the studio, *St. Louis Jesuits* have begun work on their sixth album at *Sound Recorders' Studio A* in *Omaha*. Producing is *Mark Coniglio* with *Ron Dabbs* engineering.

SOUTHEAST

The legendary *New Orleans* family band *The Neville Brothers* were in at *The Castle Recording Studio* laying digital tracks and doing vocal over-

Studer Audio: Production Versatility



Studer's flexible approach to synchronization in audio, video and film production.

The new Studer TLS 4000 synchronizer system offers extraordinary flexibility across a broad range of audio/audio, audio/video and audio/film synchronizing applications. And, thanks to its modular design, the TLS 4000 system can expand along with your growing facility.

Lock in a Box. The TLS 4000 "black box" unit functions as an extremely accurate chase lock synchronizer for one tape transport. It resolves two SMPTE time codes of any standard, and it will also accept pilot frequencies, video frame pulses, film bi-phase pulses, and move pulses. The RS232/422 serial port links the TLS 4000 synchronizer (in single or multiple units) to centralized controlling and editing systems.

Local Control Unit (LCU). A separate Local Control Unit for

the TLS 4000 is available in two different versions: the basic version (type B) for many common applications, and the extended version (type A) which offers enhanced display capabilities as well as WAIT LOCK, SLEW MODE, LOOP, and CUE + GO-TO operating features. The compact Local Control Units fit in standard 19" racks as well as in the extended console overbridge on Studer A810 recorders.

Suit Yourself. Modular design lets you tailor a TLS 4000 system to fit your particular needs—present and future. For more information on Studer synchronizing systems, please write or call: Studer Revox America, 1425 Elm Hill Pike, Nashville, TN 37210; (615) 254-5651.

STUDER REVOX



Top to bottom: Type B LCU, Type A LCU, "black box."

Circle #003 on Reader Service Card

dubs for a pop/AOR project. The Brothers are producing themselves with **Rob Stevens** engineering

Mastering work at **Disc Mastering** in Nashville, included the following projects, all mastered by **Randy Kling**: The new **Moe & Joe** single for CBS, "Still On A Roll," produced by **Blake Mevis**; the new **Ed Bruce** single for RCA, "When Givin' Up Was Easy," produced by **Blake Mevis**; and the new **Vern Gosdin** single for Compleat Records, produced by **Robert John Jones**. . . At the **Soundshop** in Nashville, **Lee Greenwood** worked on a new LP with producer **Jerry Crutchfield** and engineer **Ernie Winfrey** and **Ronnie McDowell** cut a new LP with producer **Buddy Killen** and engineers **Ernie Winfrey** and **Pat McMakin**. . . At **Cypress Recording Studio** in Jacksonville Beach, FL, producers **Dave Plummer** and **Dru Lombard** completed the single, "Red Hot" for **Walt Ogden**. . . Activity at **A.M.I. Studio** in Hendersonville, TN included **Backwater** doing vocals and mixing their new single with **Bernie Vaughn** producing. **Tommy Jennings**, along with **Paul Franklin**, cutting tracks for Tommy's new album with **Bernie Vaughn** engineering. . . At **Morrisound Recording Studios** in Tampa, FL, **The Shumate & Reno Jazz Quintet** were back in the studio A. Sitting in on woodwinds and horns was jazz virtuoso **Ira Sullivan**. **Rick Miller** engineered the session. . . **Mel Tillis** cut tracks for his new album at the **Music Mill** in Nashville with **Harold Shedd** producing. **Jim Cotton** and **George Clinton** engineered. . . **37 Targetz** of Chattanooga, TN have been in with producer **Don Dixon** at **Sound Cell Studios** in Huntsville, AL. **Doug Jansen-Smith** and **Jim Phillips** are assisting with the engineering chores. The resulting EP should be available by June 1. . . While **Joey Pullin** enjoyed the sun and surf of Florida's west coast, he was able to put the finishing touches on his upcoming album at **Florida Sound** in Clearwater. . . Recent activities at **J.B.S. Studio** in Atlanta, GA included A&M recording artist **The Swimming Pool Q's** working on new material for their next album with **Dan Vaganek** engineering. **Jazzology Records** also had **George Buck** in producing **Sammy Duncan's** latest album. . . At **New River Studios** in Fort Lauderdale, FL, CBS International artists **Miami Sound Machine** were in completing mixes for their soon to be released LP. **Emilio Estefan** of the group shared production duties with **Joe Galdo** and **Larry Durmer**. **Eric Schilling** engineered, assisted by **Ted Stein** and **Teresa Verplanck**. . . **Harvey Dalton Arnold** (formerly of The Outlaws) was at **Sandcastle Recording Studios** in Greenville, SC working on an album with the **Southern Crescent Band**, engineered by **Rick Sandidge**. . .

NORTHEAST

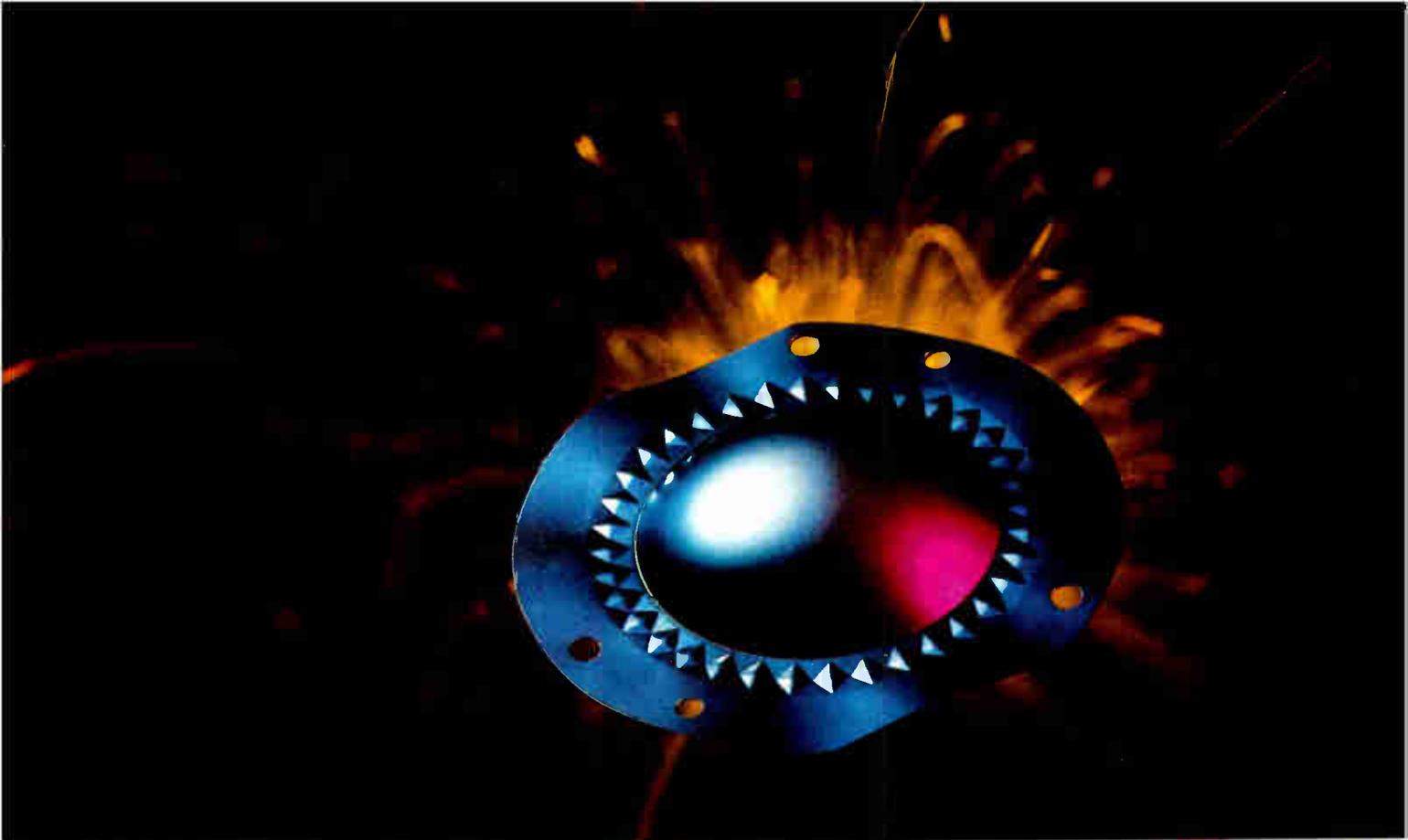
Activities at **The Barge Sound Studio** in Wayne, NJ included a two-song project for Westchester County-based rockers **Saige**, as well as an album for New Jersey's own **Maximum America**. . . David Letterman's mah-vellous music director **Paul Schaffer** was in NYC's **Unique Recording** producing tracks for **Ronnie Spector**. The music

will be part of the soundtrack for a new Columbia Picture's release, **One of the Guys**. **Chris** and **Tom Lord Alge** engineered. Also at **Unique**, reggae star **Jimmy Cliff** finished recording and mixing his upcoming album for CBS records with **Amir Bayyan** producing. **Frank Heller** engineered, with **Roey Shamir** assisting. . . Recent sessions at **Tiki Recording Studios** in Glen Cove, NY, included **Duke Jupiter**, recording for **Motown/Morocco Records**. . . At the **Broccoli Rabe** recording studio entertainment complex located in Fairfield, NJ, **Sergeant Slaughter**, champion heavyweight wrestler was rockin' the broc cutting his debut single "The Cobra Clutch". . . **Norma Jean** of Chic fame was in **Reel Platinum Studios** doing a **Mike Edwards** cut called "It Takes Two to Fall in Love," engineered by **Bob Allecca**. . . At **Nibor Recording Studio**, Hurley, NY, **NRBQ** was in to record the theme song for the nationally syndicated NBC Radio Show, "Live from the Hard Rock Cafe," with engineer **Tom Mark**. . . At **Normandy Sound** in Warren, RI, **Phil Greene** has been producing and engineering a new album for Bermudian Band **The Sharx**, and producer **Le Roy Radcliffe** has been recording and mixing tracks for a new album by **Mark Dana** with engineer **Tom Soares**. . . Recent activity at **Bearsville Studios** included **Savatage**, who just completed its new LP for Atlantic Records with **Man Norman** producing and engineering and **Ken Lonas** assisting the project; and **Blue Oyster Cult**, tracking with **Sandy Pearlman**, engineer **Toby Scott** and **Ray Niznik** assisting. . . **Romeo Void** was in **Kingdom Sound** in Syosset, NY mixing a live performance for the **King Biscuit Flour Hour** with **Steve Shank** and **John Devlin** on the console. . . At NYC's **Unique Recording**, **Cheap Trick** was in working on tracks with producer **Jack Douglas** for their next release on Epic records. **Bob Rosa** engineered with **Roey Shamir** as second engineer. Also at **Unique** was **David Byrne**, of the Talking Heads, recording and mixing with the Emulator II for the PBS television series entitled **Alive From Off Center**. **Tom Lord Alge** engineered and **Steve Griffen** assisted. . . At **Power Play Studios** in Long Island City, NY, **Edwin Birdsong** produced **Rolanda Oliver** for Pamela Green and Jamaica Funk Productions. It was engineered by **Elai Tubo**. . . **Cub Koda** (formerly of **Brownsville Station**) completed overdubs on his first TNA album, and has started mixing at **Trod Nossel** studios in Wallingford, CT. In separate projects, **Cub** recorded a song for his hometown baseball team (the Detroit Tigers) called "Go You Tigers Go!" and mastered his recent LP **That's What I Like About the South** for release in France on **Lolita/Eva Records**. . . **Battery Sound** (NYC), has been busy of late with sessions by the likes of **David Van Tieghem**, **Moving Sidewalk**, **Mason Daring's** soundtrack for the movie **Key Exchange**, and the ever-present **Powerman**. Projects were engineered by **Mark Freedman**, **Eric Liljestrand** and **Leanne Ungar**. . . **Trutone Records' Disk Mastering Labs**, Haworth, NJ completed mastering **Dizzy Gillespie's** latest digital LP **New Faces** on the GRP label. **Carl Rowatti** did the mastering with **Josiah Gluck** assisting, **Larry Rosen**, producing. . . At **Secret Sound Studio** in NYC, **David Valentin** cut tracks for his next album for **GRP Records**. **Josiah Gluck** and **Warren Bruleigh** are behind the board. Also there,

Jamaa Ladeen Tacuma mixed his latest, with **Francois Kevorkian** producing, **Doc** engineering and **Tom Gartland** assisting. . . **Tour-de-Force** recorded new tracks at **Select Sound Studio** in Buffalo, NY with engineer **Scott Meade**. . . At **Classic Sound Studio**, NYC, **Steve Backer** and **Michael Cuseuna** produced saxophonist **Anthony Braxton** with piano great **Hank Jones**, **Rufus Reid**, and **Victor Lewis** for **Windham Hill's** new **Magenta** label; **Malcolm Addey** engineered, **Judy Elliott-Brown** assisted. . . At **Systems Two** in Brooklyn, NY **Patricia Costa** recorded her next album for **Coastal Records** with **Sal Polichetti** and **Patricia** producing, **Joe Marciano** engineering. . . Recent sessions at **Eastwind Recording** in Syracuse, NY included LA natives **Rob Hoston** and **Jonies Jones** recording a single. **Michael Jaffarian** produced, **Ken Hoston** engineered. . . Recent happenings at **Shakedown Sound** in NYC included **Arthur Baker** working on all the vocal overdubs on **Mick Jagger's** recent 12-inch release off of his solo album called "Just Another Nite," along with additional production. . . **Afrika Bambaataa** was in NYC's **Quadrasonic Sound Systems** mixing tracks with producer **Gavin Christopher** for his debut solo single called "We're Gonna Rock America." The sessions were produced by **Gavin Christopher**, engineered by **Dave Ogrin**, assisted by **Keith Freedman**. . . At **Big Apple Studios** in NYC, **Flora Purim** completed a new 12-inch, "Bird of Paradise" with **Airto** and **Al Dimeola** producing and **George Kazane** engineering. . . At **Planet Sound Studios** in Manhattan, **Lynn Lynn**, produced **D.D. Domino**, with **Rick Kerr** and **Andy Heermans** engineering and **Ken Florendo** assisting. . . At **Greene Street Recording**, NYC, **Kurtis Blow** produced **The Fat Boys** for **Sutra Records**, **Rod Hui** engineering, and **Dave Harrington** assisting. . . At **The Cutting Edge** in Ferndale, NY **The Watchers** cut their first LP, **The Shadow Knows**. . . At **Eras Recording** in NYC, **Flora Purim** cut tracks for her upcoming solo LP, featuring percussionist **Airto** and **David Sanborn**. **Cynthia Daniels** engineered the project with **Peter Sturge** assisting. . .

STUDIO NEWS

Joel Tobias, owner of **Dreamland**, in West Hurley, NY reports that the facility should be on line this summer. The 16/24 track studio is being built into a large former church, and features a 50 x 40 foot main room with a 30 foot ceiling, and the reconstruction, which began last summer, is being handled by **David** and **Steve Vercelletto** of **KDP**. . . **New York Technical Support, Ltd.** is a full service maintenance firm that caters to the technical needs of the recording, film, and broadcast industries, providing design, consultation, installation and repair services. Staff members are factory trained to service **Studer**, **Otari**, **Trident**, **Neve**, **Scully**, **Ampex**, **MCI**, **3M**. Contact: **Greg Hanks**, (914) 776-2112, 1440 Midland Avenue, Suite 1-D, Bronxville, NY 10708. . . **Morrie Brown's Carnegie Hill Studios** in New York City recently installed a new **AMEK Angela** recording console fitted with an **ARMS** console computer.



JBL's unique titanium diaphragm and "Diamond Surround" bring new purity and consistency to high frequency response.

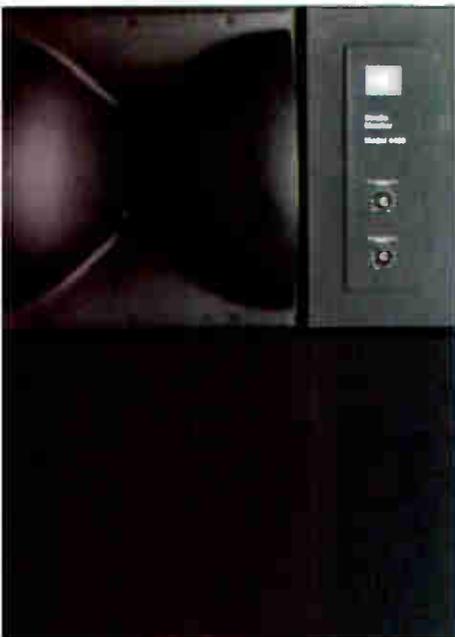
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And no one knows Dash like the people who started the whole digital revolution in the first place — Sony.

We've got the PCM-3324 multi-channel recorder ready to go right now and soon we'll be offering the PCM-3102 2-channel recorder.

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DIGITAL DISCUSSIONS

STUDIO OWNERS SPEAK OUT



Engineers at Tokyo's Toshiba-EMI Records studio work on a digital session with the label's Mitsubishi X-800 multitrack.

Producer Nile Rodgers (left) chats with James Farber at the Power Station in New York City. Nile's Sony 3324 digital multitrack, which is based at the studio, can be seen in the background.

by George Petersen

It's been nearly ten years since Dr. Thomas Stockham demonstrated his operational digital audio system at the November 1976 AES Convention in

New York; and yet with reliable, good sounding digital two and multitracks systems available, digital recorders are still less-than-commonplace fixtures in professional recording studios today. Economics have played a major part in the development of this situation, as the price tag of a single new digital multitrack could easily equip a 24 track analog room with decent quality gear.

The eventual demise of analog recording is an inevitable reality at some point in the future, but how does a studio decide when the time is right to "go digital"? Some studios have taken a middle-of-the-road approach and are now offering two track digital mixing, and the ranks of these facilities are sure to increase when the Studer and Sony DASH mastering decks become available in the months to come. The presence or lack of standardization is another question whose future is uncertain. And this is not merely a DASH vs Mitsubishi debate, since a healthy number of digital multitracks in the U.S. are the now-discontinued 3M systems, and other manufacturers also have digital plans but are waiting in the wings for the smoke to clear.

We talked to a number of studios about how their businesses are affected by the current state of digital recording technology. Most of the persons we talked to had recently purchased digital recorders, while others like Soundworks and Digital Sound Recording were among the first digitally equipped facilities, with over a decade of digital experience between the two studios. As can be expected when any group of audio pros speaks out, the comments



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from the studio owners herein are candid and widely divergent.

Tony Bongiovi, The Power Station, New York City

Earlier this year, The Power Station took delivery of two Sony 3324 recorders, bringing the number of digital multitracks available to the studio to three (producer Nile Rodgers' 3324 is also home based at the facility). Studio owner Bongiovi reports that digital now accounts for approximately 35 percent of their sessions.

What made you decide to go with Sony multitracks?

"We liked the way the Sony machine sounded—it was closer to the analog sound that everybody seemed to like. The other part of the decision was

"Standardization has always been something that's necessary because of inter-studio work. Without standardization, it's very difficult for a client to take a tape from our studio to another one with a different machine."

that there are now so many 3324s in town that we were 'forced' to choose that machine for compatibility with the other studios. The actual sound of the machine wasn't as major a factor as was the number of other Sony machines in town.

"The machines have been really reliable—more reliable than I thought they would be. They're not as maintenance intensive as analog machines. Nile's machine has been here for quite a while and has caused little, if any trouble at all. It's been remarkably reliable."

How do you feel about digital standardization?

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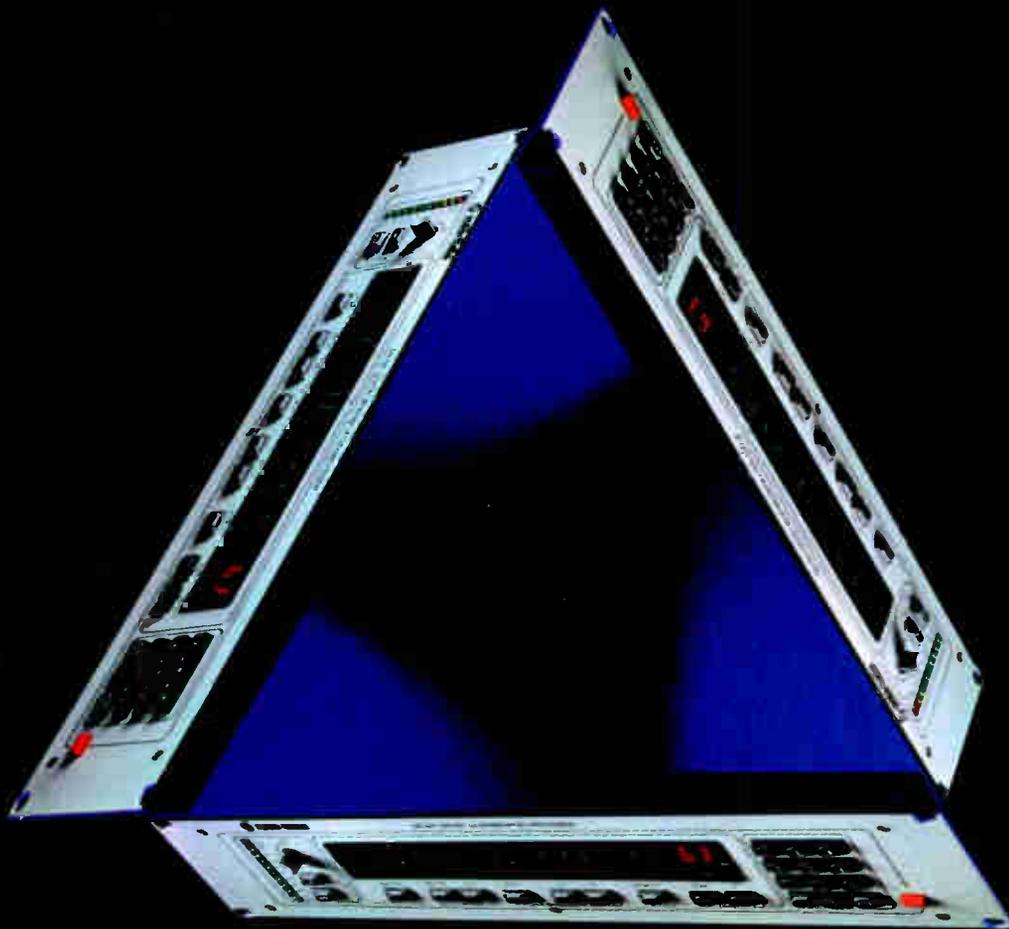
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—PAGE 18

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—FROM PAGE 16, DIGITAL FORUM

"Standardization has always been something that's necessary because of inter-studio work. Without standardization, it's very difficult for a client to take a tape from our studio to another one with a different machine. The Mitsubishi is incompatible with the Sony and the inverse is true, and that's what kept us away from the equipment until now. It looks like the Sony's going to be the mainstay."

**Bruce Merley,
Clinton Recording Studio**

Clinton Recording Studio in New York City is about a year-and-a-half old now and their Mitsubishi X-800/X-80 system went on-line last August. The one-room facility does a broad range of busi-

ness—ranging from album and film work to "a lot of jingles" according to Merley.

When did you decide it was the right time to go digital?

"Four years ago, my partner and I considered digital when we developed the initial design for the studio. At one point prior to beginning construction, we seriously considered an all-digital room, without any analog recorders. We finally decided that idea was too adventurous for the New York market, so we opened with a Studer 24. But digital was always in our planning, and we wired the room for a 32 track machine and interlocked 24 tracks as well.

"We had a number of sessions with a Sony 3324 in here on a rental basis, so we had a first hand look at it, and

then Digital Entertainment approached us about their Mitsubishi system. We had used a rental X-80 two track here on a number of occasions and we were delighted with the way it ran. Of course, at the time it was the only reel to reel digital two track machine available, and ironically it still is.

"We talked to a number of X-800 owners and travelled a bit to other facilities to see it firsthand. We finally decided it sounded as good as the X-80 two track, and it seemed to operate sort of militarily—overbuilt for its specifications and very rugged. What it boiled down to was that nobody had any 'horror stories' about it.

"The machine had the added blessing of eight additional tracks—a real plus. That actually is a real functional advantage for us: in a typical jingle session we can put all the tracks and all the required mixes on the 32 track, which is a nice feature. If the client later wants to overdub or rework the music, we can run a 24 track transfer to analog at mix time and they can walk out with a 'first pass' 24 track analog premix—a functional advantage to a lot of New York jingle houses, because they bounce around a lot from studio to studio."

How important is digital standardization at this time?

"We considered the DASH/non-DASH debate for a long time, and finally decided that we were wasting time and losing money by not owning a machine. Even if our machine is made obsolete in five years it will have been well worth the investment. Compatibility has not been a major issue.

"So far, we've been very pleased—we've had no technical difficulties and a smooth transition on selling our clients on digital—economically, it works for everybody; why would anybody not go digital if they have the means to do it?"

**Charles Benanty, Soundworks,
New York City**

Located in the former NBC studios beneath the Studio 54 club in New York City, Soundworks is the only studio in the country equipped with 3M, Mitsubishi and Sony digital multitracks. At the tender age of six, they are also one of the oldest multitrack digital studios in the world.

Wasn't opening a digital studio a risky business five years ago?

"It was, but it sounded so good! The first time we had one of the 3M prototypes in here nobody wanted to let it go, although that early prototype didn't work very well and it took three different prototypes before we said OK to the one we purchased. But it sounded so good when anything else was played next to it."

What led to purchasing the Sony and Mitsubishi machines?

"It really was for interformat work. There really isn't anywhere to do



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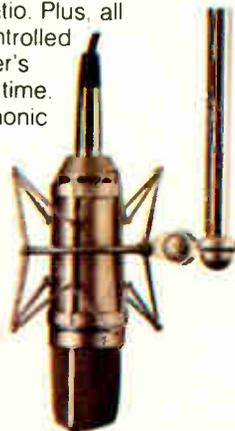
Best of all, you don't have to be a technical whiz to use the Synclavier! Designed for musicians, the system is easy to learn and now includes special features which increase its musicality.

If you're thinking of building or expanding your studio, the Synclavier Digital Music System is a must. The Synclavier has been proven time and time again by top name artists and studios to be a tremendously creative and cost savings piece of equipment. In the best tradition of New England Digital, the following new Synclavier options prove once again why the Synclavier continues to lead in technological development.

Polyphonic Sampling

(16-Bit/100 kHz)

Concert grand piano, rich string sections, sizzling brass and the ultimate drum timbres are just a few of the unbelievable possibilities with the Synclavier's new Polyphonic Sampling Option.



Believe us, these timbres don't sound like you've got cotton in your ears. The full dynamic range rings true. This capability is provided by offering full 16-bit resolution with a user-variable sampling frequency up to 100 kHz. Expandable from 8 to 32 fully polyphonic voices. In addition you can order up to 32 — that's right — 32 megabytes of sound sampling memory (in 1 megabyte boards)! All voices are stereo and offer 96 dB S/N ratio. Plus, all voices can be controlled from the Synclavier's front panel in real time. A library of polyphonic sampled timbres featuring grand piano, strings, brass, and percussion is provided.

Sounds hot! Believe us, and your ears, it is!

Multi-Channel Independent Outputs

Once you have that finished recording in your Synclavier, you can now very easily link the Synclavier recorder to any multi-track recorder using the new independent output option.

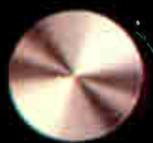
The Multi-Channel Output Option allows you to route each track of the Synclavier's 32-track Digital Memory Recorder to a selectable individual output channel. Each output channel can be equalized or processed to produce a 32-track master, as well as a standard stereo composite.

This option may be expanded from 8 to 32 individual outputs as your Synclavier or recording capabilities expand. The option works with the regular FM synthesizer voices as well as the new polyphonic sampling voices.

76-Note Velocity/Pressure Keyboard

Designed for musicians, the Synclavier 76 note programmable velocity/pressure keyboard provides quick and easy access to all the different features of the system, such as: a 32-track Digital

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Pop your video monitor on top of your keyboard, lock up your Synclavier and video machine using the new SMPTÉ reader option and — presto! — compose the score with master-quality sounds and your music product is finished.

The SMPTÉ option allows you to position the master tape to any point. When the tape starts, the Synclavier will chase to the correct position. This avoids having to start the Synclavier and tape back to zero for each take.

The Option consists of the Reader/Interface Board, and special software. The reader unit handles 24 FPS (Film), 25 FPS (European), 30 FPS (Video), and Drop Frame Mode (Color).

MIDI

Of course we're doing MIDI. MIDI will be available in June as a simple retrofit to any Synclavier system.

Improved "User-Friendly" Software

In order to facilitate the operation of the system, New England Digital's software

engineers have been busy restructuring the software interface to be very user-friendly. In addition, the system will feature a rhythm input page software routine for quick and precise entering of rhythm parts. Plus, an easy-to-follow set of menus which guide the user through any part of the system quickly.

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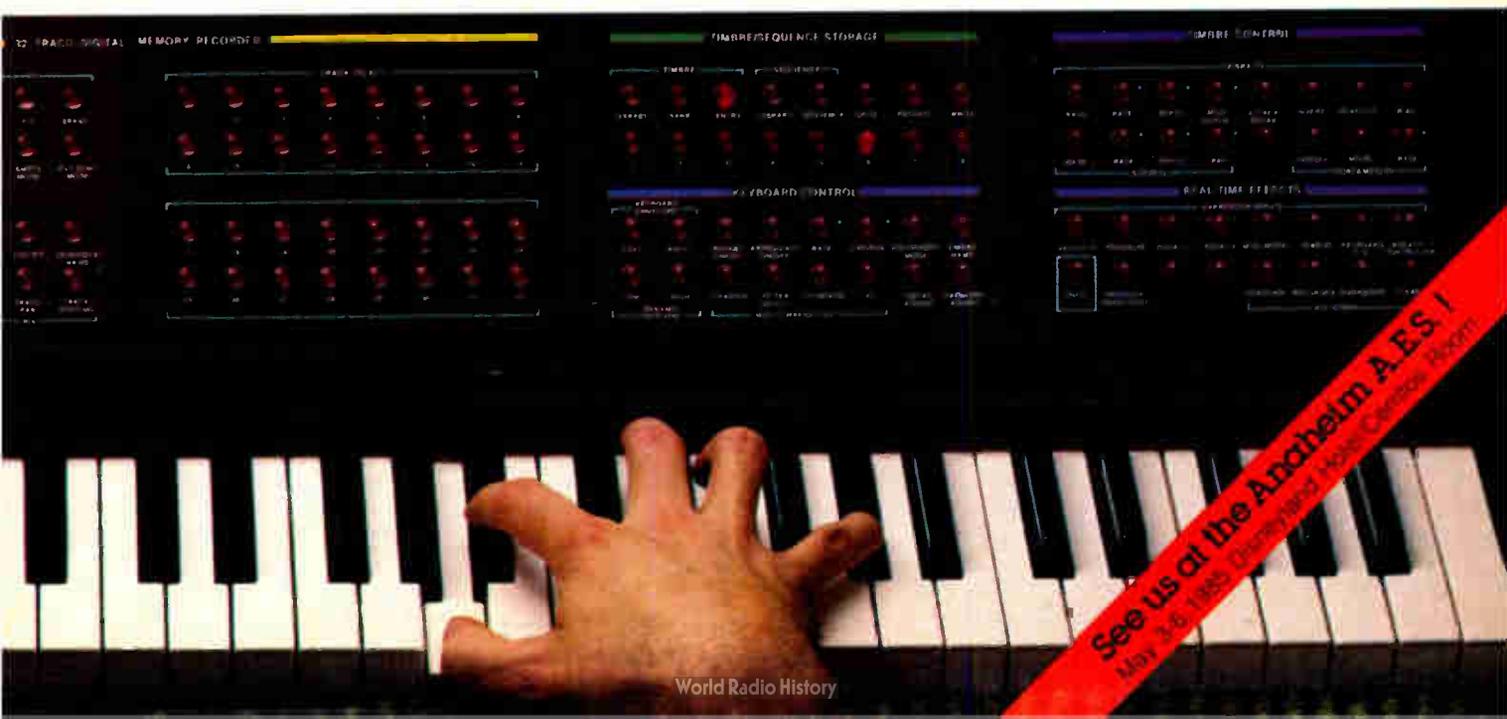
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transfers from one format to another, and I didn't feel there would be any particular standard soon. They all sound great. Most people seem to prefer the 3M sound—it's a little warmer, sort of like the old Neve console sound—but it's a matter of personal taste. The 3M machine was never really designed to travel or be moved from room to room all the time. As long as it sits in one place and is maintained daily, it's great. The other machines are better designed for moving around: remote jobs and rental work.

"The Sony and Mitsubishi machines sound a little bit different, but then again it's a matter of personal taste. We did John Denver's album which used Mitsubishi multitrack and two track, and it sounded wonderful—everybody loved it. You have to look at this two ways—for one, as a consumer the digital domain sounds great; and two, having watched studio bookings over the past five years (we opened up six years ago, but went digital a year later)—we've been booked solid ever since. This is primarily because of going digital in the beginnings, and it's worked out very well financially."

**Lou Vetter, Blank Tapes,
New York City**

Blank Tapes has joined the ranks of several other New York City studios which have purchased Sony 3324 digital multitracks in recent months. The recorder was delivered last October, in time to be used for the production of the music video for the Broadway musical *Cats*.

What made you decide this was the right time to go digital?

"I just felt it was the right time—the Compact Disc has taken over a big enough share of the retail market. In addition to that, we've gotten involved in more film and video work, and these days everyone is turning to a higher quality of audio in those formats. Our in-house production company did the *Cats* music video—it was the first music video of a Broadway show—I believe it also was the first total digital job: digital multitrack, and digital mix right to the one-inch videotape. In fact, I tried to push my delivery [of the 3324] so it would be available for that job.

"One of the feelings I had was that Sony would take a large enough share of the market to make the machine compatible on a studio-by-studio basis across the country. Since we purchased ours, several front line studios here in New York have received delivery on machines. So far our machine's been rock solid and trouble free."

**George Semkiw, Amber Recording,
Toronto**

Toronto's Amber Recording got their Mitsubishi digital system last November. Owner Semkiw says the studio does a "little bit of everything"—

radio and TV commercials, records, and soundtracks for films and video.

What factor made you decide on a Mitsubishi system?

"The main advantage was more tracks: 32 tracks allows much more flexibility than 24. I had already made up my mind when I went digital that I wouldn't stay 24 track—I'd rather go 32 or 48, but 24 in the past has not been enough for analog and it wouldn't be enough for digital. Quality-wise, the two brands of machines are indiscernable. I've heard the Sony machines in other rooms, and the quality seems as good as the X-800.

"We also got an X-80 at the same time. It's less money to go with the Mitsubishi two track, because you don't need an electronic editing system to edit the tapes. Actually razor-blade editing on the X-80 is more cumbersome than in analog: you have to make a straight 90-degree cut; you have to leave a slight gap between the tape when you splice it together; and you have to leave some formatted blank tape before the splice—you can't use leader tape. It's about half as fast: I could probably edit two albums in analog in the time it takes me to do one album on digital. But razor-blade editing is a nice feature that saves a lot of money."

How important is digital standardization?

"It's important, but I've come to the conclusion that there never will be a single standard. It's like computers, where Apple and IBM and Commodore are all putting out systems, and they're not compatible. In ten years time they might be, but you can't take Apple software and use it on IBM or vice-versa. It's the same with the digital market: everybody is stating that their system is optimum, so until somebody admits their system is *not* optimum, I don't think we'll have any standardization. Either you accept that and go ahead, or you don't accept it and you wait and join the crowd later."

Paul Sloman, Atlantic Recording Studios, New York City

Atlantic Recording Studios, owned by Atlantic Records, purchased a Sony 3324 recorder in February, 1984, and were one of the first New York City studios to have one. At press time, they were considering buying two more Sony machines.

What were some of your reasons for picking the Sony system?

"One is the compatibility factor: Sony and Studer had opted on the DASH format. Another is Sony's reputation and our experience with other Sony products—essentially some of their video decks over a period of years."

How important is industry-wide standardization?

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if we were confronting that same situation in the analog format. People would have to call me up, saying 'I recorded my tapes on an MCI JH-24,' and I would say 'I'm sorry, but all I have is a Studer A800!' What would that situation be like? I think that standardization among manufacturers is imperative. I think it's absurd to have more than one format, and having three different formats certainly didn't do any good for digital multitrack sales."

Jim Dolan, Streeterville Studios, Chicago

Fifteen year old Streeterville Studios are currently in the process of re-doing several of their rooms and adding three more. Also in the works is the acquisition of a Mitsubishi X-80 digital two track, which should be on-line this month. The studio's projects range from blues albums for Chicago's Alligator Records to film scores, commercials and audio-for-video in their SSL-equipped sweetening room.

When did you begin considering getting into digital?

"We've been looking at it since day one—Mitsubishi brought the machine into the country, and we were involved with them and gave them our comments on the X-80, which we used on a live to digital album five years ago. Since then we've been looking for the proper window and the proper time for us with the format as a home-based item in the studio."

Do you see buying a two track as the first step toward getting a digital multitrack?

"It's the first step, but with the type of studio we are, it's the only level that we can aggressively deal on at this time. The multitrack formats have been too volatile for us to get as involved as we would want to get. The format changes, incompatibilities between manufacturers, and the limits of the technology haven't interfaced as well with our type of operation. If I was doing lots of record projects for artists who wanted the latest so-and-so available, then it would be a different story.

"We are trying to create marketplaces as well as an educational base for the use of this technology on a steady basis with our clients. That's why I put my emphasis on putting in a machine that's going to be bought and homed and used. I trust that once clients get more comfortable with the 1/4-inch format, they will be that much easier to move into the benefits of multitrack digital. We're different from top of the line studios: our equipment has to have stability and longevity."

Van Webster, Digital Sound Recorders, Los Angeles

Digital Sound Recorders got into the digital game early, by purchasing a Sony PCM-1600 (since upgraded to

—PAGE 190

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AUDIO APPLICATIONS

by Ken Pohlmann

Digital audio is transforming us all—clearly, old habits are dying, we're all adapting, and the center of gravity in the audio business has irrevocably shifted.

By the time you read this, it will probably be obsolete. As the ad says, digital audio is transforming us all—often faster than we can keep up. Digital techniques have affected virtually every aspect of the audio industry, from studio to living room. Changes great and small are both manifest and subtle: the entire idiom of mainstream pop music has gone electronic under the influence of digital keyboards and drum machines, the optical storage medium in the form of the Compact Disc has entered our lives, new horizons of incompatibility for professional tape recorders have been discovered, and for the first time ever, recording engineers are taking the red line on their VU meters seriously. Clearly old

eyes particularly peeled for signs of slew rate, let's examine some aspects of digital audio, including peripherals, consoles, recorders, the Compact Disc, with particular emphasis on Compact Disc ROM and the digital audio cassette, and attempt to chart some growth curves.

Since the introduction of the DDL into control rooms in 1971, digital audio processing has created for itself a vast market, and successfully plied it. Most time-related forms of processing, such as delay, reverberation, room simulation, chorusing, etc. are now digital owing to that technology's inherent advantage over analog for real-time data storage. However, the proliferation of digital signal processing devices may be slowing due to analog's converse advantage over digital for frequency-related processing such as equalization, filtering, etc. The second wave of invading peripherals might be delayed until more cost effective digital processing becomes available. Specifically, we'll soon be calling for greater computing power.

As computing power improves, the A/D and D/A converters will be quickly pushed to the outer extremities of the studio; there will be an A/D at the microphone, and D/As for the monitoring chain in the control room, and analog medium output, and D/As in the consumer's living room. Everything in between will be digital. In fact, converters themselves may eventually disappear owing to direct-to-digital microphones, and direct-from-digital power amplifiers. Of course, the technological obstacles are enormous; not to mention the cost. A comprehensive digital console duplicating all of the features of a contemporary analog console has already arrived, but the cost will inhibit that growth curve for years to come. Likewise, entirely new technologies, in microphones for example, are yet to be developed.

It appears certain that a transition phase will occur. Just as digital processing has infiltrated the peripheral rack, it will sneak into the other parts of the signal processing chain. Hybrid consoles will increasingly introduce the quality of digital processing, at the most cost-effective junctures. Signal control and storage of processing parameters will come first, then actual signal processing. Fading, mixing, and selecting will be transformed into multiplying, ac-

DIGITAL AUDIO

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habits are dying, we're all adapting, and the center of gravity of the audio business has irrevocably shifted.

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The Compact Disc medium will soon be available for other types of data not restricted to audio applications. In place of audio data, computer software or other published material may be stored in a read-only format, and delivered as a video signal as opposed to an audio signal.

cumulating, and demultiplexing—but the front panel operator might not notice the difference, particularly in early models, as hybrid and digital consoles superficially mimic their analog birthrights. In time, in recognition of the fact that current practices are merely an outgrowth of the analog technology which happened to be available at the time, wholly new operating methods will be presented in accordance with the new digital technology available. Some serious retraining, and rethinking of techniques will be necessitated, all in the quest of greater efficiency of production.

Of course, the rate of growth toward the all-digital studio will be flat in relation to that of digital storage. Digital recorders have already successfully entered the top-notch studios, and are quickly working their way down into the broad market. Despite the differing standards between Sony and Mitsubishi, and dbx, and differing formats, such as fixed and rotating head storage, sales have been brisk; Bob Ludwig recently reported that nearly 23 percent of Masterdisk's major mastering projects involve digital masters, thus supporting the notion of apparent proliferation of digital recording. Mitsubishi recently announced the installation of their fiftieth X-80 digital recorder, 32 track X-800 machines are successful in terms of sales and rentals, and 64 track X-800 systems are available at Clinton Recording, Fantasy Studios, and The Sound Stage. Sales of

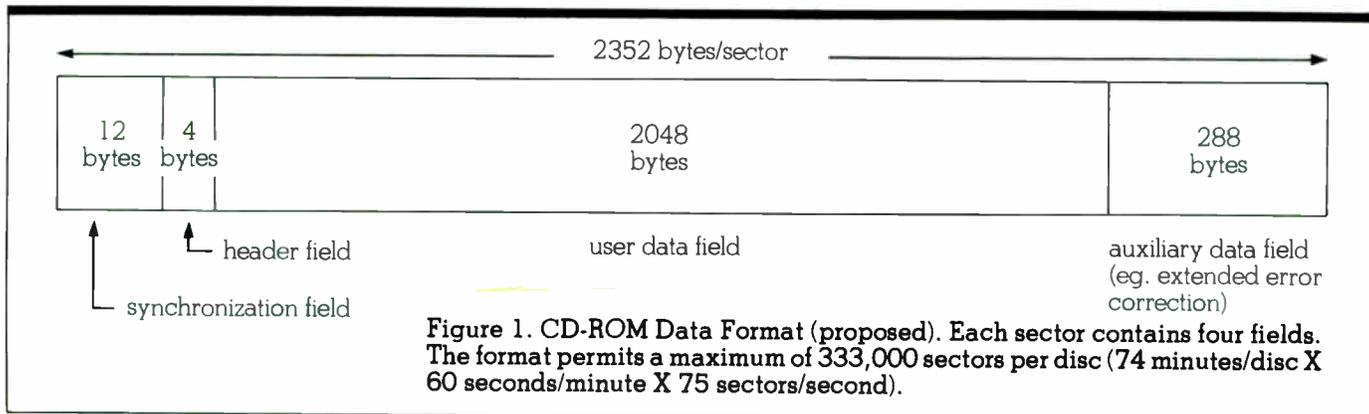
the Sony PCM-3324 digital multitrack are similarly brisk; because of demand, the time from order to delivery has reportedly increased dramatically over the last six months. Sony's fixed head DASH machines are imminent, with Studer to follow thereafter. Competition should inevitably lead to price reductions; the cost of a fixed head digital recorder should be no more than \$20,000. Sales of digital studio recorders will undoubtedly accelerate tremendously. Which standard will prevail? Undoubtedly both.

In the nether world of semi-professional digital audio, Sony's PCM-701 continues to succeed, and will gather new devotees with a recent price reduction from \$1,900 to \$1,750. However, the PCM-701ES has been discontinued, and replaced by the PCM-501ES. The 501 uses one multiplexed A/D converter, and samples at a 44.1 kHz rate; it is fully compatible with the 44.056 kHz sampling F1 and 701 (yes, even in digital there is a fudge factor). Suggested list price for the 501 is \$750, as opposed to the \$1,200 tag for the 701.

Such low-cost processors herald the advent of the digital audio cassette, otherwise known as DAT (Digital Audio Tape), or the 8mm system. Two formats have reached final levels of acceptance among the concerned manufacturers; the S-DAT is a stationary head format, and the R-DAT is a rotary head format. Both systems will reportedly employ 16 bit quantization and 44.1 kHz

sampling rate. The S-DAT uses 20 tracks in each direction for A and B sides of a stereo signal, thus achieving low tape speed, perhaps as slow as 4.76 centimeters per second. The record and playback heads require the latest in integrated thin-film, and MR (magneto-resistive) technology and development of a new fixed-azimuth, edge-referenced guide system. Tape is housed in a cassette similar in size to analog cassettes, yielding a one-hour playing time. The R-DAT format employs a rotating head and helical-scan method, similar to that found in VCRs; it is thus more complex mechanically. For example a servo tape guidance is required, yet it is simpler electronically. The helical scan permits slow tape speeds; a Sony prototype uses six millimeters per second. The cassette shell might be half the size of an analog cassette, yet yielding playing time of over two hours. Which format is better? Rotary has the distinct advantage of inherently higher bandwidth, however the cost of electronics traditionally drops while cost of mechanics does not, thus the S-DAT could ultimately be a more cost-effective system. Which format will prevail? Apparently both. Unable to agree on stationary or rotar, manufacturers have developed both, and appear to be ready to agree to adopt standards for both this spring. Contingent upon pricing, digital audio cassettes, of either format, should sell well. The Compact Disc has overcome a primary limitation of the LP—portability for automobile and belt-pack applications. Thus a digital audio cassette will face stiffer competition on its home turf, however the recordability of cassettes provides significant advantage, at least until the recordable CD reaches the mass market. Brace yourself—S-DAT and R-DAT should reach our shores within a year. Sixteen bit, 44.1 kHz recording in the hands of the consumer? Is nothing sacred?

The story of the Compact Disc is banal in its success; Edward Rothchild, publisher of the *Optical Memory News*, has noted that with worldwide sales of 500,000 players and 10 million discs in 1983, the Compact Disc became the



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most successful new electronic product ever introduced. More interesting will be the spectacle of manufacturers trying to meet demand, particularly in disc manufacture; not only are sales of players greater than predicted, but average number of discs purchased per player is much greater. In the light of 90 day turn-arounds, companies such as Digital Audio Disc Corporation, the CBS/Sony subsidiary in Terre Haute, are announcing plans to increase production; in this case from 300,000 discs per month to 1 million.

Even more interesting to watch will be the emergence of dark horse companies, ready and willing to share in the profits of CD manufacturing. Companies such as DOCdata (Venlo, The Netherlands) and Comdisc (Los Angeles) have devised radically new manufacturing techniques which promise to revolutionize (ie. lower the cost) of CDs, currently being made with injection molding techniques. As announced in *The Digital Recording Report*, DOCdata's "Microprinter" production rotary press system uses a continuous roll of ribbon-like substrate material; the impressed substrate is then aluminized in a vacuum and sandwiched between two transparent protective layers, and the finished disc punched out. In a newer model, the time-consuming task of aluminization is bypassed, and a thin aluminum film is laminated onto the substrate, simultaneously forming the reflective layer and protective back surface. In all, the process turns out a CD every two seconds, as compared to a rate of one CD every 25 seconds at conventional factories. The initial cost of equipment is considerably less than conventional production equipment, and the overall cost of making CDs is reportedly 50% less.

Comdisc, a division of Spectra-tech Corporation of Los Angeles, utilizes a proprietary photo-thermographic transfer process for CD manufacturing. Discs are embossed on a continuous substrate film, then metalized and laminated. Production rate is said to be one CD per second. The enclosed housing, and automated operation reduces the complexity of achieving large clean rooms. Comdisc is currently negotiating with major record companies for sale of equipment. They have estimated that equipment for the production of 5 million discs per year would cost 5.5 million dollars. Both DOCdata and Comdisc are prototype systems at this time, however they represent the kind of creative engineering which is sure to dramatically redefine the economics of CD manufacturing. It is clear that world-wide disc production capacity will have to be increased significantly. As Peter Jensen of American Compact Disc has pointed out, the current world-wide capacity of 10 million discs per year would be hard-pressed to fill an order for 10 million CD-ROMs of

the New York phone book, when even small orders of music discs are currently backlogged 90 days or more.

Speaking of phone books, the Compact Disc medium will soon be available for other types of data not restricted to audio applications. In place of audio data, computer software or other published material may be stored in a read-only format, and delivered as a video signal as opposed to an audio signal. For example, over 275,000 pages of text, each holding 2,000 characters, could be placed on one Compact Disc and displayed on a television monitor. Furthermore, the storage potential of audio CDs can be extended; using the subcode bits in each frame, limited amounts of video information may be stored on audio CDs.

An audio Compact Disc contains unused data capacity in the guise of the subcode bits. The eight bit subcode of user bits is contained in every frame and are designated as P,Q,R,S,T,U,V, and W, sometimes referred to as the PQ code. Only the P and Q bits are used in the audio format, and contain information such as the total number of selections on the disc, their beginning and ending points, index points within selections, pre-emphasis on/off, and end point of the disc. The other six bits which account for about 20 megabytes (8-bit bytes) of storage, are available in each frame is small, the entire number of subcode bits available over many frames is collected to form a subcode block, complete with its own synchronization word, instruction and data, commands and parity. For a video image, the data is collected over thousands of frames to form an image. A CD holding an hour of audio data can hold up to 700 still video images, drawing a new image from the disc every five seconds.

The possibilities are varied for such a CD format; using an I/O port on the CD player, an adaptor connects the player to a television, and the images are viewed as the music is reproduced. Still pictures relating directly or conceptually to the audio material are displayed, as are linear notes, lyrics, or other alphanumeric information. Either video camera images or computer generated still images can be stored on the music disc.

CD-ROM (Compact Disc Read Only Memory) is the logical transition toward the marrying of digital audio and information systems. Rather than store music, the CD format can be treated as a read only memory system, used for any kind of program material. Apart from modulation and error correction overhead, an audio Compact Disc holds a maximum of 6.3 billion bits, or 782 megabytes (8-bit bytes) of user information (1.41 million audio bits per second over 74 minutes). This large storage area, equivalent to 1500 half-megabyte

floppy disks, can be given to the storage of other information such as computer applications software, operating systems, on-line data bases, published reference materials, directories, back issues of journals, encyclopedias, libraries of still pictures, or other type of information not requiring frequent updating. In addition to mere storage, a CD-ROM system is interactive, for example, allowing the user to index and cross-reference the information.

A CD-ROM stores about 650 megabytes of data with a special format; a CD-ROM disc automatically identifies itself as differing from an audio CD. Bit error rates can be lowered to 10^{-12} or less because of extended error correction data held in an auxiliary data field. The modified player contains laser optics, modulation, and error correction, but the audio output section is replaced with a computer interface to accommodate the ROM data.

The CD-ROM data format provides for a maximum of 333,000 data sectors, each sector containing a synchronization, header, user, and auxiliary field, as shown in figure 1. The CD-ROM sectors are addressed by playing time in minutes, seconds, and sector number; this address is contained as a three byte binary coded decimal number in the header field. A sector address of 73-15-60 denotes the 60th sector in the 15th second of the 73rd minute on the disc. Given 2048 bytes per sector, and 333,000 sectors per 74 minute disc, a CD-ROM disc would hold an absolute maximum of 682 megabytes of user digital information. Data rate is limited to 1.41 megabits per second using components found in audio players; however, proprietary ROM systems can achieve faster rates with special components. Access time for any point on a disc is less than a second. A CD-ROM disc could hold 275,000 pages of alphanumeric, or 18,000 pieces of computer graphics, or 3,600 still video pictures. Sony is expected to introduce a CD-ROM player in July; the CDU-1 has a target price of \$250, and interface boards for the IBM-PC will be available.

The CD-ROM will form the basis for a new electronic publishing medium applicable to book publishing, dictionaries, technical manuals, business catalogs, computer storage, expert systems, artificial intelligence, and so on. It represents an entirely new technology of information dissemination. Because of our present inability to define potential markets, the rate of growth is unknown. In general, that pretty much sums up the prospects for digital audio; with wholly new mediums and applications, in combination with computer and video mediums, which in turn again create new applications, the rate and extent of the evolution is incalculable. ■



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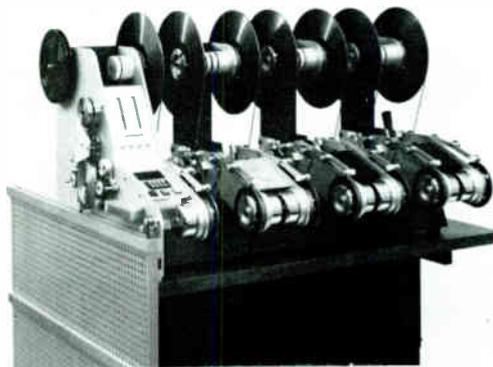
FOR THE DIGITAL ERA

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Circle #019 on Reader Service Card

Digital REVERB

PART ONE

a modern miracle

BY LARRY OPPENHEIMER

"I need a miracle every day."
—The Grateful Dead

The sentiment expressed above is shared by virtually everyone involved in audio production. The listening audience has grown increasingly sophisticated as audio technology has matured, and the demands placed on an audio professional to get new and better sounds has increased proportionally. Fortunately, a number of very clever people continually contrive new miracles for us. For example: pick a sound, any sound. Natural? Fantasized? Perhaps some combination of the two. No problem, a little sampling, a little synthesis and you've got it. Now place your sound in any kind of room or space, again real or imagined. Record it digitally and enjoy playbacks free of noise and degradation. What was once inconceivable to do is now almost trivial, and that is nothing short of miraculous.

Digital reverberation falls high on the list of audio miracles. Only ten years ago springs, plates, and chambers were still the accessible methods of producing reverberation. Enhancement of recordings, creation or matching of specific room ambiances for films and broadcasting, plus any assorted special ambience effects were all achieved through one of those three methods. Although many people achieved impressive results using these tools, there were problems like coloration and lack of flexibility. Physical logistics also presented trouble, as a plate or spring unit needed a vibration-free environment and a chamber obviously took an entire room of some size. And then along came digital reverb.

Digital reverb offers unprecedented control of many parameters of reverb, and even the basic quality of the sound. A room can be created and then modified: the walls can be moved, furnishings can be added, natural acoustics can be distorted. Certainly, digital reverb is not free of limitations, but an evaluation of the quality and control of sound in the handful of units in the very competitive \$1,500-and-under reverb market will provide a convincing argument that this innovation has brought about a drastic change in the industry.

The flowering of digital reverb has not followed the path of steady progress that has been seen in other areas like magnetic recording; when originally conceived, it was an idea which was literally ahead of its time.

The origins of digital reverb are generally acknowledged to lie with some experiments done by Manfred Schroeder in the late '50s and early '60s at AT&T Bell Laboratories in Murray Hill, New Jersey. The lab was a hotbed of activity which was, at that time, devising the age of digital audio which has now come to pass. Schroeder's work in reverberation, Max Mathews' pioneering of digital synthesis (see *Mix*, December 1984), and the work done on digitization of sound largely define the state of the art today.

Schroeder, now 59, came to Bell Labs (as it was then known) in 1954, having just received his Dr. rer. nat. (PhD) in physics from the University of Gottingen, FRG; his thesis was on concert hall acoustics. His work in this area continues to this day, but he has made many other contributions, including collaborating in the creation of Linear Predictive Coding (LPC), a complex but

very powerful kind of sound synthesis which is applied heavily to speech synthesis and starting to see use in music synthesis. Additionally, Schroeder has been a pioneer in computer graphics, winning first prize at the International Computer Art Competition in 1969.

At Bell Labs, Schroeder heard about artificial reverberators based on helical springs, but the consensus of opinion was that these devices caused a great deal of coloration (alteration of the frequency spectrum) in the sound. "I thought that these reverberators should pass all frequency components equally well," says Schroeder. "They should be, in the language of the electrical engineer, all-pass filters. So I started simulating digital reverberators on the computer. This was in the late 1950s, and as far as I know this was the first simulation of an acoustic signal processing system. I still remember when we got a reverberated signal out of the computer for the first time. People thought that we were fooling them because up to then only numbers were coming out of the computer, not music."

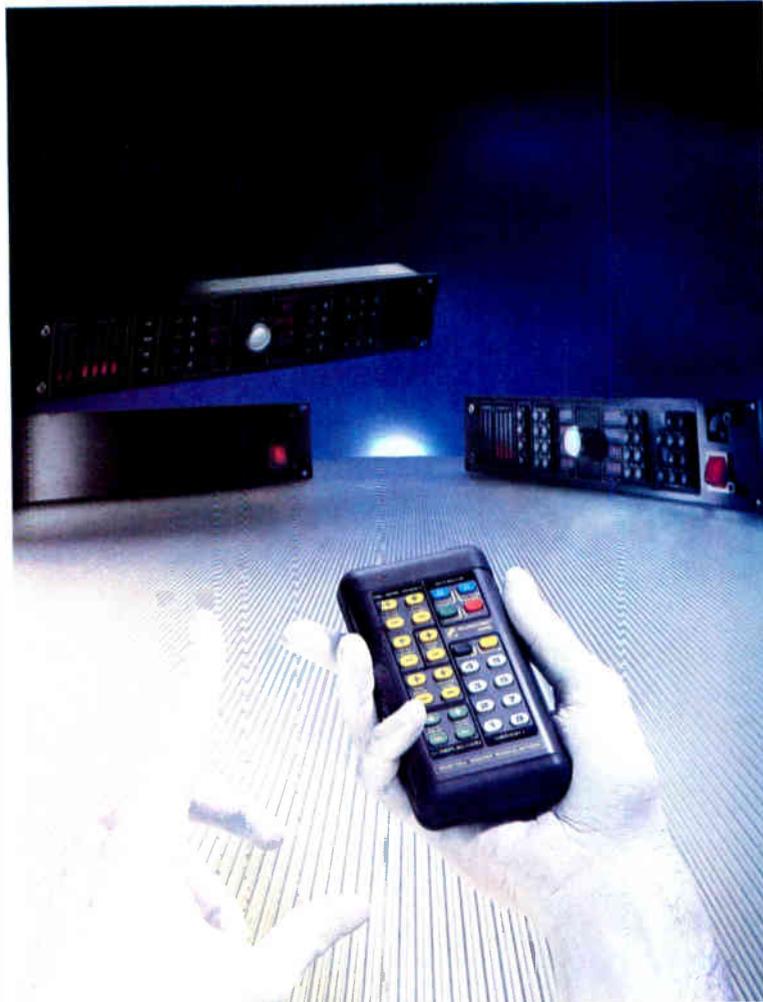
Reverberation is a very complex acoustic phenomenon which occurs as the result of the interaction of a sound source with an acoustic space which has some boundaries (there is effectively no reverberation outdoors). The sound reflects off of the primary boundary surfaces to create what is known as "early reflections" which give the listener clues about the size of the space and where (s)he is in it. As the reflected sound continues to bounce off of the boundaries the number of reflections increases and the time between them decreases until discrete echoes are no longer perceived. What is perceived is a smooth, dense, decaying "tail" which we call reverberation. The complexity arises from the vast number of contributing factors involved: the size of the space, the construction and exact shape of the walls, the placement and intensity of the sound source, etc. Although reverb is only a summation of time-delayed versions of the original source, the number of reflections is so massive and their exact timing and characteristics so intricate that exact simulation is out of the question.

Schroeder's use of the all-pass filter, which is a delay line with both feedback and feedforward paths, was an attempt to find a method of simulating reverb which comprised the actual number of reflections, but hopefully provided enough to "fool the ear." His first reverberator used five all-pass filters in series to gain sufficient density. It should be noted that the fact that the filter passes all frequencies equally in steady-state signals does not mean that it behaves at all the same when hit with a transient such as a drum. Setting the delays and gains of

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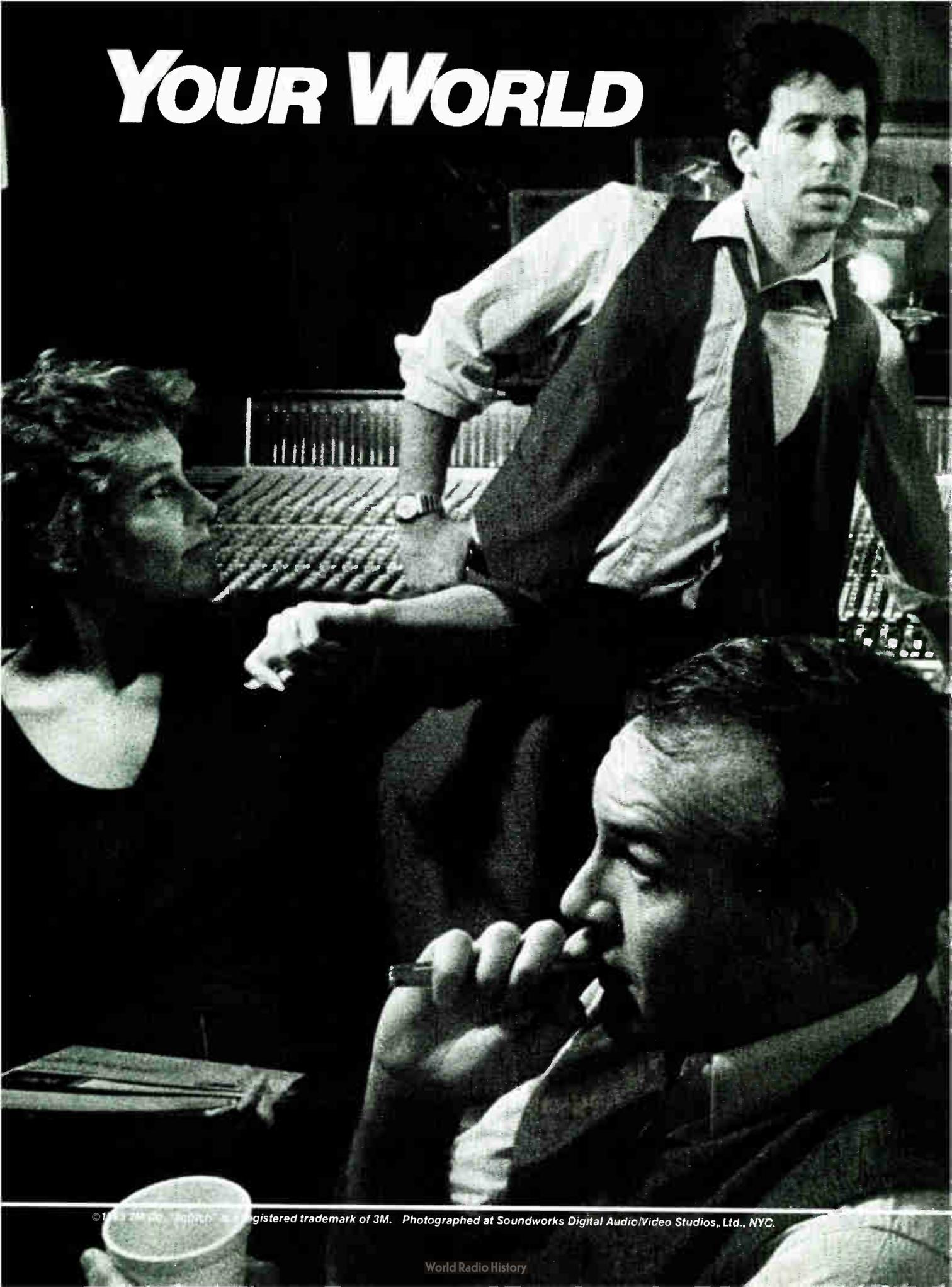
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World Radio History



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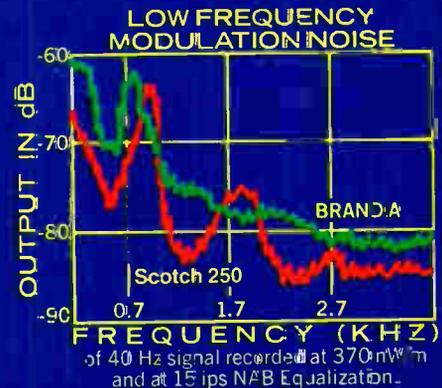
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The EMT 251 is an improved, second-generation version of the EMT 250.

towards building a producible digital reverberator. Many experts still felt that such a thing was not economically feasible, so EMT eased themselves into the water, but they went with it. "As convincing as my argument was, I still could have been completely wrong," admits Blesser. "Fortunately, I wasn't."

At the 1976 Audio Engineering Society convention in Zurich, Switzerland, the EMT 250 Digital Reverberator was revealed to a surprised audience. It carried the substantial price tag of nearly \$20,000, but it caused quite a stir. In the next few years EMT would develop this machine into the improved 251 and the stripped-down 244. But the cat was out of the bag. "Once the 250 came out, it proved to other people that there existed a solution, so a number of other people sort of went off in the corner and started playing in that sandbox," says Blesser.

As the 250 was coming to maturity, David Griesinger was climbing into the sandbox with no knowledge of anyone else working on the same ideas. His background and approach were somewhat different from Blesser's or Schroeder's although, like both of them, he was an accomplished scientist. "I've always been a recording engineer as well as a physicist," states Griesinger, who is also a musician. "As a classical music recording engineer I got very interested in the whole problem of concert hall acoustics in that an acoustic environment that might be really good for listening to a piece is not necessarily good for recording it. I got interested in that kind of problem: what made good recording acoustics?" A great deal of that interest was out of necessity: many of the halls in which Griesinger recorded had very poor recording acoustics, which led to a tendency to minimize the bad effects of the hall when recording and attempt to enhance it later with artificial reverberation.

Griesinger explored spring and plate reverbs and found them wanting in naturalness. He even investigated into experiments with multiple-head tape systems, and tried using good sounding churches as reverb chambers. "In 1976 I decided that the time was ripe, in terms of electronic hardware. Good recording acoustics could possibly be duplicated electronically." He combed ten years or so of AES Journals looking for articles on digital simulation of room acoustics, and finding none, set about making his own machine. "I just got myself a great big board, put power supplies at one end, put circuit boards on it, and wired them together. That was my breadboard."

By current standards, Griesinger's first machine was crude. Audio was digitized and placed into a memory, then tapped at about a hundred points,



converted to analog and scaled with analog multipliers, summed together, and output. It was supposed to be an improvement on the multiple-head tape idea, but the design's single feedback path made regular iterations which were quite audible. A number of smaller circulating loops sounded better, but suddenly there was a lot more digital arithmetic and memory access needed, and the hardware got more complex.

"You have to envision this breadboard as slowly growing," he describes. "More and more boards kept getting added to it. I added a hardware multiplier, coefficient storer, and a much more complicated processor capable of taking things from memory, processing them, and adding them back in to memory in a relatively free form way. That was my second generation of processor."

Griesinger remained unaware of Schroeder's and Blesser's work until a chance encounter with Blesser that summer. He went back and found the papers (Schroeder's papers had been published earlier than the ten years that Griesinger had scoured), but didn't like the sound of Schroeder's algorithms. "I wasn't so much interested in making things sound like they were in rooms; I was interested in making a kind of ambient sound that you associate with classical music. I wanted to make this thing sound like big, open halls, not like cramped, tight, nasty-

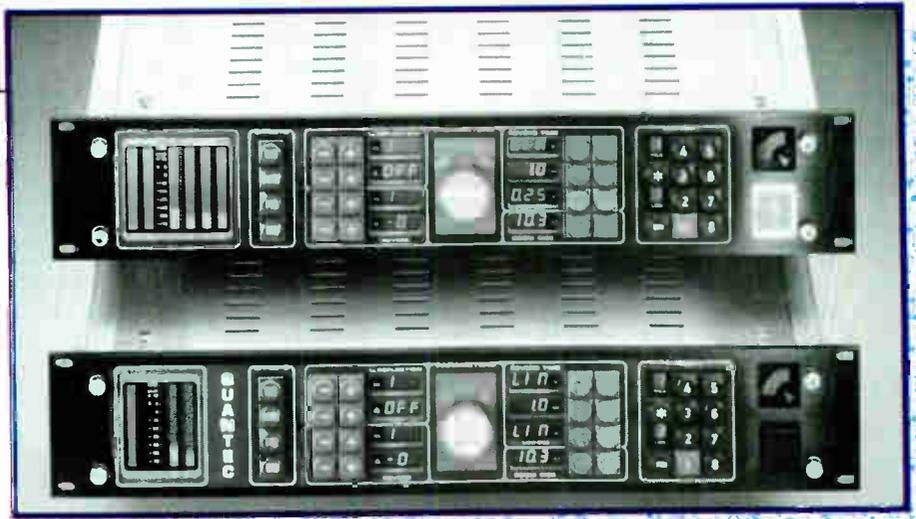
sounding spaces."

But Griesinger took Schroeder's concepts and eventually found an algorithm which appealed to him. Then he went to the AES convention and saw the EMT 250. The breadboard was scrapped and a more reliable version was built into a blue box. This version was half S100 microcomputer system (he taught himself about the Z80), and half reverberation processor. Program storage started out on paper tape, but soon graduated to cassette, disk, and ROM. This box was a large improvement, as the breadboard had no microprocessor, and Griesinger decided that it was time to do something with his invention. Spotting Francis Lee at an AES section meeting, Griesinger approached him. "I said, 'You're Francis Lee and I have an invention you probably are interested in.' He said that he didn't think he was interested in any inventions, but what was it? I described it to him and he said, 'Well, that's very nice,' and went away." Lee quickly bought the invention and Lexicon was in the digital reverb business.

Griesinger collaborated on the design of the new version, and asked that they make a control panel to replace the keyboard input method. This started the whole idea of remote control heads for digital reverbs. Lexicon introduced the 224 Digital Reverberator in 1978 at half the cost of the EMT. The market was about to erupt.

Quantec Room Simulators (QRS)
*top, stereo input; bottom, mono
input version.*

Although Quad Eight had announced and shown a reverb since shortly after the EMT, it never sounded right and never came to market. But others soon joined the fray. Christopher Moore, an ex-Lexicon engineer, founded Ursa Major and released the Space Station, a processor with a stripped-down algorithm which could produce convincing ambience effects, though not smooth reverberation, and cost only a fraction of the EMT and Lexicon units. Sony introduced a digital reverb and went through a lengthy process of showing the machine, listening to the comments, and revising the design. AMS from Great Britain brought out the RMX 16, a unit with 16-bit A/D resolution. In Germany, Wolfgang Schwarz, a musician, worked with no background in electronics and no funding to create his acoustic solution, the Quantec Room Simulator. As new companies began to throw their hats into the ring, the originators came out with second generation machines: the EMT 251, the 224X (a much souped-up version of the 224 architecture), Ursa Major's 8X32. Eventide Clockworks introduced a multi-effects processor with reverb programs, the SP2016.



All of these units were in the \$5,000 and up bracket; this stuff was still only for big studios and rich rock stars. Just last year, Yamaha showed yet another high end reverb, the REV1, which costs nearly \$12,000. But at the same time, they showed a digital reverb for under \$1,000. The R1000 certainly did not sound as good in demanding applications as the higher-priced spread, but Yamaha had thrown down the price barrier gauntlet.

The first to pick it up was MXR,

a company which had progressed from making very durable guitar effects to producing professional rack-mount signal processing. The 01 reverb sounded pretty convincing for \$1,500. Lexicon responded with the PCM60 which presented 16-bit audio and Griesinger algorithms for the same price. Even German PA giant Dynacord got into the act. Sealing the competition at that level, Roland showed a sophisticated-looking unit at the February '85 NAMM show for, that's right, \$1,500. The next jump down in

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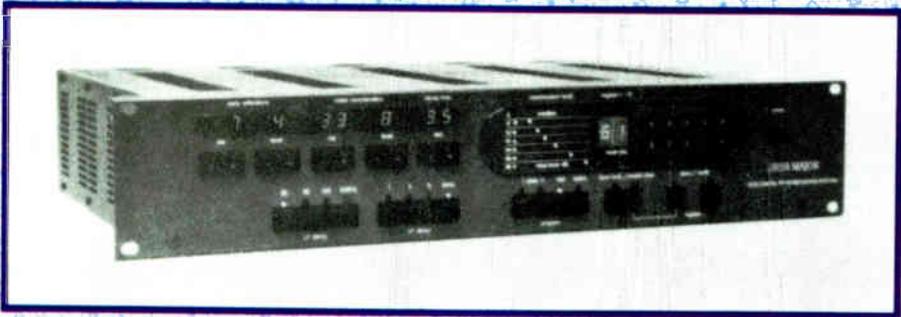
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(Left) Lexicon 224X with LARC remote console.

(Below left) Ursa Major 8X32.

(Below) Yamaha REV1 remote control unit.



price is already on the way. Keith Barr, one of the original principals of MXR has split off (the other partners formed ART and continue to make and improve the 01) and formed Alesis to manufacture his latest reverb which will sell in the under \$800 range.

Meanwhile, a middle ground has formed around the \$5,000 mark. Lexicon brought out the 200 after the 224X, Klark-Teknik has their DN780, and Quantec has a mono input version of its QRS which is in the same ballpark.

That's a heck of a lot of reverbs, and it is doubtful that we have seen the last. There are many shared concepts in these units, but in the final analysis the differences in sound quality and operation are as varied as the motivations of their creators. For example, some of these units have stereo inputs and some have mono, but the difference is not strictly cost-related. The Yamaha REV1 has a mono input because the Yamaha design team was motivated by actual room simulation, where the sound usually comes from a single point source. Of course, this does not hold true for something like a symphony orchestra or for processing of a stereo tape, but the mono input reduces the processor's overhead, allowing it to generate denser, more complex reverb than the same hardware with two inputs. Another difference is in the amount of control that the user has access to.

Some units, such as the Quantec or the Ursa Major 8X32 show a philosophy that it is easier to get a desired sound quickly with a carefully selected and limited set of parameters, while the top shelf 224XL and REV1 offer control over dozens of parameters to allow very precise adjustment for users with highly developed ears and sophisticated applications. Remote control heads vary from those which are duplications of the front panel controls to those which are the only controls. Some remote heads are also used for program storage, allowing portability of programs from one unit to another of the same type. The Quantec remote control is even wireless (infrared).

Most of the digital reverbs available give some sort of control of decay time, often some scaling of that for low and mid/high frequencies, a control for room size (often the most powerful control on the unit because of the number of parameters it alters), some control over early reflections, and often a selection of different programs simulating natural and artificial reverbs of various types.

The sound, of course, is the final determinant of a digital reverb's usefulness in a given situation. Developing "ears" for reverb is a subtle art, and evaluating different units should combine this ability with personal taste. There are a few revealing tests which can be done to hear the characteristics of a particular machine. One is to put a single click into

it and listen for density and smoothness of the decay. Another is to put a tone burst or white noise in and listen for coloration. It may seem that these are rather unmusical evaluations, but in the context of a plucked guitar or the onset of a flute these types of signals are quite common and will show up sooner or later.

Besides better sound and lower prices, there are several other intriguing possibilities we can hope to see in new machines: External computer control of parameters and programs, digital I/O (to allow a reverb to be one block of a coordinated digital audio system), and greater integration of the required hardware (hopefully leading to digital reverb on-board musical instruments and mixing consoles).

In Part 2 of this series, Sony Corporation's Gary Hall will take a closer look at implementation of digital reverberation, and Part 3 will be a Digital Reverberation Roundtable: a discussion between a number of the leading figures in the field on some of the significant issues in digital reverb.

The late Twentieth Century continues to bring wondrous changes, and digital reverb is certainly one of them. An intimate understanding of these boxes can bring a user one giant step closer to getting a sound directly from the "mind's ear" onto tape, and that's a miracle we're all working towards. ■

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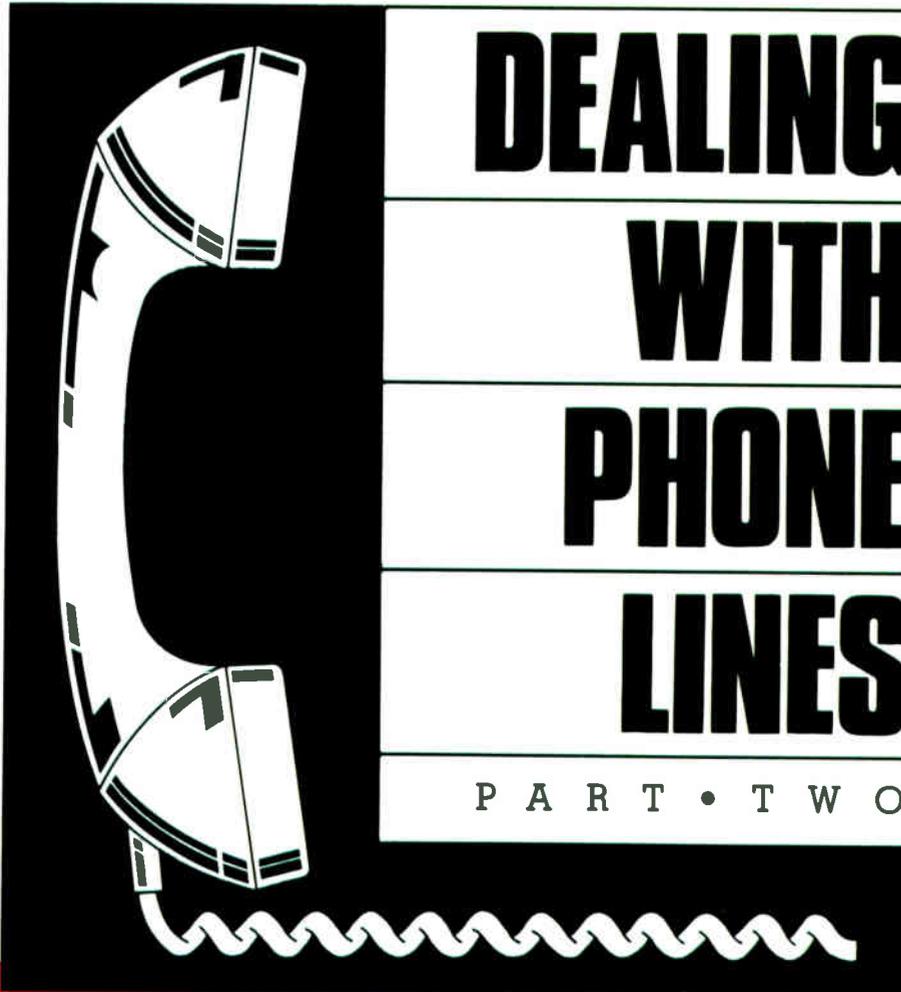
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THE EFFECTS OF DIVESTITURE ON "PRIVATE LINES"

by Skip Pizzi

The breakup of the Bell System which took place January 1, 1984, as a result of the settlement of the U.S. Department of Justice's antitrust case against AT&T, created a cosmic vortex of confusion. We've all felt the changes in our home and business telephone services and bills. However, broadcast circuits (grouped among the "private lines" in Telco parlance) have been functioning essentially under a status quo of pre-divestiture operation, due to the FCC's repeated rejection of proposed post-divestiture "tariffs" (service & rate schedules) submitted by AT&T and the local operating companies.

One effect of divestiture that *has* already occurred for private lines is the personnel change at the phone companies. By and large, most of that dust has settled, so although your former contacts may have been replaced when di-

vestiture took place, this next phase should not change them again. It is worth developing as good a rapport as possible with any new contacts who are now in place. But we can expect some further confusion when the new rates go into effect, because there will be procedural as well as price changes. The same single circuit you have been using for years may now be reclassified as two or three different billing items, each one of which may cost more than the whole line did previously. And you probably will still be using the identical pair of wires you always have been.

By mid-January 1985 the FCC was still considering the *third* round of tariffs submitted by AT&T and the local operating companies, since the first two were declared unlawful by the commission and thereby rejected (among the reasons, proposed rate increases were too steep). Nevertheless, what can be expected are across-the-board rate hikes, along with different billing schemes for most services. (The new tariffs may be in effect by the time you read this, so contact your local telephone company, and AT&T in New York or Los Angeles for specific, current information.)

To understand the basics of post-divestiture private line operation, it is im-

portant to understand the concept of LATA's, Local Access and Transport Areas. These LATA's are the boundaries of operation for each of the local operating companies. These companies were formed when the Bell System was broken up and AT&T divested itself of its local telephone operations. (AT&T kept its Long Lines, Western Electric (manufacturing), and Bell Labs (R & D) divisions.) Along with the former Bell System, there are several areas that have always been served by independent, non-Bell companies (such as GTE, Continental and the like), and these also have been assigned LATA's corresponding to their former operating areas.

THE NEW ORDER (OR "I HOPE YOU LIKE ALPHABET SOUP")

Broadcast circuits within a LATA (the old "LC," now called "intra-LATA service") will operate technically as before, but with different billing mechanisms. Instead of a single, fixed rate LC charge, the line will be billed as shown in Figure 1a. The part of the circuit from the remote site to the nearest Telco "Toll" office (now known as a "Serving Wire Center"—SWC) is called a "Channel Termination" (CT). The line from this SWC to the radio station's studio is also billed as a CT. Proposed CT rates range up to almost 300 percent higher than the corresponding old LC rates, but as you can see, each intraLATA circuit is billed as *two CT's*, so actual costs for these lines will be twice that. In other words, most local channels will experience at least 100 percent increases, with some (mostly 15 kHz services) skyrocketing nearly 600 percent. There may also be a "Channel Mileage" (CM) charge for local circuits in which the SWC for the remote site is different from the studio's SWC, over and above the two (fixed rate) CT charges (See Figure 1b). The air-mile distance between the two SWC's (also called "rate centers") is tacked on at "X" dollars/mile.

Circuits which extend across a LATA boundary (the old "IXC," now "interLATA service") get even more involved. Your local company will charge you a CT for your connection to their nearest SWC and then another CT for a connection from the SWC to the AT&T serving office (SO) in that LATA. Those two circuits are called "access" to the AT&T network. AT&T then provides the inter-office circuit (IOC) between that SO and their SO in the LATA where the remote site is. The local exchange company (LEC) for that LATA provides "access" from the AT&T SO to the remote site. "Access" charges may vary depending on the distance between SO and SWC in each LATA. See Figure 2.

Multi-point networking set-ups follow this same basic building-block and "access" billing approach, with addi-

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LEGEND FOR FIGURES 1 AND 2:

CM—Channel Mileage (per air mile basis)
 CT—Channel Termination (fixed rate)
 IOC—AT&T's Interoffice Connection (mileage rate)
 LATA—Local Access & Transport Area (service boundary)
 LEC—Local Exchange Company (local Telco)
 POC—Program Operating Center (old name for Telco "Toll")
 SO—AT&T's Serving Office (also known as "POP"—Point of Presence)
 SWC—Serving Wire Center (New name for "Toll")



FIG 1A: Typical intraLATA service.

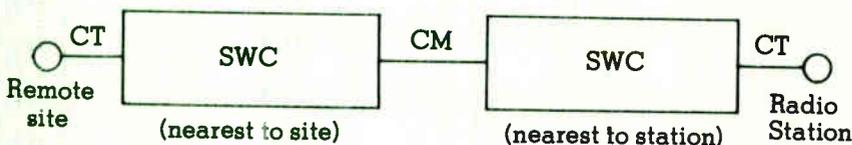


FIG 1B: IntraLATA service where site and radio station are in different "rate centers" of the same local exchange company.

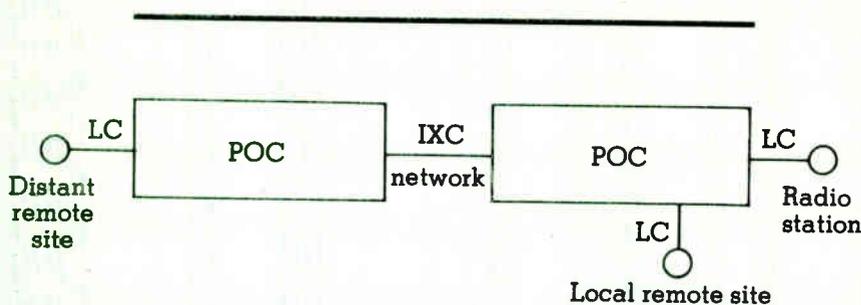


FIG 2A: Typical pre-divestiture arrangement for distant & local remotes.

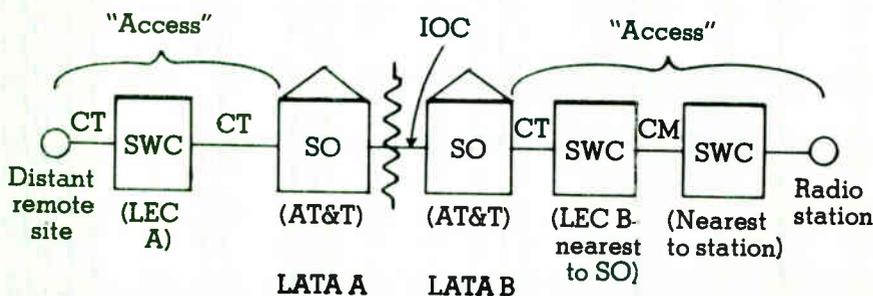


FIG 2B: Typical (post-divestiture) intraLATA service. In this example, access charges in LATA B will be higher than in LATA A, since radio station is in a different rate center of LEC-B than AT&T's SO.

tional "secondary service functions" by AT&T for switching, direction-reversal, monitoring, etc.

INSTALLATION

Installation charges are likely to rise even more drastically than line charges—proposals range from at least 100 percent to greater than 1,000 percent increases. Another proposed change is for part-time services. They would be billed on a *daily* (midnight to midnight) rather than an hourly basis, and in most cases, the daily rate would be 1/10 of the full time rate. (The full time rate is a monthly figure for 24 hour/day, 7 day/week service. PT service will no longer "top-out," meaning it could cost *more* than FT service for the same period. The assumption that temporary service of greater than 10 days should be ordered as full-time service, however, may not always be wise, since a new FT service order may incur massive one-time "special construction" charges that the PT service might not require.

THE BOTTOM LINE

The reason for all these price increases is not pure corporate greed, but follows the history of the regular, dial-up telephone system's divestiture, where local rates had always been subsidized by long distance revenues, when Ma Bell was one big happy family. Now that the local companies are separate entities from the long distance network, local telephone rates have gone up and long distance charges have gone down, the latter spurred on by competition from other L.D. networks. (Divestiture also required much duplication of staff functions at AT&T & the Local Exchange Companies (LEC's), contributing further to rate increases.) When this divestiture's effects finally take place for private lines, the same will hold true, with the exception of the *competition* aspect for long distance (interLATA) service. Divestiture has still left us with a monopoly for long distance terrestrial program lines. So, long distance lines have no competitive incentive to come down in price, while local rates are forced up to their true costs since their subsidies have been removed. (Nevertheless, the mileage-sensitive charges proposed by most of the local companies (CM's) and AT&T (IOC's) are lower than the corresponding pre-divestiture rates.) But one reason proposed for the fact that AT&T remains the sole provider of terrestrial long-distance private lines is that this may not be a very profitable part of the telecommunications business. A.J. Walrath, formerly of AT&T, now an independent communications consultant, says, "Predivestiture rates were a bargain. No *profitable* service provided by the former Bell System Companies has not attracted competition. I think the alert broadcaster



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would realize that [post-divestiture] rate increases are unavoidable and to be expected."

As for ordering interLATA service, this too remains up in the air at press time, but what seems likely is that a customer can either order all the separate pieces of a circuit from the respective companies (LECs for access on both ends, and AT&T (NY or LA) for the (IOC), or you can have AT&T handle the whole thing, or any combination thereof. AT&T may then pay the access charges to the LECs and bill you for it along with your IOC charges (if current regulations remain, they can't tack on any profit to the access fees), or they may act as your "agent" in booking the access lines, for

which you are then billed directly by the LECs. AT&T is then paid for just the IOC charge. This may change, with "service charges" for such package-deals from AT&T being possible.

The rate structures proposed by the various LECs in the current tariffs are incredibly diverse, and some are truly byzantine in their complexity. (Most of the smaller LECs have filed a uniform tariff under their "umbrella" organization, the National Exchange Carriers Association (NECA), but many others have filed independently, so the FCC has been considering literally dozens of separate tariffs. Consult your LEC for its new rates.) A.J. Walrath feels that, "Perhaps the reasoning behind this apparent mad-

ness is that the new structure will be perceived as too complex, causing radio customers to ignore rate comparisons and just order (all their interLATA services) from AT&T."

THE DECISION

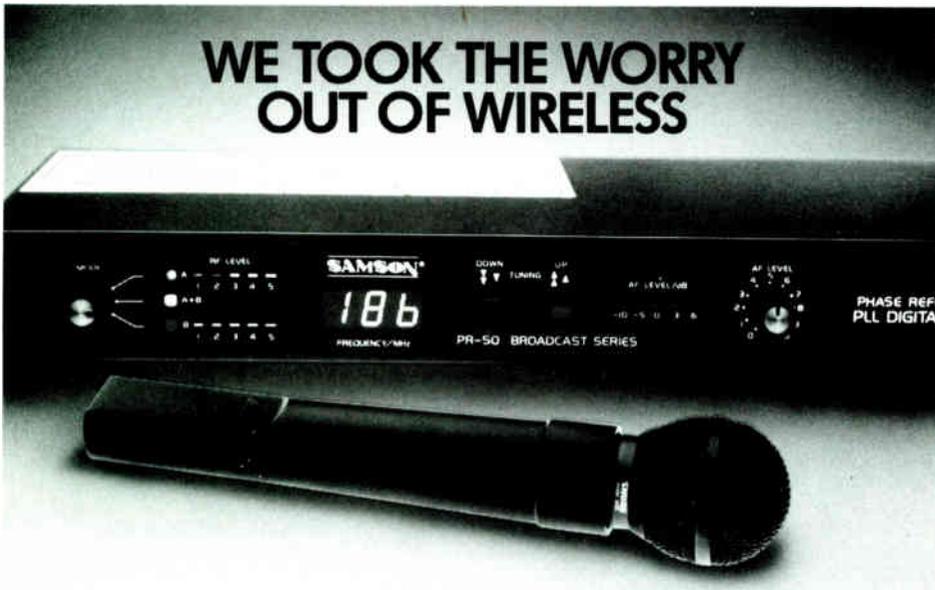
Regarding all this uncertainty, it is really just a matter of time. The FCC wants to clear up this mess ASAP, and plans to in the first half of 1985. But it may drag on if agreements cannot be reached. The FCC may also mandate specific changes that the parties involved must make in their respective tariffs before they will be allowed to go into effect. Or they may send the tariffs back for another (fourth) round. Or they might decide to let this third round go through as is. Then again, they may suspend things in this status quo indefinitely. (If all this seems absurdly complicated, be assured that I am radically *simplifying* things here.) Most observers expect some resolution by May, 1985, but the issues and players are so varied and complex that no one really knows what will happen. AT&T especially would like an early resolution, since they are currently having to absorb access charges from the LECs without being able to pass them on to customers until the new private-line tariffs are allowed.

A FINAL WORD

It must be noted that since divestiture, audio services from Telco have not significantly degraded. Although the original divestiture's confusion and flux have made a nightmare at times of the administrative processes, and much customer patience and adjustment has been necessary, both the locals and AT&T have kept up with orders and maintained technical quality to pre-divestiture levels for the most part, which is a claim that much of the rest of post-divestiture Telco cannot make. The engineering side of these companies has made the seemingly impossible happen. Yet, there remains a world of difference between the pre- and post-divestiture Telcos (or the former and the LATA organizations—sorry, I couldn't resist.) It remains to be seen how the costs of these changes will effect the broadcasting world and its audience. Meanwhile, it is the radio engineer's duty to keep up with the changes (while management figures out how to pay the bigger tab) as we continue to reach out and broadcast to someone.

ACKNOWLEDGEMENTS

Thanks to NPR's John Kean and Norb Gallery for help in preparing this article, and to O.J. Connell for research. Thanks also to A.J. Walrath of Walrath Associates for invaluable assistance in wading through the morass of divestiture and its effects, and to Geri Calkins for editorial assistance. ■



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3D AUDIO

The Strange New World of Hugo Zuccarelli

by Mr. Bonzai

Listening to a Holophonic™ recording is like having ears in the back of your head—and on top, below and all around. There is uncanny depth perception and directionality. When a match is struck near your ear, you jump. In the demonstration I was given, I could clearly follow the footsteps of a recorded ghost walking in a full circle around me. The illusion of having my hair cut was completely believable—which is quite a feat, considering I'm bald. In short, the Holophonic recording process is stunning. The imagination does cartwheels with the possibilities.

My first encounter with Holophonics and my introduction to the inventor, Hugo Zuccarelli, took place at The Record Plant's Studio M on the Paramount movie lot. Hugo was recording an orchestra under the direction of John

Williams and giving a demonstration to Steven Spielberg. As Olympic theme music boomed out of the control room monitors I noticed a curious mannequin head in front of the musicians, shrouded in mystery and what looked like a sweat shirt with a hood.

A few months later, Holophonics was the hot ticket at the AES in New York. It was strictly SRO as engineers and audiophiles awaited their turn to enter the darkened Holophonics suite. When Holophonics joined forces with the recently launched Discovery Music Network, I arranged for another demonstration and met with Hugo and his associates at their Los Angeles headquarters.

This time I was given the headphone demonstration, a playback on modest speakers in a normal office setting, a playback in a prototype movie theater seat, and a mono playback from a tiny TV speaker. The effect was uniformly convincing and startling. I was not only impressed with Hugo's sincerity,

but also with his enthusiasm as he pulled me around the room to show me that as I changed my position the sounds remained in the same location. The audio simulation of reality—a pebble bouncing across the room—was analogous to the visual simulation of reality created by holograms.

There has been good and bad press regarding Holophonics. This article includes a rather scathing criticism by Barry Fox, a reply by Larry Phillips, and the results of my conversation with Hugo and his associates. Regardless of the eventual impact that Holophonics may have on the audio industry, I applaud a group that has the chutzpah to not only challenge our methods of recording, but also the established theory of hearing itself.

Our cast of characters includes Hugo (the inventor and owner of the patents pending), the licensees and partners in Zuccarelli Communications: Brian Adams, Gay Harwin and Ken Caillat



The Holophonics team: (L to R) Gay Harwin, Ken Caillat, Hugo Zuccarelli, Larry Phillips, and Brian Adams.

THE BACKGROUND TO A MYSTERY FROM EUROPE

by Barry Fox

Toward the end of 1982 the popular and music press in Britain started to run enthusiastic stories about a mysterious new sound reproduction system, based on an equally mysterious new theory of hearing and even more mysterious secret technology. "Stand by for Holophonic sound, which is set to be one of the major technological breakthroughs of the '80s" wrote one wide-eyed innocent pop journalist in Britain. "The effect is staggering." "Superstar Paul McCartney and giant Japanese hi-fi firms have been beating a path to the door of the inventor," screamed

—PAGE 46, EUROPE

A REPLY FROM THE U.S. OFFICE

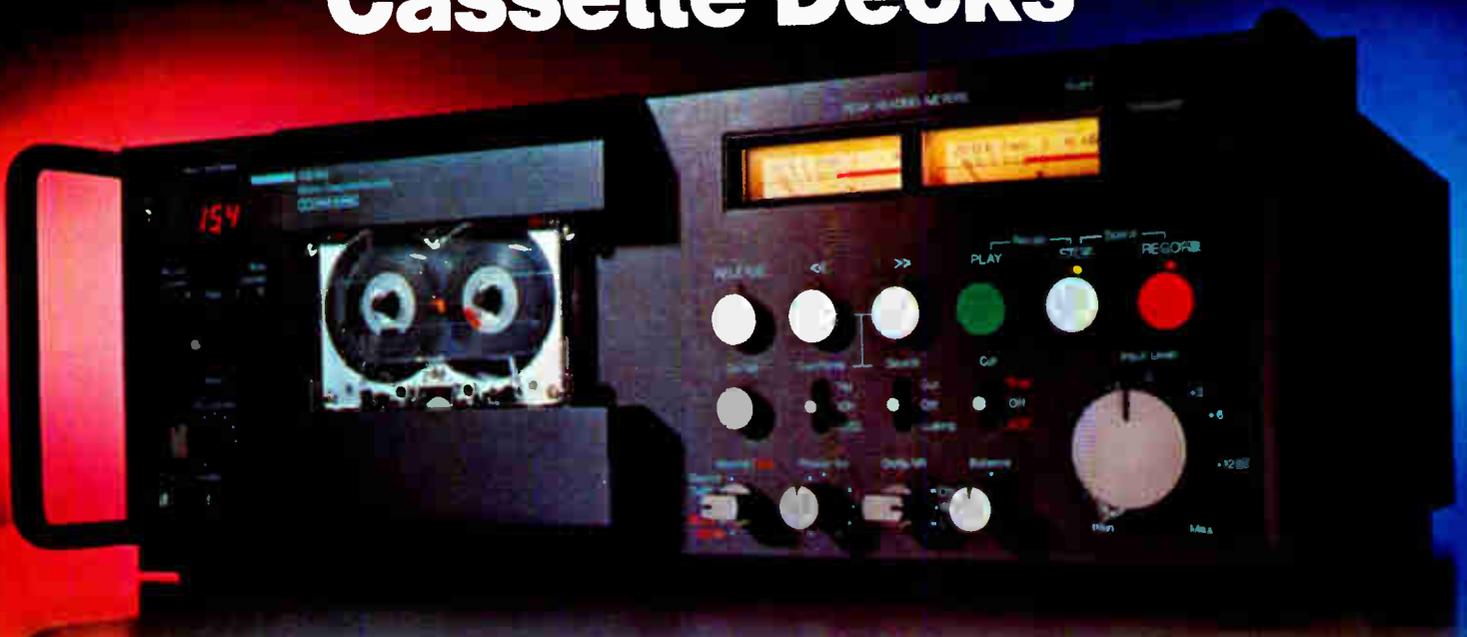
by Larry Phillips

One has to love the British Press. In many ways they exemplify the national character. They have a capacity for rigor, they question authority and they love a mystery. In hot pursuit of all those, they can be vicious and sometimes exceedingly graceful.

I confess that the *Economist* is the only newsweekly I bother to read, and when the BBC does us all a favor and broadcasts worldwide, I'll buy a satellite dish. Barry Fox is an example of why.

—PAGE 46, U.S.

The Professional Cassette Decks



Tandberg's new Series TCD 900 is a superior and cost-efficient alternative to the (unprofessional) practice of using inferior home tape decks for Professional applications. These new Professional Cassette Decks offer unparalleled sound capability, advanced mechanical and electronic design, plus extraordinary control flexibility based on an 8-Bit microprocessor with 32K of EPROM memory. These are the type of quality products for which Tandberg is well known, and are designed and built in keeping with the company's more than 50-year reputation for quality, performance and long-term owner loyalty.

TCD 910 Master Cassette Recorder

TCD 910 is designed to replace both reel-to-reel and cartridge machines in many applications, and is capable of producing tapes at sound and silence levels beyond that required by broadcast and studio requirements. Combined with its extremely

accurate real time counter and sophisticated autolocator functions, this machine is truly a multipurpose cassette recorder.

Features include:

- High precision, rugged 4 motor tape transport with direct load, instant access cassette positioning.
- Discrete three head system with built-in record azimuth adjustment is combined with Tandberg's proprietary Active Phase Correction Circuitry, exclusive discrete, wide band electronics, plus the highly regarded Actilinear II and Dynec systems. In addition, the latest generation Dolby B and C noise reduction processors are utilized.
- All audio circuitry uses high spec polypropylene capacitors and metal film resistors.
- Built-in autolocator with 10 cue points in real time, auto cut search and cue/review.
- Auto stop and/or rewind after cut.
- Electronically balanced XLR input/output connectors.
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current adjustment, with built-in oscillators.

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- Wide range of options and accessories.

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—FROM PAGE 47, U.S.

ple claim to hear Holophonic recordings with full clarity. Blind people report intense visualization and are equally deeply moved.

After AES, we presented Holophonics at a video convention, at an airline convention, and at CES in conjunction with Alpine. All venues generated the same sense of excitement and the same question: when can we get it and how much does it cost?

We completed our market testing in January of this year and we are now in the final stages of capital funding.

A prime purpose of the funding is to bring rigorous research to the Holophonic *effect*, not just to the recording device. Our public introduction of the theory will be in the form of a paper at the AES either in October in N.Y. or next Spring in Europe. Having acquired the requisite staff, we plan to present the same theory to other learned societies in the life sciences, and to explore opportunities for Holophonic products there, as well.

We have a company creed which guides our approach to Holophonics. It says, in part, "Idealism and capitalism are natural allies. Wisdom is the ability to keep them in balance." Beyond our desire to prosper, is our desire to perform a genuine service to the audio industry and electronic media in general. Our conversations with major Japanese and American companies, both hardware and media, indicate that Holophonics research can bridge the gap between technology and human perceptual research.

A great body of knowledge exists in both areas but manufacturers tend to research technology and pay little attention to human perception. We deal in amplitude and frequency and phase if we can't avoid it. Human perception is mystified as "psychoacoustics" and left to the life sciences to deal with. People involved in perceptual research (as Hugo was) tend to know almost nothing about electronic media. Certainly they rarely make records or publish songs or try to sell products.

Our Holophonic research labs are dedicated to combining those two great bodies of knowledge to the benefit of both. Our budget calls for funding this effort internally, but there is much interest in a shared pool of research among major companies committed to electronic media technology.

And there is much that could come from a shared alliance between electronic media technology and life science technology. If Holophonics is to be the catalyst for such a lofty purpose, we must acquire the rigor and discipline Mr. Fox asks of us.

The issue of whether Holophonics is more than binaural sound has been addressed by more than two thousand personal demonstrations to our peers in the U.S. electronic media industry with clearly positive results. The conclusion is that Holophonics translates from headphones to loudspeakers and from stereo to mono—which binaural never has done.

This is a very deliberate approach and quite a different scenario from Holophonics in Europe—which was confusing at best. We want the public presentation of Hugo's theory and the Holophonic technology which implements it to be equally deliberate. Discussion of either in any significant depth in print needs to wait for publication of the paper.

However, we will issue a public position paper which looks at the effect on the art and the media of Holophonic concepts well before that technical paper.

We're working on it, Barry!!! ■

—FROM PAGE 47, EUROPE

In the mid-'70s the public was interested in quadraphonics but did not want to use four loudspeakers. So surround sound from stereo headphones seemed attractive, especially as the market for low-cost, high-fidelity cans was booming. The BBC research department in London then built its own dummy heads (actually they ended up using plastic disks) and BBC radio stations broadcast dramas and documentaries recorded with the technique. The first, in February 1977, was a documentary about life on an oil rig drilling for black gold in the British North Sea. Around the same time, Swedish radio broadcast a binaural stereo program which depicted life as heard by the ears of a blind person. Apart from the occasional further documentary (one giving a feel for what it is like to be a prisoner on the run) nothing much happened.

In the '70s, binaural suffered from two snags, one soluble and one insoluble. Any background noise, for instance tape hiss or disk crackle, proves very distracting when heard through headphones. The advent of low cost digital recorders solved this problem, with the bonus of very wide dynamic range and impressive transient response. The insoluble snag is that good binaural stereo recordings are not mono compatible and they produce only very poor muddled stereo through an ordinary loudspeaker system.

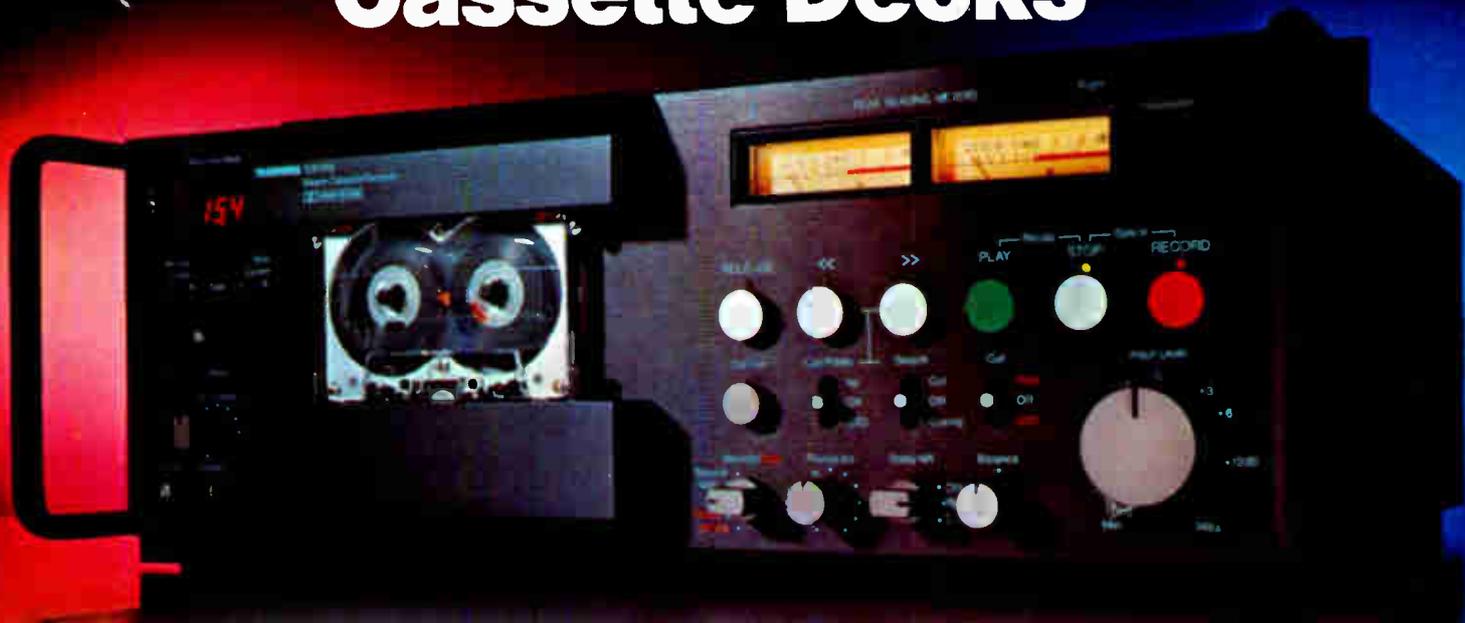
There is also the added difficulty, which may or may not be soluble, that dummy head recordings seldom create a firm image at the center front. Usually the image is strong at the sides and rear, with front sound folding also to the rear. Often dummy head demo recordings get around this by reproducing sounds which move only from side to side, like an aircraft taking off, or move around the head in a circle, so that the brain is fooled into extrapolating a 360 degree tour of motion. On stationary sounds, intended to be reproduced at the front, some disks (like the Sennheiser demo) use a commentator who casually tells the listener where the sound is supposed to be coming from!

Hugo Zuccarelli filed a patent application in Europe (number 50 100) which shows a dummy head, and waffles at length about nothing very specific; for instance it talks about using a wig of hair to improve reproduction. Zuccarelli and his colleague Mike King subsequently told me that the patent was not relevant and didn't contain vital information. As it was filed in a string of European countries (an expensive business) this obviously raises the question why file it at all if the patent's legal monopoly is to be limited by failure to disclose vital information essential for making the invention work.

I bit the bullet and met Zuccarelli when others (apparently with level heads) started following the Pied Piper trail. Newspaper reports quoted support from Dr. Martin Rosenberg of a London hospital. A British TV program which popularizes science "investigated" Holophonics and told the press that highly respected audio consultant Angus McKenzie said the effect was "absolutely remarkable." The editor of the British trade publication *Professional Video* wrote an editorial saying he had heard the system and "considered it a major step forward in sound reproduction against which quadrophony and the digital audio disk pale into insignificance." Even *The Times* joined in, albeit with a second-hand comment. "Those who have heard Zuccarelli's trials" reported *The Times'* weekly series on science research "were impressed by the illusion not only of multi-directional sound but of height and depth as well."

—PAGE 50A, BOTTOM

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(former Fleetwood Mac producer), and Larry Phillips, and firm's marketing strategist. Phillips has been an industry heavyweight for many years and was instrumental in the professional audio divisions of JBL, Tascam and Tannoy. He also joined with George Augspurger, Tom Hidley and Dr. Paul Boner in the formation of Perception, Inc., which preceded such auspicious ventures as Westlake Audio. Larry Phillips also has the distinction of having co-produced the JBL gold record *Sessions*, which long ago explained multitrack techniques to record

consumers.

During our conversation I learned of the basic differences between Hugo's theory of hearing and the established beliefs. The human transducers that translate physical energy (sound) to electrical energy (nerve transmission) are the tiny hair-like cells, or cilia contained in the inner ear. Larry likened their activity to digital recording, as they only register on and off signals. Previous theories of hearing state that the cilia are frequency-dependent, each detecting different frequencies and operating like

the keys on a piano. Hugo's theory is that our hearing results from the overall relationship among these cells.

According to Hugo, contained within the inner ear is an audio hologram, a picture of the outside world. This is analyzed by the brain and accounts for what we hear. Rather than recording sound pressure to recreate audio information, the Holophonic process encodes tape with the information which is perceived by the brain from the inner ear's view of the outside world.

The process of Holophonic re-

—PAGE 50A, TOP

—FROM PAGE 44, U.S.

All his journalistic instincts are in excellent working order. Hugo Zuccarelli and Holophonics™ have been, indeed, an enigma shrouded in a mystery. It's a problem for us, and Mr. Fox has graciously offered us an opportunity to clarify the issues. We express our appreciation to him, to Mr. Bonzai and to *Mix Magazine*.

The mystery is easy enough to clear up—if we resort to some melodrama. One day, we're going to do a movie of Hugo's life; it's worthy of Francis Ford Coppola.

Imagine that you're a young, recently married graduate student on a scholarship in Italy where you finally develop a new insight on how the human hearing process works. It is so far removed from accepted theory that you build a recording device which replicates it in order to prove your theory. But now you discover the economic implications of the device itself. You're highly idealistic and keenly aware of the benefit to mankind. But let's say, just to complicate the plot, that you grew up in Argentina and you're hyper-aware of the possibility of being ripped off by big business. And you're convinced that would not serve mankind well.

So you drop out of school and move with your wife to London. Can anyone imagine what it felt like to be an Argentinian living in London over the last few years? The Falklands war was the first global media event of its kind. Hugo's experience in London had to be unique. Spanish as his national language, an Italian family heritage, and a full measure of famed Latin passion has to be thrown into this rich brew of intrigue. To add the final ingredient, in an attempt to avoid rip-off and manipulation you stay away from big business and approach the entertainment industry instead!

You see what I mean about Mr. Fox's instinct? This plot probably would play better as a BBC series than as a movie. Certainly, it's not surprising that Hugo's contacts with the press, scholarly authority and the music world lacked consistency and clarity. His English is much better now, but trying to convey a new concept in a language you're just learning is tough enough: trying to protect your invention while dealing with the patent process certainly complicates it. Add all the other stuff, and the mystery was inevitable.

In the midst of the confusion, Hugo was fortunate to meet Ken Caillat, co-producer of Fleetwood Mac. In October of 1983, Ken formed a company in Los Angeles called Zuccarelli Communications to develop and implement Holophonic technology. For a full year, Zuccarelli Communications has tested the technology across all forms of media, from records to radio to television; in motion pictures, video and satellite transmission. They also

—PAGE 47, U.S.

—FROM PAGE 44, EUROPE

A British daily newspaper. "The system, described as 3-D for the ears may be used in the sequel to the film *2001—A Space Odyssey*."

What these journalists, and others from what appeared to be a carefully selected list of people with no technical expertise, had heard was a demonstration of sound effects replayed through headphones. As none of them had previously heard good demonstrations of dummy head or binaural stereo, the hundred-year-old technique which is regularly re-invented and discarded as impractical by audio engineers, it was not surprising that they freaked out. Anyone hearing good dummy-head stereo for the first time is in for a surprise. At the Chicago Museum of Science and Technology back in the '30s, Bell Labs used to shock audiences daily by playing them live binaural sound through headphones. A Bell employee would whisper, "Would you mind moving a little to your right" into the microphones of a dummy head which directly fed a room full of headphones. Like a field of corn, everyone wearing the phones swayed to the right.

The newspaper puff continued through 1983, fuelled by reports that the inventor was another mystery: an Italian by the name of Hugo Zuccarelli, who had been born in Argentina and would not sell his secret to anyone. Instead Zuccarelli built a dummy, with a body like a Yak, christened it with the colorful name Ringo and rented it out to pop groups. Pink Floyd used it for *The Final Cut*. The bizarre British pop group Psychic TV used it on some recordings and enthusiastically piled on the mystery. "The first totally Holophonic album in the world made without using a single microphone. . . Zuccarelli wishes to keep his invention a secret but he will admit that as well as the use of conventional electronics he also uses silicon and organic fluids, not employing the uses of conventional audio signals." When I finally got to speak to Hugo Zuccarelli and his partner Mike King at their London base, they told me they had not sought publicity. Well, they could have fooled me!

The newspaper puff continued through 1983, fuelled by reports that the inventor was another mystery: an Italian by the name of Hugo Zuccarelli, who had been born in Argentina and would not sell his secret to anyone. Instead Zuccarelli built a dummy, with a body like a Yak, christened it with the colorful name Ringo and rented it out to pop groups. Pink Floyd used it for *The Final Cut*. The bizarre British pop group Psychic TV used it on some recordings and enthusiastically piled on the mystery. "The first totally Holophonic album in the world made without using a single microphone. . . Zuccarelli wishes to keep his invention a secret but he will admit that as well

—PAGE 47, EUROPE

—FROM PAGE 46, U.S.

tested the market for these media forms. They established that the technology was usable by the media and desired by the public.

And, during all that, they discovered the same phenomenon Mr. Fox reports—people respond with great emotional intensity to an audio experience which captures a greater measure of reality. As he notes, binaural sound has done that over the decades, and there's nothing new about that. But binaural sound has always remained no more than an interesting phenomenon, because it didn't translate to usage in existing media.

Even if Holophonics were no more than a form of binaural sound which did prove compatible with both stereo and mono with no adaptors, processors or special equipment anywhere in the playback chain—it would be a significant achievement in our industry. This is so because of the growth of what is called headset audio in the U.S. It's that whole category of product spawned by the Sony Walkman. Over 20 million of these sets are sold annually in the U.S., where over 50 million units exist among the population. That must equate to 100 million units world-wide. It's arguable that even binaural sound with all its problems may be an idea whose time has come, with all those people listening to pre-recorded cassette tapes via headphones.

But certainly if you could provide something more than binaural, while enhancing both stereo and mono, there is reason to take notice.

With great trepidation we presented Holophonics technology to our peers at the October '84 AES in New York. This was the critical portion of our market research. Would our peers confuse this with binaural sound? Would they see its potential? Would they even notice? Mindful of press coverage and valid criticisms from Great Britain, we were presenting our case to the jaundiced and cynical ears of the people who have watched technologies, good ideas and scams come and go over the years. We were careful to bring more rigor to our public presentation than Holophonics had previously enjoyed.

But we were, in fact, overwhelmed. For four days these hardened veterans of hype stood in lines never less than one hour, often three hours long to hear our demonstration, and invariably people came out of the demo room smiling and assuring the waiting crowd that it was worth waiting for.

Our demonstration involves spacial perception in all three axes—up/down, left/right, front/back. This is demonstrated on one speaker in mono, on two speakers in stereo and on headsets in stereo. Any other arguments notwithstanding, this sets Holophonics apart from binaural sound. And if Hugo had invented a new kind of microphone system which did only that, life would be fairly straight-forward.

However, it's important to realize that what Hugo came up with is *not* just a new invention—it is a new understanding of how the human perceptual system works. The existing concepts resulted in the microphone. Hugo's recording device does not work like a microphone, except in the sense that it functions as a transducer, and it produces some strange results.

For example, during AES, a man who claimed to have been deaf in one ear since birth was ecstatic when he left our demo rooms. He said he had heard stereo for the first time in his life—after all these years in the business. The man was clearly shaken and deeply moved. This has happened often to us—frequently hearing impaired peo-

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—FROM PAGE 46, EUROPE

as the use of conventional electronics he also uses silicon and organic fluids, not employing the uses of conventional audio signals." When I finally got to speak to Hugo Zuccarelli and his partner Mike King at their London base, they told me they had not sought publicity. Well, they could have fooled me!

I had sought out Zuccarelli simply because I had grown sick and tired of editors phoning me and wondering why I wasn't writing excited stories about Holophonics. I wasn't writing stories, I told them, because I reckoned it was just another dummy head recording system which would disappear like all the others. It's worthwhile here going off on a brief tangent to remember what dummy head recording is all about.

The concept was discovered, apparently by accident, in 1881 when Frenchman Clement Ader, who was fascinated by both aeronautics and telephony, arranged a demonstration at the Paris Exhibition of the then-new Bell telephone. He arranged a row of 80 telephone mouthpieces or transmitters across the front of the Grand Opera stage in Paris and connected them by wire to 80 ear pieces. Visitors put a receiver to each hand. To quote a contemporary report, "The sound took on a special character of relief and localization because Mr. Ader had discovered a new acoustic effect." It is that same acoustic effect that has been repeatedly re-discovered. A bit of mystery has made the latest re-discovery the most widely reported. The basic idea is simple: Two microphones, one in each ear of a human or dummy head, pick up the sound reaching its ears. This sound is colored by the baffle effect of the head. For instance one ear hears side sounds earlier and louder than the other. If the sound from each microphone is separately transmitted by wires or recorded on a two channel disk or tape, and played back through stereo headphones, the listener hears a remarkable replica of the original sound field.

An audio engineer named Bartlett Jones of Chicago re-invented and tried to patent the old idea in 1927. He envisioned a cinema with each seat equipped with a pair of small speakers arranged as headphones, one on each side of the listener's head. The Chicago Bell exhibit, mentioned earlier, is no longer working, but you can still see the soundproof booth where the dummy sat if you visit the museum today. Even in those days, binaural sound engineers christened their dummies with colorful names. The Chicago Bell dummy was called Oscar.

Even when stereo records came on the market in the '50s, making it possible to capture and "sell" the effect, binaural remained a gimmick. To get the intended effect the listener must either wear headphones or sit between a pair of loudspeakers effectively positioned like large headphones. This is both anti-social and impractical. Conventional stereo, recorded with unbaffled microphones and reproduced from a pair of loudspeakers in front of the listener, produces a less dramatic effect. But it does so over a much wider listening area.

In 1973, at the Berlin Radio Show, Sennheiser, the West German manufacturer of audio equipment, played a headphone demonstration disk of sound effects made using a dummy head designed at the Heinrich Hertz Research Institute in Berlin. The same disk was demonstrated, a few weeks later, at the London Audio Fair. It stole the show. Sennheiser then made disks available on limited offer. It was by far the best binaural recording ever made available to the public and started the last-but-one craze for dummy head stereo.

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—FROM PAGE 47, U.S.

ple claim to hear Holophonic recordings with full clarity. Blind people report intense visualization and are equally deeply moved.

After AES, we presented Holophonics at a video convention, at an airline convention, and at CES in conjunction with Alpine. All venues generated the same sense of excitement and the same question: when can we get it and how much does it cost?

We completed our market testing in January of this year and we are now in the final stages of capital funding.

A prime purpose of the funding is to bring rigorous research to the Holophonic *effect*, not just to the recording device. Our public introduction of the theory will be in the form of a paper at the AES either in October in N.Y. or next Spring in Europe. Having acquired the requisite staff, we plan to present the same theory to other learned societies in the life sciences, and to explore opportunities for Holophonic products there, as well.

We have a company creed which guides our approach to Holophonics. It says, in part, "Idealism and capitalism are natural allies. Wisdom is the ability to keep them in balance." Beyond our desire to prosper, is our desire to perform a genuine service to the audio industry and electronic media in general. Our conversations with major Japanese and American companies, both hardware and media, indicate that Holophonics research can bridge the gap between technology and human perceptual research.

A great body of knowledge exists in both areas but manufacturers tend to research technology and pay little attention to human perception. We deal in amplitude and frequency and phase if we can't avoid it. Human perception is mystified as "psychoacoustics" and left to the life sciences to deal with. People involved in perceptual research (as Hugo was) tend to know almost nothing about electronic media. Certainly they rarely make records or publish songs or try to sell products.

Our Holophonic research labs are dedicated to combining those two great bodies of knowledge to the benefit of both. Our budget calls for funding this effort internally, but there is much interest in a shared pool of research among major companies committed to electronic media technology.

And there is much that could come from a shared alliance between electronic media technology and life science technology. If Holophonics is to be the catalyst for such a lofty purpose, we must acquire the rigor and discipline Mr. Fox asks of us.

The issue of whether Holophonics is more than binaural sound has been addressed by more than two thousand personal demonstrations to our peers in the U.S. electronic media industry with clearly positive results. The conclusion is that Holophonics translates from headphones to loudspeakers and from stereo to mono—which binaural never has done.

This is a very deliberate approach and quite a different scenario from Holophonics in Europe—which was confusing at best. We want the public presentation of Hugo's theory and the Holophonic technology which implements it to be equally deliberate. Discussion of either in any significant depth in print needs to wait for publication of the paper.

However, we will issue a public position paper which looks at the effect on the art and the media of Holophonic concepts well before that technical paper.

We're working on it, Barry!!! ■

—FROM PAGE 47, EUROPE

In the mid-'70s the public was interested in quadraphonics but did not want to use four loudspeakers. So surround sound from stereo headphones seemed attractive, especially as the market for low-cost, high-fidelity cans was booming. The BBC research department in London then built its own dummy heads (actually they ended up using plastic disks) and BBC radio stations broadcast dramas and documentaries recorded with the technique. The first, in February 1977, was a documentary about life on an oil rig drilling for black gold in the British North Sea. Around the same time, Swedish radio broadcast a binaural stereo program which depicted life as heard by the ears of a blind person. Apart from the occasional further documentary (one giving a feel for what it is like to be a prisoner on the run) nothing much happened.

In the '70s, binaural suffered from two snags, one soluble and one insoluble. Any background noise, for instance tape hiss or disk crackle, proves very distracting when heard through headphones. The advent of low cost digital recorders solved this problem, with the bonus of very wide dynamic range and impressive transient response. The insoluble snag is that good binaural stereo recordings are not mono compatible and they produce only very poor muddled stereo through an ordinary loudspeaker system.

There is also the added difficulty, which may or may not be soluble, that dummy head recordings seldom create a firm image at the center front. Usually the image is strong at the sides and rear, with front sound folding also to the rear. Often dummy head demo recordings get around this by reproducing sounds which move only from side to side, like an aircraft taking off, or move around the head in a circle, so that the brain is fooled into extrapolating a 360 degree tour of motion. On stationary sounds, intended to be reproduced at the front, some disks (like the Sennheiser demo) use a commentator who casually tells the listener where the sound is supposed to be coming from!

Hugo Zuccarelli filed a patent application in Europe (number 50 100) which shows a dummy head, and waffles at length about nothing very specific; for instance it talks about using a wig of hair to improve reproduction. Zuccarelli and his colleague Mike King subsequently told me that the patent was not relevant and didn't contain vital information. As it was filed in a string of European countries (an expensive business) this obviously raises the question why file it at all if the patent's legal monopoly is to be limited by failure to disclose vital information essential for making the invention work.

I bit the bullet and met Zuccarelli when others (apparently with level heads) started following the Pied Piper trail. Newspaper reports quoted support from Dr. Martin Rosenberg of a London hospital. A British TV program which popularizes science "investigated" Holophonics and told the press that highly respected audio consultant Angus McKenzie said the effect was "absolutely remarkable." The editor of the British trade publication *Professional Video* wrote an editorial saying he had heard the system and "considered it a major step forward in sound reproduction against which quadraphony and the digital audio disk pale into insignificance." Even *The Times* joined in, albeit with a second-hand comment. "Those who have heard Zuccarelli's trials" reported *The Times'* weekly series on science research "were impressed by the illusion not only of multi-directional sound but of height and depth as well."

—PAGE 50A, BOTTOM

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—FROM PAGE 46, 3-D AUDIO

ording is similar to holographic photography, where a light beam is split into a reference beam and an object beam. The reference beam goes onto the photographic plate while the object beam bounces off the subject and then onto the plate. Since the light sources are identical, the phase differences incurred when the object beam reflects off the subject and then recombines with the reference beam containing the holographic information.

The ear itself emits sound. Hugo theorizes that this sound is the reference beam which accounts for the holophonic image contained within the inner ear. Citing the "cocktail party syndrome," or the ability to tune into one particular conversation at a party and ignore other sounds, he explains that the brain can quickly create circuits which "erase" unwanted audio information. Because the ear's reference tone has been with us for millennia, the brain has a permanent circuit to ignore this reference tone.

The history of Holophonics goes back to Argentina when Hugo was ten years old. He narrowly missed getting hit by a car when he identified the location of the car's horn behind him and jumped out of the way. "I couldn't sleep for days," he recounts, "and promised myself to someday make a microphone with the directional abilities of the human ear." The son of a university chemistry professor, and himself a chemistry student, Hugo travelled to Italy for his college education. He investigated German experimentation with binaural stereo recording but was disappointed with

the results.

After his graduation in 1978, he married and took a job in the paint industry. His job was to monitor a huge paper manufacturing machine. While waiting for the machine to blow a grommet or come unhinged, he found himself with ample time to muse on his dream: a single source mike that could detect depth and directionality. His "Eureka!" moment came when he noticed a water-filled can on the vibrating machine. The liquid had a pattern on the surface that was constant. After banging the can and disturbing the pattern, he noticed that the pattern reformed itself. This pattern interference is the basis of Holophonic recording.

"In our hearing system we create a tone," he explains in his thick Argentine accent. "The outer ear acts as a horn to transmit this tone. It has a strange shape, like an asymmetrical driver." The shape of the ear, and the interaction of the human-produced reference tone with the sounds of the outside world are factors in the creation of our internal audio holograms. "The ear is an active, rather than a passive device," adds Larry Phillips.

In Holophonic recording, the human hearing process is duplicated according to Hugo's theory. "The reference tone is used to encode tape with special and dynamic information," states Phillips. I was told that microphones per se are not used but the system does employ transducers to change mechanical energy to electrical energy. With patents pending, they were naturally secretive,

but I also learned that a liquid medium is part of the system. From the Holophonic device, recording is accomplished with standard audio equipment, either analog or digital.

Ken Caillat foresees an easy adaptation of Holophonic techniques for the recording industry. Multi-tracking Holophonic recordings presents problems but they are working on such devices as spherical pan pots. As part of the new Discovery Music Channel, selected programming will be recorded Holophonically and educational inserts will be provided to viewers.

In addition to entertainment applications, there are other uses for the technology. "We envision sonic displays of confusing visual data," states Larry Phillips. "Instead of studying three radar screens, a pilot could have an audio picture created in the cockpit to inform him of other aircraft." The hope at Zuccarelli Communications is that Holophonics will have a number of medical applications, such as in hearing aids. The three-dimensionality of Holophonics might even create new excitement for the dying art form of radio theater.

As a final note, I asked Hugo what his personal hopes were. "Every inventor treats his invention like his baby," he said, "but a father may wish his child grow into a wise man rather than a rich man. I would like to be incorporated in the book of history not as the guy who made millions of dollars, but as the guy who invented Holophonics for the good of everybody, to elevate art forms and the quality of life." ■

—FROM PAGE 48, EUROPE

My meeting with Hugo Zuccarelli was in April 1983 and it lasted for several hours. I heard binaural recordings of sound effects replayed through headphones from a Sony F1 source tape. It was the first time I had heard binaural from a digital source and the result was as impressive as I would have expected. If I had been a pop press or music journalist who had never before heard dummy head stereo I would doubtless have been bowled over. Zuccarelli then played me some tests through loudspeakers and the results were as poor as I had expected.

CBS released Zuccarelli's sound effects recordings, both on disk and cassette tape. The manner of CBS's handling of this release was hilarious, pathetic and dangerous. The press release accompanying the disk announced that there were "many, many ways in which Holophonics will help the medical world." It went on to mention "therapy, hypnotherapy and body scanners" adding that "it may even be possible to detect imminent earthquakes, thereby preventing major casualties." According to CBS, when Zuccarelli came to Britain, "word of his work was beginning to spread to many academics, and scholars in Britain had sent invites for Hugo to continue his work in their country." I asked CBS if they could tell me the names of any of these scholars. They couldn't. I asked CBS to explain how the system could be used for

body scanning and to detect imminent earthquakes. They couldn't. What CBS could explain, however, was why the sleeve note which went out with the record read like Martian garble.

"Holophonic techniques do not record the sound," reads the note, "nor the mechanical vibrations of an acoustic phenomenon, but instead what our brain requires in order to perceive a sound."

CBS told me that they had received the text of the sleeve-note, written in Spanish, but the translator couldn't understand a word of it. "We disclaim responsibility," said CBS. This is a dangerous attitude. In the sleeve-note, Zuccarelli capitalizes on the well-known deficiencies of binaural recording. Referring to sound intended to be in front of the listener's face, he explains, "If you feel it behind you, I am sorry, something has gone wrong with your equipment, or your headphones or your ears. . . our laboratory is in contact with the major manufacturers of earphones and loudspeakers throughout the world, with a view to gathering the know-how which will lead to a very high Holophonic standard. . . we shall be pleased to offer our experience in the field of Holophony by issuing a Holophonic guarantee certificate for all the products which we shall be marketing under our registered trademark of Zuccarelli Labs Ltd."

—PAGE 50D

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—FROM PAGE 50A, EUROPE

In other words if you buy the sound effects record and quite predictably, don't hear the sound from the front center, you should go out and buy some Zuccarelli equipment. If this was a ploy to market the Zuccarelli Holophonics tradename, rather like Dolby, then it has failed. To the best of my knowledge there are still no Zuccarelli headphones, loudspeakers or ear drops in the shops.

Zuccarelli has claimed all along that the technology hidden inside the Ringo dummy (always available only on rental and closely guarded against intrusive examination by engineers or musicians who use it) is built on a new theory of hearing. All previous theories, Zuccarelli has told me and others, were wrong. Finally in November 1983 Zuccarelli published his theories on hearing. They appeared in the British science magazine *New Scientist* (November 10, 1983). To set matters straight, I write for this magazine, but as considered editorial policy I did not see or ask to see Zuccarelli's text before it appeared in print. To cut a long and muddled article short, Zuccarelli argues that the ear emits a reference sound which creates an interference pattern as it meets sounds coming toward the head. This is supposed to produce an acoustic hologram. "I have built a recording device that makes a reference sound that creates an acoustic hologram," wrote Zuccarelli. "I do not wish to reveal the basics of the device for commercial reasons."

Audio engineers with a knowledge of physics immediately wondered how any object the size of a human head could record an acoustic hologram, bearing in mind the long wavelengths of sound in air compared to light radiation. Doctors objected on other grounds.

It is true that the ear can and does emit sound. Over the years there have been many reports of human and animal ears (especially cats) emitting audible whistles. Dr. David Kemp, at the Institute of Laryngology and Otology at the University of London discovered the root cause of this ten years ago. The University Institute was the first research body to record and explain sounds emitted by the ear. They are a seepage of biological energy from the very active sensory cells in the ear which react physically to the vibrations which they detect. The so-called "Kemp effect" is now well known in the medical profession. The cells of the inner ear use an active feedback system to split the audio spectrum into narrow frequency bands, each of around 20dB dynamic range. When stimulated, this feedback system goes briefly off kilter and emits sound, like an active echo. If it goes badly off kilter it whistles continuously albeit very quietly.

Kemp uses echo detection as an early warning of deafness, because the transient echo disappears almost entirely once the ears' sensitivity has gone down by around 30dB below normal. This could incidentally be a useful technique for warning engineers of hearing problems induced by over-long exposure to over-loud monitor sound. A 30dB loss may well not be noticeable, especially if an engineer just raises the monitor level. Kemp also uses the effect for high security identification. The echo from every human ear is peculiar to that individual, like the pattern of blood vessels in the eye. Kemp says that Zuccarelli approached him several years ago, wanting to discuss ear emission in the context of acoustic holograms. Kemp told Zuccarelli he had no time for such hypotheses.

It is interesting to note that in the *New Scientist* article, Zuccarelli does not explain Kemp's theories. Kemp, and other medics followed through with letters to *New Scientist* for publication which described the Zuccarelli article as "devoid of scientific understanding, logic

and rational thought." But by then, of course, it was too late. Zuccarelli's theories had already appeared under the banner of respectable print. *The Times* followed through with a fresh science report and, most surprising of all, the *Guardian*, a respected British daily newspaper, ran a lengthy story which put Zuccarelli's theory forward as if it were established fact. When I contacted the author of this report he admitted that he had never even spoken to Zuccarelli and had merely read the *New Scientist* article. More surprising still, the author of the *Guardian* article admitted that he had not seen the letters which *New Scientist* magazine had subsequently published, debunking the Zuccarelli hypothesis!

Nevertheless, support for Zuccarelli in Britain has melted away. Even Dr. Martin Rosenberg, who had previously been quoted as a medical authority who supported Zuccarelli's theories, prefers now not to talk about them. The CBS record sold only a very few copies. In some shops they ended up racked with comedy or humor records. The popular and music press in Britain now seems to have forgotten about the world-shattering breakthroughs they were reporting a couple of years ago. In Hollywood a demonstration of holophonic sound was reportedly given to Peter Hyams, responsible for *2010*, that long-awaited sequel to *2001*. Obviously it is impractical to provide every member of every cinema audience with headphones. The conventional spread loudspeaker set up behind a cinema screen cannot normally produce a binaural effect. The only exception is when the sound from the speakers is tailored (to cancel mutual crosstalk), as with the JVC Biphonics system demonstrated to AES members in the '70s. The sound-tailoring system works only for a few listeners sitting in a very tightly defined area. This is why holophonic demos have been given only to small groups. The Hollywood demonstration used loudspeakers at the side of the audience. Again there is the problem that only a few people, in ideal positions, will hear the intended effect. The commercial step from small demonstration rooms to large listening areas is easy to talk about, but probably impossible to achieve in practice.

Doubtless there will always be a reservoir of musicians, journalists, filmmakers and performers who have never heard binaural sound and will be enthralled at their first experience of hearing dummy head stereo through headphones or carefully positioned speakers from a digital source. They will swallow the promise that the system can be made to work with loudspeakers, once a few technical problems have been solved. Some of these people may even be in a position to invest money and back the system before facing the unpalatable truth that the large area reproduction problems are insoluble. The cinema and recording industry cannot survive on a product which has its purchasing audience limited by the need to listen in small groups or through headphones. Artists don't like dummy head recordings either, when they realize what it entails. They can only produce dramatic results when sounds are picked up from close range, like whispers or sound effects. To capture the balanced sound of a band or orchestra, the dummy head must of necessity be placed many meters away. The result is a confused sound with ambience drenching the music. Over-dubbing also becomes more difficult, and what modern pop artist wants to make that sacrifice?

For me, Holophonics is just another binaural blind alley. To my ears, Holophonics has a hollow, phony ring. But, as I wrote a year or so ago, prove me wrong Mr. Zuccarelli. So far he hasn't even tried. ■

PREVIEW



Akai's "The Sampler"

The Akai model 612 is a six-voice polyphonic sampler with a 12-bit memory, which allows the unit to sample any digital or analog signal up to eight seconds long. From the front panel controls, the operator can loop the signal from any point for an unlimited playback time. Sampled sounds can be controlled by a MIDI-equipped keyboard via the 612's MIDI interface for greater versatility. Adjustable parameters include: input gain; LFO rate/depth/delay; tuning; output filter/decay/level; MIDI channel selection; sustain and sustain mode. Both microphone and line level input are provided.

The Akai Sampler 612 is priced at \$999, and an optional disk storage system is available.

Circle #030 on Reader Service Card



Audio Kinetics' Eclipse Editor

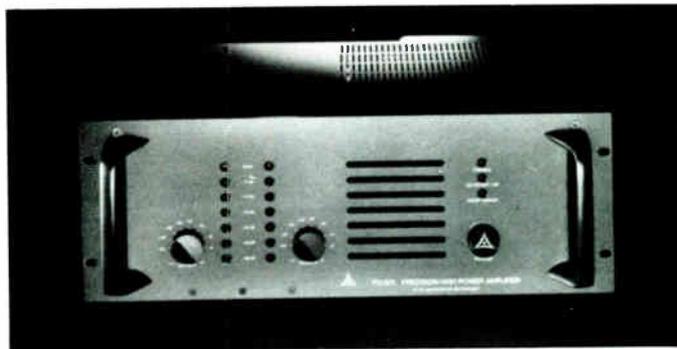
The Eclipse Editor, an intelligent controller from Audio Kinetics, has been designed to work with their new Q.Lock 4.10 synchronizing system to offer full four-machine capability. Eclipse uses a high definition VDU display, capable of showing 20 lines of information such as machine status, time codes, menus and other text. Some of the editor's unique features include: "Machine Access," whereby any machine can be accessed individually while the group remains synchronized, so operations can be performed on one transport without affecting the rest; and two types of "Machine Group Setup," each with a different machine as master. This configuration is accomplished by pressing one key. A number of operator-programmable, assignable keys are provided, as are numerous dedicated function keys, thus simplifying operation without the loss of flexibility. In addition, the number of loop memories available for specialized uses has been increased to 100.

Circle #031 on Reader Service Card

Tuning Modification for Dynacord Drums

Europa Technology, Inc. (Venice, CA) is now offering an individual tuning modification for the Dynacord Percuter (the electronics for the Dynacord Digital Drums). The modification allows the user to have individual tuning control over each of the eight channels, in addition to the master tuning, which comes standard from the manufacturer. The modification, engineered and performed by Ed Miller of Technobilly Services, is available through Europa Technology or your local Dynacord retailer. The tuning modification price is \$250.00.

Circle #032 on Reader Service Card



FM Acoustics' FM 801 Amplifier

FM Acoustics, of Badenswil, Switzerland, have introduced their FM 801, a two-channel power amplifier which delivers 400 watts/channel into eight ohms, 600 w/ch into four ohms, 900 w/ch into two ohms, and 1000 w/ch into 1.5 ohms. According to the manufacturer the amplifier's voltage gain, predriver and driver stages operate in Class A, while the output stage is Class A plus AB with a thermal-tracking Class A biasing system. Back panel output connectors include both five-way binding posts and large, 200 amp high-power load connectors. All units undergo a 50 hour burn-in period and one hour of shake-table testing before leaving the factory.

Circle #033 on Reader Service Card



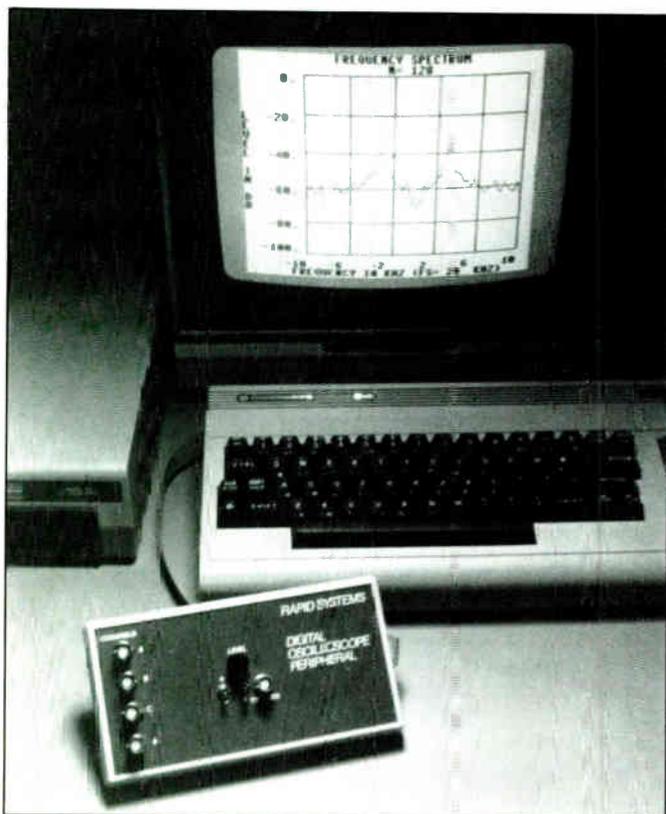
Digital Clock Divider

Reasonable Alternatives, of Cranford, NJ, have introduced their Digital Clock Divider, which takes an incoming clock signal from any source and divides it by 1, 2, 4, 8, 16, 32, or 64, allowing two previously incompatible drum machines, sequencers, or synthesizers to become compatible. One of the unit's unique features is a "divide by one" mode which leaves the clock rate unchanged, but simultaneously provides a +5 run/stop voltage at the DIN sync jack output. In this position, for example, a unit with a clock rate of 24 pulses per quarter note could drive a Roland product, which also requires a 24 pulses. A 384 pulse per quarter note Fairlight could control a Linn-

Drum (48 pulse per quarter) when divided by eight.

The unit is priced at \$89, is powered by a single nine-volt battery, and includes ¼ inch clock inputs/outputs, as well as a Roland-type, five pin DIN sync jack.

Circle #034 on Reader Service Card



Low-Cost FFT Analyzer Peripheral

Rapid Systems of Bellevue, WA, have announced the lowest cost FFT analyzer ever—their new Spectrum Analyzer Peripheral for IBM, Apple and Commodore personal computers costs as little as \$548. Standard features offer a variable order of Fast Fourier Transform, from 16 to 1024 point. Sample frequency choices range from 100 Hz to 500 kHz and input voltage choices (peak to peak) from 1.6 volts to 320 volts. Speed is 30 seconds for a 256 point FFT on the IBM PC; longer on the Apple and Commodore PCs, depending on transform size. Other features are: selectable time window, rectangular or Hanning; baseband or VHF band operation, with user's analog antialiasing filters; voltage and power spectrum computation; power spectrum averaging; high resolution display formats for spectral amplitude; and one keystroke printer operation for hardcopies of spectrum data.

The Spectrum Analyzer Peripheral also provides the user with the capabilities of a powerful 4-channel digital oscilloscope, with a 2 MHz sampling rate, 500 kHz analog bandwidth and diode protection on all inputs. The Spectrum Analyzer Peripheral for the IBM PC and XT, and the Apple II and IIE is \$648. The Spectrum Analyzer Peripheral for the Commodore-64 and SX-64 is \$548. Peripheral includes data acquisition hardware, all connections to personal computer and software disk.

Circle #035 on Reader Service Card

X Series Littlite Lamps

The Littlite (Hamburg, Michigan) gooseneck lamps used throughout the music and entertainment industries for consoles, instruments and workspaces are now available with

XLR-type connectors. The X series joins the P (permanent mount), G (BNC mount) and L (surface mount) lamps in the Littlite product line. With the solid, non-twist, locking connector it is now possible to have a detachable Littlite firmly mounted on a sloped or vertical work surface.

The X series is available in 6", 12" and 18" lengths in both high and low intensity versions. The high intensity version incorporates a 5 watt halogen bulb within a finned aluminum hood to produce a crisp white light while the low intensity version employs a 2.4 watt incandescent bulb within a sleek tubular hood. The X series comes standard with a 3 pin male connector, and are priced at \$25 to \$39.

Circle #036 on Reader Service Card

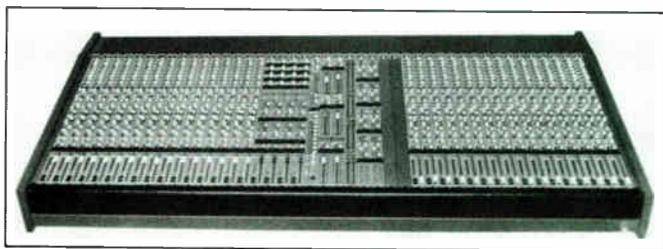


Video/Audio/MIDI Chase-Lock

Synchronous Technologies has announced SMPL™. Lock, a versatile computer based system whose functions include chase-lock and 10 point auto-locator for audio/audio or audio/video tape transports; digital drum set/sequencer synchronizer; SMPTE time code readers; time code generator with house sync; and time code derived metronome. The system's looping mode and automatic punch in/out simplify overdubbing and sound editing and assembly for Film or Video. The device writes and reads SMPTE time code in all film and video frame rates and drop frame or non-drop formats. When SMPL Lock sends auto-locate information to the tape transports, similar data is sent along the MIDI buss so that these instruments are "parked," waiting for the system to start them and keep them in sync with the tape transports at their new location.

SMPL Lock consists of a control console which displays system information on either a video monitor or TV set and a separate, rack mount panel with interface connectors for time code, tape transports and MIDI buss. Owners of Sync Tech's SMPL System can upgrade their product with the addition of the multi-machine interfacing panel. Total system cost is under \$2,000.

Circle #037 on Reader Service Card



Harrison HM-4 and SM-4 Consoles

The HM-4 (house main) and SM-4 (stage monitoring) boards from Harrison Systems, Inc., are medium scale products derived from the company's HM-5 and SM-5 major touring consoles. The HM-5 and SM-5 were developed for Showco, Inc. of Dallas, Texas and Clair Brothers of Lititz, Pennsylvania under a special product development agreement. The new SM-4 and HM-4 systems allow a wide variety of sound reinforcement clients to take advantage of the features and facilities previously available only on the HM-5 and SM-5 systems, such as four-band, parametric equalization, VCA grouping, and an eight-group mute matrix.

The HM4 system includes eight mixable auxiliary sends, four stereo audio groups, redundant main stereo outputs, and a four by four stereo group matrix. The SM-4 system includes eight mix sends plus eight additional fully matrixed mix

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outputs from four mono audio groups. Both consoles will be available in either fixed theater or portable touring mainframes with XLR-type microphone inputs, 30 pole DIN standard Tuchel connector interfaces for patch systems, and high reliability, high performance electronics.

Circle #039 on Reader Service Card



Audio-Technica Four Track Cassette

The AT-RMX64 from Audio-Technica is a full-feature, six input mixer coupled with a three-motor, direct drive cassette recorder. The unit can record either four track tapes at 3¾ ips or in the standard stereo 1½ ips cassette format. Any microphone or direct input can be accommodated, including low-impedance professional mikes requiring 48V phantom power.

Other features include: up to 60 dB of input attenuation; two-band parametric equalization; solo switches with LED meter; two aux sends (switchable from pre- to post EQ and fader) per channel; four sub masters; Dolby B and C noise reduction; two headphone outputs; four VU meters with overload LEDs; punch in/out capability; and variable pitch control. The AT-RMX64 carries a list price of \$1,495.

Circle #040 on Reader Service Card



Toa SL Series Speakers

The SL series from Toa Electronics, is a new line of compact, rugged speaker systems designed for sound reinforcement and live performance applications that require high performance at a low cost. The series consists of four matching,

sealed enclosures (SL-12, SL-12M, SL-15, and SL-22), each having a constant directivity horn with piezo driver and a 12" and 15" woofer (the SL-22 contains two woofers, one 12" and one 10"). SL speakers have high power handling (240 watts) and a smooth extended frequency response (70-20kHz).

Each SL system provides two paralleled ¼" jacks for multiple speaker hook-ups. The textured charcoal-grey enclosures have removable, protective steel grilles and hard-rubber, interlocking corners for safe, easy speaker stacking. The bottom panel of Models SL-12 and SL-15 (model number denotes woofer size) incorporate stand adapters for easy, stable mounting on Toa's ST-20 speaker stand.

Circle #041 on Reader Service Card

Cramolin Kits Available

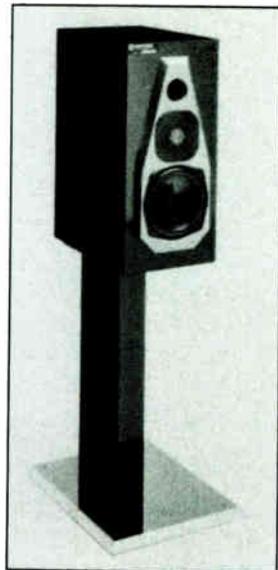
Cramolin, the fast acting anti-oxidizing solution from Caig Laboratories (Escondido, CA) is now available in two convenient packages: the R-2 Spray Tech Kit, and a compact Electronic Maintenance Kit. Cramolin removes resistive oxides when applied to metal contacts and connectors, and the solution forms a protective layer that maintains maximum electrical conductivity. Applications include: switches, potentiometers, batteries, faders, relays, PCB connectors, interconnect cables, plugs, jacks, patchbays, etc.

Circle #042 on Reader Service Card

Klark-Teknik System 2.1

The System 2.1 from Klark-Teknik is a set of compact, two-way bass reflex monitors which incorporate built-in MOSFET amplifiers and compensating crossover networks which are matched to the drivers. A unique aspect of the system's design is the raised frontal sound board which promotes a smooth, stable off-axis dispersion pattern. The woofer features a "Neoflex" cone and copper edge-wound voice coil, while the tweeter combines a rigid, non-flex fiberglass inverted dome with an aluminum voice coil. Inputs are either unbalanced or electronic balanced, (an optional transformer balanced version is available); frequency response is given at 50 to 20k Hz ($\pm 3\text{dB}$); and maximum SPL at one meter (program material) is rated at 115dB. AC voltage requirements are 110/120/220/240V, 50/60 Hz. Floor mounting stands are optional.

Circle #043 on Reader Service Card



ADA Digitizer 4

The Digitizer 4 from ADA Signal Processors, Inc. of Berkeley, CA, is a 16-program digital delay featuring complete programmability of all effect settings, including sweeps, regeneration, mix, and delay time. In addition, ADA has loaded 16 "shadow" programs into constant memory which may be re-

called at any time. Other features include 17kHz frequency response, 1024 milliseconds of delay, an LED readout displaying delay time or function, stereo outputs, and a self-diagnostic program which checks the unit during power up.

The Digitizer 4 is priced at \$699.95, and an optional footswitch controller with remote access to all 16 effects and bypass is \$139.

Circle #044 on Reader Service Card



Sony APR-5000 Series Recorders

Unveiled at the Hamburg AES Show and at last month's NAB Convention in Las Vegas, the APR-5000 series from Sony is a line of new generation analog recorder/reproducers. Features include 16-bit microprocessor control, DC motors, serial and parallel ports, multiple user-programmable alignment presets, digital tape counter with 30 location memory autolocator, 7½/15/30 ips operation, and a battery-backed

memory for the three alignment presets for each speed and head block.

The APR-5000 series is available in a number of versions: 5001 (mono), 5002 (two-track) and 5003 (two-track with center time code); and desk top, roll around console, and rack mount models.

Circle #045 on Reader Service Card

Sound System Handbook, Volume I

The Sound System Handbook, Volume I, from Sound Investment Enterprises of Thousand Oaks, CA, is now available. This hardbound, looseleaf notebook is designed for quick reference topics like: types of microphones, miking techniques, mixers, amplifiers, speakers, portable sound systems and a glossary of audio terms. Within the seven chapters, fundamental concepts of sound system operation, equipment selection and system trouble shooting are presented in easy to understand, non-technical language, and the book's three-ring binder format allows the reader to insert spec sheets, product information or applications notes, as well as future updates from the publisher.

Circle #046 on Reader Service Card

JBL 4425 Bi-Radial Monitors

The 4425 Bi-Radial studio monitors from JBL are scaled-down versions of the company's successful 4430 loudspeakers and are designed for remote vehicles, audio postproduction and smaller recording studios. These two-way, mirror-imaged pair monitors employ a new, one-inch, titanium diaphragm high-frequency driver coupled to a compact Bi-Radial horn; and a newly-designed 2214H 12-inch woofer with a three-inch, edge-wound copper voice coil. The 4425 crosses over at

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"strained" sound associated with the use of conventional limiters.

Another example of effective proprietary circuitry is Dyna-Mite's Anticipatory Release Computer, which delivers desirably short release times without excessive pumping or modulation distortion. And, Anticipatory Release reduces fast modulation distortion effects by a



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factor of 10 to 1, without subjectively lengthening the release or causing other audible disorders.

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While you'd expect to pay \$1,000.00 for a Dyna-Mite, you won't! See a Valley People dealer today. You'll be pleasantly surprised.

Circle #050 on Reader Service Card

World Radio History



ident Keith Barr. Features include a bandwidth extending to 14 kHz, stereo outputs, LED level indicator, variable decay times from .05 to 10 seconds, two reverberation programs (stored in replaceable ROMs) with front panel adjustable options: pre-delay, slapback, diffusion, HF damping and both low and high cut filters. Other controls provided are input level, dry/reverb mix, and output level. Rear panel connectors include input, stereo outputs, loop in/out, and defeat; all are 1/4-inch jacks.

The unit is priced at \$795, and reasonably priced software updates will be made available as they are developed.

Circle #048 on Reader Service Card

4/8 Channel Passport MIDI Software

MIDI/4 Plus and MIDI/8, two new recording programs from Passport Designs, feature auto-correct; punch in/out; fast forward/rewind; sequence chaining; and sync to tape, MIDI and drum machines. Other features include unlimited overdubs, tempo control, and accurate recording of all parameters: key velocity, bends, preset changes, modulation and more. The programs, priced at \$99.95 and \$149.95, require an Apple II+, IIe, or Commodore 64 with disk drive and monitor, any MIDI synth, and the Passport MIDI interface.

Circle #049 on Reader Service Card

1200 Hz, with a 12dB/octave slope, and the crossover design provides power response compensation for the HF driver via two controls which contour MF and HF characteristics. According to the manufacturer, the 4425 system maintains precisely aligned phase response over a 40-degree wide arc in the horizontal plane, and the preferred listening arc in the vertical plane is between zero (on-axis) and 10-degrees up. Other given specifications include a power capacity of 160 watts (continuous program), a frequency response of 40 to 16k Hz, and a one watt/one meter SPL of 91 dB. Enclosures are oiled walnut.

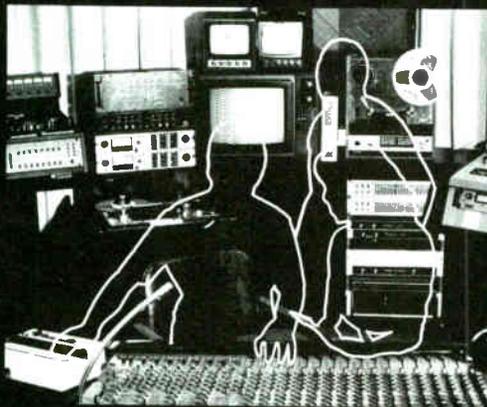
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Alesis XT Digital Reverb

The XT digital reverb is the first product from Alesis, a new Los Angeles based company formed by former MXR pres-

TECH

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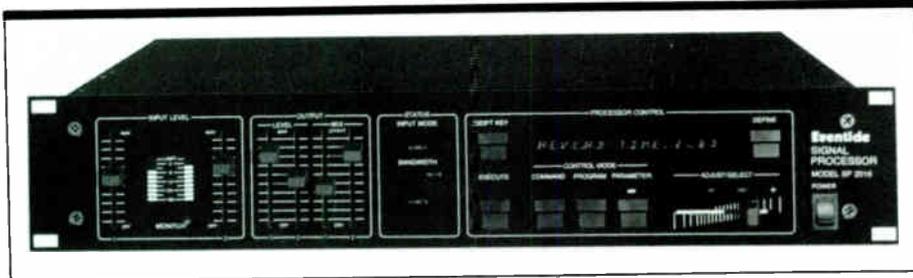
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FIELD TEST



Eventide SP2016 Effects Processor/Reverb

by Karen Ensor

Eventide's newest version of the SP2016 Effects Processor/Reverb has 19 user-programmable "processors" (including the new Generation II software) and the capability to store up to 65 user-created programs. Interchangeable LSI chips, with one to four programs per chip, make the SP even more versatile. Updated and new programs can easily replace or be added to your current programs; Eventide offers its Generation II software free to present 2016 owners.

The controls on the SP2016 are well marked and easy to use. The stereo input and output faders are monitored on dual, high-density LED displays; a monitor button switches to the output level for approximately nine seconds so that relative input/output levels can be matched and "overflow" flashes when the input is overloading the unit. Two mix/dry faders determine the proportion of the effect to the dry signal, making intensity adjustments available on the unit, and since the SP can be used directly with line level instruments, this feature enables control of an otherwise set level. A status section indicates stereo or mono mode, displays the bandwidth of the currently loaded program and also displays any error message from the unit's self test (explained later).

Easy-to-operate keys maintain processor control with the current function shown in a display window. The program key selects the desired program and execute loads your choice into the SP. Each variable parameter for a given program is accessed with the parameter key and adjusted with the adjust/select slider. The command key punches up the system commands including: a help message that scrolls across the display window explaining the unit's basic operation; a line in/line out switch; a buss address assignment used in conjunction

with Eventide's Signal Processor User Development (SPUD) system; configuration of the programs; and commands to name, save and/or delete up to 65 user presets.

The unit's preset capabilities makes the 2016 a very personal unit. Once you find that perfect effect or enhancement, you can save it into memory without time-consuming parameter adjustments.

Each signal processing program has its own unique set of parameters which have enough flexibility to create almost any effect desired. I discovered that the ranges of the parameters usually went farther than my needs.

The SoftKey button enables functions that vary with each program providing added flexibility. For all of the reverb programs, the SoftKey serves as an "enable/disable input" switch: disabling the input prevents new information from reverberating but does not cut off the signal already being processed. This is helpful in listening to decay rates.

Many of the programs have a feedback parameter where any percentage (from -99.9 for negative feedback to +99.9 for positive feedback) of the processed signal can be fed back for reprocessing. Excessive use of feedback can cause an overload condition, and the SoftKey acts as a "zero feedback" initiator; it instantly forces all feedback levels to zero. There are other SoftKey functions unique to each program; some of the more interesting ones are explained in the program's description.

The define key gives easy access to the nature of information being displayed in the window; it defines the current function which is especially helpful in setting parameters. For example, the define key describes pre-delay as "time-milliseconds"—you know now that the delay is in milliseconds. The define key also has definitions for all other func-

tions, commands, programs, etc.

A remote control is also available for "long-distance" operation. The controls on the remote are identical to those on the 2016's front panel, with the exceptions of gain control and mix/dry control.

PROGRAMS

While the SP2016 offers a variety of operator-variable programs for delay and reverb, other special effects such as chorusing, echo, flanging, musical combs, "dual robots," loopedit and time-scramble are also available.

Standard delay programs include long, dual, band, and multitap delay. The wide range of the long delay program is from 0.1 to 3276.6 ms, within which just about any rhythmic delay offset can be realized. The dual delay program provides two independent, full bandwidth delay lines of up to 800 ms, one line per output. A "repeat" function, available via the SoftKey, will repeat the delay until disabled.

Both the band and multitap delay programs create unusual effects. The band delay splits the frequency spectrum into four bands and outputs four delays, one from each band. Parameters control the spacing between each of the delays, pre-delay of the entire sequence, and the order of the sequence itself. When the spacing is small enough to give a psychoacoustic fattening effect, control of the sequence allows you to give presence to your input instrument's range; e.g. putting the high frequency delay first gives more presence to a string line.

Eventide has defined a "tap" to be "a playback head on the path of your 'tape'" (your tape being the input). Making use of this concept, the multitap delay program repeatedly delays the input from one to fifty times, as if going across that many tape heads, or taps, according to the type of spacing and envelope shape you have chosen. The shape may be exponential or linear, increasing or decreasing, flat, or triangular—for 10 to 1200 ms. Drumroll type effects result from an input with a sharp attack. By adding positive or negative feedback to a smooth continuous input (such as voice), an eerie, continuously pulsing effect is produced.

Eventide's digital version of multiple-head tape echo is called "Digi-plex." The SP2016 has both a long and dual Digi-plex program, the dual Digi-plex being a double version (with a shorter maximum delay) of the long Digi-

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plex. In the Digiplex program, there are three taps, one tap goes to each of the outputs (delays are set independently), and the third goes to a digital multiplier (feedback function). The length of the decay of the third tape is determined by the percentage of feedback set. Long decay periods are maintained without significant noise buildup.

The SP offers six versions of digital reverb: room reverb, plate reverb, high density plate, stereo room, generic reverb, and lossless room.

The room reverb program is a digital representation of a room, or echo chamber (depending on the parameter settings) with two mikes placed by the operator. Parameters include decay time from 0.2 to 10.0 seconds RT60 (amount of time it takes the input to decay 60 dB) and predelay from 0 to 999.9 ms. A room position parameter with seven settings from front to rear, changes the "microphone placement" in the simulated room. As you get closer to the rear of the room, some noise is introduced.

There are two plate reverb programs to choose from: a standard digital plate reverb, or a high density plate. Both are good for drums and percussion, the plate reverb being an especially effective processor. The high density plate has a thicker and more diffuse sound.

The stereo room program provides large concert hall effects. The user is given control over the acoustics of the "room," as well as predelay and position, through the program's parameters. The stereo room is well suited for strings, organs and voices (when a choir is needed); the simulation places the instruments in a lush, ambient surrounding.

In the 2016's lossless room, a sound can be trapped and decayed for milliseconds, seconds, minutes, even hours. This is similar to the "freeze" function found on other digital reverb units.

And finally, Eventide has an all-wrapped-into-one "generic reverb" to simulate most standard type digital reverb with basic parameters adopted from its other reverb programs.

The new Generation II chorus program adds two to eight voices to any input. You can "spread out" your sound by adding more diffusion, alter the delay between voices and pitch shift applied to each voice by changing their intensity and varying the feedback (nice for filtering effects). Electric pianos and synthesizers piped through the 2016's chorus become "fatter" and richer without distortion.

In two sophisticated flanging programs, (flanger and envelope flanger) both the speed of phase cancellations and time limits on that speed can be controlled, as well as the predelay, intensity, feedback percentage and diffusion. With high intensity and high diffusion settings, a warm clear flanging effect is achieved

(great for mellow guitar sounds).

The envelope flanger program features a mode control: in follow mode, the sweep of the flanger follows a source input to channel two, flanging the input to channel one according to channel two's envelope, and in trigger mode, enabling the SoftKey produces one sweep at a time.

The musical combs program creates a comb filter effect by digitally varying the resonant frequency of the "filter." By emphasizing harmonically related frequencies, a technically non-musical instrument can be tuned to a musical instrument.

The SP's unique dual robots program simulates two "robot" voices. Spoken and sung voices at the input seem to have a new, robotic identity at the output.

The loop edit program is similar to a tape recorder with a variable length tape loop. You can record onto this tape loop for up to 1636 ms in stereo mode and 3272 ms in mono mode, edit what you've recorded with "punch-in" and "punch-out" controllers, monitor either the input or output, and play back the loop as many times as you want.

The timescramble program splices an input signal into segments and scrambles those segments at the output. Parameters control the "splice rate" of the segments as well as the length of the segments (both can be either random or fixed).

These special effects programs available on the SP have the program-mability to realize most any typical or unusual application required by the operator.

SPECIFICATIONS AND FEATURES

The rack-mountable Eventide has balanced stereo inputs and outputs. Input levels range from -10dBm to +24dBm, allowing line level signals to be input directly to the SP. This makes the unit useable in live situations where a console may not be available and for the music synthesis applications.

Most programs can be used in either mono or stereo input mode which is determined within the input mode parameter. This is useful when going directly into the unit from a mono instrument or when using a semi-pro console with a mono send and stereo return. In other words, you don't have to split the signal unless you want to.

Digital specifications include two independent 16-bit A/D converters per input channel and two independent 16-bit D/A converters per output channel. 16k by 16 bit audio data memory stores and processes lengthy time domain samples, and a 200 nanosecond clock, a high-speed 24-bit ALU (arithmetic logic unit), and cache memory for fast processing allows hundreds of real

time operations to be performed on each input sample.

The bandwidth for all the programs except the "long" versions of an effect, is a respectable 16kHz. In the "long" versions, the bandwidth is cut in half and in the loop edit program, there is a parameter which toggles between 8kHz and 16kHz; the lower the bandwidth, the longer the loop length.

A self-test ROM can be installed in the 2016; when executed, the unit will go through a series of diagnostic self-tests. If any problems are detected, a code number or a description of the problem will appear in the status block on the front of the unit. The manual explains each code and a table lists the corresponding IC number which can (hopefully) be purchased at a local electronic repair shop and replaced on-site.

As mentioned, the Eventide has a special feature they call SPUD. The SPUD hardware/software system allows the user to create unique programs from scratch, as opposed to the unit's standard feature of creating presets from factory programs. The user creates his own algorithms for a program, computes and displays the desired algorithms' parameters and stores them into PROM. This is achieved via the IEEE buss on the back panel in conjunction with a personal computer (directly compatible with a Hewlett-Packard Model 9816 personal computer).

CONCLUSIONS

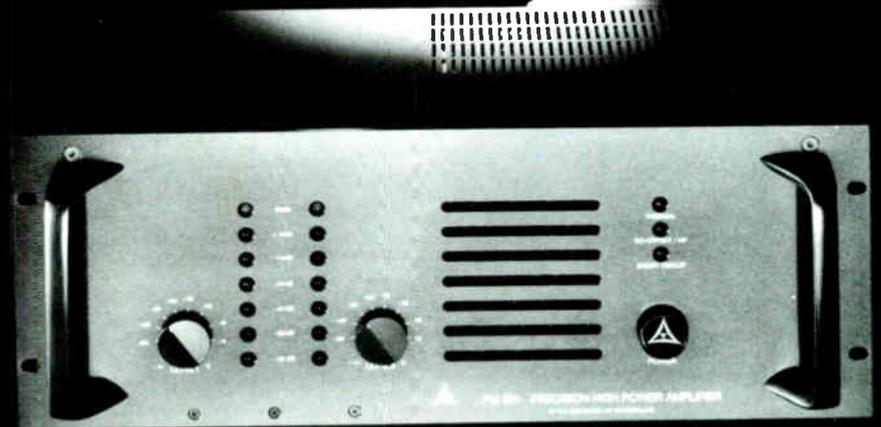
With the increasing prevalence of computers in today's recording technology, Eventide's SPUD-system will assure its survival in tomorrow's studios. When most pieces of recording studio equipment are talking to each other, the SP will be able to carry on the conversation and with good grammar.

In summary, the SP2016 is a remarkable signal processor. My only reservation concerns the noise floor of the unit as tested; it was acceptable but slightly higher than I would have liked. However, the ease of operation and processor abilities of the unit greatly outweigh any disadvantages.

Most impressive is the Eventide's flexibility. The unit is an excellent "wild card" processor in the studio; it can be anything the operator needs during a crucial mixdown session since most out-board equipment is limited to its identity as a delay, reverb, EQ, etc. The 2016 fills the gaps in such a setting.

The most impressive of the standard effects programs were the generic reverb, plate reverb, and flanger. The special effects programs ranging from the chorus program on up to the time-scramble effect, should convince large and small studio owners alike that the SP 2016's price tag is well worth its weight in flexibility and programmability. ■

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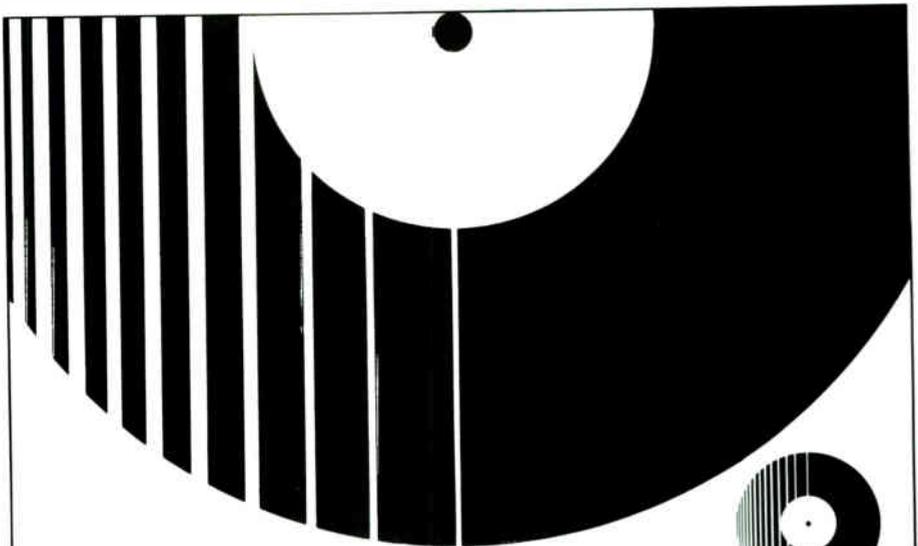
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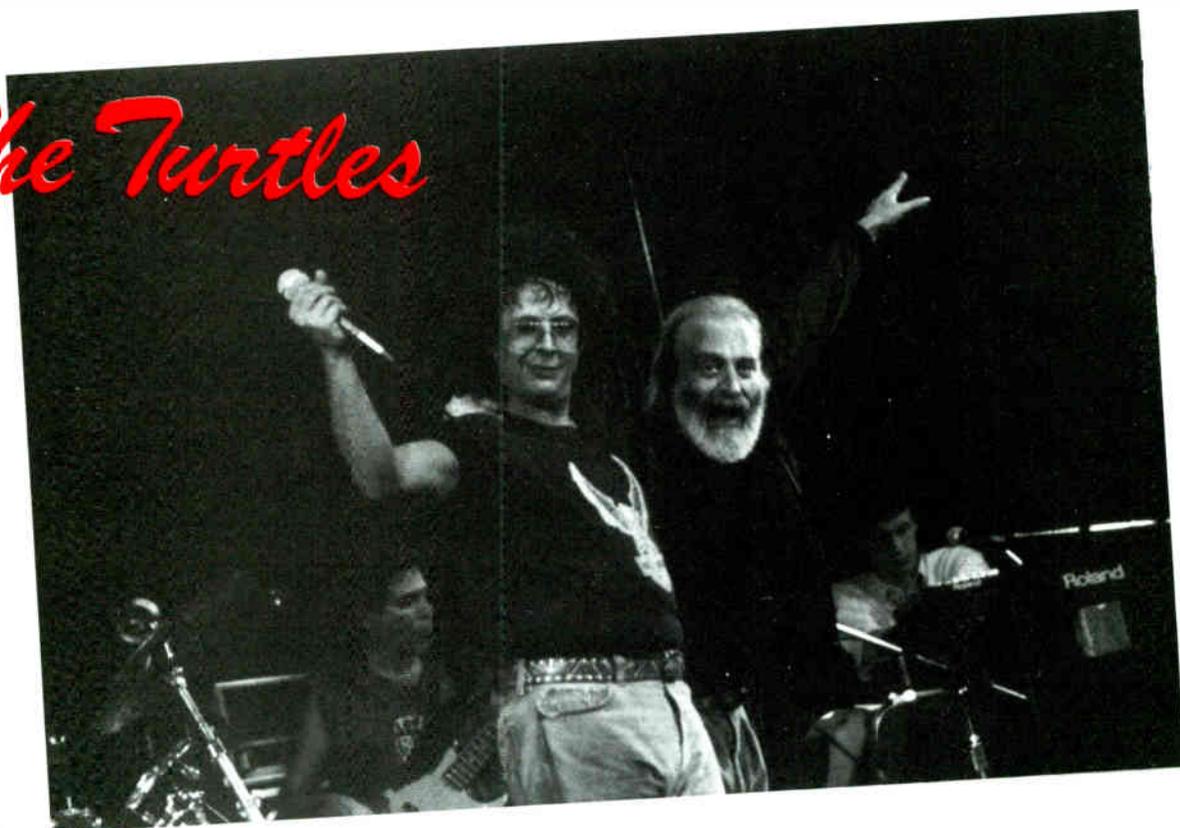
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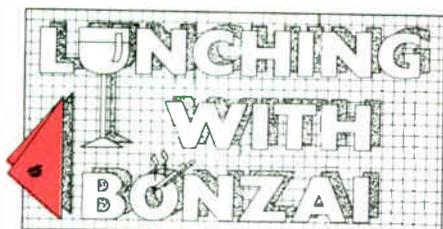
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The Turtles



Flo and Eddie Win the Race



by Mr. Bonzai

Howard Kaylan and Mark Volman have been breezy, wise-guy pals since their high school days in Westchester, a beachtown suburb of Los Angeles. They are widely known both as Flo & Eddie and as the main men in The Turtles. As a result of the success of the "Happy Together '84" tour with The Association, Gary Puckett & The Union Gap, and Spanky & Our Gang, they have officially re-adopted The Turtles as their name and are on the road again for "Happy Together '85."

These guys really are happy together. Their rapid-fire, two-headed monster approach to collaboration has been tuned to symbiotic perfection. As I listened to their dual carburetor stream of consciousness I could imagine them as a couple of kids in the back of the classroom or as two old farts gassing away in a wacky retirement home.

But there is another side to The

Turtles. We met in their office at Hollywood Center Studios (formerly Zoetrope) where they are writing a straight psychological thriller screenplay. As our conversation meandered playfully from history to philosophy to rude evaluations of show business, I was alerted to the diversity of their careers. Mark and Howard were burned badly as The Turtles, resulting in an intense seriousness about their work ethic today. Like samurai clowns, they study hard to make their goofness precise.

It all started back in '62 when Howard and Mark met in acappella choir class. Howard was a member of The Nightriders, a surf band in which he played saxophone. "All I could do was honk the horn, but that was the level of the band," he remembers. Mark, being a freshman, was very impressed with Howard's abilities and the fact that The Nightriders had actually cut a record. He asked to join the band, but when Howard inquired as to what he could do, the answer was "nothing." Howard's solid surf response was "cool" and the partnership was born. Mark assumed roadie responsibilities.

In the next band incarnation, "The Crossfires," Mark moved up from his position as roadie and began to perform special visual material. "We did a tune called 'Dr. Jekyll and Mr. Hyde,'" Howard recalls. "It was a moody, soft,

beachy, grab-your-girl kind of a melodic number for 30 seconds and then somebody would kick a reverb and scream and we'd make animal noises as Mr. Hyde came to life. Mark hid behind the amps and would jump out wearing a mask and go berserk over these surfing changes. The littler kids were scared to death."

The Crossfires got a regular weekly gig at a nightclub owned by deejay Reb Foster, where they also backed up vocal groups like The Righteous Brothers and The Coasters. One of their forgotten classics was "One Potato, Two Potato." "Variety said any resemblance to music was purely coincidental," Howard remembers. "They called it a bomb—and it was a bomb—but it got us on TV and charted big in San Bernardino." As a publicity gimmick, the band actually signed potatoes for their fans. "We didn't fully understand marketing at this point," Mark surmises.

Since The Crossfires were strictly an instrumental band, Howard and Mark began honing their vocal skills in a folk trio called The Crosswind Singers with Betty McCarty, whom Howard vividly describes as "a girl with blond hair." They played coffee house gigs and when graduation arrived, The Crossfires disbanded. Our two heroes stumbled through a meeting with Reb Foster and were offered a record deal just after the release of "Mr. Tambourine Man" by The

Byrds. They had folk material, electrifying instrumental experience, and most important of all, they had a 12-string guitar! Out of the first sessions came their version of Dylan's "It Ain't Me Babe."

Bonzai: So this was the birth of The Turtles...

Kaylan: Well, these clowns didn't even have a name for the record company at the time. Foster told us "The Crossfires" wasn't going to work for our new vocal material. He said it was folk-rocky, then paused and told us to call ourselves The Turtles. We just laughed—we couldn't believe it. He said, "No, you've got to see the potential from a marketing standpoint. It's an animal name, it's got an 'les' ending. It's got a British sound and hopefully the audience will confuse you with an English band and you'll get in on the trend here."

Bonzai: And now you're using the name again?

Kaylan: Absolutely. You see, we began our diversification around the time we started using the names Flo and Eddie. The Turtles broke up in 1970, then we toured with The Mothers of Invention for two-and-a-half years. Flo & Eddie were born in '72 and we toured sporadically

until 1977. We also had a syndicated radio show—a strange program with guests like Ringo and Keith Moon. We were head writers on some TV specials—one was for The Unknown Comic. We also wrote special material for Frank Zappa's *200 Motels* and got involved with an animation company, Murikami-Wolf. That led to an X-rated animation feature called *The Dirty Duck*, which no one knew how to market. The animation audience found it disgusting and the porno crowd didn't get off. But working in animation landed us a job for the music on the first Strawberry Shortcake special. We have continued doing the music for animation specials and have done a pile of children's records for Kid's Stuff Records.

Volman: Then last year we joined up for the "Happy Together" tour, which started out as a five week tour and ended up going for 19 weeks and playing to over half-a-million people. We had reclaimed the name back in '74 after four years of litigation and there was a real reason to start being known as The Turtles again.

Kaylan: We were continually clarifying who we were and the same people who came to see Flo & Eddie know we're The Turtles, so we decided to stop pounding it out as Flo & Eddie.

Bonzai: Is personal hygiene an important factor with your close personal friends?

Kaylan: How close are these friends?

Volman: Yes, it's really important when we're on tour, because we travel in a 33-foot motor home. It's nice when the members of the band think about the other guys in the group. We learned that in YMCA. If you were ever a Weebalow, you know that cleanliness is next to godliness. It's the foundation of my youth.

Kaylan: "Keep a tight brown" was right in there, too—an old surfing term.

Bonzai: What did you think when you first discovered puberty?

Kaylan: Not bad!

Volman: My parents never really explained puberty to me. I think my first relationship was with one of those poles we used to climb in gym class. All of a sudden, climbing that pole became an intense day-to-day experience.

Bonzai: How would you describe yourself to an extraterrestrial?

Kaylan: This is like a talk I would have with my parents, so I can relate rather well. I would say I'm just another bi-ped trying to make a buck.

—PAGE 62

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Volman: We both feel that we've frustrated our parents a lot.

Kaylan: It's been part of our daily struggle to prove, "It's OK, mom."

Volman: We've been working together now for 23 years and long ago got over living up to the success factor of The Turtles. You can't really blame us for the first five years of our success. It was luck and the times. In '74, when the band officially broke up, my second daughter was born and I found myself with \$75 in the bank—after being with one of America's most successful bands. As we've gotten older, we've come to the conclusion that we're not in such a big hurry—that life is not an album-to-album existence.

Kaylan: Mortality is a very fragile thing and when it touches you—as with the deaths of people like Belushi, Bolin, Lennon, Keith Moon...

Volman: You don't want to die; you want to live and watch your kids grow up.

Volman: By the way, nobody ever talked to us when they wrote those burn-out books. I read the Belushi book and I don't remember John ever being like those days. We remember the times we had dinner and he was soft and we had great fun together.

Bonzai: If you could be any woman, from history or alive today, who would you be?

Kaylan: Hmm... Madame Curie, Mamie Van Doren, Mother Theresa—what do you say to a question like that—Helen Reddy, Hepburn, maybe. I think of the great ladies of the theater—Helen Hayes? Indira Ghandi, Bella Abzug, Diane Keaton...

Volman: I'm reminded of someone I came in contact with during my educa-

tion. She was Carol Lockridge, the first lady principal at my junior high. I remember her strength and how she ran the school, because I spent a lot of time in the principal's office. I had a tremendous amount of self control problems between 11 and 15. I had to be the center of attention wherever I went, but school is a good place to learn discipline—just getting up in the morning and having to be somewhere. You can't run away from day-to-day existence. Howard and I are here from 10 to 6 every day.

Bonzai: Who put the "dip" in the "dip da dip da dip?"

Kaylan: No one.



Bonzai: You mean it hasn't been done?

Kaylan: No. You're talking Messiah stuff.

Bonzai: Why do fools fall in love?

Kaylan: Because they're sensitive.

Bonzai: What historical period would you have liked to live in?

Volman: I would have liked to come through the '30s and '40s. I would have liked to meet George Gershwin, Oscar Levant—it was a great time to be an artist. People were very open to new ideas and it was also a great time for sports.

Bonzai: How about you, Howard—the Old West?

Kaylan: No—maybe Victorian England. I would have enjoyed the formality of that time. There was a lot of discipline.

Bonzai: I'm shocked at all this talk of discipline...

Kaylan: Well, you can't come out and talk computers to people—they come to see you be hilarious.

Bonzai: Why do you guys wear rubber clothing?

Kaylan: What—you mean this duck suit? Because it makes me feel more anonymous here in Hollywood.

Bonzai: Of all the animals in the kingdom, which would you most like to copulate with?

Kaylan: What's going on here?

Bonzai: Oh, just digging into your inner psyche...

Kaylan: Well, I can't see you asking Debbie Reynolds that question. I person-

—PAGE 66

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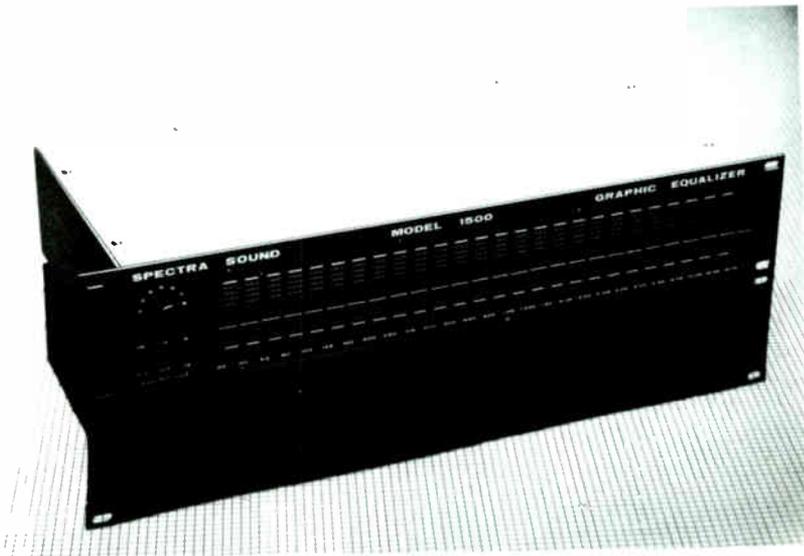
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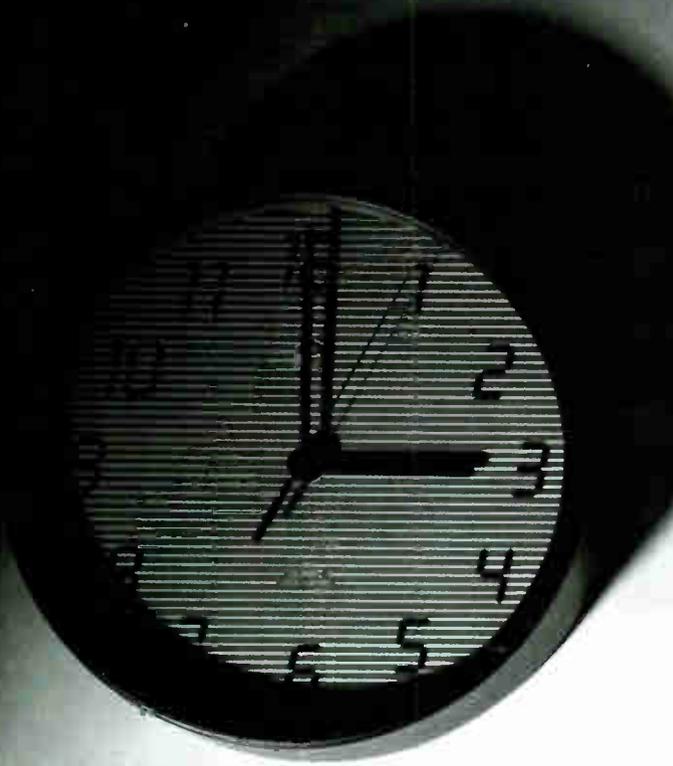


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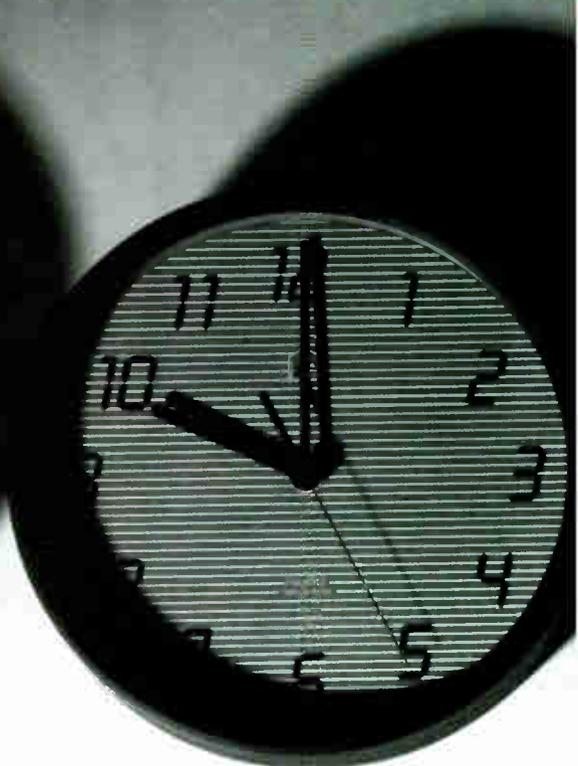
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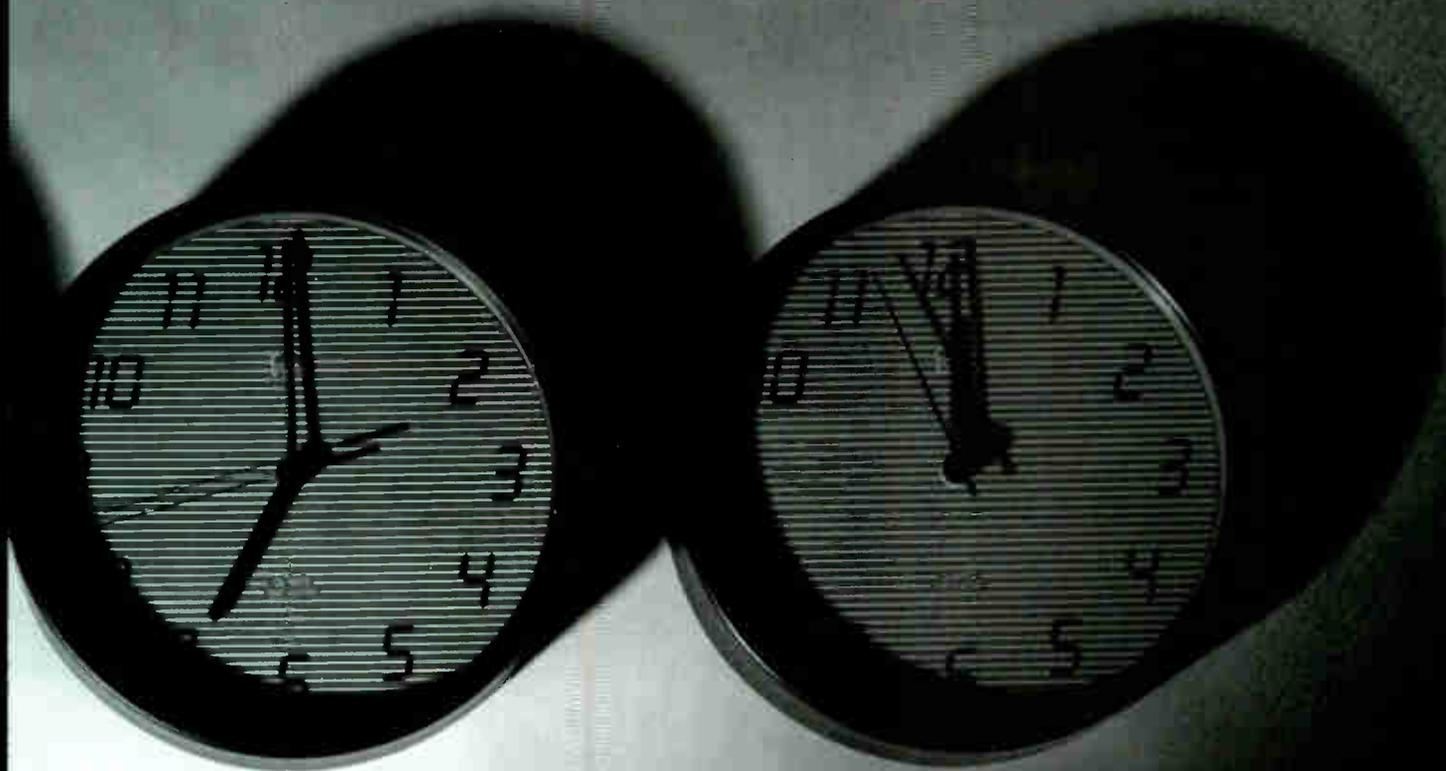


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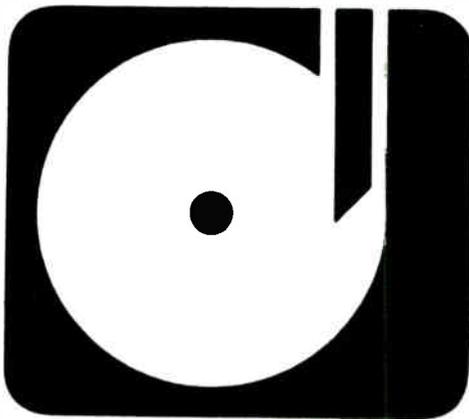
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—FROM PAGE 61

ally happen to know the answer, but I don't think she'd tell you. Actually, for myself, to have a preference would be to exclude other species—I just couldn't do that.

Bonzai: What is the difference between animals and human beings?

Kaylan: Guilt.

Volman: Human beings wear Motley Crue T-shirts. I never see animals wearing those sorts of things, but otherwise, they're pretty close. Humans buy Ratt records—no animal is dumb enough to go out and spend money on a Ratt album.

Bonzai: Have you ever witnessed a miracle?

Volman: The miracle of a lifetime took place one night when we were just getting ready to shoot *200 Motels* with Frank Zappa and the bass player quit. We were doing auditions and had just finished with Wilfred Brummel, "the clean old man" in *A Hard Day's Night*. Frank sat back and said, "The next person that walks through that door is going to be in the movie and play the bass player." We all sat and waited and in walked Ringo's chauffeur, who wasn't looking for work. He just happened to be 28, had long hair, spoke in a deep English accent, and had even played a little bass. Within 24 hours he learned the dialogue and the bass lines and appeared in the movie.

Bonzai: Let's touch on Zappa.

Volman: Frank is a uniquely talented man and has the ability to use the best aspects of every individual in his unit.

Kaylan: Working with Frank was where we unstructured, beach-kinda guys learned discipline.

Volman: It's been useful as we've diversified. We're no longer in a big hurry. If people are drawn to us, it's because they discover new things about us.

Kaylan: We're concentrating on a career that isn't just pop music, or theater, or what side of the camera you're on. We've stayed in this business because we like the work.

Volman: I see Shirley Maclaine at 50... we come in to the office at 10 and George Burns is already here—he'll be 85 this year. That gives Howard and me another 50 years. Our fans come out with their kids to see us and they feel good about their lives knowing that we're still excited about ours.

Kaylan: I don't have a Woodstock-type commitment to us baby-boomers, I just hope that the next generation isn't quite as crazy as we were. It took some of us a very long time to get our feet on the ground.

Volman: We're starting to understand our place. We're not content with success on any one level, and we're not distracted by failure. ■

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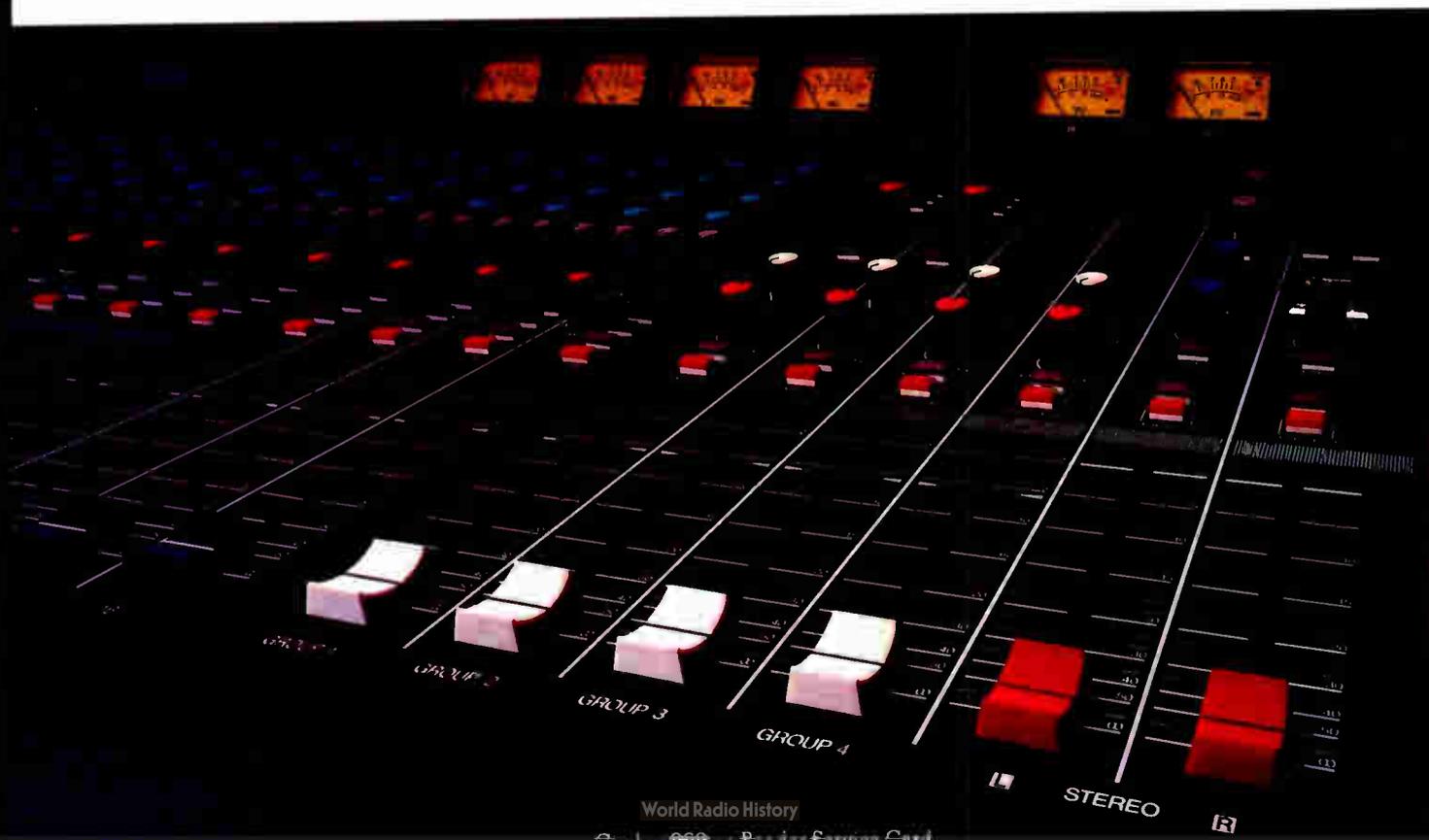
foldback sends, two post-EQ and post-fader echo sends, pan control, group 1-4 assignment switches, cue and channel on/off switches, and a 100-millimeter fader.

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INTERNATIONAL UPDATE:



(Above) David Neal (left) and associate of Audio Kinetics, Ltd. (U.K.) unveil their new Eclipse editor/synchronizer.

(Right) Manuel Huber and Gene Michalsky of FM Acoustics (Wädenswil, Switzerland) with the new 801 precision power amplifier.

HAMBURG GERMANY



The 77th Convention of the Audio Engineering Society was held in Hamburg, West Germany from May 5th through 8th. According to the AES, the convention was the largest ever held in Europe, with 163 exhibitors representing 190 companies. The show also commemorated the 50th anniversary of the invention of the tape recorder, the AEG Magnetophon, in 1935. A special program was held in observance of this event, and an historical exhibit provided by AEG Telefunken displayed numerous inventions spanning the first fifty years of tape recording.

ALL PHOTOS BY HILLEL RESNER



(Above) The AEG Telefunken exhibit displayed an early Magnetophon tape recorder on the 50th anniversary of its invention.

(Right) Brad Harrison of Harrison Systems, Nashville, TN, presents their new HM-4 sound reinforcement console.





AES/EUROPE WRAP-UP



Daniel Vissiere of VCL Audio (Vallegue, France) stands with prototype of their software-based console. All parameters are digitally controlled, so that patching, tonality, effects and levels are stored for later recall. The touch-sensitive console has no mechanical controls.

(Below) Claude Roubin, chief engineer at Comel (Gennevillie, France) with the Mach 205 digital switchmode power amplifier.



NAGRA IV-S TC



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—FROM PAGE 5, FEEDBACK

where low noise is a prime objective, many popular microphones lose their attractiveness. Also, most are transformer coupled, inducing a certain amount of phase error and low frequency distortion (these are characteristics of transformers generally; very few are free of them). Because of their external shape and the housing of the diaphragm itself, many widely used microphones exhibit

a lot of high frequency roughness and drastic off-axis coloration, traits that limit their possible uses.

PRE-AMPS

Because most of the system gain occurs here, these stages must be as quiet as possible. Transformers buy a lot of noise-free gain, but with the aforementioned drawbacks. The design of transformerless inputs requires a great deal of care to keep noise, including radio frequency interference, at bay.

SIGNAL PATH

The virtues of a digital multi-track machine can be compromised by the indignities of complicated signal paths. In a typical studio configuration, the signal, all the while in the analog do-

main, is required to follow an extremely convoluted path through switches, faders, patch bays, and other mechanical parts that are subject to a host of problems—oxidation; deterioration of solder joints due to heat cycling, the fouling action of smoke, spilled beer, and other indigenous pollutions; deadspots caused by dust; and breakage. This is to say nothing of the electronics; the number of integrated circuits, electrolytic capacitors, and inductors the signal must traverse can be truly staggering.

Given currently installed hardware, it behooves the engineer to keep the signal path as simple as possible, particularly avoiding multiple analog/digital, digital/analog conversions. This, however, is not always easy. Because of training, inclination, intuition, and console ergonomics, not to mention knob-happy producers and clients, most studio engineers find it convenient to think in terms of complex routing of the signal.

Now, as the saying goes, if you put off doing something long enough, the need for doing it will cease to exist. When fully digital consoles become readily available and affordable, all of this will become a non-issue. And with anything revolutionary, be it The Pill, The Bomb, Digital Audio, or whatever, many cherished ways of doing things become vestigial, and it takes a while for new techniques and aesthetics to evolve.

According to some, the demise of Edison's beloved cylinder (in many ways technologically superior to competing systems) was due mostly to his imposing upon the medium his own limited musical tastes. Technology alone cannot lessen the trash.

Sincerely,
Al Swanson
Location Recording
Seattle, WA

Dear *Mix*:

I am a freshman at Alpena Community College, Alpena, Michigan, and wish to pursue a career as a music producer and recording engineer. My problem is finding the right college or private school that will meet my needs. Could you send me a list of two- and four-year programs in multitrack recording?

Sincerely,
Paul Bruski
Alpena, Michigan

Dear Paul:

Unfortunately all of our July, 1984 back issues, with listings of over 100 recording education programs in the U.S. and Canada, are sold out. However, we are now in the process of compiling our 1985 schools directory, which will be included in our July 1985 issue. Watch for it.

multimix

16:2:1 12:4:2:1 16:4:2:1

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ARTIST STUDIOS



Great Immediately Recording

by Brooke Comer

To the unsuspecting passerby, Bob Christianson's turn-of-the-century, brick and stone townhouse looks like just that, a renovated home in Chelsea, a residential area on New York's west side. But those in the industry know that Bob's home is the site of his studio, Great Immediately Recording. It's also the birthplace of soundtracks for CBS news, CBS Sports, the *NBC Nightly News*, the film score for the Comworld motion picture *A Billion for Boris*, and jingles for such companies as Chevrolet, Goodyear, and for the jingle house of Sicurella/Smythe & Associates.

A lucrative career in the jingle industry gave Bob the means to build Great Immediately, and diversify his talents. The writer/composer/arranger still contributes vocals and plays synthesizer,

but he's able to participate in more than one role in an entire production. Currently the sub-conductor of NBC's *Saturday Night Live*, Bob began his music career after earning a Masters in music at Ann Arbor. "I started conducting *The Magic Show* as Paul Schnaffer's sub. I did Broadway shows, including *Godspell*, and *Gilda Radner Live From New York* for about three years, but I always wanted to be in a more creative position in terms of writing and arranging."

When Bob built his first home studio, he began to expand his role to include more creative facets. "I had a one bedroom apartment and I put in a TEAC eight track, an Electro-Voice C12 mixing board, and assorted outboard gear. It was basically just for demos, but when I did the soundtrack demo for the NBC news, through Sicurella/Smythe, they liked it just as it was, and it's still running

in that format."

When Bob outgrew his first studio, he began to plan Great Immediately. Impressed by the acoustic design of Deodato's Duplex Sound (see *Mix*, May 1984), Bob hired Deodato's designer Joseph Carrero to do the layout for the 16' x 21' studio, with its 6' x 4' vocal booth. The wood floors were replaced with poured concrete for extra insulated soundproofing. Bob borrowed ideas and inspirations from colleagues' home studios when he began to develop Great Immediately.

While recording vocals on Ian Hammer's *Black Sheep* LP, "I realized that it was possible to do a quality album on an old Scully eight track machine," he says. "Without all the studio hype and elaborate acoustics we got some fantastic records at Red Gate (Hammer's home studio profiled in *Mix*, February 1984).

The AMEK M-2500

can be configured for applications in music recording and stereo video teleproduction.

All AMEK consoles are built with the finest components and are entirely hard-wired—even the patch bay. By avoiding high-speed manufacturing techniques and other short cuts, you're assured of superior performance and that consistently unbeatable AMEK transparent sound.

- 36 to 56 VCA Inputs
- 36 to 56 In-line Monitors
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- Variable Hi Pass/Low Pass Filtering
- 6 EFX Sends
- VU or 40 segment PPM/VU LED Metering
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- Solo in place
- Two Line Inputs per channel
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- Full Master Status Switching
- Automation compatible with MasterMix, Massenburg, Arms, and Optimix

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(415) 328-8338

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Phone (818) 508-9788 • Telex 662526*

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Phone (514) 445-2662 • Telex 05-268728*

*In the UK: AMEK SYSTEMS & CONTROLS, LTD.
Islington Mill, James Street, Salford M3 5HW, England
Phone (051) 824 5747 • Telex 558177*

Jan was a big inspiration."

When he selected equipment for his studio, Bob consulted Ben Rizzi of Master Sound. "Ben's been a great help to me as a technical advisor. I shopped for a board that didn't have any bells or whistles on it, but that had great transient response. That's all I wanted—to get the sound on tape clean. The synths I have are all state-of-the-art. Once I get it all down on tape, if I want to mix somewhere else, and the format's the same, I do it. I've got enough outboard gear so I can do any effect I want with the digital delay, echo and equalization."

Bob's choice board, an Audioarts 8X (32x8x2) has automute parametric EQ and full patchbay. It is joined by Ampex MM 1200 24 track tape ma-

chines, Ampex ATR 102 two tracks, an Otari 5050-B two track, and Mitsubishi cassette decks. His outboard equipment includes Lexicon 200 digital reverbs, as well as Lexicon PCM60, AKG BX-10 reverbs, Lexicon PCM41, UREI Metro- nome, UREI LN 1176, a dbx 61 compressor, Orban Parametric, and Orban de-esser, Korg SDD-3000 DDL JVC ¾ video deck and monitor, and more. His synthesizers include the Synclavier II, Super Jupiter Prophet 5, Emulator II, Roland MSQ 700, Minimoog, Dr. Click, LinnDrum LM-2, Yamaha DX7, among others. Bob chose Neumann U-87, AKG 414s, and Shure SM-41 and 81 micro- phones. His piano is a 1939 Steinway "M" grand; monitors are EV Sentry 100, Yamaha NS-10Ms and Auratones; and

power amps are UREI and BGW.

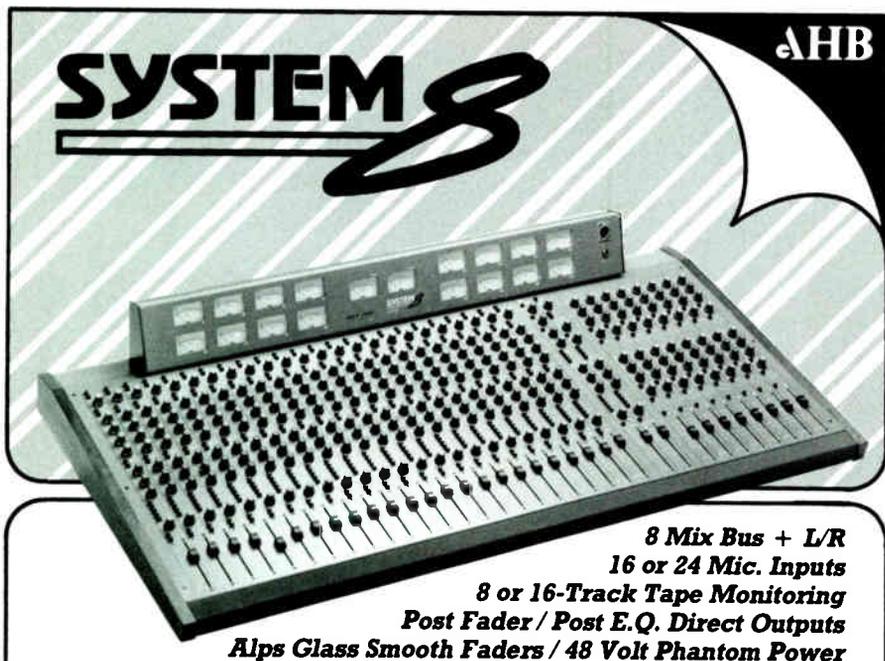
Bob's interest in different phases of production makes Great Immediately an ideal vehicle for his many talents. "Since I also write and arrange, I like to be involved with all the people who are creating the project as opposed to just the synthesizer part," he notes. "With my own studio, there's no pressure. I can spend the whole week working on something, and then throw it away if I have to, and not worry about spending thousands of dollars on studio time. Having your own space gives you the extra time to be inventive, and to experiment. You don't have to go for stock sounds that you know will work. You have more freedom. When I do jingles in other studios, the time constraint is so great that I go for a sound I'm sure of, rather than spending the time to look for a new sound."

Clients that come to Great Immediately with a major project find relatively low rates because Bob's overhead is simply his own rent. "Sometimes I'll bring in freelance engineers, but it isn't always necessary," he says. "I've become more sensitive to good and bad engineering since I learned to do my own work. My clients and I work out a flat fee, and if I have to work overtime, that fee won't change because I'm not booking time in a studio."

One of the problems home studio artists face is a brittle sound when they run their tape on another machine. "I've never had that problem," Bob reveals. "When I did the sound for the *CBS Evening News*, it was recorded first through my Audioarts board and then remixed on a Neve and Studer 24 track at A&R Studios. There was no problem at all. The goal was to get it on tape cleanly, with the best signal-to-noise ratio and the most dynamics as possible.

"I chose a board with a lot of headroom so I could really saturate the tape without distorting the board or the machine. I do all my tapes at 30 ips, without noise reduction, because it's a cleaner sound, especially with the Ampex machine. At 30 ips, the noise is virtually nonexistent, especially with Ampex or Studer machines, and the only reason to go to 15 ips is to save tape. But considering that a good noise reduction system costs \$20,000 you've got to use up a lot of tape to get your money's worth."

The secret to Bob's success is the synthesis of various techniques that he is able to bring together into his studio. "For jingles, I listen at low volume, TV volume, because it's more truthful. For any TV that I do, I try to use a lot of record techniques in terms of compression, and I use current record-sounding digital echo settings. A lot of jingles up to a few years ago didn't use any processing gear at all. I bring my experience with record making into play when I do a jingle." ■



SYSTEM 8 **AHB**

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Circle #064 on Reader Service Card



16-TRACK REALITY

Don't just dream about owning your own 16-track. Now you can get all that extra flexibility for a whole lot less than you might think.

With models starting as low as \$5900*, each Fostex B-16 1/2" 16-track recorder is complete with:

- Dolby + C noise reduction circuits (defeatable) on individual record/reproduce cards
- rock stable 3-motor transport mounted on a 1/4" machined alloy plate
- 15 ips with $\pm 15\%$ variable speed operation
- multi-pin connector for video interlock synchronizers
- Killer Sound

Why even consider a re-built old 2" machine? At two, three, even four times the price, it won't sound as good as the B-16. And it won't even perform as well as the B-16, configured with some of the options.

For example, the model with independent tape monitoring is really a whole package:

- direct drive capstan motor with phase locked loop speed control
- 7" rack mount unit with 16 independent channels of decode & reproduce (defeat switch)
- remote control unit with individual track select buttons, headphone jack and level control, line out jack and a VU meter for fast alignment

You'd have to pay almost ten times the price of a B-16 to get this kind of dedicated monitoring function. Tape reproduce is entirely separate from the record/sync electronics.

Which makes the compact B-16 perfect for live audio and video remotes. It even has handles.

And it's as easy to use as it is to own. You can expect nice user-friendly touches like:

- blinking track numbers for record ready status
- real time tape counter with search-to-zero from either direction
- servo control over reel rocking in edit mode
- spot erase capability
- coarse and fine pitch controls with blinking LED for ON status
- optional full function remote control and auto locator

Increase your audio production capability while decreasing your costs. You'll not only save on your initial investment, but operating costs as well — both tape and maintenance.

Right now, the B-16 is the smart move in 16-track hardware. Let your Fostex Professional Multitrack Dealer^o prove it. For real.

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World Radio History

SOUND ON STAGE

MEYER HOSTS SYMPOSIUM

Meyer Sound, of Berkeley, CA, recently hosted the first of a series of training seminars in the use of its Source Independent Measurement technique. The SIM™ sessions introduced Meyer Sound dealers to the principles and practice of the method that, according to Meyer officials, allows elimination of acoustic resonance caused by acoustically inferior performance environments.

The method employs a dual-channel FFT spectrum analyzer to analyze the effects of the room on a loudspeaker system, and the Meyer Sound CP-10 Complementary Phase Parametric Equalizer to neutralize these effects, flattening the room response and removing response curve modifications caused by delays of up to 40 msec.

The two-day seminar concluded with individual sessions of hands-on instruction with John Meyer using the HP 3582A dual-channel FFT spectrum analyzer. Andre Perman, of Bruel and Kjaer was also on hand to demonstrate the company's new dual-channel signal analyzer, the 2032, which has been in use for several months applying the SIM technique to the Grateful Dead concerts.

HARRISON SUPPLIES THE NORWEGIAN THEATRE

Harrison Systems announced today they have delivered five consoles to the Norwegian Theatre (DNT) in Oslo, Norway. These consoles, three HM-5s, one Alive, and one Raven, represent the first Harrison equipment sold in Norway.

The three HM-5s and one Alive are to be used in each of the four theatres that comprise The Norwegian Theatre complex for live sound reinforcement. The HM-5s are specifically designed as front of house mixing consoles for portable and fixed installation sound reinforcement systems. Features include a 32 input main frame, 16 auxiliary effect sends, eight stereo group busses, four-bandfully parametric EQ, two headphone cue busses, group output matrix, input mute/enable matrix, VCA grouping, and rugged, welded-box outer frame construction. The Alive is designed as a house mixing console for portable and fixed installation sound reinforcement systems. It features 32 and 24 input mainframes, four main stereo outputs which can be linked for mix matrixing, eight auxiliary sends, three-band sweep EQ, layered VCA group-

ing, PFL buss, three point led overload indication on inputs, and 18 segment LED VU/PPP meters on main outputs.

Harrison's Raven was purchased for use in the theatre's electronic music and recording studio. (The Raven is offered in a single configuration consisting of a 40 position mainframe which will accommodate 36 output modules.

Harrison Systems credits SIV ING Benum, Harrison's new dealer in Norway, with the transaction. Mr. Arne Dassnes of that company is the Systems Integrator and Installation Director for all five systems in the project.

NIGHT AFTER NIGHT . . . LTD. PRODUCTION COMPANY FORMED

Danny Harrison and Marc Silag have formed a full service tour and production management company . . . Night After Night . . . Ltd. The new firm is based in New York City's Brill Building and by virtue of computer technology, can operate "anywhere we have access to a phone."

The two veterans have cultivated an international tour and production support network and plan to use computers in the field to control accounting, box office, logistics, budget planning and a number of other organizational functions, including travel services and merchandise management. The firm will also coordinate and manage special projects such as recording and video work, as well as special events. Tour credits with Simon & Garfunkel, Billy Joel and Herb Alpert among others, preceded the firm's founding. For further information contact Danny Harrison or Marc Silag at 1619 Broadway, New York, NY 10019, (212) 541-7571.

ESPRIT GETS HIGH TECH AUDIO

Sound Genesis, the San Francisco-based pro audio system design

and supply giant, has announced the completion of state-of-the-art custom sound systems for apparel maker Esprit de Corp's new Los Angeles and San Francisco retail stores. The projects, with a combined total cost of approximately \$200,000, took ten months from start to finish and included several custom features and specially designed components.

"Our line is for the young, 'now' kind of woman," commented an Esprit spokesperson. "And music is an integral part of that lifestyle. So getting a sound system that was just right became a top priority for us."

Each outlet posed separate problems, due both to different physical characteristics and different interior designs. In the Los Angeles room, for example, the strategy called for the speakers to play a predominant visual role, which was achieved by the use of large speaker horns descending from the ceiling. In the San Francisco room, however, the goal was just the opposite, to have the speakers blend into the ceiling. "The San Francisco showroom is a hi-tech masterpiece of display," said system designer Steve Martin. "Sixty-eight JBL speakers were hung strategically in order to assure appropriate stereo imaging and good coverage throughout. We were able to arrange for custom cabinets and grill covers so that those large speakers would fit in with Esprit's decor."

Both systems allow for maximum flexibility. Music may be piped into offices and other areas of the buildings, or may be instantly muted for intercom paging. Included among the top-of-the-line components are speakers from JBL, tape machines from Otari, amplifiers from BGW, signal processing from Aphex, and various custom preamplifiers and switching devices designed and built specifically for the project by Sound Genesis.



The Norwegian Theatre selected a Harrison Raven console for their electronic music and recording studio.

Reflection Perfection...

...whether you're mixing down from multi-track or producing audio-for-video, TOA's new **ME Studio Monitor** outputs a crystal-clear mirror image of **any** input.

The ME's have symmetrically-arranged drivers. Take a look—the Left monitor is a mirror image of the Right monitor. What you see is what you get: **stable** and **true** stereo sound imaging within the confined spaces of recording studios and broadcast control rooms.

What's Your Reference Preference?

Do you prefer a 3-way system or a 2-way... or a full-range mini-monitor that sits atop your mixing console? Do you prefer mid- and high-frequency attenuators to tailor the monitor's output to specific room acoustics?

It's your choice, because there are four different ME Systems to suit every need...

...each one easily handles the wide dynamic range & precise acoustic demands of digital and advanced analog sound.

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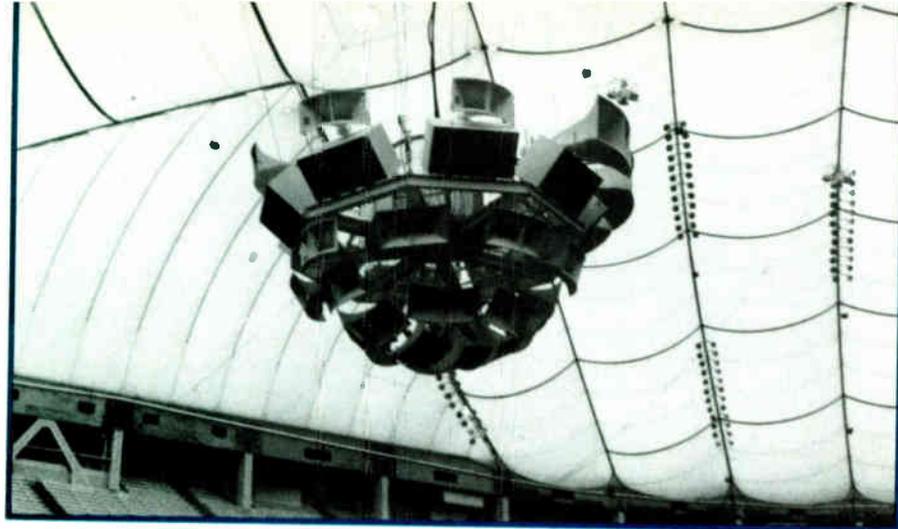
In Canada: TOA Electronics, Inc., 10712-181 Street



World Radio History

TOA





HOOSIER DOME INSTALLS E-V CLUSTER

The Hoosier Dome, home of the controversial Indianapolis Colts, according to Quentin Quinn, sound supervisor at the Hoosier Dome, "opened on May 5th with the Mayor's kick-off banquet for the Indy 500 and since then, we have done everything from dirt-track auto racing to a fully reinforced performance by the Indianapolis Symphony."

Unlike sound reinforcement in a pure sports arena, the system in the 60,000-seat Hoosier Dome must provide coverage of the playing field as well as seating arenas. To produce this coverage, Coffeen Anderson Fricke & Associates of Mission, KS, acoustical consultants for the project, employed a "semi-distributed" design in the stadium. Electro-Voice horns and drivers are used exclusively in these clusters.

The 6,500-pound main cluster is comprised of Electro-Voice HR9C40A, HR6040A, HR4020A horns, DH1012A drivers and TL606D bass bins. This main cluster can be raised or lowered to accommodate various types of activities.

In the "sports mode," the main cluster is very near the roof for clear visi-

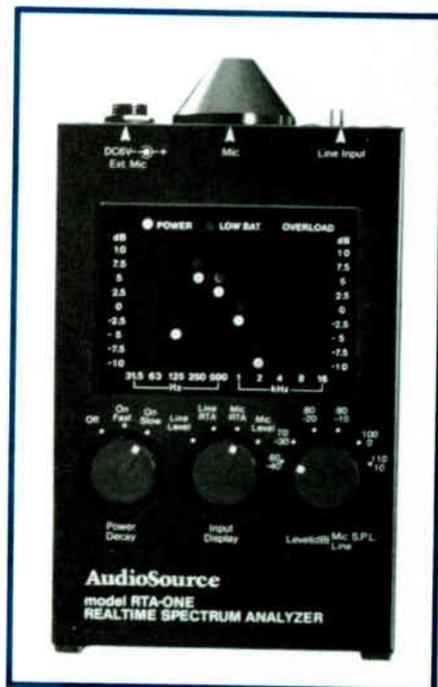
bility. This "up" position is used principally for sports announcing. In the lower "show mode," the cluster is "down" about 45 feet above the floor so performers below it won't be affected by delayed sound from the cluster. Large conventions, concerts, shows and half-time presentations, for example, require this positioning.

An "extended" cluster supplements the main cluster at the opposite end of the field, and 22 small "satellite" clusters located around the perimeter of the ovoid-shaped dome cover the house. In addition, balcony areas shielded from the main system are covered by 76 E-V P1100 speakers; 100 Electro-Voice FC100s with 1828T drivers supply sound to the upper and lower concourses.

The Hoosier Dome's complex, computer-controlled switching network allows an operator to choose what combination of speakers will be on at any given time. It also changes the speaker delay times to accommodate different locations of the source, assuring high intelligibility and locational accuracy. In addition, the switching network continually monitors the amplifier system for fail-safe operation.

The CD 48 delay in conjunction with the 2 millisecond delay capability provided in the Rane crossovers can compensate for up to ten feet of misalignment in a multi-way speaker system (eight feet without a Rane crossover) for low frequencies. This wide range of accommodation proves especially useful in situations where a folded bass enclosure is employed. The propagation delay of a folded enclosure can easily lie very near the maximum delay capabilities of this product.

The suggested list price is \$329. For further information, contact the Rane factory at 6510 216 S.W., Mountlake Terrace, WA 98043, (206) 774-7309.

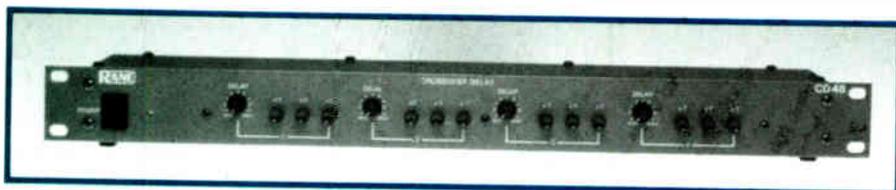


REAL TIME ANALYZER FROM AUDIOSOURCE

The Audiosource RTA-ONE can be employed as a simple sound pressure level meter to gauge speaker output or used to provide complex frequency response curve measurements. In addition to serving as a handheld device, it can also be hardwired into a system for metering purposes.

The instrument divides the audio spectrum into ten single octave bands for instant visual representation of frequency response. The unit features an easy-to-read LED display, and controls include a decay knob with both "fast" and "slow" settings. A level control adjusts the unit's sensitivity to correspond with the overall amplitude of sounds being monitored; this assures they are read out by the display, which covers a 20 dB span from 31.5 Hz to 16 kHz.

For more information, contact Audiosource, 1185 Chess Dr., Foster City, CA 94404, (415) 574-7585.

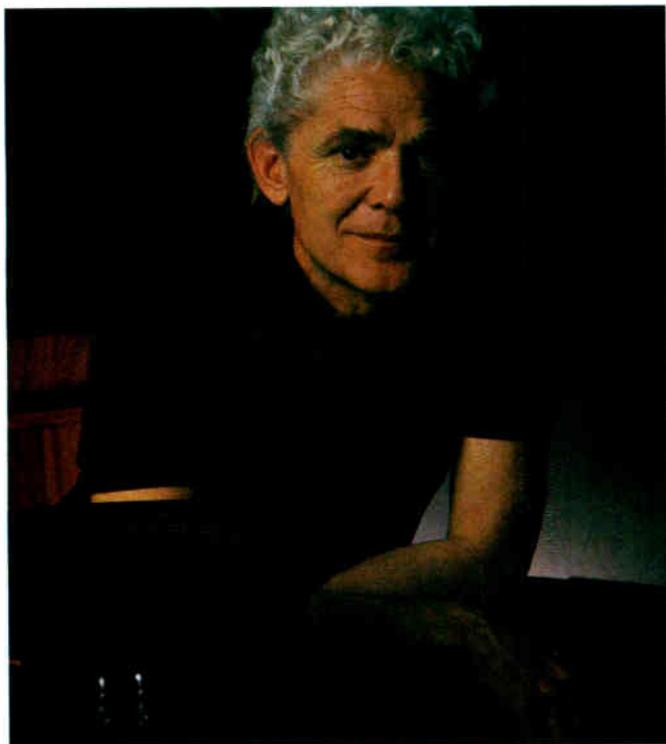


CROSSOVER ALIGNMENT DELAY FROM RANE CORPORATION

Rane Corporation has introduced its Model CD 48 analog crossover alignment delay, a device providing four independent time delay channels each capable of time delays in the range of 0 to 8 milliseconds of all pass analog time delay. This unit is specifically designed to time correct loudspeakers for the purpose of achieving a Linkwitz-Riley crossover alignment. This crossover alignment requires a crossover

which is electronically in-phase at the crossover point (for example a four-pole, 24dB per octave crossover filter, as provided by Rane models AC 22 and AC 23). The most difficult requirement of the Linkwitz-Riley alignment is assuring that the drivers of the loudspeaker system are mechanically in-phase so that the unavoidable phase cancellation nodes of any multi-driver system are sufficiently far enough off-axis to preclude their interference with the frequency response in any reasonable listening position.

Before you choose speaker components, listen to Tom Hidley.



It's a good bet that of all the people reading this ad, 10 out of 10 know the name Tom Hidley.

One engineer we spoke with called him "the best engineer in the world." Another described him, a bit more colorfully, as "pretty damn hot."

But most of you know him as perhaps the foremost studio designer in the world today.

The reason we bring this up is that the speaker components Tom prefers for his clients are the ones we make.

TAD.

"I WILL USE ONLY TAD, UNLESS A CLIENT DEMANDS OTHERWISE."

In fact, he does more than prefer them. Insists Tom, "I will use only TAD, unless a client demands otherwise."

We, of course, are delighted that Tom feels so strongly. But it should also be of more

than passing interest to you, since you want the speaker components you use to be the best.

And on the subject of "best," Tom has some very definite opinions about TAD. "They are the most state-of-the-art, consistent quality products today. Nothing touches their performance, honesty, stability and transient response."

"NOTHING TOUCHES THEIR PERFORMANCE, HONESTY, STABILITY AND TRANSIENT RESPONSE."

There are some sound technological reasons for such enthusiasm. For example, we use only pure beryllium diaphragms in our compression drivers for high speed sound propagation and exceptional efficiency. We also assemble every component by hand, with tolerances as close as a millionth of an inch. And we use exhaustive and esoteric evaluation techniques — such as the Doppler laser and anechoic chamber — every step of the way, from original design right through to manufacturing.

"TAD MAKES THE BEST SOUNDING COMPONENTS I'VE EVER HEARD."

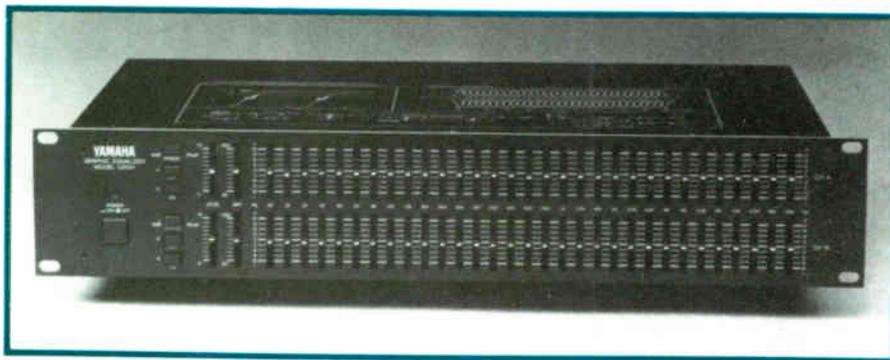
But for Tom, that's all frosting on the cake. "At the end of the day," he says, "it's what comes out of that speaker that determines success or failure. No matter what it measures, it all comes down to what it sounds like. TAD makes the best sounding components I've ever heard."

If you're in the market for professional speaker components, for yourself or a client, we hope you'll seriously consider what Tom Hidley has to say about TAD.

And thanks for listening.

TAD Technical Audio Devices

Professional Products Division of Pioneer Electronics (USA) Inc.,
5000 Airport Plaza Dr., Long Beach, CA 90815. (213) 420-5700.



GRAPHIC EQUALIZER FROM YAMAHA

The newest product in the Yamaha Combo Products Division's line of

professional rack-mounted signal processors is the Q2031 graphic equalizer. Using two spaces (3½ inches) of a standard nineteen inch professional rack, the

Q2031 provides two channels of up to six or twelve dB of boost or cut. Each channel's 31 bands are centered at International Standards Organization (ISO) one-third octave frequencies from 20Hz to 20kHz.

Some of the Q2031's other features include: EQ bypass switch for each channel; high-pass filter for each channel with roll-off frequency adjustable from 20Hz to 200Hz or bypass; range switch on each channel to select 6dB or 12dB of boost/cut; transformerless balanced XLR connectors and unbalanced ¼" phone jacks for inputs/outputs; provisions for input and output transformer balancing; and status indicator LEDs to denote 6dB/octave range, high pass filter on, channel on, and peak input level.

The Q2031 has a suggested retail price of \$550. For more information write Yamaha International Corporation, Combo Products Division, P.O. Box 6600, Buena Park, CA 90622.

AFFORDABLE PHASE ALIGNMENT

RANE CD 48 CROSSOVER ALIGNMENT DELAY

The CD 48 will allow accurate phase alignment of non-coincident drivers in multi-way speaker systems, for improved frequency response over a maximized dispersion area.

- Four separate channels each with 0 - 8mS continuously adjustable delay.
- Channels are cascable for 16, 24 or 32 mS total delay.
- Analog circuits provide full 20-20kHz bandwidth at all delay settings, less than .09% distortion.
- Only \$329 suggested list price.

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CANADA: Head-water Ind., 635 Caron Ave., Windsor, Ont. l519l 256-5665

Ask for a free copy of Rane Note 107 on speaker phase alignment.

Circle #067 on Reader Service Card



SHURE REINTRODUCES GREEN BULLET

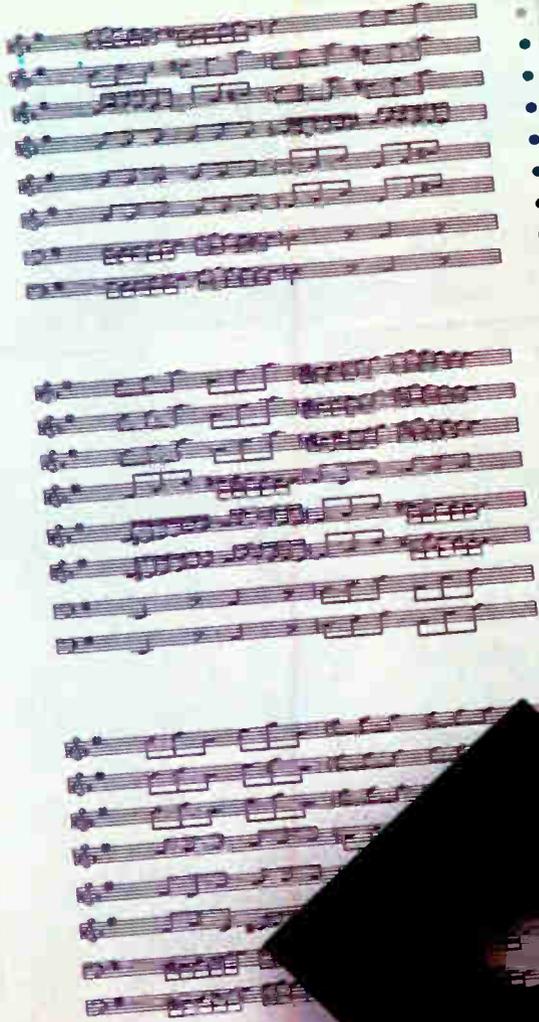
Shure Brothers Inc. has announced the re-introduction of its Green Bullet microphone, the Model 520D, which was first introduced over 40 years ago and has become a popular choice of contemporary harmonica players.

The 520D's specially controlled frequency response (100 to 5,000 Hz) is ideally suited to harmonica; and it delivers the "dirty" sound favored by many blues, rock, and country players.

The 520D is a controlled magnetic, omnidirectional dual-impedance microphone. In addition to hand holding, it can be mounted on virtually any microphone stand, boom, or gooseneck. The Green Bullet has been completely retooled and revitalized to guarantee its original performance and dependability. User net price is \$91.75.

For further information, contact Shure Brothers Inc., Customer Services Department, 222 Hartrey Avenue, Evanston, IL 60204.

NOTEWORTHY



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Circle #068 on Reader Service Card

world radio history

by Carol Kaye

Of the producers who most impressed me back in my busier session days in L.A., Al DeLory stands out as a special favorite. Meeting up with this well trained and highly successful composer/conductor/producer/arranger/writer while he was scoring Jerry Reed's exciting new film called *What Comes Around*, was one of the highlights of my recent trip to Nashville.

Al, born into a musical Hollywood family, was the guiding force behind Glen Campbell's biggest hits. He also had a good deal of success with The

Lettermen and others, and even wrote and produced an early '60s offbeat hit called "Please Mr. Custer."

A songwriter and piano player since childhood, DeLory developed his arranging chops while he was in the service... in, of all places, Las Vegas. While stationed at Nellis Air Force Base he would work nightly jam sessions in the little clubs on the West side. From the service he bounced around from Las Vegas to L.A. playing in Latin bands, writing songs and playing demo dates.

Mix: What was your first major recording date?

DeLory: One night in the early '60s I got called for a session at Gold Star [Studios, in L.A.]. Larry Levine, who was the engineer there, was putting together a band for Phil Spector and we cut a single that night called "He's a Rebel." I played piano on it, and that session created a studio career for everybody in that band. People were added on to that group, of course. Leon Russell came in six months later, and he and I became the regular studio pianists. I got the reputation as the guy who could read music. And then Don Randi and Mike Melvoyn and others came on eventually.

Mix: When did you move into the control room?

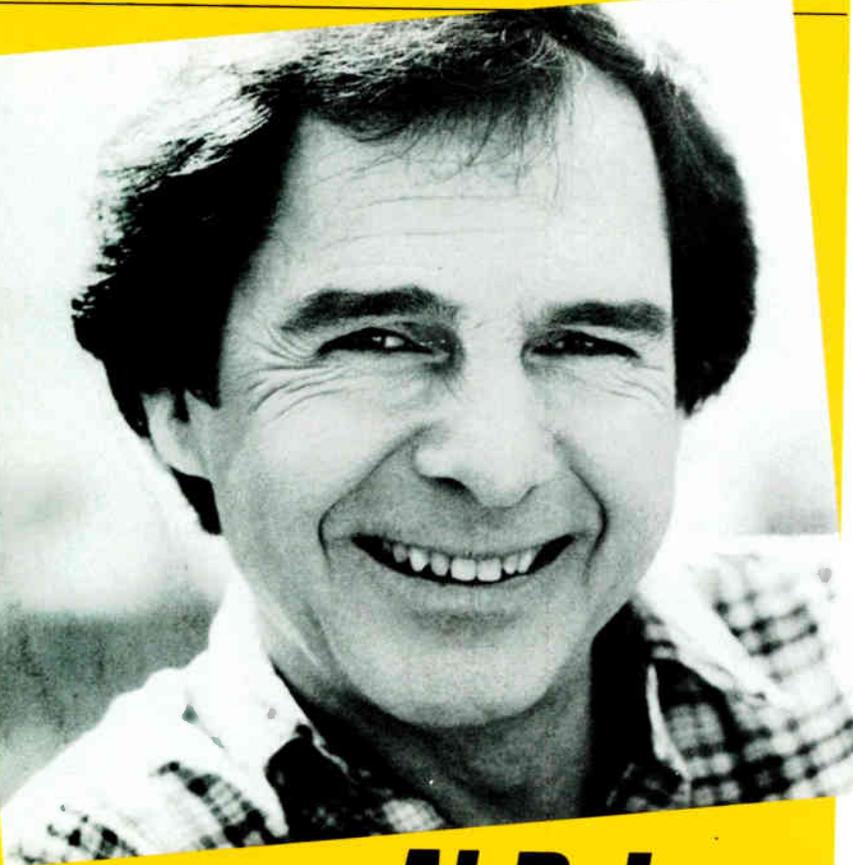
DeLory: I loved playing all the music, but my heart wasn't really in being a sideman. And one day in about '66 or '67 I heard about an opening for a staff producer at Capitol. So I interviewed, got the job, and fell into a position that felt more comfortable to me in the studio. My first client was Ray Anthony. About a year later I got together with Glen Campbell and we went into the studio and put out a single called "Burning Bridges." I was excited about it because it was the most chart action I'd seen since I'd been there. It was a small country hit.

"Gentle on My Mind" came next. John Hartford had that song on the charts, although I didn't know it at first. Glen came to me with it and said he wanted to put it on the *Burning Bridges* album, so we worked with it in the studio one night. I think the rhythm section was Al Casey on guitar, Joe Osborn on bass, Doug Dillard on banjo and Hal Blaine on drums. It knocked me out so much I told him I wanted to play it for the people upstairs and get it out as a single. He said, "No, don't mess with it. John Hartford's got it on the charts. It's got a bullet. Forget it."

I didn't buy his logic, so the next morning I played it for the people in the tower and they went crazy over the record. They cut about a hundred dubs on it and sent it out to all the district sales managers and promotion people in the field and two weeks later we were on the charts, replacing John's version. Capitol gave it a lot of promotion but it really didn't achieve the popularity in its initial release that we imagined it would. It wasn't a number one record... we were doing great with it until Bobby Gentry walked into Capitol with "Ode to Billy Joe" and stole some of our thunder.

—PAGE 84

Tracking Down



Al DeLory

WHEN YOU NEED FACTS ABOUT PROFESSIONAL AUDIO EQUIPMENT

There is hardly another business on earth where there is so much disagreement about the tools of the trade.

Competing manufacturers each argue the superiority of their products. Rumors fly about various pieces of equipment, spread most often by people who've never actually used them.

All this has very little to do with the facts.

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—FROM PAGE 82

Mix: What was your next record with Glen?

DeLory: Well, Johnny Rivers had been a friend from many session dates and one day he played me an album of his that had a cut on it called "By the Time I Get to Phoenix." He told me, "If Glen records this song, it'll be a hit." So I took it to Glen and we recorded that and "Hey Little One" the same night.

Shortly after that we met Jimmy Webb, who wrote "By the Time I Get to Phoenix," and he played us some of his new stuff. And that's how we picked up "Wichita Lineman."

Mix: I remember playing on that track. Al Casey was there and Jim Gordon was on drums. . . and Glen, of course. You'd gotten into a nice groove with both the artist and record company by that time.

DeLory: We were able to find good songs and go in and make records that just knocked ourselves out. And we had the visibility of the company and their marketing support. And that's really what an artist on a label has to fight for today.

Mix: What happened from there?

DeLory: Eventually the hits started slowing down and Capitol and I parted ways.

I had been out about five or six months and trying to get together with Glen and plan new album projects and such. I was at a restaurant in the Sunset Tower one day, and walked past a booth full of people with a man sitting in the center. I said to him, "Send me some material. I'm going to be working on a new album with Glen." And he said, "Oh, haven't you heard? You're not producing Glen anymore." So I went to a pay phone and called Glen immediately and he said, "Yeah, well, we were making some changes. . ."

Mix: Ouch! That must have been hard to swallow.

DeLory: That was a letdown for me.

Mix: So where did you go from there?

DeLory: After Glen and I stopped working together, I was still being typecast as a country producer and there wasn't a lot of demand for that in L.A. So I began studying music—composition and orchestration. I decided to raise my musicianship. And I scored a picture here and there and a few TV shows, but not really many records. Then about three-and-a-half years ago I moved to Nashville and, I'll tell you, it's taken me a while to get on a roll here. Nashville is a different kind of place and people here have very strong loyalties. And the new person coming in

here must realize that they have to spend some time here.

Mix: So now you're scoring a big new Jerry Reed movie, *What Comes Around*. Have you been finding Nashville a good place for soundtrack work?

DeLory: I want film and record producers, and anyone who's interested in soundtrack music, to know that we have an orchestra here that's as good as any orchestra in the world. And there's a certain kind of energy that comes from this place that is very unique. I think people would love it if they came here for their soundtrack work. . . and hired the Nashville Filmharmonic Orchestra.

. . .

Dear readers,

Starting next issue we are going to open up this column to other session players out there who have something to say. Just get in touch with a *Mix* editor if you want the mike.

As for me, I'm going to keep on the lookout for old cronies who are into something hot in today's music business. Keep an eye out for some special surprises coming up soon in Music Notes.

Love, Carol

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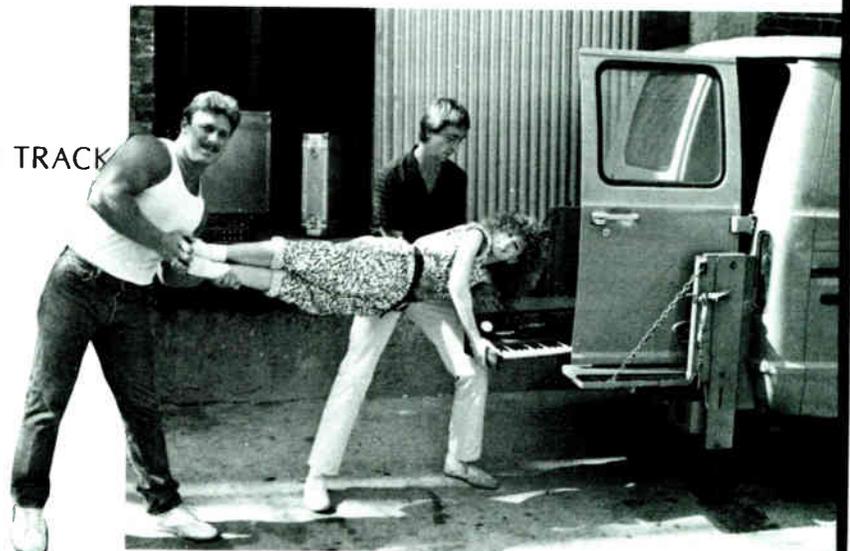
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EMMYLOU HARRIS



PHOTO: JIM MCGUIRE

The Queen of Progressive Country Hits Her Stride

by Alanna Nash

AN INTERVIEW WITH EMMYLOU'S PARTNER PAUL KENNERLY

Mix: How did you and Emmylou divide up the responsibilities for *The Ballad of Sally Rose*?

Paul: Well, when you see two names together, something done by two people, you might imagine it was sort of a 50/50 thing, but I think a great deal more of the credit must go to Emmylou. She's responsible for the story and all the main lyric ideas. I simply made her work hard at it, and drove her along, and helped her form the ideas that she wanted to put down. Possibly, musically, I may have helped a little bit more, with the writing of the tunes and so forth. But the impetus came from Emmylou. The only encouragement that she needed was that it was worth doing, and that the idea was good, and that she was a very, very good writer.

Mix: How did you conceive of the overall sound of the album, and what exactly were you going for?

Paul: Well, first of all, I was convinced that nobody would really like the sound that I wanted, but with the aid of an excellent engineer, Donovan Cowart, we actually got what we set out to get, and it survives the entire process of recording, from making the master tapes, cutting the lacquers, and having the record printed. What I wanted was that soft and bright texture, and I tried to get rid of as much of the mid-range area as I could throughout the whole record.

You'll notice there are very few solos on the record. See, I'm not a musician, and I don't really like guitar sounds. I like the guitars, and all the instruments, really, to just weave a backdrop. I'm not very keen on instrumental solos of any kind, because I don't

—PAGE 108

Country singer Emmylou Harris has seldom shied away from a challenge. A musical renegade since her days of playing hippie honky-tonks with the prince of country-rock, Gram Parsons, Harris has gone on to establish herself as a singer of surprising versatility. In her 10 years as a solo artist, Harris has not only stretched her abilities as a musician, but the narrow boundaries of country music as well, coming up with, among other things, a bold and innovative bluegrass-flavored album, "Roses in the Snow," which appeared (in 1980) long before Nashville saw the percentage in such things, and (in 1981) a mind-blowing, jazzy, three-part harmony version of "Mr. Sandman." In 1983, she began a side career as a producer of little-known bluegrass and country talent, showcasing Oklahoma's Delia Bell.

Recently, however, Harris tackled the greatest challenge of her career—writing and co-producing a concept album, or "country opera," she calls it. Based loosely on her own life, *The Ballad of Sally Rose* marks Harris' first

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PHOTO: NANCY VOLLRATH

full venture into songwriting (she wrote three of the songs on her early albums), and in 13 songs, traces the career of a young woman who meets and marries The Singer, and then leaves him for her own career. As in any great romance, it interweaves the elements of fate, tragedy and happiness tempered with heartbreak.

"Obviously, it's special to me, and I hope that it's special to other people," Harris says. But there is more riding on the album than that. Last year, Harris separated from her husband, producer Brian Ahern, and moved to Nashville. As her first Nashville project, *The Ballad of Sally Rose* is also Harris' first album without Ahern, and the first of her own albums she has co-produced. Although Warner Brothers, Harris' record company, surely recognizes by now that the LP is a milestone in country writing, singing and production, when Harris first turned in her finished project, the label had "very little" reaction, as one insider re-

calls. In a further commercial gamble, the album was shipped without singles.

Sharing both the writing and production duties is Paul Kennerly, the young Englishman responsible for two previous concept albums, Waylon Jennings' *White Mansions*, and *The Legend of Jesse James*, which featured a host of Nashville names, including Johnny Cash, Charlie Daniels, and Harris.

In February, Harris won a Grammy for her recording of "In My Dreams," a Kennerly composition from Harris' 1983 rock and roll album, *White Shoes*.

Mix: Your new album, *The Ballad of Sally Rose*, must have taken an incredible amount of work—more than any of your previous records, and certainly more than the average listener could ever imagine.

Emmylou: A lot of work, yes. It had to be written, which was hard enough in itself, and then I had to actually do [co-produce] the album, so it was kind of a dou-

ble-backed project. I never had to deal with *that* end of it before. No album is a piece of cake. They're all a lot of work. But to have to write the material, too . . . I mean, I had the ideas for the body of the material, giving the nucleus of a story there. But after those songs were written, then there was the problem of filling in the gaps with sequels to tell the story, and other songs that also had to be good.

Mix: This album must have been a catharsis for you, since it got you writing again after a long spell.

Emmylou: Well, yeah. The reason you write is because there's something you want to say that is important to you—enough to go through all the torture of writing. (Laughs) Because I don't find it a pleasant thing. I *really* don't. I'm glad I don't have to make my living that way.

Mix: The kernel for the story came from an experience you and the band had at Mount Rushmore, is that right?

Emmylou: Seeing Mount Rushmore is a pretty interesting experience! I mean, it's an amazing thing to think that somebody did do that. But on the other hand, it's just an odd sight. The character of Sally Rose came from being there in 1978, when Phil Kaufman, my road manager, told someone who thought they recognized me that no, I wasn't Emmylou, I was Sally Rose. And shortly after that, I got the chorus for that song, "The Ballad of Sally Rose," with, you know, "Through the valley of the shadow of Roosevelt's nose," from the Mount Rushmore thing. And then I started thinking, "Well, here's this character," and I had some other song ideas, so I started thinking of approaching it as a story, in order to finish songs, or as a crutch to help me write, if nothing else. I had some songs that were fictitious, and some songs that were very personal to me, and I just thought of combining them into something else—a concept, an opera, whatever you want to call it.

Mix: How did you decide on Paul Kennerly to help you?

Emmylou: Well, I was concerned that the thing worked as a story, and Paul had done those two concept albums, *White Mansions* and *The Legend of Jesse James*. But obviously, the Civil War did happen, and Jesse James was a real character, and this [Sally Rose] was something that, though it does have some autobiographical stuff in it, was still a work of fiction. And he said, "Well, it seems like it will work." But he also said, "Even if we get into the writing and it looks like maybe it's not going to come together as *that* kind of project, we still have to approach it as writing good songs, which is a worthwhile thing to do." He had been after me to write ever

since I'd known him, because he thought I was a better writer than I give myself credit for. And I said, "Well, there's one thing that I do know. I'm a co-writer, and I need to write *with* someone," so I asked him to help me. That's really where it began.

Mix: You say that it has some autobiographical references in it. But most people do take this as being *extremely* autobiographical, with the inside allusions to Gram Parsons.

Emmylou: Well, there obviously are autobiographical references. But it is more than the story of my relationship with Gram. I can't call it an autobiography, even if I wanted to, which I don't. First of all, a lot of those things in the album didn't happen to me, and then it goes into a futuristic thing. I mean, I tried to make Sally Rose a sort of timeless character. You don't really think about when this is happening, or how old she is when she ends up. It could be anything at any time in any place. But that's all, really, that I can say about it. I think anytime anybody writes anything, it has to be drawn a little bit from something you've at least thought about, or had a limited experience with. A song like "Woman Walk the Line" is much more fictitious. I got the idea for the song, but it's actually

based on somebody that I know who had more experiences than that. And Sally Rose's character and the things that happened to her came out of combinations of friends and people that I don't even know very well. Of course, one of those people is *me*. (She chuckles).

Mix: How much did Paul write, and how much did you write? For example, a line such as, "Quicker than the trigger of an outlaw's gun," sounds like Paul . . .
Emmylou: Right.

Mix: . . . and most of "Sweet Chariot" sounds like you.

Emmylou: Right. You're right. Bang on, Alanna. (Laughs).

Mix: But did you alternate verse and chorus sometimes?

Emmylou: Well, it would go back and forth. He really insisted that I do a lot of the lyric writing, because he wanted it very much to be my project, and he always took the attitude that he was helping me. Of course, his help was *enormous*, to the point where it really was a collaboration. But every song was written differently. "The Sweetheart of the Rodeo" was almost completed when I showed it to him. I was just stuck on some lines and some structural things, but I

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had most of the lyrics. And I had melody ideas, but I wasn't sure if this worked or that worked. And that was the first one we finished.

With "Sweet Chariot," we had worked on that earlier in the year. He dragged that chorus out of me, because I had about half of it, and I couldn't get any further, and he worked with me on that. And then after that, I added those overlaps, the answers. But as far as the verses and the melody to the verses, that was a complete collaboration.

I have to say that it was really a good collaboration, because there were times when he would know when it was important for me to write the lyrics, and then there would be times when he knew that he could come up with what was neces-

sary. On "Diamond in My Crown," I had a line, "There'll be a diamond, a diamond in my crown." And I tried to explain to him what the song was supposed to be about, because he's constantly accusing me of being incredibly vague, and he's always trying to get me to say, "What do you *mean*?" So he wrote the melody, and then he just sort of stood over me with a baseball bat until I finished the words. I'd come up with a line and he'd say, "No, you have to come up with something better than that."

Mix: Making "Bad News," the song where you've learned that The Singer has died, an uptempo tune was a stroke of genius, I think. It's just the opposite of what you expect.

Emmylou: Well, to me, it *had* to be an uptempo song, because the first feelings of grief are almost tied-in with panic and terror and anger and frustration. That was what I wanted to get across—those terrifying feelings. You know, later on, it's harder to deal with, because it's almost like getting hit in the stomach, or falling from a building and having the wind knocked out of you. So that was the kind of feeling of intensity and confusion and chaos that I was going for. And Paul agreed that we needed to make it into that kind of almost angry feel—when you're angry at the world for something that has happened. There's enough regret and quiet sorrow in the rest of the material.

Mix: Aside from being an artistic tour de force, the album is exemplary from a production standpoint. Was there a particular sound you were going for?

Emmylou: That was really Paul, so I can't take credit for that. But yes, there was definitely a sound he wanted to go for. He would say he wanted it to be "soft and bright." On the other hand, I don't think of this as being really "soft." It has to do with the sound of the guitars, and yet, to me, everything really "cuts" on this album. But he went for a certain drum sound, for example.

The production end that I've always been in on has been more in terms of what instrument I want to play what solo, how I want to structure harmonies, who I want to sing harmonies, and little arrangement ideas, you know. But as far as "sounds," except for the fact that we got into a fight over the tremolos on "Heart to Heart" . . . well, it wasn't a *fight*, as much as it was a *disagreement*. And I can't remember now, but one of us definitely wanted a tremelo. What would happen was, he would come up with an idea for something, and I would think it was such a great idea that when he would try to modify it, I'd say, "You can't *do* that!" [Laughter] Because I would get so excited about the idea of an electric slide on "Diamond in My Crown," for example. I mean, it was such a juxtaposition to have this sweet, spiritual song, and then to have this kind of New Orleans funeral-march-whorehouse-Rolling Stones-style electric slide coming in underneath it. To me, it was just the greatest combination of sounds. But my involvement on the production end didn't really have that much to do with the sound of the record.

Mix: This was your first digital recording. What do you think of the process?

Emmylou: I think it's incredibly expensive! But on the other hand, the difference—listen to me in my unlearned opinions here! [Laughs] I mean, I've always left the technical end of the industry to other people. But I have to say that to my untrained ear, the difference between

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analog and digital is quite amazing. You not only get the cleanness and brightness and warmth with digital, you get the sound. You just have no interference. You put a guitar on tape and you hear the strings. And you hear the sound of the pick on the strings. To me, if you want to make that kind of warm, real-sounding music, and you really are going for the sound of the voice, the sound of the *vocal cords* on tape, so that you can hear who's singing the part, rather than just the acrobatics of the part—it really does give you that. And if you are putting a lot of things on the tape, and you have to pass the tape over and over and over again, well, there's virtually no wear and tear.

Digital is the future of recording. But it *is* a lot of trouble, in the sense of there are only two digital recording studios in Nashville, and you're really fighting for time. And getting a roll of tape is a hassle. Nobody supplies it. All kinds of problems go along with it, but hopefully as it gains popularity—which I think is happening as we speak—enterprising business people will put an end to those problems, and it will become just as accessible and just as normal as analog.

Mix: I was impressed with the cleanness of the sound, which I attributed to the digital recording process, but I was also

"I've always left the technical end of the industry to other people. But I have to say that to my untrained ear, the difference between analog and digital is quite amazing. You put a guitar on tape and you hear the strings. And you can hear the sound of the pick on the strings. You just have no interference."

taken with the miking of the instruments. I'm referring to the crispness of the snare in "Diamond in My Crown," for example. **Emmylou:** Well, Paul was very much involved in that, and I also have to give

credit to a brilliant engineer, Donovan Cowart. Because in every field of music and recording, there are people who are just as much artists as the people who go in and record and sing or play. And Donovan is definitely a star of this album.

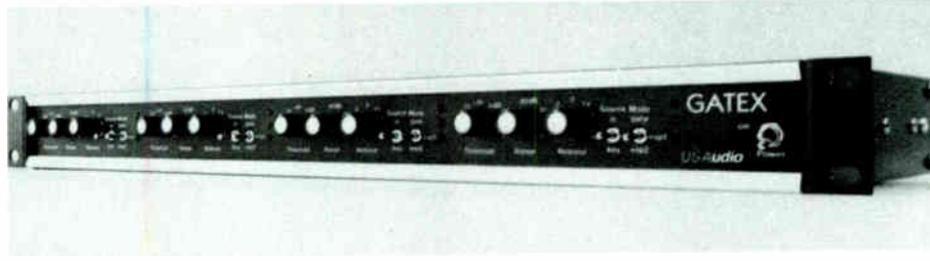
Mix: How did you decide who you wanted on the album, as far as Dolly Parton, Linda Ronstadt, Gail Davies and Waylon Jennings, for example?

Emmylou: Well, there's a certain sound that Dolly and Linda and I have that is just *real* good. It's a strong female sound. I definitely wanted to have women singing on it. It's not a feminist thing; it's just a *sound* that I was going for. Women singing with women sound different from women singing with men. That's all there is to it. And of course, there were certain songs that I really felt it was important to have Dolly and Linda on to get a certain sound, and then I was going to do the rest of the harmonies myself. But there were a couple of killers that were *so* high, and my voice sounded really thin. So I called Gail and said, "Help!" [Laughs] She has a wonderful, high "head" voice—real strong. And she came in and just did a great job on a few of those things. And also we have a real good blend. In fact, we've been talking about doing a duet together.

—PAGE 106

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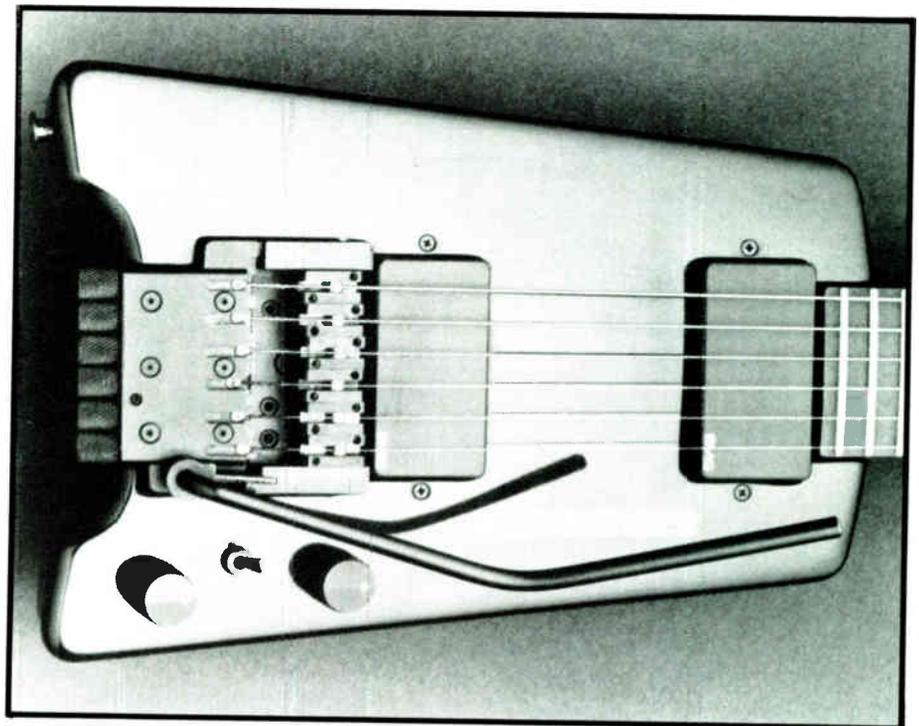


MI UPdate: The Guitar Makes a Strong Comeback

This month Mix inaugurates *MI Update*, a regular feature of Music Notes, written by musician/editor/do-it-yourself wizard Craig Anderton. Craig's credentials are almost too numerous to list in full; he is the author of *Electronic Projects for Musicians*, *Home Recording for Musicians*, *Guitar Gadgets*, and *The Digital Delay Handbook* (all of which are available through the Mix Bookshelf), editor of *Electronic Musician* (formerly *Polyphony*), a regular contributor to such publications as *Guitar Player*, *Output*, *Record*, *AV Video*, *Modern Recording*, etc. He has written user manuals for products by E-mu Systems (including the Drumulator), ADA, Korg, DeltaLab, and others, and recently completed documentation for the SMPL System, a computer-based automated recording system. Few journalists or musicians have the depth of awareness Craig brings to *MI Update*. He will be able to share hands-on observations of specific products, comment on trends and new developments in musical hardware, and even offer a prediction from time to time.

—D.G.

Welcome to the high-tech guitar, which bears about as much resemblance to its forebears as a synthesizer does to a piano. Space-age plastic materials, headless instruments, exotic pickups,



modular construction, and vibrato tailpieces that would delight any mechanical engineer have transformed what used to be a slab of wood with strings and pickups into a precision instrument. Even tuning machines are different; their heights are now graduated, thus pulling the upper strings closer to the headstock in order to eliminate the familiar "string trees."

Vibratos. Take vibrato tailpieces, whose lack of pitch stability had almost made them a "forgotten" accessory. The Kahler tremolo, as close to an industry standard tailpiece as any, uses an elaborate nut locking system and pre-

cision mechanics to keep the strings in tune no matter how much you punish them. Still, the Kahler requires a special tool to lock and unlock the nut, and busting a string on stage can be a real disaster unless you work well under pressure. Enter the Fender Series III, a vibrato tailpiece with a nut that locks and unlocks with the simple twist of a lever. Someone at Fender was thinking; instead of making you carry around a bunch of Allen wrenches, all tools necessary for setup, string changing, and intonation are built into the ends of the vibrato arm (which can even be locked out of the way when not in use).

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THE FAR SIDE

By GARY LARSON



Roger screws up

Ciani's "Seven Waves:" The Luxury of Time

After several years of making music for other people—and doing so with a great deal of success—Suzanne Ciani set a little time aside from her commercial music enterprise and made a record of her own music. *Seven Waves*, released in 1982 on the Japanese Victor label and in 1984 on Finadar Records here in the States, is a gigantic canvas compared to the tightly controlled miniatures Ciani produces for the radio and TV commercials that make up the bulk of her business, 41 minutes of music written and recorded at her leisure and irrespec-

tive of the current stylistic context and the desires of advertising agencies.

Ciani works in the living room of her Park Avenue apartment, a spacious room if viewed as a living room but a very small work area for the number of people (sometimes as many as 12) who often crowd in there to work on the synthesizers, recorders and signal processors. "It's like Santa's Sweatshop," says Ciani with a broad and engaging grin.

Mix: One article about you used the phrase "designing commercial music." How do you feel about that word as opposed to "composing" or "creating"?

Ciani: I think of it as an expansion, a way to look at something in a new light. "Compose" has been around forever, and everybody has a precept about

—PAGE 100

Roland Electronic Music Seminar

Roland Corporation kicked off their national Electronic Music Seminar tour in Los Angeles on Saturday, March 2nd with a productive eight hour session which combined information with entertainment. To their credit, the Roland team did not direct their focus solely on the Roland product line, although it was duly emphasized, but spoke openly of other manufacturers products as well. At the heart of the seminar curriculum was the MIDI (Music Instrument Digital Interface) 1.0 standard, and how it can be utilized to enhance and streamline recording, songwriting, live performance and even synchronization for film and video scoring.

Powerful and effective demonstrations were given highlighting the use of MIDI on stage featuring the Roland MSQ-100 and 700 sequencers, the GR-700 guitar synthesizer, the MKB-1000 Mother Keyboard and Axis controllers and a variety of synthesizers, as well as a presequenced film score synchronized by the recently introduced SBX-80 SMPTE/MIDI sync box. Renowned synthesist Michael Boddicker was also on hand, giving an insightful clinic on composition, film scoring and recording techniques. His more recent credits include scoring the film "Buckeroo Banzai" and playing on Michael Jackson's "Thriller" and Lionel Richie's "Can't Slow Down" albums, as well as composing the Grammy-winning composition "Imagination" for the film "Flashdance."

Boddicker demonstrated how he builds his compositions from click tracks to final mixes by playing sections of his most recent work and shared some of the tricks of the trade which he uses to gain more control over the sound and to make synthesized instruments sound more natural. Interestingly, in the middle of this decidedly pro-MIDI seminar, Boddicker confessed that he is not a big proponent of MIDI and only uses it for the simplest type of daisy chaining. He complained of "terrible time-lags" in the system when more than one of the 16 MIDI channels is used simultaneously. Later in the day, Roland's Jim Mothersbaugh, of Devo fame, countered that Roland's MPU-401 intelligent interface helps to take care of the simple house-keeping tasks in computer-based MIDI systems, eliminating serious time-lags.

Rounding out the seminar were previews of two new music software pro-

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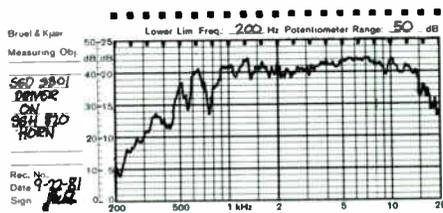


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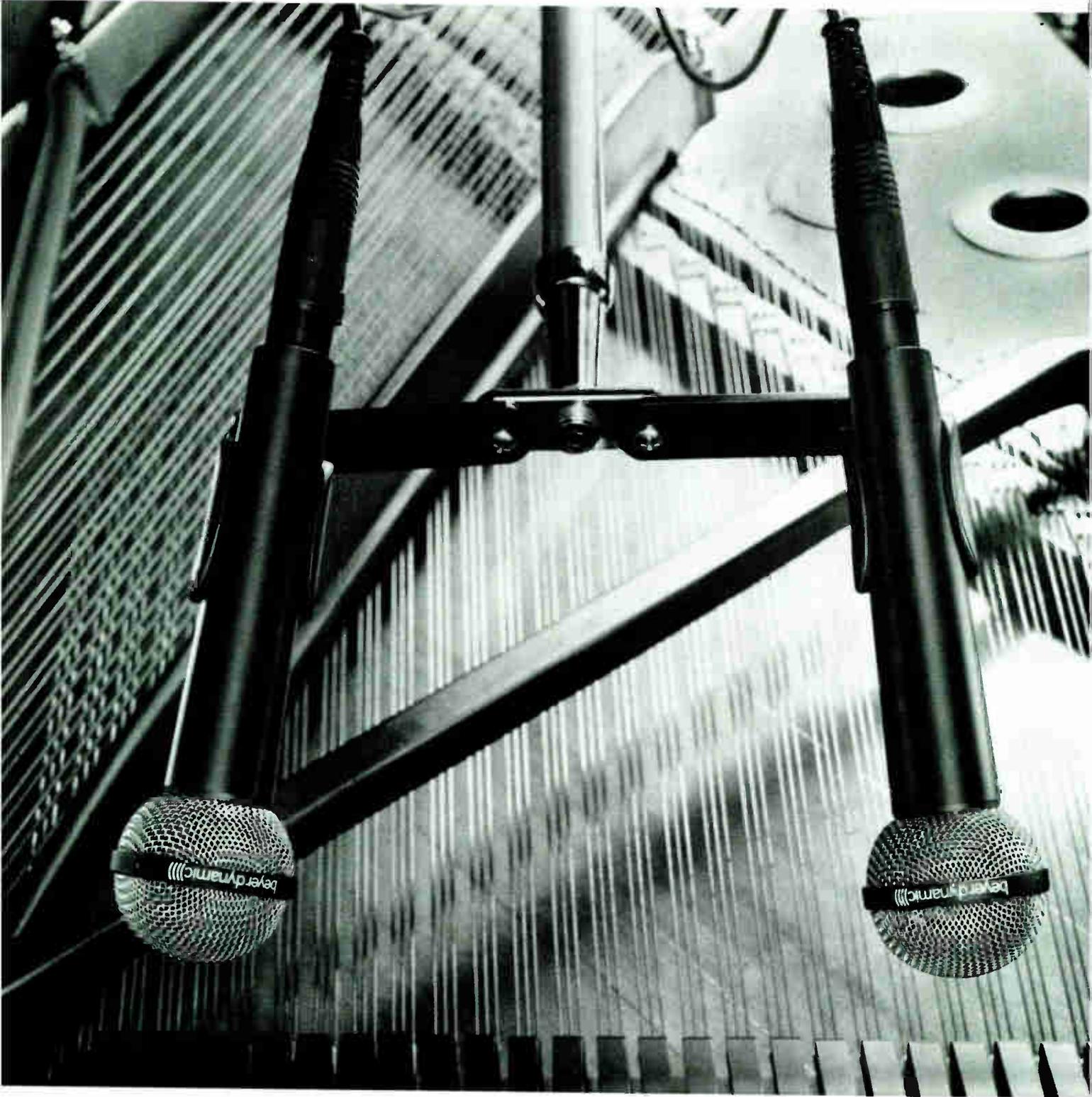
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Digital technology holds forth the promise of theoretical perfection in the art of recording.

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Naturally, the ultimate success of digital hinges on the integrity of the engineer and the recording process. But it also depends on the correct choice and placement of microphones, quite possibly the most critical element in the recording chain. This can make the difference between recording any generic instrument and a particular instrument played by a specific musician at a certain point in time.

The exactitude of digital recording presents the recordist with a new set of problems, however. The sonic potential of total accuracy throughout the extended frequency range results in a faithful, almost unforgiving, recording with no "masks" or the noise caused by normal analog deterioration. As digital recording evolves, it places more exacting demands on microphones.

Ribbon microphones are a natural match for digital because they are sensitive and definitively accurate. The warm, natural sound characteristic of a ribbon mic acts as the ideal "humanizing" element to enhance the technically perfect sound of digital.

Beyer ribbon mics become an even more logical component of digital recording due to an exceptional transient response capable of capturing all of the nuances and dynamic shifts that distinguish a particular performance without the self-generated noise and strident sound generally

attributed to condenser mics.

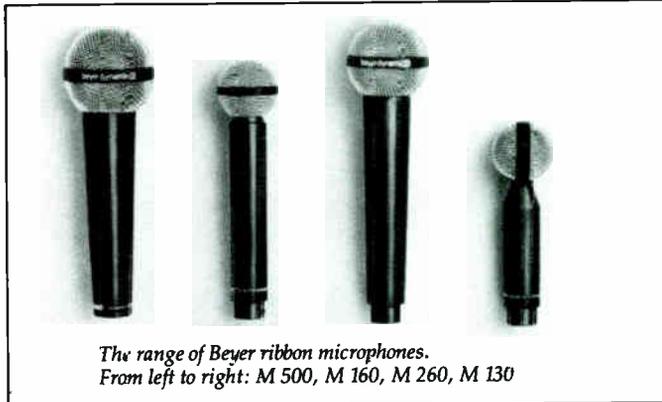
Beyer is committed to the concept of ribbon microphones. We manufacture a full range of ribbon mics for every vocal and musical instrument application.

The Beyer M 260 typifies the smoothness and accuracy of a ribbon and can be used in stereo pairs for a "live" ambient recording situation to record brass and stringed instruments with what musicians listening to a playback of their performance have termed "frightening" accuracy.

Because of its essential double-ribbon element design, the Beyer M 160 has the frequency response and sensitive, transparent sound characteristic of ribbons. This allows it to faithfully capture the sound of stringed instruments and piano, both of which have traditionally presented a challenge to the engineer bent on accurate reproduction. Axis markers on the mic indicate the direction of maximum and minimum pickup. This allows the M 160 to be used as a focused "camera lens" vis a vis the source for maximum control over the sound field and noise rejection.

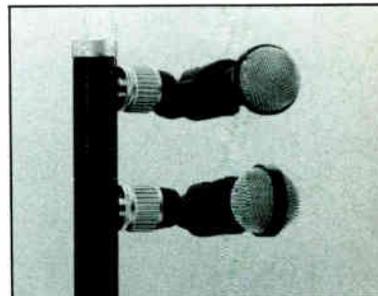
Epitomizing the warm, detailed sound of ribbon mics, the Beyer M 500 can enhance a vocal performance and capture the fast transients of "plucked" stringed instruments and embouchure brass. Its diminutive, durable ribbon element can also withstand extremely high sound pressure levels.

The Beyer M 130's bi-directional pattern enables the engineer to derive maximum ambience along with clean, uncolored noise suppression. Two M 130s correctly positioned in relationship to each other and the source can be used as part of the



The range of Beyer ribbon microphones. From left to right: M 500, M 160, M 260, M 130

Mid-Side miking technique. The outputs from the array can be separated and "phase-combined" via a matrix of transformers to enable the most honest spatial and perceptual stereo imaging — sound the way we hear it with both ears in relationship to the source.



Given the high price of critical hardware used in digital recording, the relative price of microphones is nominal. Realizing that microphones are the critical sound "source point," no professional can allow himself the luxury of superficial judgements in this area. Especially when one considers the value of on-going experimentation with miking techniques. For this reason, we invite you to acquaint yourselves with the possibilities of employing Beyer ribbon technology to enhance the acknowledged "perfection" of digital recording technology.

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—FROM PAGE 90, MI UPDATE

At the Winter NAMM show at Anaheim last January, vibratos were the rage. Almost every manufacturer seemed to be offering a Kahler, Floyd Rose, or other "name" tailpiece as an option... or designing their own variation on a theme.

Meanwhile Ned Steinberger, inventor of the ground-breaking Steinberger bass, came up with something entirely different: the Steinberger "TransTrem" transposing tailpiece. Thanks to what Ned enigmatically calls "precision geometries," the strings stay in tune relative to each other as you move the vibrato arm—just like the mod wheel on a synthesizer. The TransTrem is not available just yet, nor has the price been set (although it will be, as Ned says, "substantially higher" than that of existing vibratos). However, it shows that there are plenty of innovative possibilities left in something as simple as a guitar's tailpiece.

Shapes and finishes. Gone are the days when guitars had a few basic shapes and that was it. The *Gittler* guitar (as seen in the Police video "Synchronicity II") looks more like a fish skeleton than a guitar, but it's playable and even includes a separate output for each string (the inventor, Alan Gittler, recommends using six separate amplifiers, one per string, for "the ultimate freakout and blowout"). While nothing more than an electric guitar, it is visually striking and novel. And as Alan points out, "the most important thing is that you can play it underwater." Dolphin researchers, take note...

Standard guitars now come in just about any shape you want, from rockets to stars to monsters to naked women. Finishes have gotten flashier and more durable—some of them almost look as if they could hold up to light sandblasting without any problems.

Pickups. The problem of how to test and compare different pickups ended with the introduction of the Player Instruments MDS-1, which mounts its pickups in modules which plug in from the back of the guitar so you don't have to remove your strings to change pickups. They can even be changed with the axe at full volume. The full DiMarzio line of pickups is available in modular form, with more pickups promised for the future... or mount your own favorite in one of the modules. And yes, the guitar has a Kahler tailpiece.

Several people I talked to at the last NAMM show noted a renewed interest in guitars, after several years of keyboard and computer-drum domination. Where is this interest coming from? One factor is the popularity of heavy metal music, where a premium is placed on

visuals. Also, synthesizers are in transition, moving from the by-now familiar analog sounds that reigned for the last two decades to the new world of digital synthesis and sound sampling. Another reason is the renewed interest in percussive sounds; guitars are essentially percussive instruments.

And guitars feel "new" again. New features, automated assembly, and technical breakthroughs mean that many of today's low-cost guitars are just as playable as the expensive guitars of yesteryear—plus these new instruments are often lighter, stronger, and more stable, offer a wider choice of sounds, and incorporate improvements such as the new vibrato tailpieces. Have fun checking out the new features—but don't be too surprised if your current axe looks somewhat old-fashioned afterwards.

—Craig Anderton

Field Test Korg's SDD-1000: Promising Low-Priced Digital Delay

One of the new crop of inexpensive digital delays which offer high-quality sound at the expense of some conveniences available with five-figure units, Korg's SDD-1000 is a pretty magical piece of equipment for the money (well under \$1000). Along with a full range of delay effects and up to a second of delay at full bandwidth (30 Hz-10 kHz; two seconds with bandwidth of 30-5000 Hz), with a signal-to-noise ratio of 80 dB, this unit offers some handy new wrinkles on the control panel.

Korg, correctly figuring that a device such as this will be used mainly on stage and in home studios (rather than in master-quality applications), has allowed for a lot of foot control over the SDD-1000's functions, making it extremely convenient for do-it-yourself recording and other applications where the hands aren't always free. Quarter-inch jacks are provided on the rear panel for Bypass, Hold, and most of the other switchable functions of the SDD-1000. One feature accessible *only* by foot-switch is Rec Cancel, which routes the input signal directly to the output while holding the contents of the memory, allowing you to play a "dry" sound over the echoes of your last lick.

The unique feature of the SDD-1000, the thing that's going to make it a big hit with dance/trance music producers, is something Korg calls Rec Sync. It

MUSIC NOTES

only operates in the 1024- and 2048-mSec ranges, but it gives you pushbutton control over several echo effects that would be time-consuming and difficult to set up by hand.

There are three modes: Trigger Overdub, Sampling, and Sequencer. In Trigger Overdub mode, you set the delay time using the trigger output from a drum machine or via a footswitch connected to the SDD-1000's Trigger input jack. Thus, the delay times (echoes) are directly related to the tempo of the music.

Sampling mode stores up to a second (or two) in memory and plays it back when triggered. The start of the recording is triggered by the level of the input signal, a feature which enables, for example, the playing of a pattern on a drum kit or computer and then playing along with it, syncing instrumental or vocal licks to a rhythm track, and even faking some scratch sounds using the LFO.

Sequencer mode sounds like a great idea, but it's hard to make it work. Both the beginning and the end of the digital "tape loop" are determined by the level of the input signal (playback of the loop is continuous). It should work just like a sequencer, but when I tried it the automatic shut-off always seemed to occur just before the rhythmically correct end of the phrase I was playing into the delay memory. This *can* be interesting, because you play one rhythm into the

—PAGE 96

Shure Prologue Microphones

Shure Brothers have introduced their new Prologue line of cardioid microphones, suited for beginning singers and musicians, as well as home audio/video recording and non-critical PA applications. All three models in the line are available in either high- or low-impedance versions, and are fitted with professional three-pin audio connectors (the cable is not included).

The Prologue 10H (high impedance) and 10L (low impedance) are probe-type microphones for stand use in vocal and instrumental applications. The Prologue 12H/12L and 14H/14L feature a ball-end design with maximum protection from vocal pops. The model 14 microphones have a durable matte finish and locking on/off switch. Suggested list prices for the Prologue series are: 10H-LC, \$38.00; 10L-LC, \$33.75; 12H-LC, \$51.25; 12L-LC, \$46.75; 14H-LC, \$61.50; and the 14L-LC is \$57.00.

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—FROM PAGE 95, KORG

"sequencer" and get back something else a little shorter, but I found it impossible to sync an eighth- or sixteenth-note figure with a rhythm track because the "sequencer" was always just that little bit too short. And no rests allowed, either.

The SDD-1000's outputs are *Dry* (input), *Mix+* and *Mix-*, a setup which gives you a choice of stereo options: a mono-compatible one using *Direct* and either of the *Mix* outputs (good for recording), or *Mix+* and *Mix-*, useful for live flanging and chorusing where you want a bigger spread to the sound.

Delay times (1 to 2048 milliseconds) are selected by a six-position range switch and a rotary pot. The SDD-1000 has neither numerical read-out nor programmable settings, so you'll have to find that great chorus sound again by ear or note the various control positions on blank diagrams provided in the owner's manual.

The Feedback circuit has positive and negative phase levels (for some reason, negative phase feedback seems to enhance flanging more effectively) and *High Cut* (up to 24 dB of shelving at 10 KHz, used to create more natural echo sounds). The LFO section has con-

trols for *Intensity* and *Frequency* of sweep modulation, but the SDD-1000 has no waveform options.

A *Hold* feature, which works only in the two highest delay time ranges, enables infinite repeat of whatever's in the delay line when you switch it on. It's nice if you like to play with yourself—and if you don't mind a slight but audible click at the point where the loop repeats itself.

The SDD-1000 doesn't have great specs, but it is reasonably quiet and the frequency response and clarity of its sound are characteristic of digital technology. Because of the logic control functions, it's a good choice for any kind of dance-oriented music or "minimalist" sounds that rely on the manipulation of regularly repeated figures.

—Chris Doering

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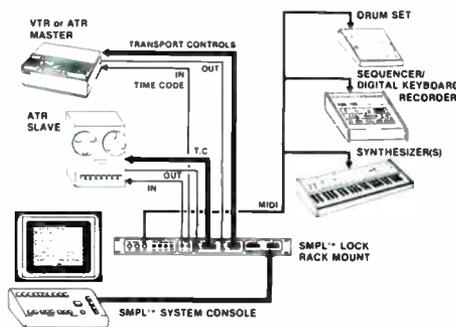
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Simmons SDS 1985 Clinic Tour Continues

Simmons Group Centre, of Calabasas, California, have introduced the following dates in their continuing series of electronic percussion clinics featuring veteran drummer Tim Root. These informative programs include demonstrations of various Simmons products, ranging from the low-cost SDS8 drum kit, to the SDS7 digital/analog system, as well as the SDS1 single pad and the SDS EPB digital sampler/EPROM blower. Clinics this month will be held at: Daddy's Junky Music (Boston, MA) May 2; Ace Music (Dayton, OH) May 4; Mayfield Music (Cleveland, OH) May 5; Far Out Music (Jeffersonville, IN) May 6; Synthesizer Center (Noblesville, IN) May 7; Huber & Breeze (Frazier, MI) May 8; Guitar Center (Chicago Northside) May 9; Drums Ltd. (Chicago, IL) May 11; Rosselle Music (Rosselle, IL) May 12; Bay Music (Saginaw, MI) May 13; Hanzel Music (West Allis, WI) May 29; and at Roger Dodger in Minneapolis on May 30. Contact the stores for more details and specific times.

—FROM PAGE 91, ROLAND

grams. The more sophisticated of the two, MPS, which stands for Music Processing System, was demonstrated by composer Gary Chang. MPS was created by independent software developer and musician Kentyn Reynolds for the IBM-PC and compatibles. The program requires 256K of RAM and has three modes: *Song Mode*, which operates like a multitrack sequencer with full linking, copying and editing functions; *Score*

Mode, for interactive song entry using traditional music notation with note editing capability; and Print Mode, for high resolution printing of completed scores.

In contrast to the powerful MPS was the much simpler MUSE, or MIDI Users Sequencer/Editor, developed for the Apple II and Commodore 64, which was demonstrated by its author, Jeffrey Rona of Roland. MUSE can be fully operated through the use of a joystick or paddle, and offers much of the same "point and click" simplicity offered by the mouse, without the need for desk-space. The program simulates an eight-track recorder in operation with many functions, including auto-correct, overdubbing and looping.

Overall, the Roland Electronic Music Seminar is an excellent resource for up-to-date information about the rapidly changing music technology field. The notebook given to each attendee, with excellent articles and glossaries by industry veteran, Dick Rosmini, may well be the best textbook to date on MIDI and electronic music in general. The seminar is highly recommended to anyone with anything more than a passing interest in electronic music.

Book Review: The Yamaha DX7 Digital Synthesizer

Yamaha's introduction of the DX7 two years ago made digital synthesis affordable to the masses. But when those new users sat down at their new instruments they discovered that their knowledge of conventional analog synthesis was useless in the face of FM (frequency modulation). *The Yamaha DX7 Digital Synthesizer*, by Yasuhiko Fukuda, is an attempt to supply users with the information they need to take full advantage of the DX7's versatility.

The first half of the book is a walk-through of the control operations of the DX7, adding nothing to the information contained in the manual supplied by Yamaha with the instrument. The author suggests several approaches to editing preset voices and creating sounds from scratch, explains how to choose which algorithm to use, and offers some specific parameters for some sounds, such as envelopes for brass voices, the harmonic

content of certain string voices, etc. This is precisely the kind of information in which novice DX programmers are interested—but Fukuda moves on all too quickly, devoting only 25 of the book's 139 pages to it.

Several appendices are included, the most interesting being a mathematical explanation of the relationship between frequency modulation and harmonic content. The equations are of limited usefulness even to trigonometrically-inclined programmers, though, because neither this book nor the DX7 manual indicates how to translate the unitless sine wave level parameters of the DX7 into the amplitude values required by the equations.

Fukuda's book is a step in the right direction; we hope a future edition will clear up some of the rough spots in the translation from Japanese to English, eliminate some of the material which duplicates the Yamaha manual, and expand on the voice creation and editing tips. (*The Yamaha DX7 Digital Synthesizer* is available from Music Sales Corporation, 24 East 22nd Street, New York, NY 10010).

—Neil McKamey

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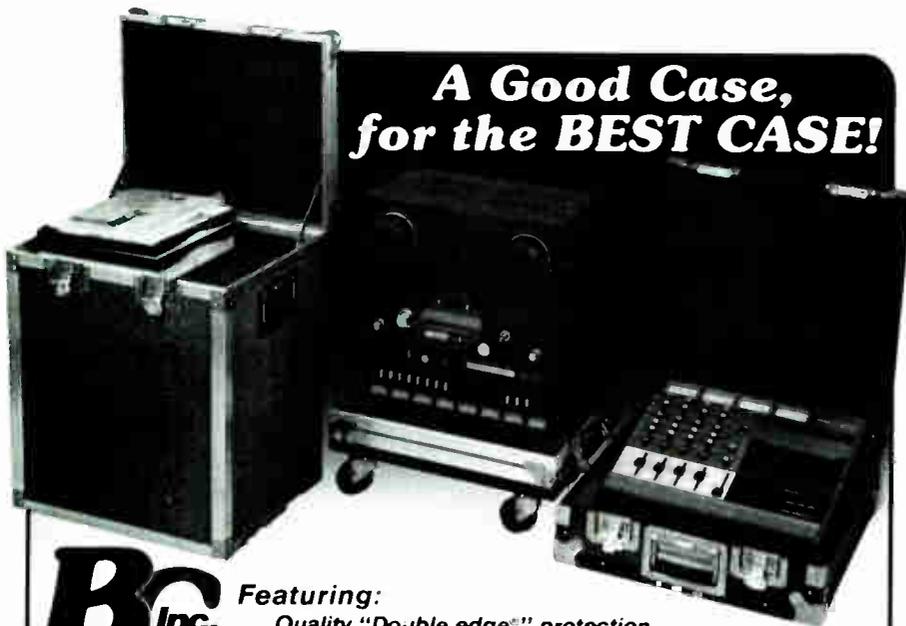


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Product News Handsome and Handy New Bass

The Ex Factor 4 Extended bass is the latest brainchild of Santa Barbara-based luthier Philip Kubicki. The well-respected guitar neck specialist (a recent satisfied customer was John Fogerty, who used three custom Kubicki instruments to record *Centerfield*) has collab-

orated with Geoff Richardson to create the new bass, which incorporates some novel concepts in a streamlined, "user-friendly" package.

The most conspicuous innovation is a spring-loaded lever at the nut which, when released, turns the low E into a D by adding two frets to the string's length. Other features include 80:1 tuning machines located at the tail of the instrument; two humbucking pickups with a five-way selector switch; active and passive electronics; and a single volume knob with an outer ring that controls the balance between the pickups, while the tone knob and its outer ring serve as treble and bass boosts.

—Josef Woodard



New Label Seeks Fusion Guitarists

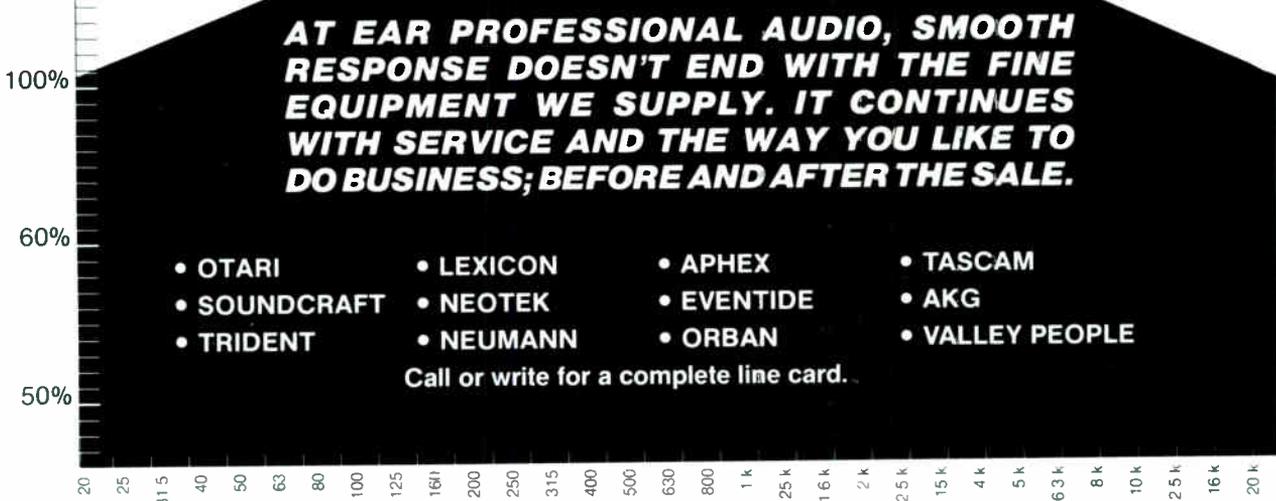
Mark Rosette, erstwhile record store owner, studio dabbler, and fusion guitar aficionado, has formed Legato Records, a label devoted exclusively to the art of electric and acoustic fusion

guitar. Rosette's decision to form the label was due, in part, to what he perceived as a significant gap in the market place. Says Rosette, "The continuing success of people like Morse, Beck, and McLaughlin attests to a sizeable audience, yet I know of several world-class fusionists who haven't had a record deal in years!"

Rosette is currently auditioning guitarists the world over for his first two

projects, a compilation LP entitled *Attack of the Fusion Guitarists*, and a solo effort entitled *Quest of the Fusion Guitarist*. Both will tentatively feature half speed disk mastering and cover art by a world-class sci fi/fantasy artist. Anyone with a hot cassette demo or wishing to be on the mailing list is encouraged to write Legato Records, Department B1, P.O. Box 347, Springville, California 93265.

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MUSIC NOTES



Suzanne Ciani

PHOTO DAVID GANS

—FROM PAGE 90, CIANI

what that is. When I use the word "design," it's really to tweak your ear a little bit and get you to think. The old idea of composing is putting notes on paper; we actually design the sounds first, and that's different from the traditional.

There's also an analogy to the business. This is a boutique business—we make custom music, where everything is unique, designed especially for the purpose. It's as if you're making a dress, and first you design the fabric and then you weave it—everything, all the way through, is unique.

Mix: Commercial music tends to trail style and lead technique. You use very accessible music—catchy melodies and familiar ideas—but commercials are also very often the first place you hear new techniques and equipment. When you made your album you were totally free of your usual constraints. Was that much freedom a little shocking?

Ciani: It was very pleasant, actually. I usually work under a lot of pressure, and the album was an experience of total freedom. When I declared, "this weekend I'm laying down the tracks for this first piece," I knew that if nothing happened, it was fine. There was no deadline! It was wonderful! There was nothing that could go wrong.

For instance, a computer was programmed with 2000 notes before a session, and when I went in there it was all wrong. Well, that was fine, whatever happened was fine. There was no, "What are we gonna do?!!" No pressure. As for artistic constraints, I built my own format as I went. The first piece was kind of

grabbed out of thin air—something I'd done on the piano. Then I did the second piece, and when I looked at it I saw a framework for the album.

Mix: You gave yourself a hard and fast deadline. Do you find it hard to work without a definite date?

Ciani: It's a form of structuring one's commitment to something. Without that, it might not get done.

Mix: Do you get term-paper syndrome, where you don't start pulling in the ideas until three days before it's due?

Ciani: I'm a last minute person, sure, but I had this dream of doing an album for about 12 years, and it took me that long to realize that I wasn't doing it, I was just *dreaming* it. Finally I thought, "How do you start it? You say, 'I'm going to start.'"

Mix: Did you compose these seven pieces in order?

Ciani: Yes. They were composed as they were recorded.

Mix: On purpose, or did it just work out that way?

Ciani: It's actually somewhat of an evolution, stylistically. For instance, the second side has more drums than the first side. And there were also evolutions of equipment going on over the period I was working on the record.

Mix: How long was that?

Ciani: Two years.

Mix: That's several generations of equipment!

—PAGE 102

—FROM PAGE 100, CIANI

Ciani: Yes! Side one, the first piece ["Birth of the Venus"] has a little drum machine

Mix: With that "almost a bass drum" sound?

Ciani: {laughs} Yes, and that little ticky hi-hat. I could have gone back and changed them, put Linn drums in

Mix: But you composed around that other sound.

Ciani: *Exactly!*

I don't know how other people make records. Twelve years ago when I wanted to make a record, I went to the record companies and they said, "What's a synthesizer? Who are you? What are you? Where's your guitar? And how come you don't sing?" There was such a gap between what I was doing and what was acceptable.

You kind of get into a holding pattern, and I was holding for like ten years.

Mix: Certainly you were getting some fulfillment along the way

Ciani: Yeah!

Mix: Much of that equipment that was so esoteric and unheard-of in those days is almost commonplace now, although Synclaviers aren't quite in everybody's garage yet

Ciani: You've put your finger on something that is a reaction I had to go through. Doing something that's considered unique for a long time and then suddenly finding that everybody and his brother is doing it. You start out alone in something, and you begin to need that aloneness.

Maybe I had a need to be unique, and that's why I did this crazy electronics stuff. Then all of a sudden electronics was not unique. I thought this time would come a long time ago. I thought electronics would be everywhere ten years ago. And I was disappointed and felt a lot of frustration for some years, because I couldn't communicate. I went through a period when I said, "Why should I do this? Let other people do it." Then I got back to the fact that that's not what it's about at all, that there are things I want to do that are completely independent of whatever technological game talk goes on.

Mix: So it's okay for DX7s to only cost \$2,000 so everybody can have FM synthesis now?

Ciani: Yeaaaaahh! It's great!

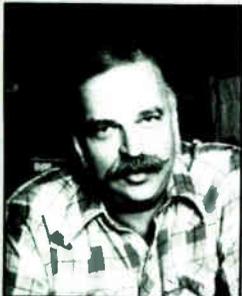
Mix: I know this is true of pop artists, and it must be true in the commercial field, too: It must be infuriating to have an idea, a real inspiration, and three weeks later hear *everybody* using it. You've done something that works really well, and it's old hat in a month.

Ciani: Mrn-hmm.

Mix: Does that goad you on to find new things, or is it just heartbreaking in a way to have something so cool get old so quickly?

Ciani: You can't get attached to anything, because part of our process is to keep moving on. We have to have that spirit of pushing and discovering.

The reason that this album survives is for the very reason that music is *not* attached to current technology. You can make a statement in any level of instrumental technology and have it mean something separate from that. You could listen to this album and say, "My god,



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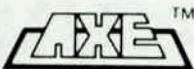
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MUSIC NOTES

there are newer drum sounds than that," but that's missing the point. You almost *have* to make a statement that's beyond current vogue technology, because vogue changes [snapping fingers rapidly] as you've noticed, faster and faster. . . .

Mix: Did you have to break some production habits to do this music?

Ciani: This music is very, very personal. As a person who does music all the time as a production business, I can make music on call, at will, at any time and in just about any style, with my own mark on it. This music comes from a completely different place—it's not just "Gee, I think I should make an album."

This may be the only album I ever make. Right now I think, "Gee, why don't I make a second album," and it seems to come from a different place when I say it.

Mix: "Because you could" is not the best reason to make a second album.

Ciani: Right. As my mother would say, "The world doesn't need another album."

Mix: Now the hard question. To be brutally honest about it, given the fragmented, compartmentalized nature of the music scene in America, I don't know where this record fits in. Do you?

Ciani: It fits in in a very personal sense—maybe not on the airwaves, but in the privacy of one's own listening. . . . I think as human beings we can be touched in a lot of places.

Mix: There's no question about this record's ability to touch human beings, but how do you get it right up next to people so they can be touched by it? This music is hard to put onto the noise-box.

Ciani: True, you can't dish it up in the conventional format.

Mix: It's a peaceful record. . . . it doesn't have a lot of very kinetic peaks in it.

Ciani: The spirit in which it was done was kind of, "There's nothing to do." It's effortless effort.

Mix: *Suzanne Ciani's Non-Deadline Record.*

Ciani: [laughs] Exactly. The eight-year plan.

—David Gans

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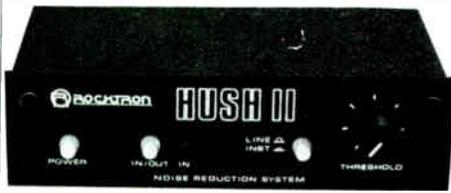
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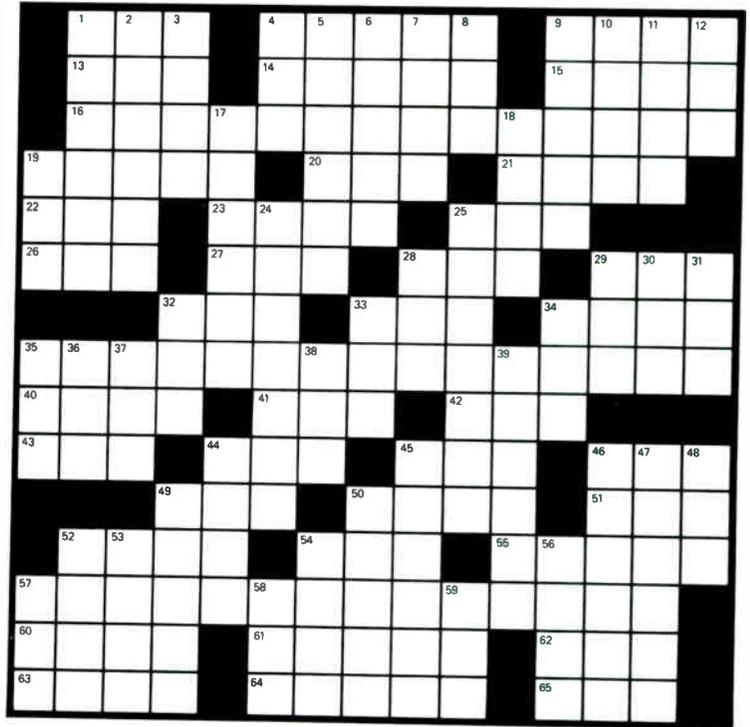
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MUSIC NOTES

MIX WORDS

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—THE SPACE IS THE PLACE—

ACROSS

- Sorrel
- Arabic letter
- Fire _____
- Radiation meas.
- Island
- Fox _____
- Room in a studio
- "I _____ Woman"
- Woodland being
- Melees
- Rubber tree
- Unightly
- _____ Tjader
- Mal de _____
- _____ Lopez, chess opening
- Formerly MXR
- Electric music mainstay
- Chicago _____ (1974 release)
- Filial abbr.
- Pa. port
- Type of studio activity more frequently seen today
- See 52D
- Chris Stone digital firm (abbr.)
- Newish prefix
- Plot
- Fender _____ Reverb
- Button on a tape machine
- Ending with parti- or deba-
- John _____ Passos
- Sprite
- Himalayan beast
- Links word
- Mier
- Arizona town
- Artificial space makers
- Pivotal invention
- Word with pressure or narrow
- Power amp mfg.
- Apians
- Beginning
- Aged, ago

DOWN

- Baltimore bird
- Road case roller
- Don't give _____
- _____ rule
- Recently
- _____ Dickenson

- Sound of something disappearing
- Chinese dynasty
- Seat
- Lined up
- Many
- O. E. letter
- Pichuric
- Troublesome child
- Type of tree
- Stringed instruments
- Vocalist
- Curve
- Onassis, to friends
- Time (abbr.)
- Aja single pick
- _____ Jay records
- Place for geraniums
- Former Tokyo name
- Not so bright
- Ms. Lupino
- The Gipper, for one
- "I go to _____"
- Repeat from memory
- Wordsmith
- Go back on
- Crash or ride
- Gone by
- _____ out
- Towels
- Of the land of the Incas
- Single-minded concept, to Pierre, with 40A
- Stare
- Caramel custard
- Irish
- Brylcreem quantity
- Before
- Seasoned one

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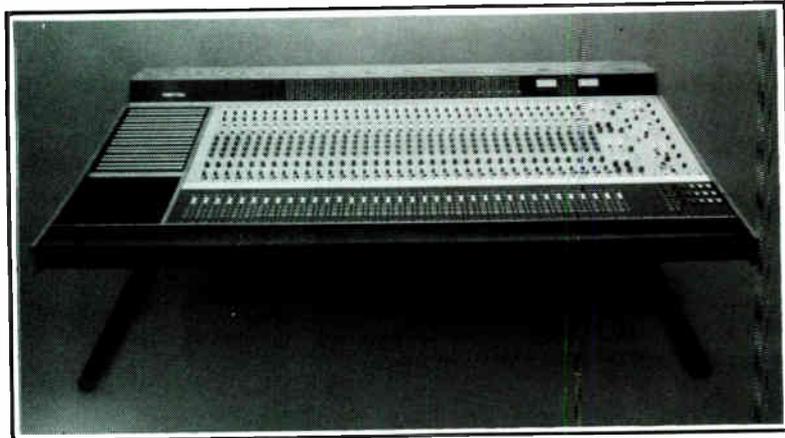
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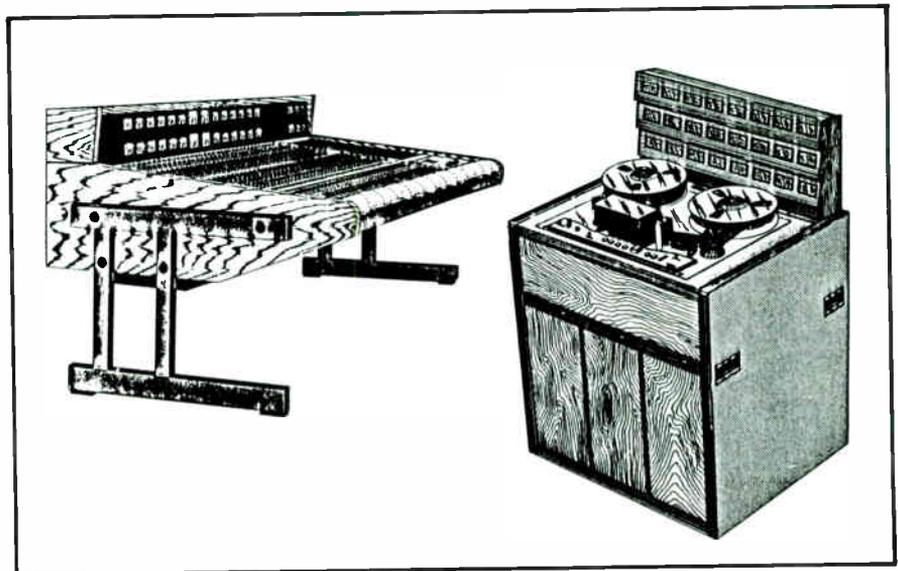
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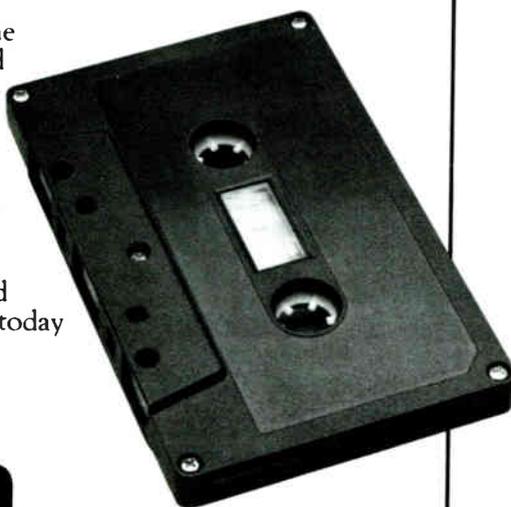
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—FROM PAGE 89, EMMYLOU

Mix: There are so many lovely little instrumental touches on this album. How involved were you in deciding the instrumentation?

Emmylou: Well, I was involved up to a point. Basically we'd work out the arrangement and decide on this or that. But there were a lot of things that Paul added. I'd be on the road, because I did a couple of tours, and we'd keep in touch and he'd say, "I'm going to put this guitar on this track," or whatever. So he put a lot of things on the album—texturing it, layering it—after the fact. It was his idea to put a harmonica on "Timberline," for example.

There aren't a whole lot of instrumentals on this album, but there are a lot of instruments coming in underneath and in different parts. There are a lot of acoustic guitars coming in just strumming on "Diamond in My Crown," for example. Even on "Bad News." It's quite a short song, in the sense that it's just a seque. But there are so many instruments on it, and they wanted to have those "answers" going across the tape, you know. So it required an enormous technical virtuosity, and Donivan and Paul had to do this acrobatic thing, because—I mean, it was like the entire stretch of the board was filled up. They were working on the song one day when someone walked in and said, "That sounds good, but boy, it sure is short." And the engineer who was working on it at the time said, "Yeah, but it's as wide as it is long." [Laughs].

Mix: That effect is great, though. Had you wanted your previous records to have all these distinctive textures and layers?

Emmylou: Well, I think of this album as having a certain sound, but I don't think it's that far from the other records. I mean, I have worked with a very brilliant record producer [her ex-husband, Brian Ahern], who I think is one of the best, and who's responsible for bringing certain sounds to country music which had never been heard before. I think Paul and I both owe a tremendous debt to Brian. So it's not like it's that different. To me, the main difference is that it is original material, so it's more cohesive as a work. That's the difference that I see.

Mix: What do you think of your singing on this album?

Emmylou: Well, I think it's pretty good. My voice is stronger than it's been in a few years. I'm a lot healthier than I've been. I'm taking a lot better care of myself, because I finally realized that you have to think of your voice as being a muscle, and you do have to exercise it and take care of it—you know, feed it properly and give it enough rest. But you always think you can do better.

You're never satisfied. I don't know anybody who's ever done a record who's completely happy with it. On the other hand, it's funny. Because I'd written the songs, I didn't put as much pressure on myself for the vocals for some reason. Because I was more concerned with every aspect of the record—the production, the writing.

Mix: I thought your rock and roll album, *White Shoes*, was quite strong.

Emmylou: That was sort of a side trip for me, as far as having any, perhaps, cohesiveness. But on the other hand, as just a collection of songs, and the recording of the songs, and the songs themselves, I thought it was a good album. I thought Brian's production on it was brilliant. "On the Radio" almost made me cry, and I don't listen to my records that way. But just the *sound* of that record—the sound of that particular track. And, of course, Sandy Denny's song, "Like An Old Fashioned Waltz," has always torn me up—before she died, even. When I first heard the song, I cried. So I had always wanted to do the song, and then after her death . . . I didn't even know Sandy Denny, but on the other hand, you can't help feeling a certain connection there—your vulnerability and everything else comes in to give another dimension to the song. So there are special moments on that album for me. But on the other hand, I don't consider it a country album, but I think that I have the right, if I want to, to do a side album. I'm not trying to pull the wool over anybody's eyes. I'm just making a record.

Mix: Before we turned on the tape recorder, you said you suffered from writer's block for seven years. Has *The Ballad of Sally Rose* gotten you out of it?

Emmylou: I don't think so. [Chuckles] Because, first of all, I haven't really had time to write anything else. I *am* going to approach it again. Obviously not this kind of project, but I have had several ideas since, that have been logged in the way my ideas are always logged, which means the first available piece of paper that I come across. The ideas are jotted down, and then they're carefully preserved and put in a certain notebook where I keep all my bits and pieces of paper. And at some point after this tour is over, and hopefully before I do the next album—or finish it, I should say, because I have started it—I will hit it again. At least I can see the possibility, because all these songs were at one point just pieces of paper in a notebook. I have nothing but admiration for real good songwriters who can write about anything and everything, and do. Because I'll never be able to write that way. Writing is not the kind of thing I look forward to doing. But at least I feel like I have a start on something. ■

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—FROM PAGE 85, KENNERLY

like the idea of fine instrumental work embellishing the melody of the song. I think the melody of the song should be strong in the first place, otherwise, forget doing it. From that point on, the instruments should just weave a rich texture, and that is what we wanted to do. There is quite a lot in there, but a lot of it is subliminal.

You see, in the past, Emmylou has always made great sounding records, and it wasn't that there was any harshness to them, but I wanted to soften this one down from what she'd done before. If you're trying to show off a lot of intricate instrumental work, everything needs to be pretty pointed. It has to be clear, but you also have to have that sort of slight harshness, for all those things to cut through. But if you're just having a sort of wash of things in the background, you can forget about all that midrange, and you can soften it down and have it almost homogenize and solder itself together.

When you compare this record and Emmylou's previous records—I mean, Brian Ahern is a brilliant crafter of sound, but his arrangements were far more intricate than they are on this record. There was a lot of individual instrumentation, a lot of weaving in and out of fine musical lines. So the main difference, I suppose, is that on this album, there isn't so much of that at all. Everybody's just sort of modal. It's just more chords and washes of sound, and we just sort of let the vocals steer the way.

Mix: Let's talk about the vocals for a moment. If I hadn't read that Linda Ronstadt was on the harmony vocals, I'm not sure I would ever have known she's there.

Paul: Well, you don't hear Linda so much as Linda because she's singing the low harmony, and that never does really come through as well as the melody or the higher part. But you'd certainly notice that she wasn't there, if she wasn't.

Mix: How were the harmony vocals with Linda and Dolly Parton recorded? I don't imagine all three of the girls were actually in the studio at the same time.

Paul: No, unfortunately they weren't. Linda came in and sang to the vocals that Emmy had done, and in one or two places, we redid Emmylou's vocal to fit Linda's. But generally, Linda would sing to an already recorded vocal by Emmy. I was so glad we were able to have Linda, because she has such a rich voice, and that really binds Dolly and Emmy together somehow. If the person singing the lower part didn't quite have the richness of Linda

Ronstadt, it would be a little bit more prickly sounding than it is. And then when Dolly was able to come in, she did the same. But it wasn't our intention to feature them really. It's just that they were ideal singers for this, and, of course, the three girls have that wonderful blend.

Mix: Who worked out the vocal parts, and how was that done?

Paul: Emmy did that. I think they were all worked out before I started on the project. You know, even the little repeats on "Timberline," and the parts that weave in and out of each other on "Sweet Chariot." She's really good at that.

Mix: Was it your idea to bring Waylon Jennings in to play on "Rhythm Guitar"?

Paul: Yes. The track just suggested his involvement to me, because in a way, it is a bit influenced by things that Waylon has done. It's in that school; you know, it has that sort of J.J. Cale/Waylon, lazy, rolling, feel. The secret of making that track work is that you've got to have more than two guitars, and they've all got to be doing something completely different. They're all doing riffs, but they're doing their own riffs. It's rather like traditional jazz. A lot of those guitars are actually fighting each other, and there's probably a lot more on there than you can actually hear. But that's the way we made the whole record. I mean, there are things that I suppose a lot of people would balk at. I seem to remember putting 10 acoustic guitars on the bridge of "Diamond in My Crown," but in order to get that sort of sound, you've got to go over the top, really, for it to come out.

Mix: Are you glad that you opted for the digital process?

Paul: Yes, I'm really glad we did that. It's the first record I've been involved with using digital, and we could tell immediately on the first day, with the first thing we heard back, that this was what we should be doing. I mean, you hear all sorts of arguments against digital, but it suited us fine. I've been very happy with it.

Mix: How much tinkering did you do with the initial tracks?

Paul: Actually, we didn't really do that much reinforcing of the sound. Donivan did a brilliant job, and we didn't really use a lot of EQ until the last minute. In all cases, we tried to get as close to the sound that we wanted just by the miking—the choice of the microphone and positioning of it—and then we did just a little bit of correction here and there with the EQ. But it's a pretty honest-sounding record, I think. It was recorded honestly, and obviously it's in

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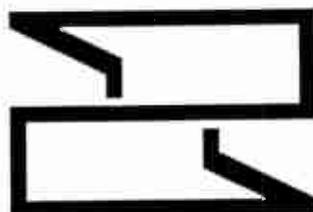
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the mixing where you start to touch it up a little bit here and there.

Mix: How long did it take to do the album, from the time Emmy buckled down with her little scraps of paper to write the songs, to the recording and the mixing?

Paul: Well, the actual period of time from day one to the finishing of the mixing is hard to fix. I got together with her in April of '82, here in Nashville. She said, "I'm finally going to embrace the idea of doing this album. Would you like to come over for a couple of weeks and see if we can get some of the songs started?" So I was here for no more than two weeks, and this was at the stage where she had the scraps

of paper, you know, and we finished up six of the songs then. I must say, nearly all the ideas that she had down did actually come out in the songs.

But then we left it for quite a long while, so it's not as though we worked on it constantly. It was stopping and starting, because Emmylou went away three times last year, twice to Australia and also to Europe. So we didn't start recording until April. We had about eight songs, and we cut the tracks of those in three days. And then we wrote the rest, and cut the tracks of those in July. We had three or four days in July to do the tracks for those. So it was done bit by bit, really.

If you ask me to add up all the time spent on the making of the record, I

can't answer it without thinking about it for quite a while. It wasn't a quick job by any means. It was a pretty lengthy task. I should think there were a good 11 weeks in there. Obviously, the more sophisticated everything becomes, the more equipment there is available for recording, the longer everything takes. Records now just take far too long. And mixing should be done in almost the length of the song. But it takes you a day, or a day-and-a-half in some cases, and I hear of people spending more than a couple of days on a mix. But there's no other way of doing it, I don't think.

Mix: This is the first album you've produced, or even co-produced, is that right?

Paul: Yes, that's right.

Mix: How did an Englishman get so involved in country music?

Paul: Well, I didn't get interested in country music at all until 1976, when I heard a Waylon Jennings song on the radio. And that led me into Willie Nelson and Merle Haggard, and then it all just snowballed, and I wrote "White Mansions." I was in advertising at the time, and the idea for it just came into my head. I wasn't a writer, but I fooled around with the guitar for a hobby, so I just packed in my work and said, "I'm going to write this album." And that was signed to A&M, and I've been writing ever since, as it were.

Mix: How long have you been living in Nashville?

Paul: About 14 or 15 months now. As a writer, it's the only place to be, and you can certainly make good records here.

Mix: Do you think you and Emmylou will continue as a team?

Paul: Well, I don't know. Emmylou seems pretty happy with the album. It means a lot to her. But the reason we produced this record was because we had written it, and it just seemed like . . . well, we just got on and did it, and there really wasn't that much to produce, as such. But Emmylou was obviously very experienced, and I'm not, in that sense, even though I have a 16 track studio in my home, and I'm constantly exposed to recording equipment, and I've spent a lot of time in studios. So I didn't feel as if I were going to be completely swallowed up in something I couldn't deal with, and besides, we have Donovan. But I'm interested in what people are going to think about the record, because it's the first album that I've been involved in as deeply as this in terms of production. I hope people will like it.

—Alanna Nash

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(Above) Quincy Jones conducts the all-star USA for Africa chorus at LA's A&M studios.

Humberto Gatica on the Making of



PHOTO: MURRAY KING

(Left) Humberto Gatica

"WE ARE THE WORLD"

by Iain Blair

"Incredible! Amazing! Just the most moving, inspiring and unbelievable session of my entire career," says ace engineer Humberto Gatica. Strong words from the guy who engineered the last two Chicago hit albums and who worked on *Thriller*, Tina Turner's *Private Dancer* and Lionel Richie's *Can't Slow Down*—to name just a few of a seemingly endless string of credits.

But then this *was* a pretty special event, even by Gatica's standards. Forty-five of the biggest names in music,

including Michael Jackson, Dylan, Springsteen, Stevie Wonder, Diana Ross, Paul Simon, Hall and Oates, Willie Nelson, Kenny Rogers, Billy Joel, Tina Turner, Ray Charles, and Cyndi Lauper, all crammed together in one studio for the already-legendary "We Are The World" session in aid of famine-stricken Ethiopia.

"It's really hard to describe the incredible feeling that surrounded the entire project from the very start," Gatica continues. "When Quincy Jones first called me up to do it and I heard the song Michael and Lionel had written for it, I already knew it was going to be something very special, even though at that point none of us knew exactly who was going to be involved. The basic demo was just Michael and Lionel singing, and it already sounded great. Quincy had already begun to picture in his mind how it should all go as well, a method of working that I

	DARYL HALL	STEVE PERRY	WILLIE NELSON	KENNY LOGGINS	JEFFREY OSBORNE	LINDSEY BUCKINGHAM	DAN AYKROYD	"THE NEWS"		
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PAUL SIMON	KIM CARNES	MICHAEL JACKSON	DIANA ROSS	STEVIE WONDER	RAY CHARLES	SHEILA E.	RANDY JACKSON	ANITA POINTER	LATOYA JACKSON	BETTE MIDLER

can really relate to. We work in a very similar fashion, because I like to envision the end result, too, and as an engineer I also like to think in terms of colors, as if I'm painting a picture of the song.

"So when we started on the basic track, we'd decided on certain 'feels' or 'colors,'" he explains. "For instance, we didn't want to use any guitar because it just seemed like the wrong energy for this particular track. So from day one, we concentrated on the vocals, adding a little bit of 'African sounds' on the synthesizers, such as a marimba sound, and kalimba. We also used a real tambourine to give it some gospel feel and attitude, as well as a little organ and some africano, which is this really beautiful little wood instrument.

"So the basic track was composed of real drums, played by Rufus drummer John Robinson, acoustic piano played by Greg Phillinganes, and bass by John Barnes—that's all—with some of these other textures and colors laid over it," Gatica reports. "We cut this at Lion Share, Kenny Rogers' studio, from about 7 till 11 p.m. on the evening of January 22, and Michael Jackson, Lionel Richie and Stevie Wonder all showed up to make sure the feel etc., was right before

(FRONT) CHOIR SESSION

putting down a rough vocal track so that everyone else could have something to listen to learn from. This only took about half-an-hour, and it already sounded incredible.

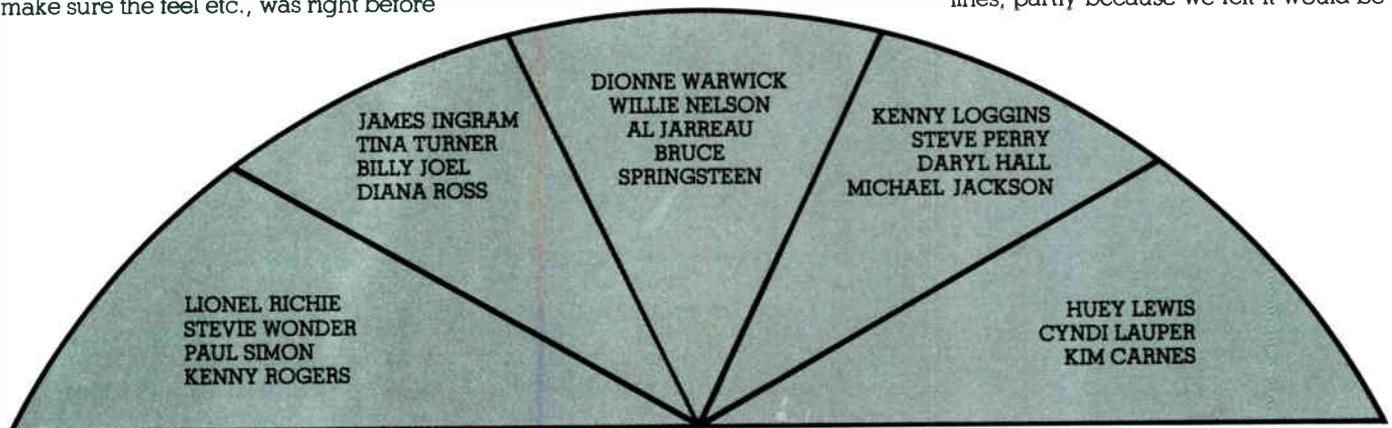
"We then came back the following day to put down some very rough and basic synthesizer parts using a Jupiter 8," continues Gatica. "This was done to give the singers some sort of background and depth against which to sing, as it gives the changes, etc., more easily than just the bare bones of a rhythm track. Now at this point, after we'd laid down the synthesizer strings, I was beginning to get very concerned about the number of tracks that we'd eventually need in order to record all the stars now

involved in the session—the total was already over 35 by now, and climbing daily! So for the very first time on any project we were able to synchronize two 32 track digital Mitsubishi machines together on the final phase of making this record, and therefore I made a series of work tapes, or 'slave tapes' as we call them, for recording the vocals."

According to Gatica, final preparations before the "big day" itself included a run-down and intensive pre-production meeting between himself, Quincy Jones, Ken Kragen (manager of Kenny Rogers, Lionel Richie and Kim Carnes, and a guiding force in the USA for Africa campaign along with Harry Belafonte), and executive producer Tom Bahler. "Tom was very instrumental, along with Quincy, in actually arranging which vocal parts would be sung by whom, as well as deciding which lines best suited which voices for the solo sections—all very important considerations," adds the engineer.

"This meeting was also used to finalize our plan of attack for the big session," continues Gatica. "First off, we decided to go ahead and record all of the choruses before tackling any of the solo lines, partly because we felt it would be

LINE-UP OF SOLOISTS



easier to get everyone involved like this, and also so there wasn't a lot of hanging around waiting for one person to get a solo take right. This necessitated quite a bit of organization, so we drew a big diagram (See Figure One) detailing everyone's position. By this time, we had 44 people, so we got cards with their names written on one each, and began figuring out the best vocal balance—no easy task, let me tell you! For instance, where were we going to put a strong voice like Tina Turner's, or someone like Dan Aykroyd who couldn't really sing? We also had to know where everyone was so if they moved, we could put them back in exactly the same spot for the mikes. After a bit of experimenting, we had Daryl Hall next to Steve Perry, Kenny Loggins next

to Willie Nelson and Lindsey Buckingham, and so on . . .

"The next thing we had to decide on was how to deal with all the solo passages," Gatica continues. "Originally, we were going to call each singer in turn and have them do their bit, but Quincy and I decided that this would just take too long—and we only had limited time with all these people being around. So in the end we worked out a pattern using semi-circles around the mikes (See Figure Two). This way, we could record the vocals in an overlapping sort of way, so that the first line, which was sung by Lionel Richie, was then followed by his harmony line with Stevie Wonder, and then *his* solo line was followed by a harmony line with Paul Simon, and so on.

"In order to cover the song, we worked out five separate groupings, each one with a mike," adds Gatica, "and then there were other divisions, such as the first chorus being sung alone by Michael Jackson, and the bridge section being performed by Huey Lewis, Cyndi Lauper and Kim Carnes. We also limited the tracking to three passes each time—no more. The reason we did this all in groups in such a way was that it created a little tension and pressure, something we wanted. Everyone worked hard to get as good as their neighbors, as well as feeding off the energy of the entire session. It also gave us some interesting and unusual vocal transitions, such as the one between Dionne Warwick and Willie Nelson, which all flowed beautifully in the event.

"Finally, the meeting was also to prepare everything in a technical sense—obviously with all these superstars gathered together for the first and perhaps only opportunity, we couldn't afford to have any technical hitches," comments Gatica. "So for instance, I got in a back-up system including a 24 track Studer machine. Fortunately, everything worked perfectly."

The historic session took place at A&M Studio A, and after warm-ups, etc., began around midnight, according to Gatica. "Quincy and I started off by organizing everyone in their proper places, and recording the choruses to the tracks we'd already done. I used a mixture of Neumann and AKG mikes to cover the entire spectrum. I close-miked the front with Neumann M50s, the middle of the room with two C12s, and the far end with three more C12s. Remember that the studio had 45 singers in there in the end, plus a camera crew and photographers, so it was absorbing a lot of the ambience. This way, we could capture every conceivable depth to the sound, though.

"I used the AKG C12 tube mikes because they're simply the very best vocal mikes I've ever used," comments Gatica. "I then fed them through my own customized mike pre-amp, and then processed them through a GML parametric equalizer and GML limiters. In fact, I recorded all the vocals entirely in this manner, using virtually nothing on the console. I used almost no EQ—everything was pretty flat, and it worked well for everyone. All the vocals were then processed through the Mitsubishi 32 track digital machines as work tapes."

After finishing the chorus sections at around 3:30 a.m., the team then turned its attention to the solo sections, which lasted through the night until about 7:30 a.m. "It was straight through, and hard work, but everyone was on such a high that nobody even noticed the time," recalls Gatica. "All the solo spots were recorded using the five C12s and processed the same way, again with

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hardly any EQ. After those were all completed, we then recorded some additional vocal stuff by Bruce Springsteen, Bob Dylan, Diana Ross and Stevie Wonder, which we added to give the song some 'fresh blood' from the fourth chorus out. This lasted through until around 9 or 10 in the morning, with Dylan going last of all—I think he was pretty nervous."

With all the main foundations now in place, the team spent the next few days listening and reviewing the tapes before returning to Lion Share studio the following Sunday to complete Ray

Humberto's recent supersession even found its way to the comic page.

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Charles' solo contributions to the song. "By the time we got to him that night, he was just too exhausted to give it his best," explains Gatica. "We then also began to

record the final synthesizer parts. For that, we brought in producer Michael Omartian, and David Paich and Steve Porcaro from Toto, to overdub the tracks we wanted. They used a variety of synthesizers, including an Emulator, an Oberheim sequencer, a Yamaha DX7, a PPG 2.3 Wave and a Yamaha GS1, and we eventually finished that session at around 4 a.m. on the Monday morning.

"Now that we had all the tracking finally completed, we then began going through all the work tapes," Gatica continues. "We ended up with

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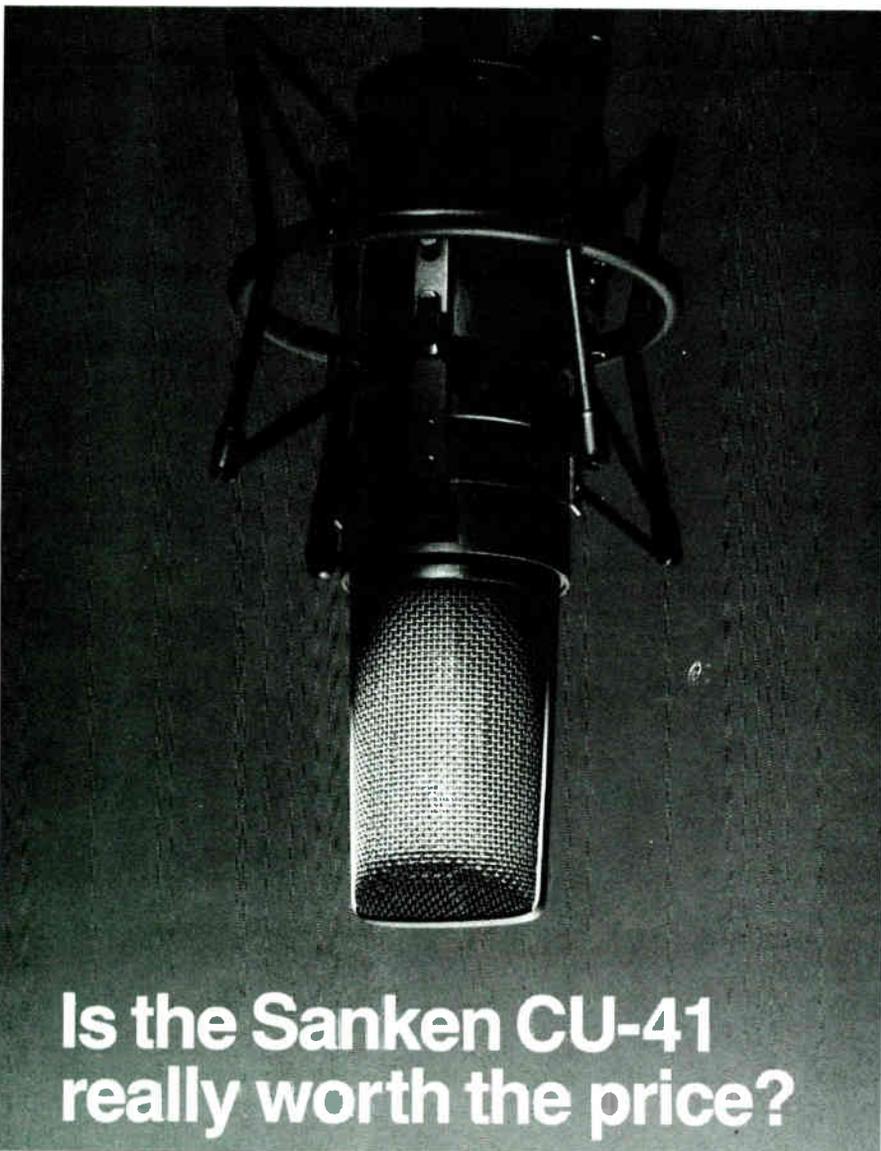
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about five tapes where we had master information that had to be bounced to the final master and slave tapes. For instance, we had three passes of each singer's solo performance, so we had to select the best performance, either splicing bits from each pass together, or just using a whole section. Eventually, we ended up with one composite track with all the master takes.

"After that process was completed, we began to work with our final master 32 track digital tape and our final slave 32 track digital tape, getting a feel for the overall mix," he adds. "At this point in the mix-down, I also had to bring in an extra console, a specially customized 'travelling' board designed by George Massenberg, because we needed additional inputs for the echo return and other effects. Remember, we already had 64 tracks of music by now, and we were working on the 56-input Neve console in Studio A."

Even though the team was now in the final stages of the complex mix, there were still a couple of finishing touches needed to complete the project to everyone's satisfaction, as Gatica explains. "After various rough mixes, we all realized that we didn't have quite enough vocals on Stevie Wonder, so in the end he actually came down to Lion Share on the Tuesday, and sang one more chorus—which ended up as the one where he trades phrases with Bruce Springsteen. Again, we used an AKG C12 for this extra icing on the cake. Then finally, on the following day, after listening to the completed rough mix overnight, Quincy called me and said, 'It's great, except for the beginning of the song—we need a stronger intro.' So we went back in one more time and added this new synthesizer opening, using this overture written by Quincy and Michael Omartian, and that gave the song the punch it needed to grab you from the very first bars.

"We then proceeded to the final mix-down, and on the Thursday we invited Michael Jackson, Lionel Richie and Kenny Rogers to come over and have a listen, and to add any suggestions or input. Well, everyone was so excited and anxious to hear the finished track at last that they all arrived at eight in the morning! It was a pretty emotional moment for us all, to hear it all pieced together for the very first time, and everyone was thrilled with the results. The final step was the mastering, which was then done at Bernie Grundman Mastering Studios in Hollywood."

Summing up, Gatica says that, "From every standpoint—engineering, artistic, emotional—it was a once-in-a-lifetime experience. Let's face it, the chances of getting all those stars together again in one room at the same time are pretty remote. I'm just relieved the sessions all went so smoothly." ■

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VIDEO NEWS



Jazz Images' Jeffrey Graubart inked a deal with Toei Video Co. executives in Tokyo.

by Mia Amato

CHEVY GOES DIGITAL FOR TV

Pathological Corporation, producers of the experimental digital film, *Digital Dreams*, scored again with the production of a digital stereo TV commercial for General Motor's Chevrolet division. **Kirk Hunter** composed the music for the quick-cut (180 edits in the 60-second version) visuals of a human eye and extreme closeups of the Chevy Cavalier.

Chris Carpenter mixed music and effects on a 48 track console in **Glen Glenn's Studio 7** and supervised recording onto two Sony PCM 3324 digital recorders. Eric Stahl produced the spot.

"This is the broadcast sound of the next century," said Glen Glenn president **Tom Koybayashi**. "This applied

Director/producer **Eric Steven Stahl** directing recording session at **Glen Glenn Sound**.

technology is practical and usable now and these TV spots are concrete proof of it."

STUDIO STUFF

New for the studio is a digital time base corrector from **For-A**. The



PHOTO © 1985 TPC

FA-400 costs about \$5,000, can be used to correct both half-inch and 3/4-inch source material, and packs in some video processing and a freeze frame function. For-A has also introduced a component video switcher, with eight inputs, two outputs that can be independently coded to handle RGB, YIQ, or Y, R-Y, B-Y signals. It can be used for production in any of the current component analog formats and could also be used to input graphics from some types of personal computers into the video mix. The CVM-500 has the standard complement of mix/effects with the added benefit of a crisp component image.

VIDEO PEOPLE

Jazz archivist/filmmaker **David Chertock**, TV producer **Burrill Crohn** and **Jeffrey Graubart** have introduced a service called **Jazz Images Inc.** It's a combination production company and image bank of over 500 film hours of jazz performance and jazz artist interviews collected by Chertock.

It is possible to purchase individual clips from the New York based company on a non-exclusive basis for a per-minute fee. More than 700 artists from **Louis Armstrong** and **Charlie Parker** to **Chick Corea** are represented in the film collection. Chertock and Crohn are currently producing **Giants of Jazz**, a television series on the history of jazz for Japan's Toei Video Company (Crohn wrote, produced and directed the syndicated seven-show series **Women in Jazz**) and plan to branch out into the production and distribution of other jazz-related television programming.

Lyn Healy, director of acquisitions at Rockamerica and editor of **Videofile**, has left the company to join the advertising production company **N. Lee Lacy & Associates**. She'll be handling sales and promotion for the company's roster of rock clip directors. Tapes for the

Rockamerica club pool should now be sent to **Bill Melo**.

Pacific Arts president **David Bean** has resigned, with plans to develop film and video projects as an independent. Apple Computer founder **Steve Wozniak** resigned in order to form a new company which will produce video hardware and software products for children. And **Mark Levinson** has resigned as president of Picture Music International. Capitol exec **Fred Willms** now heads PMI. In L.A., lighting directors **Richard Ocean** and **Lee Rose** have formed a new lighting company, **Ocean, Rose & Associates**. Recent lighting credits for the pair include the film **Spinal Tap** and video music projects for **R.E.M.**, **Lou Reed**, and **Sheena Easton**. **Robert Lombard** recently joined the London-based clip company **JR TV**, producing two clips for **Linda Ronstadt**, "Skylark" and "You Took Advantage of Me." **David Lewis** directed the clips, both period pieces for the Elektra artist's "Lush Life" album. In New York, **Jeff Nemorouski**, formerly with Videowest, is now with **CBS Video**. Video editor **Richard Kaufman** has moved to VCA Teletronics from National Video. **Bonnie Ziegler** of Unitel Video recently edited three clips for **Hall & Oates**.

TV: 24-HOUR ROCK VIDEO

Three more low-power television stations have joined the growing roster of UHF broadcast companies surviving and thriving as 24-hour video music stations. **WVJV-TV** airs from Framingham, Massachusetts, to the Boston area college market, and is owned by Boston radio personalities **Arnie Ginsburg** and **John Garabedian**.

Anchorage, Alaska's music channel, dubbed **Catch 22** and **TV-69** in Gainesville, Florida, have been on the air for about six months. These two stations are filling a television void in their markets. In Gainesville, for example, residents with a good antenna only get three other stations, two of which are also in the UHF band. All three of the 24-hour rock clip stations use live, on-air VJ's a la **MTV**.

HOME VIDEO

The folks that brought us "The Compleat Beatles," **Archive Film Productions**, have released a second nostalgia title for the home-vid market. "Rock and Roll: The Early Days" includes such gems as the original version of "Hound Dog" sung by **Big Mama Thornton**, **Bo Diddley's** performance on the **Ed Sullivan Show**, and home movies shot by **Bill Haley's** drummer. Produced by **Pat Montgomery**, the 60-minute cassette features 14 tunes and is available in Beta and VHS Hi-Fi. ■

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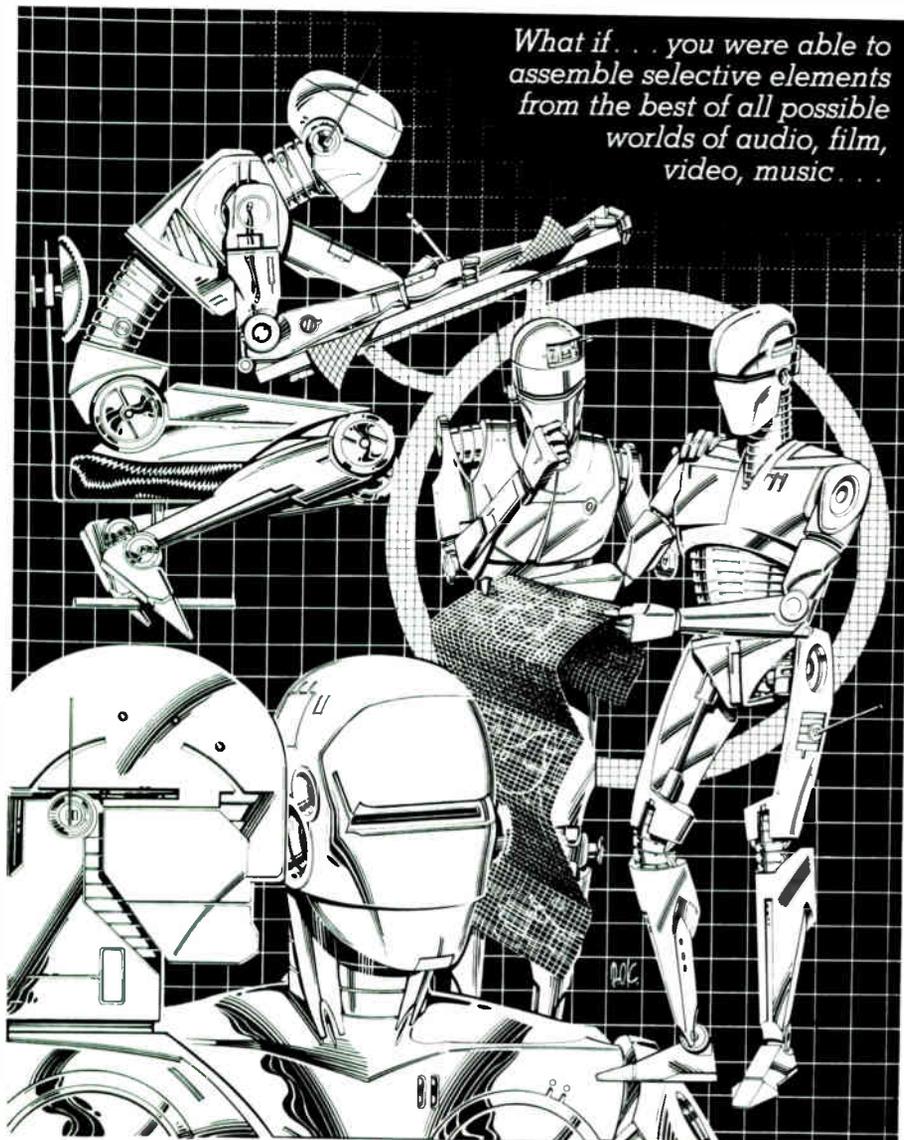


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What if . . . you were able to assemble selective elements from the best of all possible worlds of audio, film, video, music . . .

The Ultimate Music Video SFX

by Lou CasaBianca

What if . . . you were able to assemble selective elements from the best of all possible worlds of audio, film, video, music, computer and satellite broadcasting technology in one strategically designed music video production center? Which way would you go? Are 35mm and 16mm film, one-inch type "C" and RGB half-inch video, optical disks and digital video converging or diverging technologies? Is it true that the best sound available on videotape is not on one-inch type "C" NTSC or type "B" European Standard, or the new enhanced 3/4" U-Format, but on half-inch Beta and VHS stereo home videotape? Which editing system offers the best features? And what about animation, computer

graphics, and motion control cameras? What systems are the most flexible, most user friendly and most likely to evolve in a music-driven audio/film/video/satellite broadcast environment? The front end production would be able to handle 35mm or 16mm film or one-inch type "C" or high band half-inch video tape. The ultimate music video production center would be designed to handle not only music video but commercials, and long form music entertainment programming as well.

SOFTWARE INTEGRATION

Special software developed specifically for audio and television post-production would provide a local area network to allow serial ported SMPTE

time code controlled machines and MIDI interfaced musical instruments to talk to each other. The software would be integrated with word processing (scripts and marketing), database management (logging and edit decision list), graphics (storyboards), spread sheets (budgets) and project scheduling and payroll.

CONTROL SYSTEMS

The brain of the system would be machine and event controllers which operate multiple devices, and can also deliver an unlimited number of commands to audio tape recorders, video tape recorders, digital processing devices, countdown cues for ADR (Automatic Dialogue Replacement), cue audio Compact Disc machines, or non-synchronous tape machines. Portable computers with built-in modems and software would be used in the field for script meetings, budgeting, logging and scheduling.

AUDIO FOR FILM & VIDEO

However clean and crystal clear the sound on the original studio two-inch or one-inch analog or digital audio master, sound on videotape can only be as good as the sound reproduction capabilities of the given videotape format. Layback of the first generation sweetened soundtrack direct to the final edit master provides the best sound available on videotape. Sound effects libraries can be transferred to Compact Disc for immediate real-time random access.

AUDIO TAPE RECORDING

For audio recording for film and video layback, computer controlled multitrack recording would offer the most flexibility and be able to handle the widest range of applications. The audio console with control panels designed specifically for video mixing would have additional busses allowing greater adaptability in the preparation of tracks for stereo and special effect re-recording.

AUDIO/VIDEO EDITING

By storing and activating mixing pre-sets at given SMPTE time codes, the board would be capable of scene-by-scene dialogue equalization from off-line edit decision lists or from cues executed on the fly. Film to videotape transfer facilities have changed the way film is handled in postproduction. Source material can be re-scanned and given new dimensionality in the negative film to video transfer process. Source machines would include analog and digital audio tape recorders, one-inch, half-inch component video and optical read and write disk. The editor would be able to store

any sound or image in digital memory during the editing process. Programmable punch-ins and punch-outs would be virtually gapless, permitting unlimited possibilities in the mixing/editing of short sections of programming. Pertinent data could be compiled as needed while creating an edit decision list by using the system's automated functions. Each machine would have a time code channel which would simplify the fiber optic signal path requirements in the room and eliminate potential problems in using time code on tape.

The suite would be outfitted for Mag playback (35mm or 16mm). A microprocessor controlled synchronizer system would be used to lock all machines in the center. The system would have an unusually large digital memory capacity and could be used in laying out and performing electronic edits and special effects. When not in use, the system would be virtually transparent. The synchronizer would take commands from the master control keyboard, and chase and synchronize however many machines were in use, while allowing the editor/engineer to concentrate on the edit/mix. Vertical interval time code would eliminate the need to use one of the audio tracks for time code and provide ample user bit note taking write-on capability on source and edit masters.

SATELLITE TRANSMISSION

Another innovative move would be the in-house ability to send (up-link) and receive (downlink) programming from the center's own large fully equipped soundstage. The production center would be able to acquire and distribute material in stereo, live or by tape delay via satellite transponder from around the world. It would, for example, be able to link with facilities in New York, Chicago, Los Angeles, Nashville, Toronto, London, Paris and Tokyo.

COMPUTER GRAPHICS

The computer animation and graphics system, digitally controlled, with analog electronic animation would enable animators to work in real time, producing images directly onto videotape or film. The manipulation of film or video images by computer would provide frame-by-frame X-Y-Z 3-D perspective animation and paint capability. The animation/graphic system would be able to "import" material created on other systems as well.

A small number of facilities have successfully been completed using various elements of the systems just reviewed. We would like to know your preference for an existing, projected or imagined facility that meets or exceeds the previously referenced general specifications for the ultimate music video production center. ■

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Gregory Alper



6

NEW YORK PRODUCERS

by Brooke Comer

Producing is a skill requiring many talents. To work effectively in the studio, it's necessary to have an objective stance and yet also be involved enough in the music to foresee a problem and know when to make a change and what the exact nature of the problem is and how best to resolve it. Intrinsic to understanding production is a knowledge of musical instruments, of engineering and of the artist's point of view. Most producers come to the job from one of those directions, and their origins can't help but affect their style of production.

Jeff Jones came to production through engineering. One of three owners of New York City's Intergalactic studios, he still gets plenty of opportunities to engineer while he continues to develop his production skills. A Connecticut native, Jones' mother was an opera singer and music was a part of his childhood. "I played drums, piano, sax and trombone and I had my own band," he says. "I always wrote, arranged and composed."

Jones studied classical piano at Sarah Lawrence College before working as the Talking Heads' road manager in the late '70s. "I knew I wanted to produce and that to do that I had to know the studio as an engineer. No studio is equipment-perfect." He managed and engineered at Scovil Productions in Connecticut before building his own 16 track studio. His engineering credits include the soundtrack for Academy Award nominee *Against the Wind and Tide* and demos for John Hammond Sr. on CBS, among others. "I produced three records this year in Europe, one for a French band, Cargo, another for a Spanish band called Electronic Encyclopedia, and I'm in the middle of co-producing an album with Jan Warner.

"I like popular music," Jones says. "I don't see any artistic integrity lost in having a hit record on the radio. I like to see people like David Byrne pull it off. As a producer, you have the control it takes to preserve that integrity. You take it from the grass roots when the band is in rehearsal and you pick five songs out of

25 and work on arrangements—on where the voicings of the guitar and keyboards are. Then you combine the band's concept of their own style with the music using the reverb. It's also best to have total control of sequencing the songs and mastering. Without that complete comprehensive attention from rehearsal to recording, through vocal overdubs into the mix, you won't get a final unified project.

"When I mix a song I do it with regard to sequencing so that the music draws you in," he continues. "That's a very important thing psychoacoustically—to draw someone's attention and never lose it. If a song starts with one guitar, then the combination of other instruments coming into it has to be of a certain dynamic quality to keep the interest level high. If you can get the listener through the first minute and a half, you've got them, as long as that minute wows them and makes them think, 'Who is this? How do they get that sound?' A lot of the albums I hear are basically centered around those two or three hit songs that make the difference. That first song on the album is the one that usually ends up getting all the airplay in the beginning. That's what I aim for in a production."

Gregory Alper's Chicago roots gave him a jazz/blues influence that has been a trademark in his production ventures for years. Studying with George Crumb at the University of Pennsylvania and John Eaton and Fred Fox at Bloomington, Indiana gave Alper an extensive background in classical and jazz composition and arrangement.

"My primary interest was playing, initially, before the big wave of technology hit," he says. "As the technological wave grew, I rode it, accumulating equipment as I went." When Alper came to New York, he freelanced as a studio player and sat in with the likes of Paul Schaffer and Al Kooper. "I had my own band, which played a kind of hybrid jazz and I got my production experience putting out my own records. Since then, I've been a freelance producer in all capacities—writing film scores, jingles and finally opening up my home studio. I've got a Soundcraft with 24 inputs and I just got a Nakamichi digital mastering system."

Alper, who has produced records for Ray Anderson and Heywood Gregory among others, is currently involved in starting his own company to write film soundtracks. "Music brings out things that are only hinted at subliminally in visuals. I think the union of the two is

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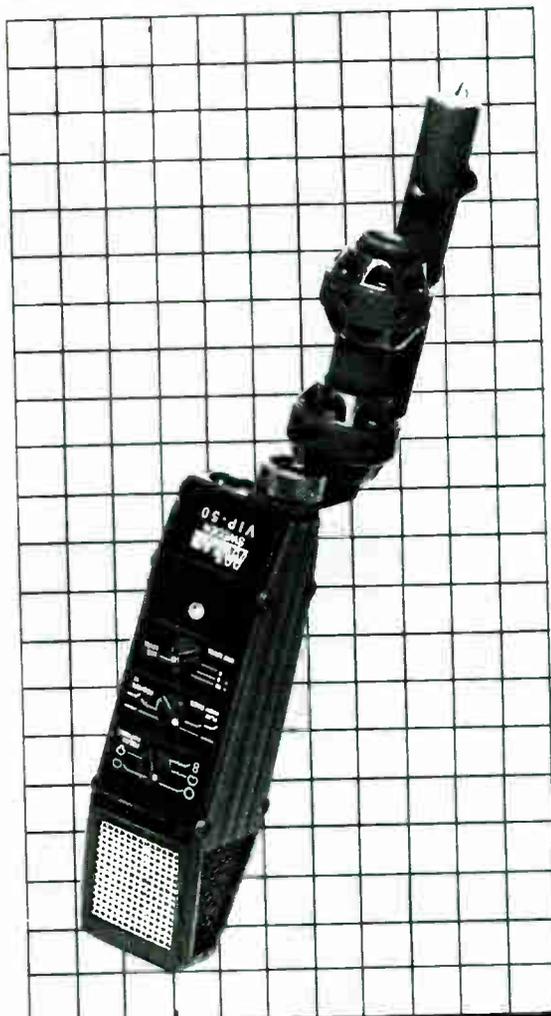
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necessary. My records have a visual element, a centeredness or intensity. Music is definitely getting more visual."

Dan Doyle didn't get involved in the music business until he'd graduated from Holy Cross College with a philosophy degree and worked as a street vendor in London, selling steak and kidney pies. "I was one of those people who collected records when I was nine years old and never stopped," he says. "I listened to jazz primarily. I don't care much for industrial dance music. I was always on the periphery of the music scene, doing concert promotion and booking dates. There's so much live music in NY; that's why I moved here."

Doyle has found record producing to be both fun and remunerative. "I'm really excited about my latest project. It's the first blues record ever recorded in Africa. It's the first time a bluesman—Johnny Copeland—has gone back to Africa with a blues band and used African musicians, too." Doyle also produced jazz guitarist Lenny Breau and classical composer Garrett List and a South American band called Tahuantinsuyo, folk music of the Incas of Peru.

With plans to start his own label with an emphasis on jazz, Doyle can work on the aspects of production that he

feels are important. "Mastering is especially important to me," he says. "That's where the final clarity comes in and it's often short-cutted. I also think the CD is going to produce some very obvious things. Sequencing of tapes for vinyl will no longer be there so you can program a laser disk directly onto the player and hear whatever you want. I'm working on Michal Urbaniak's *Broadway Boogie Woogie* right now and it's a fully digital recording in anticipation of CD. Jazz musicians' sales aren't as high as rock and roll, so you're dealing with a budget problem. But I'm an optimist."

Rick Schneider played bass with Tony Visconti, studied film at Hunter College and produced videos for CBS before he became an independent producer. He produced The Rattlers (featuring Joey Ramone's brother Mitch) on his own label, Ratso Records, and he also organized his own sound-for-film company, Fine Tuning.

"My production work leans toward jazz," he comments. "The Flint Brothers are a Latin-influenced band who gets a lot of airplay in South America. Zambomba is an avant-garde jazz band getting airplay in Buenos Aires. This blending of rock and jazz and latin rhythms is very intelligent music. You

need charts to read it, and this is the music I like. It advances certain art forms rather than doing something commercial. I'd rather get some of this played and develop an audience for it. New York is a cultural center, the perfect place for the kind of music I'm producing."

Schneider's independence from the commercial mainstream is based on his confidence in his work and his faith in certain art forms. Having produced videos for the Rolling Stones ("Emotional Rescue"), Shannon and Kool & the Gang, he certainly has no reason to doubt his ability. "The important thing in modern producing is knowing how to deal with people. A producer's primary aim is to get a performance out of someone, be it an artist, an engineer or an arranger. You have to be organized too. You have to know all the music and listen to the demo and expand on it by using your imagination. You have to be open to fresh ideas. It helps to have a pre-conceived notion of what you want to do."

A native of St. Louis, **Peter Link** came from an eclectic musical background. "My father was a drummer who played with Guy Lombardo so he was into Benny Goodman and George Shearing," he says. "The Beatles were my strongest influence. I also listened to Fats



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Domino and Frank Sinatra. I gave them equal time." Like his childhood friend Dave Sanborn, Link was influenced by the blues/jazz scene going on in St. Louis. An accomplished drummer, keyboardist, guitarist and horn player, Link stays pretty much on his Linn machine these days.

"I started out as an actor. I did the lead in *Hair* in '69 and I wrote a show, *Salvation*, on off-Broadway with a song called "If You Let Me Make Love to You Then Why Can't I Touch You?" which Ronnie Dyson did. It sold a million records on Columbia. I was a theater composer for 10 years and was twice a Tony nominee.

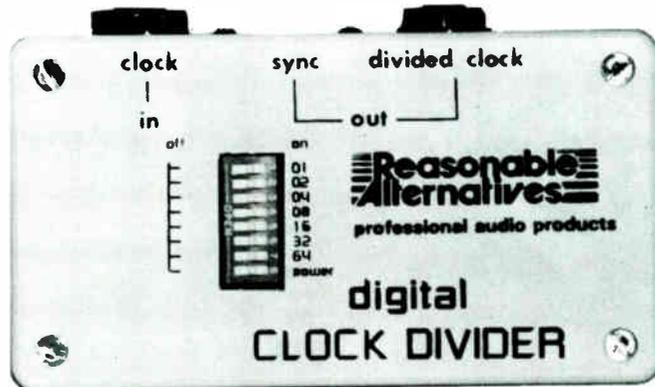
"I'm producing almost out of defense right now" Link says. "Most producers want to do their own music these days. In order to do my own music I have to produce it. I love it. I can take my music from start to finish. I have my own studio, West Trax, which I rent out. I did Jenny Burton's #1 dance record there, and three songs from *Beat Street* and one from *Rappin'*. I did all the engineering myself. I learned to engineer from working in other studios. I have a partner, Bob Lowe, who's worked with me on practically everything. It's good to have a partner because when you write your own music you don't want to be narrow minded; you need someone to bounce it off."

Native New Yorker *Jack Malken* saw a Ben E. King show and decided that music was the life for him. "I always had a strong feeling for music and I played guitar and drums in a band called 30 Days Out on Warners in the early '70s. I took classes to study arranging and composing but I have little formal training. I produced the three records that 30 Days Out made—one with Larry Bart and the other two by myself. I also produced Arif Mardin for Atlantic and Chuck Plotkin for Elektra."

"The most important qualities in a producer are an ability to communicate with an artist and not getting overwhelmed by technology," Malken advises.

While engineering Todd Rundgren's first LP with The Nazz, Malken got to know Todd, and Todd's studio quite well. "I eventually bought him out," Malken explains. "Secret Sound has anything a studio could want. We just worked on a project with Jerry Goodman [ex-Mahavishnu Orchestra] that was totally digital, no hybrid. We used the 32 track Mitsubishi digital multitrack recorder and mixed to the Mitsubishi two track recorder, one of the few projects that has been done that way. We have a fully automated Sony MCI 600 series. We can do anything with it."

Malken's long standing interest in electronics and technology took him into engineering and from there, production was a natural result.



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Master Sound Astoria

making film sound as good as it looks

by Brooke Comer

Any sound studio making its debut in New York needs more than state-of-the-art equipment and optimum angles to survive the competition. But Ben Rizzi and Maxine Chrein of Master Sound Astoria aren't worried. As an integral facet of Kaufman-Astoria film studios, there's more to Master Sound than meets the ear.

With such features as the world's largest LEDE™ control room, absolute polarity in all equipment, D'Antonio diffusion, a Trident TSM fully automated console, and a geometric design aided by a Crown Tecron TEF computer, MSA can match the acoustic dynamics of any rival. But affiliation with Kaufman-Astoria Studios gives MSA its real edge. When studio president George Kaufman opened KAS, his goal involved bringing an entire network of support facilities to the

location. As a result, MSA is wired into all major film stages, facilitating film scores, jingles, and music video production.

"The marriage between film, music and video has never been bigger," explains Rizzi. "And we're equipped to play a major role in that union." In a recent article in *Billboard*, Len Epan, vice president of PolyGram New York's video department, lamented the lack of facilities capable of doing sync digital recording. "We can do sync digital," says Rizzi. "We have in-house video editing with video post, and arrangers and copyists to accommodate commercials, jingles, film scores and music videos."

The only problem MSA faces is overbooking, according to Chrein. "We're already out of room," she says. "We have a big demand for our larger room, with two feature films waiting in the wings. But if the scoring takes up all

the space and studio time, we'll build another studio sooner than planned. We don't want to chase away music people. If you take away the music, you're back to silent film."

Silent film initiated the opening of Astoria Studios in 1920, before the heyday of Hollywood, and later as an alternative for stars who chose not to make the week long train ride across the country. Productions included W.C. Fields in *It's the Old Army Game*, (1926), Rudolph Valentino in *A Sainted Devil*, (1924), Claudette Colbert in *Honor Among Lovers*, (1931), and the Marx Brothers in *Animal Crackers*, (1930). From 1942 to 1970, the studio was occupied by the Army Pictorial Center, and not until 1977 did the studio re-open as the Astoria Studios Motion Picture and Television Foundation, a non-profit effort to promote film making in New York.

Kaufman-Astoria developed when George Kaufman, a New York real estate magnate, formed a group of investors and won a competition to expand and modernize the complex. Kaufman's goal, to build the largest, totally integrated film, music and video production center in New York, was realized in the 500,000 square feet of space. In addition to a full complement of audiovisual supplies and services, KAS offers an in-house bank, tennis courts, health club, florist, medical services, masseuse, word processing, and messenger services.

Stage E is the largest sound stage outside of Hollywood, at 26,040 square feet (217 x 120 feet), and 40 feet high, to the bottom of the walk-on grid. The electrical system carries a power supply of more than 7500 amps, with remote control and dimmer control of all grid lighting circuits. The support area directly adjacent to the main stage holds a 6500 square foot carpentry shop, spray booth, sound, grip and camera areas, dressing room, make-up, wardrobe rooms, and production offices.

Like stage E, stages G and H are also wired to Master Sound. Stage G features a 16 x 30 foot swimming pool, with an 8 foot dry section for underwater

PHOTO JUDIE BURSTEIN



Diana Ross drops in on the new Master Sound Astoria facility during construction. Above (left to right) are Cheri Kaufman, George Kaufman, Ben Rizzi, Diana, and Maxine Chrein.

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shoots through windows. At 12,000 square feet (134 x 90), stages G and H offer potential sites for live broadcasts, underwater music videos, and at press time stage G contains the set for Dustin Hoffman's *Death of a Salesman*.

Additional stages include F, with a complitite floor for video camera movement, and a lighting suspension system supplying 2400 amps for normal and special effects lighting. B, C, D, and I are self contained, and though smaller than E, F, G and H, feature the same full support facilities; client and production offices, a carpentry shop, and sound, prop, grip, wardrobe and make up departments. A 10 x 19 foot freight elevator and two passenger elevators service these stages, which are located on the lower level of the building. Two of the smaller stages have been in active use for commercials and features for years.

With such a diversity of stages to choose from, in addition to the special luxuries and conveniences that KAS offers, it's no wonder that the producers of *All That Jazz*, *Cotton Club*, *The Verdict*, *Arthur*, and *The Wiz* chose to shoot there. An east coast production would be hard pressed to find the services that KAS provides in the New York area. Studios like Empire Stages, who set the scenes for *Falling in Love* and *The Muppets Take Manhattan*, only have three stages, the largest of which is 100 x 125 feet, and the smallest only 50 x 100 feet, and only the largest stage features adjacent dressing rooms.

When George Kaufman wanted a recording facility at KAS, he invited Chrein and Rizzi to join the complex. Their studio, Master Sound Productions, in Franklin Square, Long Island, impressed Kaufman, and Chrein and Rizzi were mutually impressed with KAS. "Joining Kaufman-Astoria was a unique opportunity we couldn't turn down," explains Rizzi. "Where else could we avail ourselves to such a variety of support systems?"

Where else could anyone find a recording stage (27,000 square feet) large enough for a symphony orchestra or the biggest rock and roll date? Or an authentic English Pub just across the hall from the control room? Or a 24-hour commissary just down the hall?

"We're among the few studios in the world to reach a new stage in LEDE™ design in our control rooms," says Rizzi. "We used RPG (Reflection Phase Grating) diffusors too," he adds. Rizzi, acoustic designer Charles Bilello, (an accredited LEDE designer), and a Crown Tecron TEF computer designed the studios and control room. "We've got absolute polarity in all our outboard equipment, mikes, speakers, consoles, and all studio wiring. The TEF System 10 helped us get optimum angles in walls that weigh about 10 pounds per square foot. With the angles,

and D'Antonio diffusion in the control room, the mixing engineer and the producer can be positioned behind the console in a "reflection free zone." Any sound that comes from the monitor to us will be in a direct signal. After it passes us, it will feed the diffusors and bring diffuse energy. Energy from the loudspeaker that doesn't go directly into the diffusors will hit the side walls of the control room. Our geometrically angled walls feed the diffusion, so what we're really doing is feeding our 6 x 12 foot diffusors as if they were paper shredders. The sound explodes evenly in a hemi-disk pattern."

With a stable stereo image across the entire width of the console, producers can sit and relax, and hear the same thing throughout, so that they don't have to jam together behind the console in one tiny spot. "The whole width of the console is an excellent listening area," says Bilello. "The goal of a good control room is to create a situation where everything recorded in the studio can be reproduced without having any coloration. The key to success for this control room is just that; no additional characteristics are added or taken away. A client can walk away knowing exactly what's on tape.

"Simultaneously, we're building an average size room designated A2," says Rizzi. "This room will be geared for normal size recording projects as well as postproduction. A2 will also feature an LEDE control room with post acoustical design treatment identical to A1. We are primarily music people. Our aim is to serve the synthesis of all the related industries, not to cater to one specifically. We're not an exclusive club."

Studio A1 features structural innovations that accommodate both film and music projects. A1 can handle up to three high speed 35 millimeter cameras, locked to three, three-track dubbers that can feed a six track 35 millimeter recorder. "With its own projection booth and a full lighting grid, we can do a shoot while singers are performing," says Rizzi. "We also have video tie lines to all the major stages, and 100 microphone inputs per stage, too. If we want to do a live broadcast, there's a satellite link."

All the equipment that Rizzi chose for MSA was tested first by the Crown Tecron. "Everything we put in was selected by performance, not hearsay," Rizzi continues. "The Tecron checked all our mikes. For every mike we have the printed test results that indicate what the frequency response characteristics are. After testing several of the currently popular monitor speaker systems, we have found most often that no two speakers test alike. The JBL Bi-Radials were chosen for their consistency and superior performance verified by the Tecron. "I'm not certain," says Rizzi "but I believe this is the first time JBL Bi-Radials will be used in certified LEDE

first the bad news

Your old fashioned 24-track console is obsolete. It was designed for music recording, but that's only the beginning for contemporary multipurpose studios. Now you've got synthesizer dates needing MIDI interface, audio for video with computer editor control. Throw in a mix minus requirement and a few stereo input lines that need EQ. Put compression on a subgroup and then subgroup it again. The producer needs a rough in ten minutes and you're down to your last patchcord. Bad news.

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control rooms. Powered by 1100 watts per cabinet, the results should be nothing short of spectacular."

Master Sound's JBLs are in good company. Rizzi also chose 24 track Ampex ATR 124 tape recorders, and Ampex ATR 102 and 104 tape machines. BTX Softouch synchronizers, and the world's largest Trident TSM fully automated console, powered by Hewlett-Packard laboratory power supplies. Lexicon and EMT 251s won the digital reverb competition, and McIntosh placed in the power amp category. All readouts for the film machines, dubbers and projectors are in the control room, to facilitate constant monitoring.

The control room of A1 has two glass enclosed machine rooms, one on

either side of the control room. One side will contain two 24 track analog tape recorders for 48 track interlock. The other will house digital recorders. These machine rooms have their own panels (and in silence) with the doors closed or doors open "hands on" as suits the particular session. If a client wishes to, they may record analog and digital simultaneously.

One of the advantages of recording at MSA is in being part of the KAS complex. Clients can avail themselves to the professional support services. "If someone's doing a large string date, and they want to make a quick change, the copyist next door can take it, and five minutes later it's back in the studio and all the string players have revised parts," says Rizzi. "The client saves

time and money. Our rate structure is probably better than what you'd find in the city, too."

"Ad agencies doing shoots here will soon realize the advantage of Astoria, which is that you can do your shoot on one stage and have the music recorded next door on another stage," adds Chrein. "Before you leave the premises, you can tuck a video under your arm and see how it's going to work. We have video post so they can edit the rough cuts, piece it together and the client can say 'hey, this is going to work,' or 'I'd like to make some changes.' It saves running back and forth from one facility to another or waiting a few days."

Kaufman-Astoria's cluster of industry related companies provides a catalyst factor for Master Sound. The variety of services includes Major Media Productions, a full music production service with record, video and film projects, Reeves Teletape, SIR instrument rental, and many more, who help to give one another new ideas. "When people are involved in different aspects of the music industry, they think of things we've never thought of. Their perspectives are different. It's helped us to develop a wider range by having publishing, copyrighting, researching, songwriters, as well as movies and TV to add to our service capabilities in New York. Our goal is to build the best audio recording facility in New York and we're going to achieve that."

Uncompromised design and structure helped MSA achieve its acoustic goals. When the Army Corps of Engineers originally planned the structure, money was not an issue, and 18-inch walls weighing 20 pounds per square foot were reinforced with solid steel for maximum sound insulation. Today, the cost of duplicating such a facility would be prohibitive.

The best way to evaluate the many features that KAS and MSA share is to take a personal tour of the entire studio. Tours will soon be available to the public as will the Museum of the Moving Image. Industry related people are welcome on an appointment basis.

As Kaufman-Astoria Studios becomes New York's in-house Hollywood, Master Sound will grow to accommodate future demands. Music video is a relatively new medium today, and no one can say what the union of music and film will breed tomorrow. It's hard to guess what will evolve out of the audiovisual framework that KAS provides. But one thing is certain. Video, sound and film are still in a nascent stage of development. With the flexible structure and desire to learn as much as possible about each facet of the industry that MSA and KAS share, the two are destined to be the trend setters of the future. ■



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Control room B at New York City post-production house Sync Sound. The clean, uncluttered design is achieved by locating multitracks and video decks in a centralized machine room nearby.

Northeast Update: All Over the Region, Business is Up

by Brooke Comer

Studios and dealers from Massachusetts to Maryland came to a clear consensus on three trends affecting their respective business markets: home studios and independent production are on the rise; studios are gearing up for video; and despite significant investments in digital equipment, both MI and pro-audio dealers agree that a standardized format must be set before digital can come fully into its own. With these trends comes a wave of market fluctuations. Artists who previously only shopped for instruments now buy pro-audio equipment from the same dealers who sell them synthesizers and guitars. The pro-audio business isn't suffering from this cross-over market, but is rising to meet the competition with attractive prices and participation in the technological race.

Northeastern studios all note a healthier economy in the recording industry. With business on the upswing, innovations in acoustic design, new equipment, audio-for-video and investments in digital are more feasible. With music stores and pro-audio competing for the same market, quality equipment is more accessible and affordable. Boards, racks and monitors, once marketed and targeted at a pro-studio buyer, are now marketed in a new context, to appeal to a diverse group of artists, engineers and producers, as well as the pro market.

Charles Benanti's Soundworks is representative of the move toward video that Manhattan studios are taking. "Music video was something we original-

ly intended to focus on when we opened seven years ago," Benanti reveals. "Little by little we've re-designed each individual space. We've gotten involved with a lot of the new technology from Lucasfilm; EditDroid, a video based editing system utilizing the philosophy of film techniques, and SounDroid, which interfaces with Editdroid as a digital audio mixing and recording device, for example. With an all digital, hard-based system you can do sound effects, stereo

mixes, once-overs and last minute preparation without remixing an entire song. You can also mix any outside music or sound effects into the editing system."

Five years ago, Soundworks was the second studio in the country to bring in digital equipment, beginning with an original 3M prototype multitrack recorder, Sony and Mitsubishi products, and now Lucasfilm. Business, Benanti reveals, is great. "We've had Diana Ross, Donald Fagen, Bob Dylan, Springsteen and the Scorpions in here for video and album projects. We've done a lot of experimenting with the NBC and ABC networks regarding digital audio as opposed to in-house."

At New York City's Blank Tapes, Lou Vetter talks about the opening of a fourth room to keep up with a bigger business. "The industry is changing and we're ready for it," says Vetter. "Our new room has a fully automated 52 input MCI console and built-in TV monitors for audio, film and video. We've got a digital room with a Sony 3324 multitrack. Artists are going to have to be very visual now because of video, that's one reason we're slanting our productions toward high quality audio for video and film."

Sterling Sound engineer Greg Calbi reports an "incredibly busy season, with artists including The Thought and Suzanne Vega on A&M, and Luther Vandross on CBS."

Nineteen eighty-three and 1984 were "the best years ever" for Frankford/Wayne, according to New York manager Norvell Miller. "You can never predict what months will be busy, but 1985 should match the past two years in terms of business," she adds. "We've become

—PAGE 134

Electric Lady Studios

The early history of Electric Lady Studios is part of everyone's rock and roll primer: Jimi Hendrix bought the club-occupied building in Greenwich Village in early 1969 and planned to transform the multi-level structure into a recording studio and performance facility. He resided in what is now Studio C while supervising the construction of Studio A. Hendrix didn't live to see its completion, and his Electric Lady passed from his estate into the hands of the present owner, Alan Selby, in 1978.

The lesser known facts about the site concern its use in the '20s as a speakeasy; Minetta Creek still runs under the building, and it's rumored by those who pull up a trapdoor in the basement to expose the coursing

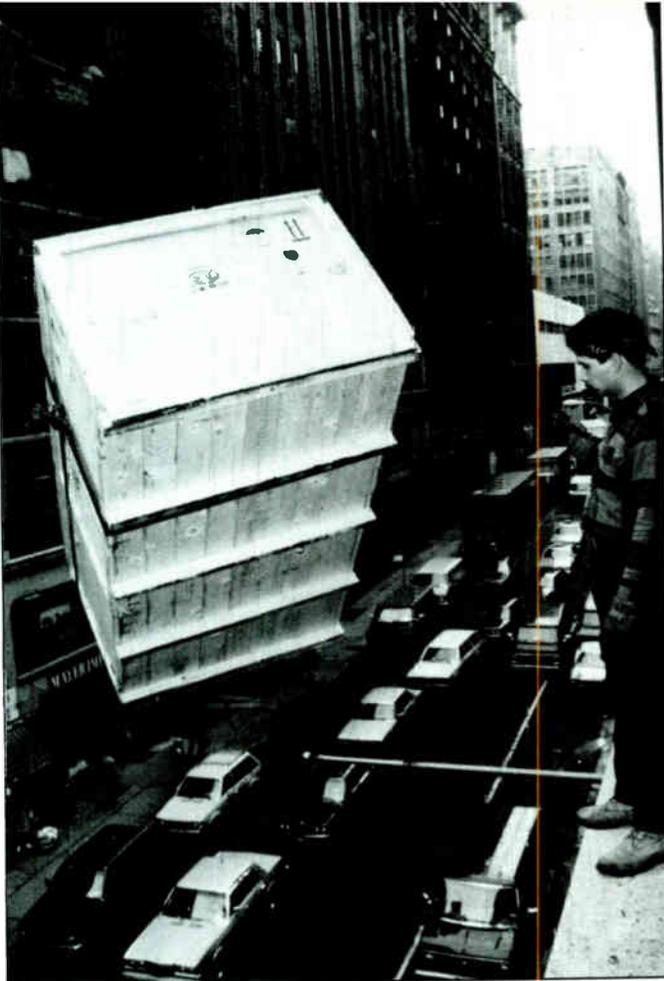
creek, that unwanted customers ended up in Manhattan's underground waterways.

The studio captured many seminal sounds of the '60s and early '70s including Led Zeppelin, Stevie Wonder, David Bowie and Kiss, and has continued to accommodate artists with a staff of nine engineers and assistants.

Recent renovation of Studio B has permitted more functional integration of the facility's three studios.

"Our large Studio A was built as a tracking room, but it was booked a lot as a mixing room because people liked it so much," says Ken Steiger, chief assistant engineer. "The owners decided to rebuild Studio B as a mixing room to take the pressure off.

—PAGE 135



The installation of a new Solid State Logic SL 4000E 40-input console (in a 56-input main-frame with total recall) into New York City's Skyline Studios on West 37th Street required using a crane to hoist the board through the facility's front window. Skyline has also added a pre-production suite outfitted with a Synclavier II computer music system.

PHOTO: PHILIP JARRELL

Sam Ash: Bridging the MI/Pro Audio Gap

Business has never been better for the Sam Ash music store chain. Richie Ash of the Manhattan outlet points out three trends in the industry that helped boost sales. He sees an increase in home studios, in top professionals as well as beginners, and stresses the burgeoning crossover market between MI and pro audio and improved manufacturer-music store rapport.

To accommodate a larger, more diverse clientele, Sam Ash moved its New York City store across the street to larger quarters. Moving "gave us more space, and a more intimate atmosphere for our professional clients," Ash explains.

Ash had a glass-enclosed, simulated studio atmosphere designed within the new store to accommodate professional artists' and studio owners' more precise demands in sound. "It's an area where you can sit down and listen to the studio monitors and effects through a 24 track machine," Ash continues. "We carry pro Soundcraft 24 track and Tascam 16

—PAGE 140

unique (*yu-nēk'*) *adj.* 1. being the only one. 2.a: being without a like or equal. b: distinctively characteristic. 3. unusual. **usage example:** a 48-track recording and mixing facility having a 48-channel Solid State Logic console with Total Recall™ and the world's largest midi synthesizer, sequencer, drum machine and out-board gear collection.



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"We have a Sony PCM-1610 3/4-inch with 1/2-inch F1 capability. The trouble is, if you just have the Sony and

someone brings in a Mitsubishi, they're not compatible. A standardized format is essential." Miller notes that the recording industry is out of its slump, due to more conscientious budgets and record keeping. Frankford/Wayne clients include Sade's "Diamond Life" on CBS, Madonna's "Material Girl" and "Like A Virgin,"

Billy Ocean's "Suddenly" and Melba Moore's new LP.

Paul Gerry, of Ferndale, New York's The Cutting Edge, reports that "business is good, even with the advent of the CD. People are still cutting analog records, until CDs totally take over. We're looking into the acquisition of digital equipment for pre-production of CDs. Much of our research efforts are invested in that area."

Les Arnold of New England's La Salle Studios notes that though New England has been typically less sophisticated in the audio equipment area, there has been a progressive turn around in recent years. "We're doing more highly sophisticated projects with better facilities," he reveals. "The area is really maturing as far as the level of audio awareness goes, and in the level of expertise in engineers. We have a pro audio division that carries Fairlight and Kurzweil, the latter of which is made ten minutes up the road. We can combine both audio and keyboards and video, and respond to the end user's needs in all three areas. We're working with schools, institutions and corporations as part of an audio quality awareness program. We're also doing a lot of digital. We're the sole reps in New England for some of the Sony Digital products. We have long been a proponent of digital, and want to see it taken seriously."

—PAGE 136

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—FROM PAGE 132, **ELECTRIC LADY**

Although people can still record and mix in all three rooms, we generally use Studio C for overdubs, B for mixing, and A for tracking, where we can concentrate on drum sounds because it's so large." (40'x 36'x20').

The one million dollar renovation, which began with a complete shelling of the room, was completed early last year.

"We were only supposed to be under construction for four or five months," reports studio manager Mary Culum. "It ended up being a year, but every apology I gave for the dust and dirt came back as a compliment twofold after the room was finished."

Project manager Sal Greco designed the wiring and supervised the implementation of a floor plan designed by Bret Thoeny. Since the room shares a wall with Studio A, special care was given to soundproofing. Workers hung lead sheets to help low frequency isolation before piling sand-filled cinder blocks and nine layers of sheetrock between the rooms.

At the heart of the room is the SSL 4000 E series console. "It's without peer," says chief engineer Michel Sauvage. "With the old style of mixing you needed all ten fingers plus an assistant doing the moves to go down to take basically live. Now, you can store moves one at a time and refine the mix. For example, if the lead guitar is too loud in the verse and too soft in the chorus, you could change it and store the move in the computer. The next time you run the tape, the computer will do that move for you and you can concentrate on something else."

Along with storing fader settings, levels and mutes, adjustments made using EQ switches or sends to outboard equipment can be stored on a floppy disk and displayed on a video monitor. Settings can be duplicated at a later time by manually matching the graphic representation displayed. The touch-activated graphics function will display a diagram of the entire board, or will zoom in on an isolated channel strip when a control is changed.

"You still need an excellent assistant engineer to keep track of the settings for the outboard gear," says Ken. "One of our pet projects is to set up all the outboard gear for unity gain so that it will be easier when we interchange things."

Studio B is equipped with two Studer A 800 MK III 24 track tape machines, a Sony PCM-3324 digital 24 track, and three Studer two tracks.

After making a significant capital outlay and rendering a third of their facility inoperative for a year, why didn't the studio choose to follow the trend and build an all-digital Studio B?

"We respond to our clients' requests, and they have not been begging us to get digital," explains Michel.

"A lot of people in rock and roll prefer not to begin a project with digital," adds Ken. "Analog tape has a certain sound, and if we're doing rock and roll with crunching guitars, pounding bass and drums and loud vocals, we like the effects that analog gives."

"In the future it appears that a lot of people will work with a hybrid of analog and digital. They'll do basic tracks on analog to get the characteristics they like and then transfer them to digital which allows you to bounce tracks ad infinitum without degradation."

Most of the signal processing devices are digital, including the AMS digital delay unit, the use of which has sparked controversy in the recording world. The device has a hold function that permits the locking in of a recorded sound which can be triggered by a sound on tape.

"It means that you can record any drum sound, no matter how poor it is, as long as the timing is good," explains Michel. "You can then record one good sound, like the hit of a snare, lock it in the AMS and trigger it off the original drummer. A lot of bands that can't afford to spend a lot of time recording basic tracks will just do a quickie job, rent the AMS and use someone else's sound. The controversy comes from the fact that people are beginning to take drum sounds off records that are already on the market. I've noticed sounds that we've worked on here that are appearing elsewhere."

Along with the multi-level layout of the building, which affords privacy to each of the three rooms, the studio's location seems to be a major asset.

"Most studios in New York City are located midtown, with lots of traffic, poor restaurants and unsavory characters," declares Michel. "Here in Greenwich Village, the atmosphere is not as threatening. There may be characters on the street, but they're mostly young and with green hair."

Note: Michel Sauvage and Ken Steiger are collecting material for a book about Electric Lady Studios. They would like anyone who'd care to share photos of, clippings or reminiscences about the history of the building to contact them at Electric Lady Studios, 52 W. 8th Street, New York, NY 10011.

—Susan Borey

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Video equipment room at Sigma Sound in Philadelphia. The studio offers up to 46 tracks of audio and sprocketed mag film transfers to 3/4" or one-inch video for sweetening projects.

—FROM PAGE 134, NORTHEAST

At The Cutting Edge in Manhattan, Jim Shelton is proud to report that Cutting Edge is the first in the United States to get a full license from Teldec Direct Metal Mastering Technology, which includes disk mastering directly in copper and plating and pressing for DMM product. "It'll make a big difference in the LP," says Jim. "The real improvements will come in improved transient response, high frequency response, and the elimination of pre-imposed echo."

Masterdisk's Jill Dix is enthusiastic about the future of their mastering business. "We've got a new Mitsubishi X-80, and Sony editing facilities as well as the whole PCM 1610 system," Dix relays. "We just did the new Mick Jagger LP, *She's The Boss*, and we're working on the Power Station album, with projects in process for Dire Straights and Nile Rodgers."

January and February were the best months in two years for Manhattan's Celebration, according to Sal Ciampini. "To upgrade our main room, we installed a new Westlake monitoring system and added a Studer half-inch two track recorder, making our A room all Studer. We added three kinds of digital reverb and other effects and significantly increased our outboard gear. We also added a dubbing/editing room for audio so we can get into more advanced productions of audio duplication."

Maurice Puerto and Chris Terjesen joined Celebration as staff engineers while former staff engineer Ciampini became studio manager. "Since we're owned by a music production company, we do mostly jingles, including Visa, Almay cosmetics and Max Factor. Our record dates included Jorge Dalto's new project and we did the sound for *Noon Wine*, a TV special, and *Thun-*

dercats, an animated adventure for kids. We're making our studio more available for record production, and since election day, business has picked up considerably." Strangely enough.

Planet Sound joined the MIDI generation when they installed a fully MIDI-ed interface in their new upstairs room. John Grossbard adds that a new control room also opened upstairs, "acoustically similar to the room downstairs. New studio D is loaded with digital synthesizers, drum machines, digital reverbs, gates, and a Trident Series 80 console, with 40 inputs and 64 for mixing.

"We've been doing a lot of electronic control room-only projects," Grossbard reports. "But we get a lot of requests for studio D's 30-foot ceilings too. It's unusual for a studio with a rock and roll reputation to do jingles, but we've done Nabisco, Colt 45 and Subaru, along with several tracks from Chaka Khan's LP, and TS Monk, Eddie Mercury and the new Kid Creole project." Business, Grossbard adds, "is really shaping up."

Intergalactic Studios has heard a broad range of sounds, from John Hammond Sr., to Ron Wood to the Monks of Dalai Lama in their rooms recently. "We do a lot of spec work, with unsigned, underground bands," explains engineer/part-owner Jeff Jones. "We're also very much associated with electronic music and computers, and we're amassing a sound library on the Synclavier." Digital projects include Goren Anderson's *Guitararchitecture*, utilizing the Synclavier, to be released on CD. "We have a number of records coming out, that were recorded digitally by the Fairlight or the Synclavier then played into digital machines and released on CDs or with a digital master." A lot has changed at Intergalactic since Arthur Baker did *Planet Rock* as a spec deal.

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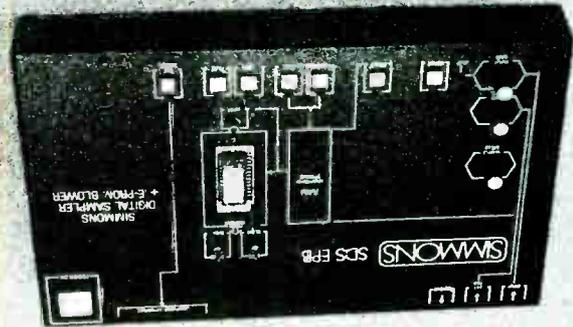
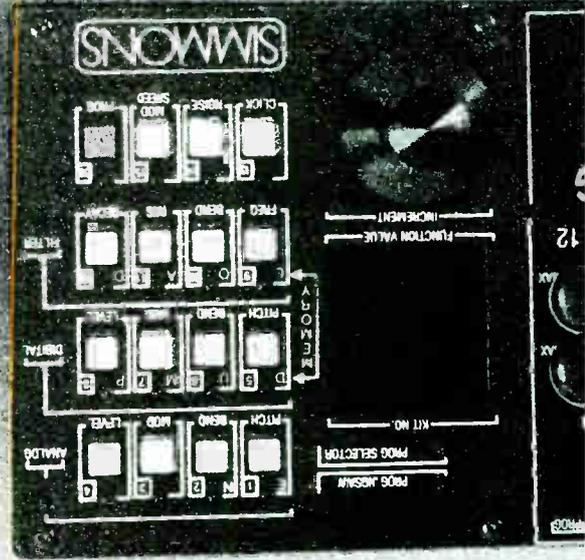
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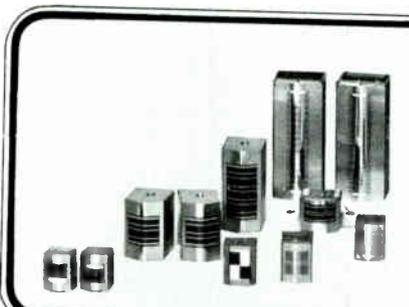
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"We've gone from digital delays to drum machines to computer/multitrack interlock," says Jones.

Right Track's Studio A was remodeled and acoustically re-designed, according to manager Mark Harvey. One change involved an all-glass isolation booth replacing one with a semi-constructed view. "We're very happy with the room," Harvey remarks.

With a new SSL 6000 installed last April, Right Track is not only staying competitive but setting the pace for competitors. "We were the first studio in NY to have two SSL rooms," Harvey reveals. Though Harvey keeps a close eye on the advancements in digital, "it's still changing as a format," he explains. "Digital is coming into its own and we'll be right there with it."

Hank Meyer, newly appointed studio manager of Sigma Sounds, reports a pickup in record dates. "I think there's more money in the industry, more artists are being signed, and we're experiencing the fall out of that," he explains. "Our jingle business has progressed a lot and we've geared up for video."

Sigma is in the process of re-designing rooms "to be more than just record rooms. Our goal is to be versatile. The advent of stereo TV and video production seems to be the wave of the future and we're ready for it." To accommodate a more diverse clientele, Sigma engineers are re-constructing a Neve 868, with a signal flow process similar to Studio 5's SSL. "People comment on how much they enjoy working in Studio 5," says engineer Glen Rosenstein, "so we incorporated some of its signal flow traits into the Neve, like being able to use the monitor as sends in doing a mix." Sigma has attracted such artists as U2, The Ramones, and Talking Heads recently. "We're not just a dance music studio anymore," Rosenstein continues. "We still get Ashford & Simpson, and new people as well. New York is a tremendously competitive studio space."

Bobby Nathan of Unique Recording foresaw the advent of synthesizer technology and keeping up with monthly software updates is "a full time job," according to Nathan. "We invest all our profits back into buying the newest synthesizers as they become available," he reveals. "MIDI has given today's artists and producers the ability to lay complex synthesizer textures in one overdub instead of several. Not only has MIDI saved many studio dollars in relation to time, but the ability to achieve sounds that couldn't be achieved before."

Unique's array of nearly 30 synthesizers, plus a new SSL, has attracted acts like Billy Ocean, Melba Moore, Diana Ross, Cheap Trick, Billy Idol, Shannon and The Spinners. "It's been a busy year," says Nathan. "The sampling of synths have given the producer the

ability to change drum sounds at any time during the project, especially during the mix. With MIDI and drum machine technology, more artists and producers will be walking into the studio with the foundation for a record already stored on disk. This will change the hour structure in the studio, saving time recording tracks and spending whatever time is saved on areas such as vocals or the mix."

Kevin Kelly reports better business at Workshoppe in Brooklyn, NY. "We're targeting our studio toward music video and film," he explains. "We did a score for the feature film *Playing For Keeps*, with music written and performed by Rick Wakeman, and Cy Curnin from The Fixx is doing a film score too. I'm writing a score for a detective spoof called *Ryder PI*, so we're really leaning in that direction."

Workshoppe outfitted themselves with a synchronization system "and with that and automation, we're starting to market the room right," Kelly continues. "While we still continue to service rock and pop people, the trend we're following is in the film/video direction. We're planning to equip one of our rooms for simple eight track audio for video, while the other is set up for radio production. We're very pleased right now because business is starting to be very good."

Bob Skye's Skyelabs is, "the only dual 24 track mobile facility that's also a certified LEDE control room that I know of," he says. "I recently put in two new Otari MTR 90s, and a new snake system with massive amounts of isolated splits." Eighty percent of Skye's work is live, and he's noted an increase in live-to-two track work. "Most studios are geared to multitrack, so people doing two track have got to be totally together. If you have a competent engineer and record correctly, you can come away with a great live sound."

Video work, too, lends itself to Skye's mobility. "I can do location work, and a lot of subcontracting." His album credits include *Growing Up Different*, by Delaware, and gospel artist Rev. Issac Douglass, on Sire records. "I did a fully digital session with Peter Allen, and two of my clients bring their own digital two tracks along," Skye adds. "I think digital is definitely on the way."

Moving north to Rochester, NY, Rob Tompkins and George Cowan report a fine beginning for Millbrook studios, featured on this month's *Mix* cover. "We opened in November, the worst month in the business, but we were booked solid when it's usually slow." Marcel Mazurat is currently working on a '60s big band blues LP, involving Jackie Wilson tunes. "We're excited about our beginning and we're looking forward to a great year," Cowan adds.

Business is "not too bad" for Bloomfield, New Jersey's Digital by Dickinson, according to Frank Dickinson. "We added a third JVC two track digital recorder to our collection," he reports. "We've got nothing above a four track analog machine." Another new addition at Dickinson is digital engineer Pam Bartella, and a new one-inch Ampex VPR 3 will soon join Pam. "Digital people can do more in the long run for the video market than the analog people," claims Dickinson, who plans to meet the video wave with an armory of digital gear.

You wouldn't think anything loud had happened in Revere, MA since 1776, but according to Jerry Simon, EVS Fleetwood is making sounds. "We get Boston rock, like The Blackjacks, The

Accident and Mona Lisa, and some industrials. We've been well booked this year, an increase over last year. With our new rock engineer/in-house producer Michael J. Klein, business is picking up, and we're all happy about that."

Gary Saltzman of Power Play reports a renovated Studio B in which, "we installed a new Trident Series 70, and took delivery on a Studer 24 track A80, as well as selecting a new Oberheim system. "We've been updating all our tape machines little by little, bringing in JVC KDV 6s, and we'll put in a second Studer A80 24 track and four Studer A80 two tracks."

Brooklyn's Rawlston studios recently acquired an Emulator 2. "That's one of the new keyboards," Rawlston

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—FROM PAGE 133, SAM ASH

track, so we can actually start home studios from the ground up. A big market comes from top of the chart artists, who write their music at home, where their hit records originate. The quality of the equipment is so good that they'll find they can make masters at home too, if they haven't started already. You can basically make a record at home now and take it out to a pro studio to mix it properly. This process saves thousands of dollars, which even top stars are interested in doing. Home recording is a major market, not just for beginners, but for pros."

Home studios have become accessible not only because of their cost effectiveness, according to Ash, but also because home computers have set new standards of technological knowledge for the working musician. What was once left in the hands of pro audio people is now issued through music stores like Sam Ash. "Years ago, when we were just a music dealer, manufacturers shunned us," Ash says. "They thought music stores weren't qualified to sell pro equipment. Now though, to make a great record the equipment is as important

as the instrument, and so is the atmosphere you buy it in. Pro audio places have a stale, dry atmosphere, where you sit down and look through a lot of manuals and discuss what you want. With our booth, it's a more immediate experience. People are looking for ways to come up with new sounds now, not just a better frequency response. We developed our clientele from studio owners and major artists who would come in and ask for a DX7 and then want gates, mikes, and racks. We carry the signal processing drum machines and synthesizers that make pro audio and great music a hand in hand thing."

"I have friends all over the country in the same business, and they see the same trend happening. We used to go to an AES show and have manufacturers say 'go away, you're from a music store, don't bother us.' But there's a change now, and they're saying 'wow, you guys are selling two and three times what our established audio house has ever sold,' and they're blown away. The breakthrough is definitely happening, and I think we're going to see it nationwide."

—Brooke Comer

—FROM PAGE 139, NORTHEAST

Charles adds, for those of us who weren't sure. "We're in the process of installing a Necam computer and we're very happy with our AMS digital processor." Jimmy Cliff is laying down tracks at press time, and business, according to Charles, "is fine."

Omega Studio's Bob Yesbek reports plans of a move from Kensington to Rockville, MD. "We're going to triple the size of our facility," he adds. "The larger of our two 24 track rooms will be 50 x 40 with 18-foot ceilings. The main control room will have a Neve and Studer with an API and Studer in the second room. Our third room will be an eight track and a four track production studio for music demos, synthesizer programming and advertising production."

Chris Cassone's Reels On Wheels services the eastern U.S. live and studio recording needs but his primary goal, he says, is to accommodate the artist's recording environment. "Most mobile studios just do live shows and albums but I also have a home studio where I can do postproduction. I've done a solo album for Rob Sabino, most of which was done in the truck." Cassone cites cost effectiveness and flexibility as advantages to truck recording. "Plus I can keep it outside my back door." He's interested in digital, but "it's out-pricing us," he admits. "We'll go two track digital before we go multitrack, because it's totally interfaceable with video. I'm optimistic, though. The recording business is better than everyone thinks. Work is out there."

Bearsville's Studio A control room saw some renovation in November bringing in The Who's custom Neve 8088 console from Rampart studios in England. "We've gotten some new out-board gear too," adds Steve Bramberg. "We have the new AMS digital delay and a Lexicon 224X with LARC, and Drawmer gates, the new toys on the block. We also absorbed Todd Rundgren's former video studio so we now have full state-of-the-art video production facilities. I think it's a great marriage of media and it will enhance and further the technology of the future. It combines the best of records and films."

Atlantic artists Savatage with Max Norman producing and engineering did a debut LP at Bearsville along with Blue Oyster Cult for CBS, produced by Sandy Pearlman and engineered by Toby Scott. Eddie Kramer produced and engineered Icon for Capitol Records and the Isley Brothers self-produced LP was also a Bearsville creation. General renovations on the 70 acre estate have rejuvenated such recreational facilities as Bearsville's full gym and sauna and rehearsal studio barn, according to newly appointed studio manager Steve Bramberg, formerly of

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Boogie Hotel.

New levels of technological awareness have changed the goals and tactics of studios as well as music instrument and pro audio dealers. Gene Perry of Audiotechniques is encouraged by the growth of digital. "We supply studios with a lot of Sony MCI and Trident consoles these days," he reports. "Digital is very big, it's growing by leaps and bounds. It's the biggest thing in the audio business, especially in New York."

Martin Audio's Courtney Spencer sees "a strong growth in the past two years from key lines like Otari, Harrison and Sound Workshop's 34. Digital signal processing and reverb are very strong in the Northeast, primarily in greater New York." Spencer also notes that there is a trend toward decentralization in recording. "Artist and producer studios now have 24 track capabilities," he explains. "This is not new but the acceleration of activity of this kind is new. It's facilitated by the advent of attractively priced, cost effective, and sophisticated synthesizers and drum machines. Home studios represent the bulk of new studio start-ups."

Traditional studios have been upgrading, according to Spencer. "There has not been a large number of new for-rent facilities, but rather, studios are working hard to differentiate themselves.

They'll emphasize audio post or digital synthesizers for instance. The next year should be very important for pro digital new products. New manufacturers in the field will bring prices down, and technological improvement should result."

Jimmy Hovey of Victor's raves that "the recording industry in the NY metropolitan area is exploding." He finds that small studios, both home and professional, are starting to appreciate the value of quality equipment. "Rather than the old push for larger studios, people are gearing up smaller spaces with more modern technology. It's not uncommon today for a moderately priced studio to deal with SMPTE related customers, and to interface with MIDI equipment."

Jerry Williamson of Peirce-Phelps in Philadelphia emphasizes three trends in the industry. He notes the diversification of the industry, with more and smaller studios, often owner-operator businesses. He sees recording studio schools turning out "droves of engineers whose supply does not meet the demand," resulting in a need for refinement and standardization of engineering standards. Third, Williamson insists that before digital can take a major role in the industry, a standard must be developed.

Williamson warns studios to be

aware of the amount of money that has to be spent to gear up for video. "Video's going to continue but it takes a lot of money to put yourself in the video world. Digital is coming along too, but the problem is reminiscent of quad."

Doug Cook, manager of Manny's pro audio department in Manhattan, has plenty of opportunity to note marketing trends in the MI and pro audio sales areas. "More musicians can afford synths and multitracks because the prices are down, and the level of intelligence is up. Now people who couldn't afford to record in a pro studio are capable of producing orchestral sounds. We designed our store so that you can go upstairs to the synth department and then come down here to the pro audio department and leave with everything you need to make an excellent demo for a price range of \$8,000."

With the drinking age up in Northeastern states, Cook sees a decline in club attendance. "Clubs are suffering, and that's hurting live performances, but it's helping the recording business. We're selling more multitracks than ever before. This audio department is the major money maker for the store now and it didn't even exist a couple of years ago. We've quadrupled our profits. Business is exceptional." ■

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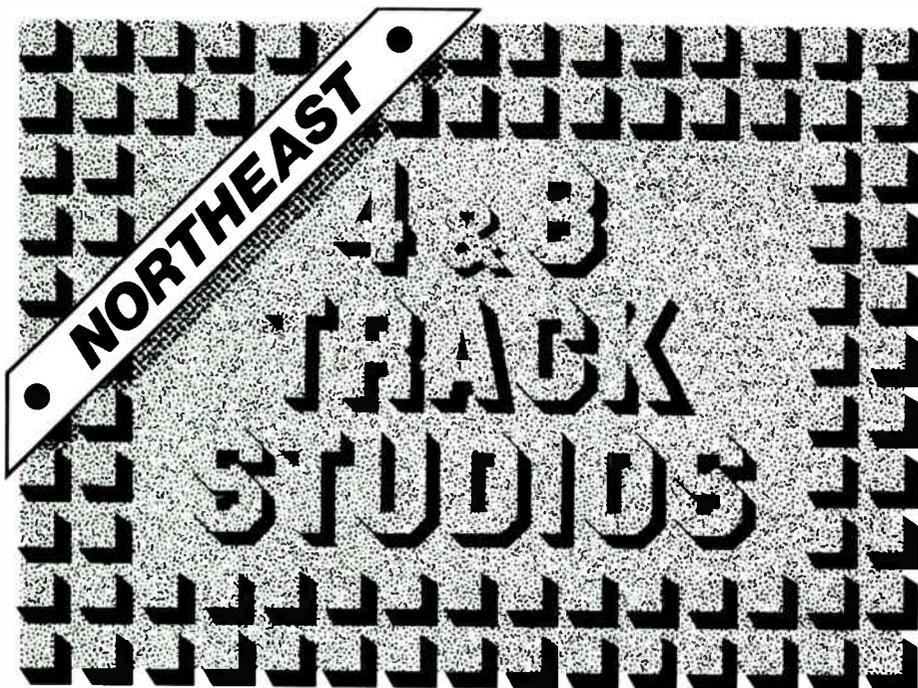
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Ferndale		16 Little Red Hen	155	Suffern		8 Third Story Recording	152
8 Revonah Records	150	24 M&I Recording Enterprises Ltd.	174	16 Advanced Media Productions	154	24 Virtue Recording	189
8 Tel-e-vue Productions	152	16 Mainframe Studios	155	24 Beartracks Recording Studio	163	Pittsburgh	
Flushing		24 Mastermind Recording Studios	174	Syosset		16 Air Craft Studios	154
24 ASL Mobile Audio/Video	162	24 Mayfair Recording Studio	174	16 Allan Studio Music Co	154	16 Asternk Recording	154
24 Aura Sonic Mobile Audio	163	24 Media Sound Inc.	174	24 Kingdom Sound Studios	173	8 Audible Images	144
16 B. Hawk Productions	155	24 Mega Music	175	8 Mountain Sound Studios, Inc.	148	24 Audio Innovators, Inc.	163
4 Studio 55 Productions	152	24 MSP Music, Inc.	175	Syracuse		16 Emry Recordings	155
Freeport		16 Music Designers	156	16 Eastwind Recording	155	24 Evergreen Recording Studios	170
24 Golden Horn Recording Studio	172	24 National Recording and Video Center	176	Troy		8 Recorded Sound Ltd.	150
24 Sonic Sound Recording Studios	184	8 Oktober Studios	149	24 The Music Factory	176	16 Seawind Audio, Inc.	158
Fresh Meadows		8 Pa Da	149	Uniondale		16 Soundmasters Studios Inc.	160
16 Miracle Sound Productions	156	24 Penny Lane Studios	178	8 White Cloud Rec. Studio Ltd	153	8 Synthesound Inc.	152
Glen Cove		8 Mike Peters Music Ltd	149	Utica		Prospect Park	
24 Tiki Recording Studios, Inc.	188	24 Planet Sound Studio	178	24 UCA Recording	189	16 Spectrum Studios	160
Great Neck		4 Posthorn Recordings	150	West Berne		Quakertown	
16 Second Story Sound	158	24 Power Station	179	4 Cotton Hill Recording	145	24 Signal Sound Studios	184
Greenvale		24 Quadrasonic Sound	180	West Seneca		Rehersburg	
8 Sound Futures	150	24 The Ranch Recording Studio	180	16 Hymntronic Records	155	8 God's Mountain Recording	146
Hewlett Woods		24 RCA Recording Studios	181	Westbury		16 Saylorburg	156
8 Deep Space Records	145	24 Record Plant Studios	181	24 Don Casale Recording Studios	166	Scranton	
Hicksville		24 Regent Sound Studios, Inc.	182	White Plains		16 Sound Investments	158
8 Fallen Angel Studios	146	24 Right Track Recording	182	4 Chip Marr	145	Sellersville	
Highland		24 RPM Sound Studios, Inc.	183	24 Minot Sound Studio, Inc.	175	24 DAK Audio	169
24 Hot House Productions	172	8 Safe Sound	150	Williamsville		State College	
Hilton		24 Howard Schwartz Recording Inc.	183	8 DVA Studios	146	16 Filmspace Audio	155
16 Audio Image	154	16 Sear Sound	158	Woodstock		Swiftwater	
Hopewell Junction		24 Secret Sound Studio Inc.	183	16 New York Post Prod. Services	156	8 Swiftwater Sound Studio	152
16 Red Sneaker Productions	158	4 Seltzer Sound	150	Yonkers		Valley Forge	
Huntington Station		24 Servisound	183	8 Studio 237	152	8 Forge Recording Studios	146
8 Backdoor Recording Studio	144	4 Session Recording	150	Yorktown Heights		8 Wilkes-Barre	150
8 Island Sound Recording	147	24 Shake Down Sound	183	8 I/J Studios	147	Windber	
Hurley		24 Shelton Leigh Palmer & Co.	184	PENNSYLVANIA		8 A/Z Records	144
24 NRS Recording Studio	178	24 Sigma Sound Studios of New York	184	Allentown		York	
Ithaca		24 Skyline Studios, Inc.	184	8 Music Designers	148	4 Don Bishop Communications	145
24 Call Audio	166	8 SOJ Recording	150	Ardmore		16 Turtle Beach Recordings	161
24 Pyramid Sound, Inc.	180	24 Sorcerer Sound	185	8 Nonchalant	149	RHODE ISLAND	
Katonah		24 Sound Hound Inc.	185	Bath		Bristol	
16 The Sound Center	158	24 Sound Shop	186	8 Jon Miller Production Studios	148	4 Studio A	152
Kenmore		8 Soundprism Studios	151	Beaver		Cranston	
24 Select Sound Studio	183	8 Soundtrek Inc.	151	8 Nite Depot Recording	149	16 Viscount Recording Studios	161
Lake Ronkonkoma		24 Soundtrack Recording Studios	186	Bryn Mawr		Pawtucket	
24 Paris Recording	156	4 Soundwave Recording Studios, Inc.	151	16 Chns Gately Audio Services	155	8 Celebration Sounds	145
Larchmont		24 Soundworks Digital Audio/Video	186	8 Philadelphia Music Works, Inc.	149	Providence	
4 Kanban International	147	4 Splash Productions Inc.	151	Canonsburg		24 Fedco Audio Labs	171
Long Island		24 Stafford Sound	186	16 Blue Diamond	155	Riverside	
24 Power Play Studios	179	24 Sync Sound, Inc.	188	Chaddsford		4 Kinetic Delta Sound	147
Mamaroneck		24 39th Street Music	188	Chester		Warren	
24 Golden Apple Media Inc.	171	24 Unique Recording Studio	189	16 Widener University Recording Studio	161	24 Normandy Sound, Inc.	177
Mill Neck		24 United Cine & Sound	189	Cresco		Warwick	
8 Soul Shadow Productions	150	24 Variety Recording Studio	189	16 Round Sound	158	16 Wings-As-Eagles Studio	161
Millbrook		16 Westrax Recording Studios, Ltd.	161	Duquesne		VERMONT	
24 Millbrook Sound Studios	175	Newburgh		8 Sound Images Recording	151	Brattleboro	
Mineola		16 J-M Studio	155	Eric		16 Soundesign Recording	158
16 Spectrum Recording Studios	160	North Merrick		8 Honey Bear Recording Studio	146	Brookfield	
Nelsonville		24 Bolognese Recording Studios	164	Fairchance		16 Bygosh Music Recording	155
8 Spring Studio	152	North White Plains		8 R&R Sound Recording Studio	150	Burlington	
New York City		24 North Lake Sound, Inc.	178	Gladwyne		16 Resolution, Inc.	158
24 AAA Recording Studio	162	Ogdensberg		24 Kajem Studios	173	Colchester	
4 Admaster Inc.	144	8 Casper Sound Unlimited	145	Hermitage		16 Audiovisions	154
24 A.D.R. Studios Inc.	162	Orchard Park		4 The Hart Unit	146	Georgia	
24 Alpertrack	162	8 Musico-Productions	148	Hughesville		8 Northern Lites and Sound	149
8 Angel Sound	144	Ozone Park		16 Green Valley Recording	155	Montpelier	
8 Astral Recording Studio	144	16 Differential Audio Concepts	155	Indiana		4 Backtracks/ The Community Media Project	145
24 Atlantic Recording Studio	162	Patchogue		8 Slowburn Communications	150	Woodstock	
24 Audio Art Studio	163	16 KNO Studio	155	Jenkintown		8 Blake Hill Recording	145
16 The Audio Department, Inc.	154	4 Ed Laciniski Productions	148	4 Craig Recording Studios	145	WASHINGTON, D.C.	
24 Automated Sound Studio	163	Port Chester		24 JTM Recording Studio	173	16 American University Studios	154
24 Battery Sound	163	8 Goodtime Sound Recording Studio	146	Latrobe		4 Capitol Video Communications	145
8 Bee-Vee Sound, Inc.	145	Port Jefferson		16 Gamut Productions Inc.	155	24 Lion & Fox Recording	174
24 Big Aple Studios Inc.	163	24 Boogie Hotel Studios	164	Macungie		8 Slush Remote Recording	150
24 Blank Tapes Recording Studios	163	Port Jefferson Station		8 Bearswhamp Studios	145	24 Startec	186
24 Blue Rock Studio	164	16 The Sound Cottage	158	Media			
24 Celebration Recording	166	Port Washington		4 Crystalline Acoustics	145		
24 Celestial Sounds	166	8 Metalopra Productions	148	Meirose Park			
24 Classic Sound	166	Rego Park		16 Fresh Tracks Studio	155		
24 Clinton Recording Studios Inc.	167	16 Didik TV Productions Inc.	155				
24 Columbia Recording Studio	168	Richmond Hill					
		8 Inner Ear Recording	147				



•• **AUDIBLE IMAGES**
22 Cambria Point, Pittsburgh, PA 15209
(412) 821-2648
Owner: Jay Dudt
Studio Manager: Jay Dudt

•• **AUDIO RADIANCE SOUND & RECORDING**
also REMOTE RECORDING
34 Hockanum Rd., Hadley, MA 01035
(413) 584-1272
Owner: Chris Dixon
Studio Manager: Chris Dixon
Engineers: Chris Dixon, Glenn Jubilee
Dimensions of Studios: 12 x 25
Dimensions of Control Rooms: 11 x 12
Tape Recorders: Scully 280 8 track; TEAC 3440 4 track; TEAC AS50RX 2 track.
Mixing Consoles: Soundcraft 400B 24 x 8 x 2
Monitor Amplifiers: Crown, BGW, McIntosh
Monitor Speakers: JBL, Auratone
Echo, Reverb, and Delay Systems: DeltaLab ADM 1024 digital delay, Orban 106CX reverb, Roland Space Echo, MXR flanger/doubler.
Other Outboard Equipment: dbx 160X limiter, (2) Ashly SC50 compressor/limiters, Ashly SC33 stereo gate, Audioarts 1/2 octave EQ, Scott 830Z RTA.
Microphones: Sennheiser, Shure, Beyer, Electro-Voice, Altec.
Instruments Available: Fender Stratocaster, Mesa/Boogie amp w/JBL, Marshall cabinet, custom pedalboard, electric 12 string guitar, fretted and fretless basses, Rhodes, Casio, Roland drum machine.
Video Equipment & Services: VHS deck for viewing
Rates: 8 track, \$15/hr., 4 track, \$10/hr

•• **ACTIVE SOUND**
also REMOTE RECORDING
314 C St., So. Boston, MA 02127
(617) 269-0104
Owner: Larry Lessard
Studio Manager: Roy A Lessard
Engineers: Larry Lessard, Ray Fernandes
Dimensions of Studios: 34 x 16 x 13, 12 x 19 x 13, 8 x 40 x 13 L-shaped, 6 x 14 x 12, 14 x 16 x 7
Dimensions of Control Rooms: 13 x 14 x 8 w/Clark Teknik Room EQ
Tape Recorders: Otari 5050B 8 track, Otari 5050B MKII 2 track, Nakamichi 4H2 cassette, Nikko ND 1000C cassette, AIWA 5500 cassette
Mixing Consoles: Pulsar Labs 1641 16 in x 4 out w 5 band sweep EQ
Monitor Amplifiers: AB Systems
Monitor Speakers: JBL 4312, Yamaha NS-10M, Auratone
Echo, Reverb, and Delay Systems: Lexicon 200 Digital Reverb, Lexicon Prime Time, Furman RV 1
Other Outboard Equipment: EXR Exciter, Ashly noise gates, Ashly compressors, Aphex compeller, dbx noise reduction, Eddor headphone amp, Biamp graphic EQ's, Symetrix parametric EQ, 156 point patch bay, MX1 synchronizer
Microphones: EV RE 20s AKG 451s Sennheisers, Shures AKG C 40 HT, AKG D12, Beyers
Instruments Available: Senn concert lead amp, Kora-Poly 800 synth, Minimoog synth, Vox organ, LinnDrum w/Simmons, bass guitar, orchestra chips MX1, Goya guitar, Peavey guitar amp, Sunn bass amp, Roland microcomposer, Ludwig acoustic piano, Synare Tympani, various drums and percussion instruments, accordion and other instruments and studio musicians available at extra charge
Rates: \$20/hr. Rack-rate rates available, Remote Recording \$400/day

• **ADMASTER INC.**
95 Madison Avenue, New York, NY 10016
(212) 679-1134
Owner: Charles Corn
Studio Manager: Doug Lundberg

•• **ADVERTUNES INC.**
RFD #1, Box 8, Epping, NH 03042
(603) 679-8448
Owners: Darrell & Melinda Murphy
Studio Manager: Darrell Murphy

•• **AEROBAT MUSIC & RECORDING**
404 3rd St., Newark, DE 19711
(302) 368-3850
Owner: Tony Ventura
Studio Manager: Tony Ventura

•• **AIR SOUND**
1116 Boylston St., Boston, MA 02143
(617) 247-4186
Owners: Dennis Rothgaber, Robert Reardon
Studio Manager: Dennis Rothgaber

•• **ALPHA RECORDING**
1197 Teaneck Rd., Teaneck, NJ 07666
(201) 837-0363
Owners: Gregg Hatten, Russ Moore
Studio Managers: Russ Moore, Gregg Hatten

•• **ANGEL SOUND**
1576 Broadway, New York, NY 10036
(212) 765-7460
Owner: Angel Sandoval
Studio Manager: Angel Sandoval

•• **ARABELLUM STUDIOS**
654 Sand Creek Rd., Albany, NY 12205
(518) 869-5935
Owner: The Scarybellum Group
Studio Manager: Yvonne Bautochka
Engineers: Art Snay
Dimensions of Studios: 18 x 24
Dimensions of Control Rooms: 12 D x 20 W.
Tape Recorders: Otari MX-5050 MK III 8 track; Otari MX-5050 2 track, Sony TC-854 4 track, Sony TC-K75 2 (cassette); Sony TC-158 2 (cassette)
Mixing Consoles: Soundcraft 3B, 24 in x 16 out (32 x 32 frame).
Monitor Amplifiers: Dynaco OSA-300M, Crown D-75
Monitor Speakers: Advent, Genesis, Dynaco, Burhoe, Auratone
Echo, Reverb & Delay Systems: Lexicon 224 digital reverb, Lexicon Prime Time DDL, custom plate, Echoplex tape echo
Other Outboard Equipment: dbx noise reduction, dbx compressors, Symetrix limiters and signal gates, Soundcraftsmen 1/2 octave equalizers, Furman Parametric EQ
Microphones: AKG, Beyer, Shure
Instruments Available: Electrocomp synthesizers and sequencers. Others available on a rental basis.
Rates: \$35/hr flat rate, \$30/hr block rate (8 hrs minimum), tape extra

•• **ASBURY PRODUCTIONS**
104 Asbury St., S. Hamilton, MA 01982
(617) 468-2713
Owner: David G. Neill

•• **ASTRAL RECORDING STUDIO**
also REMOTE RECORDING
243 W. 30, New York, NY 10001
(212) 594-3744
Owner: Samuel D. Aldi
Studio Manager: Michael de Benedictis

•• **AUDIOTRAX**
also REMOTE RECORDING
7 Dana Street, Revere, MA 02151
(617) 289-8044
Owner: Robert Kellaway
Studio Manager: Bob Kellaway

•• **A/Z RECORDS**
R.D. 2, Box 320, Windber, PA 15963
(814) 266-4388
Owner: Anthony Zupanchick
Studio Managers: Joe Zupanchick, Tony Zupanchick Jr.

•• **BACKDOOR RECORDING STUDIO**
#1 2nd Avenue, Huntington Station, NY 11746
(516) 427-7006
Owners: Robert Minetta, Chris Pati
Studio Manager: Chris Pati
Engineers: Robert Minetta, Chris Pati, Dave Young
Dimensions of Studios: Main room: 16 x 15; Vocal booth: 6 x 8
Dimensions of Control Rooms: 14 x 10
Tape Recorders: Otari MX 5050 Mark IV 8 track; TEAC 40-4 4 track, Ampex ATR 700 2 track, TEAC 25-2 2 track; TEAC 22-2 2 track; Nakamichi ZX-7 cassette; Sony TCK 85 cassette; Akai GX-4000 1/4 track; Otari DP4050 C2 cassette duplicator
Mixing Consoles: Sound Workshop 1280B (modified), 12 in x 8 out
Monitor Amplifiers: QSC 1400 power amp, AKG K240 headphones, Rane Cue System mono/stereo w/EQ
Monitor Speakers: Calibration standards MDM TA3 time aligned, Yamaha NS-10M, Auratones, Realistic minimus 7s, EV Sentry Vs Echo, Reverb, and Delay Systems: MXR 01 digital reverb, Ecoplate III reverb, 2 DeltaLab 1024 delays, ADA G40 delay, DeltaLab DL-1 delay, Roland RE-201 Space Echo
Other Outboard Equipment: (2) Aphex Aural exciters, Roland SBF-325 stereo flanger, Roland stereo chorus, MXR pitch shift doubler, (2) MXR stereo 15 band EQs, Fostex stereo 10 band EQ, Omni Craft GT-4 noise gate, (2) dbx 160 comp/lim, (2) dbx 161 comp/lim, dbx 118, dbx 224, Phase Linear auto correlator, Ibanez VE 405 effects rack, full line of Boss guitar effects.
Microphones: (2) Neumann U-87, (2) AKG C414, (2) EV RE-20, (6) Senn. 421, (2) Shure SM81, (4) Shure SM57, (2) Senn. K2-U cond., Beyer 260, Beyer M400, (3) EV DS-35, Crown PZMs.
Instruments Available: Young Chang baby grand, Yamaha DX7, Oberheim OBX-A, Fender Rhodes, Moog Prodigy, Tama Superstar drums, LinnDrum, Oberheim DX drum, all percussion accessories, Gibson Les Paul Custom, Ibanez AS-50 ch, Ibanez bass, Rickenbacker bass, Ovaton acoustic, Mesa Boogie, Marshall 100 watt, Fender Twin, Gallien Krueger 250ML, Yamaha B100-1155E, Polytone MB-1111, Roto Toms
Video Equipment & Services: Simple video recordings of band on Panasonic equipment.
Rates: \$30.00 per hour
Extras: Full production facilities, studio musicians and vocalists, cassette duplication, lefty guitars. Coming soon: Studer A80 MKIV, Amek 32/24, and Kurzweil 250.
Direction: To be the best 24 track recording and production facility in the tri-state area.

• **BACKTRACKS/THE COMMUNITY MEDIA PROJECT**
also *REMOTE RECORDING*

3½ Kent Street, Montpelier, VT 05602
(802) 223-2551

Owner: The Image Co-op, Inc.

Studio Manager: Mike Billingsley

Extras: We provide several in-house and location packages, plus engineering and technical assistance when desirable, to qualified users including studio 4 track with common effects; 4 track to half-track mixdown; field stereo cassette (TCD-5M or PMD-360); field half-track, location 4 track, with complete DC field package planned for fall (2 tracks PCM-F1 digital plus 2 tracks VHS-Hifi plus Skotek SMPTE read-write-regen plus 6-channel DC board) Limited quantity cassette duplication is also available.

Direction: We are a combined location recording business and non-profit audio co-operative. Much of our equipment and personnel are available for artist or progressive social change use on a sliding scale, according to use. The Community Media Project is set up for personal, organizational or radio production use, including public service announcements and project documentation. Instruction with college credit is available. Backtracks specializes in location, performance and field production-for-video audio

• **BACK TRAX**

106 Roosevelt Blvd., Oakland, NJ 07436
(201) 337-5203

Owners: Vincent Miraglia, Gregg Miraglia
Studio Manager: Vincent Miraglia

• **BAKER SOUND STUDIOS**

also *REMOTE RECORDING*

1821 Ranstead St., Philadelphia, PA 19103
(215) 567-0400

Owner: Gary C. Moskowitz

• **BEARSWAMP STUDIOS**

1611 Cherry Lane, Macungie, PA 18062
(215) 398-1492

Owner: Clark A. Ferguson
Studio Manager: Clark A. Ferguson

• **BEAUMUSIQUE**

64 State Road, Paoli, PA 19301
(215) 644-1630

Owner: Kerry J. Beaumont
Studio Manager: Kerry J. Beaumont

• **BEE-VEE SOUND, INC.**

also *REMOTE RECORDING*

211 East 43rd Street, New York, NY 10017
(212) 949-9170

Owner: Bruno Vines
Studio Manager: Camille Crenshaw

• **BIG BIRD STUDIO**

also *REMOTE RECORDING*

378 Hoover Ave., Bloomfield, NJ 07003
(201) 429-0850

Owner: Jim O'Brien
Studio Manager: Jim O'Brien

• **DON BISHOP COMMUNICATIONS**

also *REMOTE RECORDING*

1142 E. Market St., York, PA 17403
(717) 846-3856

Owner: Don Bishop

• **BLAKE HILL RECORDING**

Hartland Hill Road, Woodstock, VT 05091
(802) 457-3818

Owner: Michael Kinnicut
Studio Manager: Michael Kinnicut

• **BLUE CHIP**

also *REMOTE RECORDING*

P.O. Box 123, Orefield, PA 18069
(215) 398-2900

Owners: Conrad Bartholomew, Kent Bubbenmoyer

• **CAPITOL VIDEO COMMUNICATIONS, INC.**

also *REMOTE RECORDING*

2121 Wisconsin Ave., NW, Washington, D.C. 20007
(202) 965-7800

President: Douglas A. Weiss
Studio Manager: Done Cohn

• **CASPER SOUND UNLIMITED**

also *REMOTE RECORDING*

517 Morris Street, Ogdensburg, NY 13669
(315) 393-3564

Owner: Erik M. Brown
Studio Manager: Erik M. Brown

• **CATHEDRAL SOUND PRODUCTIONS**

also *REMOTE RECORDING*

7569 Murray Hill Rd. #222, Columbia, MD 21046
(301) 953-0198

Owner: Nolan Church Jr.
Studio Manager: Nolan Church Jr.

• **CAT'S VOICE RECORDINGS**

45 Pleasant St., Box 564, Newburyport, MA 01950
(617) 465-8576

Owner: Tom Reeves
Studio Manager: Tom Reeves

• **CEDARBROOK RECORDING**

21 Central Ave., Sicklerville, NJ 08081
(609) 728-3843

Owner: Brian McMahon
Studio Manager: Patricia McMahon

• **CELEBRATION SOUNDS**

26 Summer Street, Pawtucket, RI 02860
(401) 728-0780

Owners: David Correia, Dan Moretti
Studio Manager: Cathy Correia

• **THE CHARM CITY WORKSHOP**

also *REMOTE RECORDING*

3710 Garrison Ave., Baltimore, MD 21215
(301) 664-9160

Owners: Rayner Chance, Lawrence James, William F. Jacks
Studio Managers: Lawrence James, Keith James

• **CHERRY SOUND STUDIO**

132 N. 3rd St., Philadelphia, PA 19106
(215) 922-3975, (215) 922-1620

Owner: Bob Cohen
Studio Manager: John Anthony

• **CHIP MARR**

56 Dobbs Ferry Rd., White Plains, NY 10607
(914) 948-2751

Owners: Anthony S. Murray, Chip Collins
Studio Managers: Anthony S. Murray, Chip Collins

• **COTTON HILL RECORDING**

also *REMOTE RECORDING*

Rd. #1 Cotton Hill Rd., West Berne, NY 12023
(518) 872-2505

Owner: Ray Rettig
Studio Manager: Ray Rettig



CP SOUND
New York, NY

• **CP SOUND**

also *REMOTE RECORDING*

200 Madison Ave., New York, NY 10016
(212) 532-5528

Owner: Steve Dwork
Studio Manager: Peter Bengtson
Engineers: Steve Dwork, Peter Bengtson
Dimensions of Studios: 10 x 14
Dimensions of Control Rooms: Control A 12 x 17; Control B 11 x 18
Tape Recorders: Ampex MM 1000 8 track; (3) Ampex 440s 2/4 track and mono. Nagra portable
Mixing Consoles: Quad Eight custom, 12 in x 4 out, API custom, 24 in x 8 out.
Monitor Amplifiers: Crown.

Monitor Speakers: JBL 4313, Auratones

Echo, Reverb, and Delay Systems: Quad Eight & G.B.S.

Other Outboard Equipment: UREI ½ octave EQ; UREI "Little Dipper"; UREI 1178; API EQ; API compressor; Pultec, Kepex Gain Brains, etc

Microphones: Neumann U87s; AKG 414s; Shure; E-V; Sony; RCA

Rates: Mono thru 8 track—record, edit, mix: \$90 per hour. A-V programming and pulsing: \$125 per hour. BTX "Softouch" SMPTE video synchronizing system—2, 4, or 8 track to picture, \$125 per hour

Extras: Film transfer facilities, 16 mm & 35 mm, American and European sync standards, complete audio visual slide pulsing and computer programming, full A-V road show capability, music and effects libraries. Cassette, open reel and all A-V format duplication. Direction: Our basic objectives are to provide excellent mixing and narration facilities with as much flexibility as possible, while maintaining a reasonable rate structure.

• **CRAIG RECORDING STUDIOS**

also *REMOTE RECORDING*

B-12 Benson East, Jenkintown, PA 19046
(215) 885-8600

Owner: James Craig
Studio Manager: Michael Gallagher

• **CREATIVE MEDIA COMMUNICATIONS**

also *REMOTE RECORDING*

5 East 37th Street, New York, NY 10016
(212) 889-4156

Owner: Jay R. Pizer
Studio Manager: Cheryl J. Wise

• **CRYSTALLINE ACOUSTICS**

also *REMOTE RECORDING*

128 East State Street, Media, PA 19063
(215) 566-8532

Owner: Glenn Short
Studio Manager: Glenn Short

• **C.S.B. MIX INC.**

365 East 184th St., New York, NY 10458
(212) 933-7095

Owner: Carlton S. Batts

• **DAK STAR**

also *REMOTE RECORDING*

P.O. Box 430, New Boston, NH 03070
(603) 673-0976

Owner: Jaime R. Saunders
Studio Manager: Jaime R. Saunders

• **DASEIN STUDIOS**

169 Ave. A #13, New York, NY 10009
(212) 254-3594

Owner: Linda Swanson
Studio Manager: Ed Bair

• **DEARBORN PRODUCTIONS**

also *REMOTE RECORDING*

Box 735, Londonderry, NH 03053
(603) 432-4079

Owner: Richard Dearborn
Studio Manager: Richard Dearborn

• **DEEP SPACE RECORDS**

400 Mill Rd., Hewlett Woods, NY 11557
(516) 791-4878

Owner: Kenn Fink
Studio Manager: Kenn Fink

• **DEMO WORKSHOP**

2 Sherbrooke Dr., Smithtown, NY 11787
(516) 265-9697

Owner: Richard G. L'Hommedieu Jr.
Studio Manager: Gilda L'Hommedieu

• **DEREK STUDIOS**

also *REMOTE RECORDING*

850 Main St., P.O. Box 304, Dalton, MA 01226
(413) 684-0198

Owner: Gregory K. Steele
Studio Manager: Gregory K. Steele
Engineers: Greg Steele, Max Mattoon
Dimensions of Studios: 30 x 45 x 11; 18 x 24; 8 x 10 iso booth.
Dimensions of Control Rooms: 16 x 18
Tape Recorders: Tascam 58 8 track; Otari MX-5050B MKII 2 track; Ampex AG-351 2 track; Sansui SD-7000 2 track; (2) Tandberg TCD-310 MKII cassette; Akai GX-F31 cassette.
Mixing Consoles: Ramsa WR-8816, 16 in x 4 out.

—LISTING CONTINUED ON PAGE 146

Monitor Amplifiers: Yamaha P-2200, Harman Kardon Citation 12

Monitor Speakers: JBL 4411, KEF 103.2, Auratone headphones: AKG K-140s, K-141s, Sennheiser 414s, HD-400s

Echo, Reverb, and Delay Systems: Lexicon PCM60, Sound Workshop 242, A/DA D1280, A/DA SID-1, Loft 450

Other Outboard Equipment: dbx and Audioarts comp/limiters, dbx noise reduction, MXR Mini-limiters, MXR auto-flangers, MXR dual 15 band EQ, API 550 Equalizer, Aphex Type B, custom noise gates

Microphones: AKG (2) C-60, D-2000E, Beyer (2) M-201, MC-734, M-260, (2) Countryman EM-101, Electrovoice RE-20, Sennheiser (2) MD-421, MD-441, Shure (3) SM-57, (2) SM-53, (2) SM-81, AXE direct boxes

Instruments Available: Gibson Les Paul, Fender precision bass, Hammond B-3 w/Leslie, Yamaha CP-70B, Cable upright piano, OB-Xa, Fender twin reverb, Pignose, E-Mu Drumulator, Latin percussion back, others on request.

Rates: \$25.00 per hour plus tape and rentals

•• **DESTINY RECORDING STUDIO**

also **REMOTE RECORDING**

31 Nassau Ave., Wilmington, MA 01887

(617) 658-8391

Owner: Larry Feeney

Studio Manager: Larry Feeney

•• **DVA STUDIOS**

4274 Trailing Drive, Williamsville, NY 14221

(716) 632-8340

Owner: Don Andrews

Studio Manager: Don Andrews

•• **DYNASPEC RECORDING STUDIO**

58 Claypoole Ave., Moorestown, NJ 08057

(609) 234-4065

Owner: Vincent A Perla

Studio Manager: Vincent A Perla

Engineer: Vincent A Perla

Dimensions of Studio: 15 x 12 x 10

Dimensions of Control Rooms: 10 x 12 x 9

Tape Recorders: Otari 7300 1" 8 track, Otari MX-5050 MKIII 2 track, (2) Sansui D95 cassette

Mixing Consoles: Soundcraft Series 400B, 16 x 4 x 2

Monitor Amplifiers: (2) Crown D-150A Series II, Rane HC6 (headphones)

Monitor Speakers: JBL C50s, JBL 4311s, Pyramid Phase IIIs.

Echo, Reverb, and Delay Systems: Eventide DDL 1745A, MXR 113 DDL, Ursa Major-Space Station SST-282 Reverb.

Other Outboard Equipment: Orban Parametric EQ 622, Orban 424A compressor/limiter/de-easer, MXR pitch transposer, dbx 160 compressor/limiter, dbx 155 N/R 8 channels, Synchronous Technologies SMP L System, Sound Processing Center, Kepex noise gates

Microphones: AKG 414, D-12E, D-160E; (2) Sennheiser 441s, (2) Shure SM57s, (2) SM58s, Electro-Voice PL20, (2) Audio-Technica AT-811.

Instruments Available: Yamaha Studio upright piano, Sequential-Circuits six-track synthesizer, Fender bass, programmable drums, studio drums & congas

Rates: \$25 per hour, block & introductory rates available.

•• **EAGLE WING MUSIC**

464 Franklin St., Mansfield, MA 02048

(617) 339-6584

Owner: David B. Vickery

Studio Manager: David B. Vickery

•• **EAST SIDE FILM & VIDEO CENTER**

216 E. 45th St., New York, NY 10017

(212) 867-0730

Owner: Gordon Enterprises Ltd

Studio Manager: Don Engle

•• **EVERGREEN AUDIO**

also **REMOTE RECORDING**

2096 Commonwealth Ave., Newton-Boston, MA 02166

(617) 527-4526

Owner: Miro Habunek

Studio Manager: Miro Habunek

•• **FALLEN ANGEL STUDIOS**

56 Salem Rd., Hicksville, NY 11801

(516) 938-6180

Owners: Karen & Dennis Genovese

Studio Managers: Karen & Dennis Genovese

•• **FILIPPONE SOUND STUDIOS**

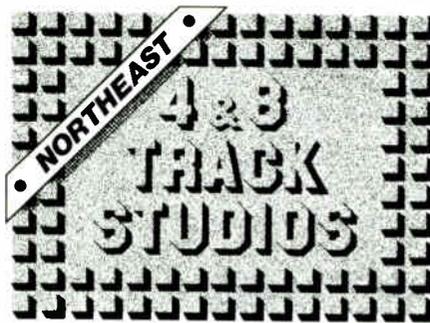
also **REMOTE RECORDING**

176 Garner Ave., Buffalo, NY 14213

(716) 881-4483

Owners: Randy Filippone, Karen Dalessandro

Studio Managers: Randy, Gregg & Marc Filippone



•• **FORGE RECORDING STUDIOS, INC.**

also **REMOTE RECORDING**

P.O. Box 861, Valley Forge, PA 19481

(215) 935-1422 or 644-3266

Owner: Corporation

•• **4 BITS RECORDING**

also **REMOTE RECORDING**

512 Main St., East Orange NJ 07018

(201) 675-1324

Owner: Meekaa'eel Muhammad

Studio Manager: Meekaa'eel Muhammad

•• **FRONT ROW SOUND**

also **REMOTE RECORDING**

716 Silver Creek Rd., Baltimore, MD 21208

(301) 486-8449

Owner: Daryl Beard

•• **FUN CITY STUDIOS**

340 E. 22nd, New York, NY 10010

(212) 677-6032

Owner: Wharton Tiers

•• **GIMPER RECORDING SERVICES**

also **REMOTE RECORDING**

107B Broadmeadow Rd. #11, Marlboro, MA 01752

(617) 481-0408

Owner: Ian M Newman

Studio Manager: Ian M Newman

•• **GOD'S MOUNTAIN RECORDING STUDIOS**

also **REMOTE RECORDING**

P.O. Box 98, Rehrersburg, PA 19550

(717) 933-4181, ext. 228

Owner: Teen Challenge Training Center

Studio Manager: Hank Rogers

•• **GOODTIME SOUND RECORDING STUDIO**

also **REMOTE RECORDING**

101 Westchester Ave., Port Chester, NY 10573

(914) 939-1066

Owner: The A/V Connection, Inc

Studio Manager: Judy Novy

•• **GRC STUDIOS**

also **REMOTE RECORDING**

1137 Fillmore St., Baltimore, MD 21218

(301) 889-4228

Owner: GRC Inc

Studio Manager: Robert Friedman

•• **G.R.M. STUDIOS**

also **REMOTE RECORDING**

24 Buxton Rd., Bedford Hills, NY 10507

(914) 241-0844

Owner: Gene R Minasi

Studio Manager: Gene R Minasi

•• **THE HART UNIT**

also **REMOTE RECORDING**

979 Dalton Ave., Hermitage, PA 16148

(412) 346-4479

Owner: Thomas S. Hartsky

Studio Manager: Thomas S. Hartsky

•• **HELIOTROPE STUDIOS LTD.**

also **REMOTE RECORDING**

21 Erie Street, Cambridge, MA 02139

(617) 868-0171

Owners: Boyd Estus, James Griebisch

Studio Manager: Boyd Estus

•• **HIGH HEEL STUDIOS**

Owings Mills, MD 21117

(301) 363-0749

Owner: Arnold Geher

Studio Manager: Arnold Geher

•• **HONEY BEAR RECORDING STUDIO**

2510 Raspberry St., Eric, PA 16502

(814) 459-BEAR

Owner: Walter Slivinski

Studio Manager: Walter Slivinski

•• **IAN COMMUNICATIONS GROUP, INC.**

only **REMOTE RECORDING**

10 Lipton Drive, Wilmington, MA 01887

(617) 658-3700

Owner: Ian Communications Group, Inc

Studio Manager: Lorrie Soirez

Engineers: A. Ron Tut, Kentaro Furutani

Dimensions of Control Rooms: 12'9" x 16' x 11'

Tape Recorders: Otari MTR-10-4 4 track, Otari MTR-10-2 2 track; Technics 1500 2 track; Technics 1506 1/4 track; Nakamichi 670-2X cassette, Nakamichi DMP-100 digital processor, Otari DP-7000 1/2" bin loop cassette duplicating system.

Mixing Consoles: Audioarts 44, 12 x 4 x 2

Monitor Amplifiers: Briston 3B

Monitor Speakers: KEF 105, 204, 101, ADS 400, Fostex SM6600, Auratone.

Echo, Reverb, and Delay Systems: DeltaLab Electron, MIC-MIX XL-210

Other Outboard Equipment: Orban 418-A stereo limiter; Aphex Compellor, Orban sibilance controller, Orban stereo synthesizer, EXR exciter, Audioarts 4200A parametric EQ, White 4100 graphic EQ, dbx type I & II, Dolby A, B & C, Goldline RTA. **Microphones:** AKG C-414 EB, AKG C-33 stereo, Shure SM-81, SM-58, SM-85, SM-57, E-V RE-20, RE-15; Beyer M-400, M-500; Sennheiser MD-421

Instruments Available: Fender Rhodes, harpsichord, grand piano.

Video Equipment & Services: Video duplication using Hitachi VT 35A VHS, JVC U-Matic; NEC Beta machines, time base correction, clean room environment.

Rates: In house \$50/hour, analog, \$90/hour, digital mastering. Location recording on quotation basis

Extras: Ian is New England's foremost state of the art tape duplication facility. In house operations include typesetting, graphics, printing & bindery, shrink wrapping. Custom length audio & video cassettes w/optional private labeling using AVA 2001 computerized loaders. Tapematic automated labeling & boxing.

Wholesale distributors of AGFA, BASF and Scotch audio, video & computer products. Full line of studio supplies

Direction: Service, technically superior products, and a commitment to excellence.



IAN COMMUNICATIONS GROUP, INC.
Wilmington, MA

•• **INDUSTRIAL STRENGTH AUDIO/VIDEO**

also **REMOTE RECORDING**

48 W. 27th St., 5th floor, New York, NY

(212) 532-7294

Owners: John Cousins, Michael Overn, Bruce Tovsky

Studio Managers: Michael Overn, Al Fierstein, acoustical consultant

Engineers: John Cousins, Bruce Tovsky, Gary Hall

Dimensions of Studio: 25 x 35

Dimensions of Control Room: 15 x 20

Tape Recorders: Otari 5050MIII 8 track; Sony PCM-F1 2 track;

Revox A77 2 track; TEAC 43440 4 track.

Mixing Consoles: MCI JH-420, 20 in x 16 out.

Monitor Amplifiers: Unisync Model 200.

Monitor Speakers: Big Reds.

AUDIO INTERVISUAL DESIGN

Echo, Reverb, and Delay Systems: (6) Lexicon DDLs, all custom modified for extended memory and drum lock; Roland programmable DDL; Ibanez harmonic delay; Lexicon 224 digital reverb, custom modified; Master-Room reverb.

Other Outboard Equipment: Valley People Dyna-Mite, Lexicon time compressor

Microphones: AKG, Shure.

Instruments Available: Rhodes Chroma w/expander & Apple II, Roland Juno 106, Sequential Circuits Pro-1, (2) ARP 2600s & sequencer, Roland MC202 Microcomposer, LinnDrum, Drumulator, MPC rhythm computer.

Video: Full 3/4" production and rough editing w/time code. 16mm film. Video w/FXs also available.

Rates: Begins at \$20/hr

•• INNER EAR RECORDING

also REMOTE RECORDING

118-17 97th Ave., Richmond Hill, NY 11419

(718) 849-5725

Owner: Steve Vavagiakis

Studio Manager: Jane Fuller

Engineers: Matt Schottenfeld, David Stillman, Steve Vavagiakis

Dimensions of Studios: 24 x 20 with two isolation booths.

Dimensions of Control Rooms: 20 x 18

Tape Recorders: Otari MX5050-8SHD 8 track, Otari MX5050-B 2 track; Tascam 40-4 4 track; Sony TC-K81 cassette; Technics RSM-280 cassette

Mixing Consoles: Tangent Series 4, 16 x 16 x 4 x 2.

Monitor Amplifiers: (2) McIntosh 2100s, Crown D-150 for cue system.

Monitor Speakers: UREI 811As, MDM-4 and Tannoy SRM-12 near field monitors, Auratones

Echo, Reverb, and Delay Systems: Eventide 910 digital delay, Korg SDD-3000 w/infinite repeat, Roland SDE 1000, Ecoplate II reverberation plate and tape delay

Other Outboard Equipment: 12 channels of dbx noise reduction, (2) UREI LA-4 compressor/limiters, (2) Orban 622B parametric equalizers, Symetrix and Omni Craft noise gates, UREI 535 EQ, Eventide Harmonizer, Eventide L201 flanger, MXR 15 band EQ, Dual/V-15 turntable, Jensen transformer D.I. boxes, AKG-140 headsets.

Microphones: Neumann tube KM-56; (2) AKG 451s, D12E, D707E; Electro-Voice RE-20, 1711, (4) Sennheiser 421s; (2) Beyer Ribbon 160s; Shure SM-57, (2) SM-58s; Sony ECM22P

Instruments Available: Vintage Steinway grand, Fender Rhodes, Sequential Circuits Pro-1, Juno-60, Korg Poly-61, drum sets by Leedy, Slingerland, Gretsch and Sonor. Polytone, Ampeg & Altec amplifiers, (4) Dresden Tympani, Musser vibraphone, Deagan xylophone, orchestra bells & chimes. Unlimited percussion & sound effects.

Video Equipment & Services: Panasonic PV-5400D VHS VCR, 17" Sony color monitor KV-1740. Any video equipment can be rented within 24 hours of notice

Rates: Competitive. Please call for our brochure and rate sheet.

•• ISLAND SOUND RECORDING

168 Railroad St., Huntington Station, NY 11746

(516) 423-3246

Owner: John H. Hochuli III

Studio Manager: John H. Hochuli III

Chief Engineer: Robert B. Spencer

•• JLI STUDIOS

2903 Deerfield Ave., Yorktown Heights, NY 10598

(914) 245-7753

Owner: JLI Productions

Studio Manager: Jim Roberts

•• JOE'S STUDIO

11 Dwight St., Boston, MA 02118

(617) 451-5351

Owner: Joe Peci

Studio Manager: Joe Peci

•• KANBAN INTERNATIONAL

also REMOTE RECORDING

6 West Ave., Suite 3K, Larchmont, NY 10538

(914) 833-0482

Owner: Al Craven Productions

Studio Manager: John Leitch

•• KEWALL PROD. RECORDING STUDIO/RECORDS

also REMOTE RECORDING

77 Bayshore Road, Bayshore, NY 11706

(516) 586-2486

Owner: Keith A. Gutschwager

Studio Manager: Bobby DeLorenzo

• KINETIC DELTA SOUND

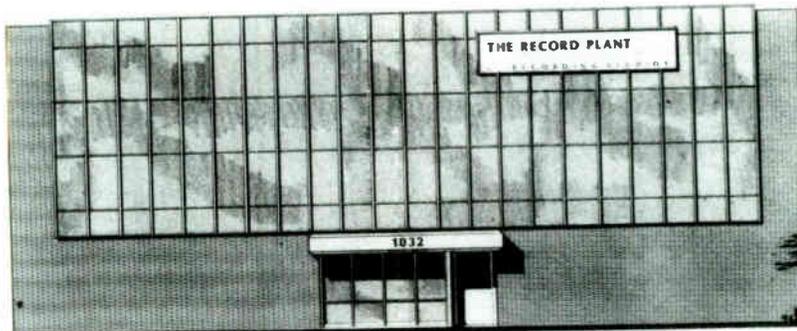
46 Meadowcrest Drive, Riverside, RI 02915

(401) 433-1519

Owner: David J. Krawczyk

Studio Manager: David J. Krawczyk

Audio Intervisual Design Equips New L.A. Record Plant Facility



NEW FACILITY—Above rendering is of the new Record Plant complex. The facility boasts the new Hidley designed control rooms, SSL consoles and Sony PCM 3324 recorders.

Pearson to Head Systems Division for A.I.D.

HAMBURG AES — "When Rick Plushner asked me to become head of the newly formed systems group at A.I.D. he agreed to give me full control over product line selection as well as the necessary funds to develop proprietary software/hardware needed for my work." Rodney Pearson, a

veteran of software based systems design, added, "I am extremely excited about a new synchronizer developed by Gerry Block of TimeLine. It offers the right approach when one is faced with either simple or complex equipment interface requirements."

Blazing New Trails in the West

LOS ANGELES — "The time is right for my newly assembled team of professionals to provide our industry with the kind of products and services required in today's diversified arena." Chris Stone, President of Record Plant Studios, goes on to say, "We're putting our money where our mouth is...the new complex incorporates all of our philosophies."

Over 2 Million in Digital Sales for 1984

NAB LAS VEGAS — "The final figures are in and I am not surprised. A.I.D. has jolted the L.A. market with sales of over two million in the area of Sony digital equipment alone." Jim Pace, vice president of sales and product manager for A.I.D. Digital Division went on to project a 30% increase for fiscal year 1985. "Sony's Digital multitrack (PCM 3324) has been accepted as the only reliable way to go."

Sony Executive Appointed President of L.A. Based Equipment Company

LOS ANGELES — "Being offered the position of President of A.I.D. was a dream come true," comments Rick Plushner, former chief of the Sony Digital Audio Division. "Chris Stone challenged me to develop an organization capable of designing and equipping a state of the art audio facility from the ground

up. I feel that the experience with Sony Corporation has given me the necessary skills to do the job. The Los Angeles area has been shortchanged on the kind of professional expertise needed to implement the sophisticated audio equipment available on today's market. Our staff intends to fill the gap and move forward."

Systems, Products and Consultation for the Professional Audio Industry

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(213) 653-0240

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Circle # 133 on Reader Service Card

•• **KRELL SOUND WORKS**
also REMOTE RECORDING
 P.O. Box 207, Bayport, NY 11705
 (516) 472-3855
 Owner: Roger J. Thurbee
 Studio Manager: Marc Brndie

•• **ED LACINSKI PRODUCTIONS**
only REMOTE RECORDING
 76 Mainsail Dr., Patchogue, NY 11772
 (516) 475-3882
 Owner: Ed Lacinski
 Studio Manager: Julie Lacinski

•• **LADY-FIRE PRODUCTIONS, INC.**
also REMOTE RECORDING
 2811 S. Darien St., Philadelphia, PA 19148
 (215) 468-2280
 Owner: Louis Lupinacci
 Studio Manager: Louis Lupinacci

•• **LIGHTSCAPE PRODUCTIONS, INC.**
also REMOTE RECORDING
 420 W. 45th St., New York, NY 10036
 (212) 757-0204
 Owner: J. Poretsky
 Studio Manager: T. Cereste

•• **LIPS MUSIC**
 84 Kraft Ave., Bronxville, NY 10708
 (914) 961-9637
 Owner: Alan Hemberger

•• **THE LITTLE BIG HORN**
 2350 Broadway, Suite 1132, New York, NY 10024
 (212) 724-9016
 Owner: Richard Kessler
 Studio Manager: Jerry Gottus
 Engineers: Richard Kessler, Jerry Gottus; Chief Engineer, Jim Klein; Independents, Joe Finelli, Jon Smith, Howie Kautman.
 Dimensions of Studios: 17 x 12, iso booth 5 x 7
 Dimensions of Control Rooms: 11 x 9
 Tape Recorders: Tascam 58 8 track, (2) Otari 5050 B2 2 track; Tascam 122B cassette deck; Denon DRF7 cassette deck, (5) Aiwa F220 cassette decks.
 Mixing Consoles: Sound Workshop Logex 8, 12 x 8.
 Monitor Amplifiers: Vintage Harmon Kardon (350 wpc), vintage Phase Linear.
 Monitor Speakers: UREI 811a, Yamaha NS10, E-V Sentry 100a, JBL 4311, RORs, Auratones.
 Echo, Reverb, and Delay Systems: MXR 01 digital reverb; Lexicon PCM 42, Lexicon PCM 41, DeltaLab 1024, digital delays; Eventide Harmonizer (H-910), Orban 111B spring reverb.
 Other Outboard Equipment: (2) Dyna-Mite signal processors, (2) dbx 160 comp/limiters, (2) ADR comp/limiters, (4) GateX noise gates, UREI 537 graphic EQ, Furman parametric EQ, TEAC model 1
 Microphones: Neuman U87, AKG 414, E-V RE20, 16; Sennheiser MD421, Shure SM57, 58, 81; Beyer N201, AKG D12E, P2Ms AXE, Countryman direct boxes.
 Instruments Available: Yamaha concert upright piano, Fender Rhodes, Oberheim OB-8, Yamaha DX7, Juno 106 synthesizers; LinnDrum (3.0) Tama drum kit, misc. percussion, Roland cube 100 amp, Rockman X100.
 Rates: \$25, \$27, \$30/hr, \$15/hr edit time, cassette dupes.

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BIG HORN
STUDIO**



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**2350 Broadway Suite 1132 NY 10024
212-724-9016**

THE LITTLE BIG HORN
 New York, NY



•• **LITTLE DIGITAL**
also REMOTE RECORDING
 768 Mountain Ave., Wyckoff, NJ 07481
 (201) 891-5040
 Owner: David K. Amone
 Studio Manager: David K. Amone

•• **LITTLE STUDIO**
also REMOTE RECORDING
 Box 416, Rockland, ME 04841
 (207) 594-2497

•• **LITTLE WORLD STUDIO**
also REMOTE RECORDING
 214 Houston Rd., Pittsburgh, PA 15237
 (412) 364-4314
 Owner: Brian S. Kirsch
 Studio Manager: Brian S. Kirsch

•• **LIVE TRACKS MOBILE RECORDING**
only REMOTE RECORDING
 6201 Crittenden St., Philadelphia, PA 19138
 (215) 276-8734

Owner: Charles H. Griffin
 Studio Manager: Charles H. Griffin
 Engineers: Hamp Colize, Charles Griffin
 Dimensions of Studios: Mobile Van Units
 Dimensions of Control Rooms: 20 x 16
 Tape Recorders: Tascam M-44 4 track; Tascam M-32 2 track; Technics M-222 2 track
 Mixing Consoles: Tascam M-3, 8 x 4 x 2
 Monitor Amplifiers: Peavey CS 400
 Monitor Speakers: JBLs in custom cabinets
 Echo, Reverb, and Delay Systems: DeltaLab 256 ADM digital delay, Accessit spring reverb, dbx 163 compressor.
 Other Outboard Equipment: dbx 150 and DX-4 Type I noise reduction.
 Microphones: Shure SM57, Audio Technica 450DS
 Instruments Available: Korg mono/poly, P body bass, Korg Poly-800 synthesizer.
 Rates: \$30/hr. plus special production package. Rates upon request

•• **LOCATION SOUND RECORDING**
also REMOTE RECORDING
 32 Beverly Drive, Depew, NY 14043
 (716) 684-6307
 Owner: Paul Kriedeman
 Studio Manager: Paul Kriedeman

•• **MAINSTREAM PRODUCTIONS**
 34 College St., Clinton, NY 13323
 (315) 853-3366
 Owner: Jeffrey M. Oxford
 Studio Manager: David Williams

•• **METALOPRA PRODUCTIONS**
 36 Wakefield Ave., Port Washington, NY 11050
 (516) 488-7416
 Owner: Maxicam Media
 Studio Manager: Stephen B. Meyer
 Engineers: William Campbell, Stephen B. Meyer
 Dimensions of Studios: 8 x 16, 16 x 40
 Dimensions of Control Rooms: 7 x 10
 Tape Recorders: Tascam 38 8 track; TEAC 3340 4 track; Ampex ATR 700 2 track; TEAC A2300 SX 2 track, NAD cassette.
 Mixing Consoles: Sound Workshop 1280, 12 x 8, Tascam 5B, 8 x 4.
 Monitor Amplifiers: Phase Linear 400, Peavey CS400
 Monitor Speakers: JBL 4311, Auratone.
 Echo, Reverb, and Delay Systems: Ursa Major Star Gate 323, Sound Workshop 262, Eventide Harmonizer, MXR digital delay, Korg delay, tape delay
 Other Outboard Equipment: dbx compressor/limiters, Valley

People Dyna-Mites, dbx N/R all tracks, Roland MSQ 700 digital sequencer.
 Microphones: (2) Neumann U-87, (2) EV RE20, (2) EV RE15, (2) AKG 414, (2) Sennheiser K2 w/ME 40s, (1) SM57, (1) Audio-Technica AT 813
 Instruments Available: Yamaha DX7, Roland Juno 106, Oberheim DX drum machine, (2) Gibson Les Pauls, Acoustic G12-100 amplifier, 4 x 12" Celestion/EVM speaker cabinet, Rockman X-100 amp.
 Video Equipment & Services: Complete photo production packages available.
 Rates: Call for competitive quotes, block discounts available.

•• **THE MEZZANINE SOUND STUDIO**
also REMOTE RECORDING
 30 Alta Vista Dr., Crestwood, NY 10710
 (914) 779-3310
 Owners: Anthony Marcello, Gary Federbush
 Studio Manager: Anthony Marcello

•• **MHS RECORDING STUDIO**
also REMOTE RECORDING
 Broad St., Manasquan, NJ 08736
 (201) 223-3820, ext. 44
 Owner: Manasquan Board of Education
 Studio Manager: Mr. Lee N. Weisert

•• **JON MILLER PRODUCTION STUDIOS**
also REMOTE RECORDING
 7249 Airport Rd., Bath, PA 18014
 (215) 837-7550
 Owner: Jon K. Miller
 Studio Manager: Chns Miller

•• **MIRROR SOUND STUDIOS**
also REMOTE RECORDING
 1731 Cinnaminson Ave., Cinnaminson, NJ 08077
 (609) 829-9413
 Owner: Kenneth Fordyce
 Studio Manager: Kenneth Fordyce

•• **MIXX STUDIOS**
 4 Wilmington-West Chester Pk., Chaddsford, PA 19317
 (215) 459-8660, 459-8661
 Owners: Bob Young, Lester Norrns, Ray Clements
 Studio Managers: Bob Young, Lester Norrns

•• **MOUNTAIN SOUND STUDIOS, INC.**
 235 N. Robbins Lane, Syosset, NY 11791
 (516) 931-4329
 Owner: Rob Kaplan
 Studio Manager: Richard Boisits

•• **MUSIC DESIGNERS**
 937 Gordon St., Allentown, PA 18102
 (215) 433-8178
 Owner: Ernie Mavndes
 Studio Manager: Ernie Mavndes

•• **MUSICO-PRODUCTIONS**
also REMOTE RECORDING
 7294 Michael Rd., Orchard Park, NY 14127
 (716) 675-7052
 Owner: David Musial
 Sound Engineer: David Musial

•• **MUSKRAT PRODUCTIONS, INC.**
also REMOTE RECORDING
 44 North Central Avenue, Elmsford, NY 10523
 (914) 592-3144, (212) 409-1902
 Owner: Smith Street Society Jazz Band
 Studio Manager: Bruce McNichols

•• **NATURAL SOUND STUDIOS**
 53 Rose Ave., Leominster, MA 01453
 (617) 537-8988
 Owners: Dennis & Pat Lancey
 Studio Manager: Dennis Lancey
 Engineer: Dennis Lancey
 Dimensions of Studios: 280 sq. ft.
 Dimensions of Control Rooms: LEDE Room, designed by Steve Blake.
 Tape Recorders: TEAC 80-8 8 track; Otari MK-II 2 track; Aiwa 3500 cassette deck.
 Mixing Consoles: Sound Workshop 30, 9 in x 8 out.
 Monitor Amplifiers: Phase Linear 400 Series Two
 Monitor Speakers: JBL 4311s, Auratones 5C.
 Echo, Reverb, and Delay Systems: Ecoplate II; DeltaLab DL-2, Effectron II 1024, Echotron ADM 4096

Other Outboard Equipment: dbx noise reduction, UREI LA-4 compressors, Ashly SC 50 compressors, EXR exciter, Klark-Teknik DN332 equalizer.
Microphones: Neumann U87, Sennheiser 441, 421; E-V RE20, Shure SM-57.
Rates: \$15 per hour.

•• **NEW LIFE STUDIO**
also REMOTE RECORDING
 1425 Babcock Blvd., Millvale, PA
 (412) 821-2122
 Owner: Thomas Arena, II
 Studio Manager: Ronald W. Palone

•• **NITE DEPOT RECORDING**
also REMOTE RECORDING
 890 5th Street, Beaver, PA 15009
 (412) 774-8444
 Owner: Joseph Spagnola
 Studio Manager: Joseph Spagnola

•• **NONCHALANT**
also REMOTE RECORDING
 P.O. Box 784, Ardmore, PA 19003
 (215) 649-0365
 Owners: Bob McNamara, Frank Kurz
 Studio Managers: Frank Kurz, Bob McNamara

•• **NORTH COUNTRY SOUNDS/EASTMAN TELEPRODUCTIONS**
 175 Bunker Hill Rd., Auburn, NH 03032
 (603) 483-2662
 Owner: Tom Bartlett
 Studio Manager: Tom Bartlett

•• **NORTHEAST SOUND STUDIO**
 P.O. Box 208, West Newton, MA 02165
 (617) 894-2973
 Owners: Pam Smith, Gary Smith
 Studio Manager: Gary Smith

• **NORTHEASTERN DIGITAL RECORDING, INC.**
only REMOTE RECORDING
 12 Sadler Avenue, Shrewsbury, MA 01545
 (617) 753-1192
 Owner: Toby Mountain
 Studio Manager: Brigitte Gross
 Engineers: Toby Mountain
Tape Recorders: Sony PCM-1610 2 track; Sony PCM-F1 2 track; Sony PCM-701 (modified) 2 track; Sony DAE-1100 digital editor 2 track.
Mixing Consoles: Sony MX-PG1, 12 x 4; Ramsa WR-8118, 18 x 4.
Monitor Amplifiers: Perreux SM-2, 1150B.
Monitor Speakers: Snell type 'C'
Microphones: AKG-C414 (2), Schoeps omnis and cardioids, B & K Omnis.
Video Equipment & Services: (2) Sony BVU-800; (2) Sony SL-2000, VHS and Beta HiFi also available for rental.
Rates: PCM-1610: \$75/hr; PCM-F1: \$30/hr. Call for block rates and rentals.

•• **NORTHERN LITES AND SOUND STUDIOS**
also REMOTE RECORDING
 36 Cedarwood Terrace, Georgia, VT 05468
 (802) 893-1220
 Owners: Tracy L. Lord, P.R. Appleget
 Studio Managers: Tracy L. Lord, P.R. Appleget

•• **NYETIMBER STUDIOS**
 P.O. Box 818, Severn, MD 21144
 (301) 551-4655
 Owner: Paul Weager
 Studio Manager: Paul Weager

•• **OAK GROVE RECORDING STUDIO**
also REMOTE RECORDING
 65 Clinton St., Malden, MA 02148
 (617) 321-1017
 Owner: Emenee Productions
 Studio Managers: Mark Hanrahan & Emir Galevi

•• **OKTOBER STUDIOS**
 P.O. Box 460, New York, NY 10012
 Owner: F.S. Hedl
 Studio Manager: F.S. Hedl

• **OMNI PRODUCTIONS**
also REMOTE RECORDING
 407 Bainbridge Street, Philadelphia, PA 19147
 (215) 925-5888
 Owners: Robert Wynn, Electra Briggs
 Studio Manager: Robert Wynn

•• **ONE-SHOT PRODUCTIONS**
also REMOTE RECORDING
 1863 Delabole Rd., Pen Argyl, PA 18072
 (215) 863-6161
 Owner: Dusty McCollum
 Studio Manager: Dusty McCollum

•• **PA DA**
 27 Washington Square N., Room 4D, New York, NY 10011
 (212) 228-1808
 Owner: R.A. Miller
 Studio Manager: Eddy R. Davis

•• **MIKE PETERS MUSIC LTD.**
also REMOTE RECORDING
 25-38 76 Street, Jackson Hgts., New York, NY 11370
 (718) 478-2525
 Owner: Mike Peters
 Studio Manager: Eric Bogart

•• **PHILADELPHIA MUSIC WORKS, INC.**
 P.O. Box 947, Bryn Mawr, PA 19010
 (215) 825-5656
 Owners: Jeff Calhoun, Andy Mark
 Studio Managers: Jeff Calhoun, Andy Mark

• **THE POLYGON RECORDING STUDIO**
 6305 Walton Ave., Pennsauken, NJ 08109
 (609) 662-7619
 Owners: Robert Federici, Micheal Fortuna
 Studio Managers: Robert Federici, Micheal Fortuna

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• **POSTHORN RECORDINGS**
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 142 West 26th St., New York, NY 10001
 (212) 242-3737
 Owner: Jerry Bruck
 Studio Manager: Louise Bloomfield

• **QUAZLAND**
also REMOTE RECORDING
 1941-83 Street, Brooklyn, NY 11214
 (718) 232-6592
 Owner: Francis L. Militare

• **RAM RECORDING**
also REMOTE RECORDING
 420 East Ave., Northvale, NJ 07647
 (201) 767-6166
 Owners: Joseph & Henry Costantino
 Studio Manager: Joe Costantino

• **R & R SOUND RECORDING STUDIO**
also REMOTE RECORDING
 8 Center St., Fairchance, PA 15436
 (412) 564-2581
 Owners: Raymond Rhodes & Randy Rhodes
 Studio Manager: Randy Rhodes

• **RECORDED PUBLICATIONS LABS.**
also REMOTE RECORDING
 1100 State St., Camden, NJ 08105
 (609) 963-3000
 Studio Manager: Ernest W. Merker, Vice Pres. Engineering

• **RECORDED SOUND LTD.**
also REMOTE RECORDING
 630 Fulton Bldg., Pittsburgh, PA 15222
 (412) 288-9999
 Owners: Jack Givens, Kenn Howard
 Studio Manager: Jane Givens

• **RECORDINGS**
also REMOTE RECORDING
 336 Belmont St., Watertown, MA 02172
 (617) 926-0546
 Owner: Sam Negri

• **REL SOUND MUSIC STUDIO**
also REMOTE RECORDING
 144 Fenner St., Fall River, MA 02724
 (617) 672-6695
 Owner: Robert E. Levesque
 Studio Manager: Robert E. Levesque



RETROMEDIA SOUND STUDIOS INC.
 Red Bank, NJ

• **RETROMEDIA SOUND STUDIOS INC.**
 32 West Front St., Red Bank, NJ 07701
 (201) 842-3853
 Owner: John Noll
 Dimensions of Studios: 16 x 18
 Dimensions of Control Rooms: 10 x 12
 Tape Recorders: Otari MKIII 8 track, Otari 5050 2 track
 Mixing Consoles: AHB 12 x 8 x 2
 Monitor Amplifiers: Crown
 Monitor Speakers: Tannoy SRM 12B, Yamaha NS 10
 Echo, Reverb, and Delay Systems: Lexicon PCM 60 digital reverb, Master-Room Super C, live chamber, various DDL's



Other Outboard Equipment: Roger Mayer noise gates, dbx and Roger Mayer limiters, Pultec EQ
 Microphones: Neumann, AKG, Sennheiser, Shure, Sony
 Instruments Available: Steinway grand piano, Rhodes, Hammond organ, Gretsch kit w/Zildjans, P-Bass, Gibson L00 acoustic guitar, Stratocaster, Coral electric 12, Deagan xylophone.

• **REVONAH RECORDS**
also REMOTE RECORDING
 P.O. Box 217, Ferndale, NY 12734
 (914) 292-5965
 Owner: Paul Gerry
 Studio Manager: Patricia James

• **ROAR PRODUCTIONS**
also REMOTE RECORDING
 6655-H Dobbins Rd., Columbia, MD 21045
 (301) 596-0600
 Owner: Roar Productions
 Studio Manager: Steven Rosch

• **ROCKIN' DOCTORS RECORDING CO.**
also REMOTE RECORDING
 124 Watchung Ave., West Orange, NJ 07052
 (201) 676-9224
 Owner: Michael Frank
 Studio Manager: Arlene Jaffee

• **ROCKS VILLAGE RECORDING**
also REMOTE RECORDING
 77 Old Amesbury Line Rd., Haverhill, MA 01830
 (617) 372-8866
 Owners: Tom and Meq Daley
 Studio Manager: Meq Daley

• **ROLL TO REEL RECORDING**
only REMOTE RECORDING
 1238 Bay Street, Staten Island, NY 10305
 (718) 981-5178
 Owner: Gary Paul Hermus

• **ROSEMARY MELODY LINE RECORDING CO.**
also REMOTE RECORDING
 732 Montrose St., Vineland, NJ 08360
 (609) 696-0943
 Owner: Windrose Industries & Communications
 Studio Manager: Dennis Link

• **R'PEGGIO RECORDINGS**
only REMOTE RECORDING
 245 Pierce Street, So. Plainfield, NJ 07080
 (201) 755-1585
 Owner: Richard J. Chirumbolo
 Studio Manager: Rich Chirumbolo

• **RPK STUDIOS**
 The Courtyard, Wilkes-Barre, PA 18072
 (717) 825-4224
 Owners: Al Koytek, Dan Palumbo
 Studio Manager: Dan Palumbo

• **RUBBER BALL PRODUCTIONS**
 696 Edgewood Place, North Brunswick, NJ 08902
 (201) 249-9241
 Owner: Terry Hughes
 Studio Manager: Terry Hughes

• **SAFE SOUND**
 251 W. 30th St. Gre., New York, NY 10001
 (212) 594-2414
 Owners: Thomas G. Nielsen, Al Bassi
 Studio Manager: Al Bassi

• **SCHATTNER RECORDINGS**
only REMOTE RECORDING
 69 Pearson Ave., Somerville, MA 02144
 (617) 628-4200
 Owner: Micha Y. Schattner
 Studio Manager: Micha Y. Schattner

• **FRANK SCHEIDT AUDIO PRODUCTIONS, INC.**
 67 Chestnut Street, Suite 800, Rochester, NY 14604
 (716) 232-5210
 Owner: Frank Scheidt
 Studio Manager: Frank Scheidt

• **SELTZER SOUND**
also REMOTE RECORDING
 185 East Broadway, New York, NY 10002
 (212) 477-2372
 Owner: Carl Seltzer
 Studio Manager: Carl Seltzer

• **SESSION RECORDING**
 20 W. 37th St., New York, NY 10018
 (212) 244-6691
 Owner: John Lotas
 Studio Manager: Pandel L. Coliaros

• **SLOWBURN COMMUNICATIONS**
also REMOTE RECORDING
 8 South 13th St., Indiana PA 15701
 (412) 349-9096
 Owner: W. Scott Brown
 Studio Manager: Steve Pasierb

• **SLUSH REMOTE RECORDING**
only REMOTE RECORDING
 1232 31 St., N.W., Washington, D.C. 20007
 (302) 337-5260, (301) 559-0961
 Owner: Gregory Bennett
 Studio Manager: Jeffrey Madison

• **SMILING EARS SOUND**
only REMOTE RECORDING
 8786 Cloudleap Ct. #31, Columbia, MD 21045
 (301) 997-8544
 Owner: Gary Zeichner
 Studio Manager: Wendy Zeichner

• **SOJ RECORDING (STUDIO 1)**
 238 W. 78 St., New York, NY 10024
 (212) 362-1602
 Owner: John Castellano
 Studio Manager: Liz Irons

• **SOJ RECORDING (STUDIO 2)**
 146 W. 46 St., New York, NY 10036
 (212) 869-0226
 Owner: John Castellano
 Studio Manager: John Carson

• **SONALYSTS AUDIO VIDEO COMMUNICATIONS**
also REMOTE RECORDING
 215 Parkway North, Waterford, CT 06385
 (203) 442-4355
 Owner: Sonalysts, Inc.
 Studio Manager: Rob Rainwater

• **THE SONGWRITERS ADVOCATE**
 47 Maplehurst Road, Rochester, NY 14617
 (716) 266-0679
 Owner: Jerry Englerth
 Studio Manager: Jerry Englerth

• **SONGWRITER'S STUDIOS**
also REMOTE RECORDING
 6216 Marlboro Pike, District Heights, MD 20747
 (301) 420-2294, 568-7874
 Owners: Carl A. Hattley, Curtis R. Hattley
 Studio Managers: Micheal S. Brown, Howard S. Covington

• **SOUL SHADOW PRODUCTIONS**
 West Shore Rd., Mill Neck, NY 11765
 (516) 922-2398
 Owner: Steve Manno
 Studio Manager: Steve Manno

• **SOUND FUTURES**
 P.O. Box 5, Greenvale, NY 11548
 (516) 626-2883
 Owner: Michael Lamanzi
 Studio Manager: Donna Raymond

•• **SOUND IMAGES RECORDING**
314 Grant Ave., Duquesne, PA 15110
(412) 466-2854

Owner: Albert Puskaric
Studio Manager: Albert Puskaric
Engineer: Albert Puskaric

Dimensions of Studios: 14 x 14 x 10, 7 x 13 x 10
Dimensions of Control Rooms: 14 x 14 x 8
Tape Recorders: Otari MX5050 Mark III 8 track; Otari MX5050BII HD 2 track; Pioneer RT 1011L ¼ track; Tascam 122B cassette.

Mixing Consoles: Ramsa WR-8816, 16 x 4 x 2.
Monitor Amplifiers: QSC, AB Systems, Edcor.

Monitor Speakers: JBL 4312s, Auratones.
Echo, Reverb, and Delay Systems: Orban IIIB stereo reverb; EchoLab Electron II, ADM 1024, and Echotron ADM 4096 Digital Delays, ADA TFX4 flanger, doubler, chorus, echo.

Other Outboard Equipment: dbx 180 Type I noise reduction system, Valley People Gain Brain IIs and Kepex IIs, (4) Allison Research Gain Brains, Aphex Aural Exciter Type B stereo, Ibanez 31 Band EQs custom 4 band parametrics, Technics SL-1200 MK2 turntable, Peterson strobe tuner, Custom Jensen direct boxes, Koss, AKG, Sennheiser, and "Nady Wireless" headphones, Switchcraft 208 point patch bay.

Microphones: Neumann U87s, AKG 414EB, C-460B, C-451, D-12E, EV RE-20, Sennheiser 421s, Shure SM57s.

Instruments Available: LinnDrum machine, Simmons drums, Baldwin piano, Roland JX-3P digital synth w/programmable sequencer, Fender precision bass, Martin D-28, Les Paul studio, Gibson 12-string acoustic, Korg guitar synthesizer, studio amps by Fender, Peavey, Carvin, Ampeg and Kustom, Rockman II X100, plus various pedals and stomp boxes.
Rates: 8 track, \$25/hr, block rates available.

Echo, Reverb, and Delay Systems: Roland space echos, Roland chorus, various digital and analog echo units, CCC custom reverb.

Other Outboard Equipment: Furman parametrics, Wes Black parametric-sweep EQ, Roland graphic EQs, Roland phasers, Fostex compressors, Yamaha DX-11 digital rhythm programmer, Haeco limiters, Sescoc direct boxes, Korg vocorder, Roland digital delays, CCC noise gates (30), CCC adjust. peak LED metering, and many effects toys.

Microphones: Neumann U-87, E-V RE-20, E-V RE-15, E-V RE-10, Shure 57s, Audio Technica 813s, AKG D-12, Shure 58s, Sony EC30, Hockey Puck pick-up, and assorted Shure, Sony and others.

Instruments Available: Lester piano, Roland strings, Roland synthesizer, Korg CX-3 organ, Casio synthesizer, Hohner planet, Musser vibes, individually mixed studio tuned wood shell Camco full drum set with Zildjian cymbals, pre-CBS precision bass, Telecaster, Ovation custom Balladeer acoustic, vintage Ampeg portaflex, Vito alto sax and assorted instruments

Video Equipment & Services: Ampex 1" video recorder.

Rates: \$30/hr, block rates available.

Extras: In the "Little Apple", the Lehigh Valley just seventy miles west of New York City and forty-five miles northeast of Philadelphia, easy accessibility (2½ block off route 78) Staff writers and arrangers and studio musicians available (with media credits). West Coast trained engineers with "name" experience. Very close to 24 hour restaurants, donut shops, and motel accommodations (Howard Johnson's & Larry Holmes' Commodore Inn). Any

special equipment available thru nearby rental outfit.

Direction: Masters, demos, production, jingles, etc. We are affiliated with Barkans Design Unlimited (national advertising based in Chicago). "We cater to creators." No pressure. Songwriters are encouraged on all levels and advertising needs are serviced through our "Jingle Factory Ltd." Recently finished Farley Parkenfarker album, Oke Duke album, and assorted commercials. "Fat Sounds at Thin Prices."

•• **SOUNDTEK INC.**
also REMOTE RECORDING
1780 Broadway, New York, NY 10019
(212) 489-0806
Owner: Edward J. Remusat
Studio Manager: Edward J. Remusat

• **SOUNDWAVE RECORDING STUDIOS, INC.**
2 West 45th St., Suite 903, New York, NY 10036
(212) 730-7366
Studio Manager: Carol Baker

• **SPLASH PRODUCTIONS, INC.**
123 W. 28th St., New York, NY 10001
(212) 695-3665
Owner: Daniel Joseph Dee
Studio Manager: Maria Dee

•• **SOUNDMIRROR, INC.**
also REMOTE RECORDING
76 Green St., Jamaica Plain, MA 02130
(617) 522-1412
Owner: John Newton
Studio Manager: Janice Weber

•• **SOUNDPRISM STUDIOS**
645 Broadway, New York, NY 10012
(212) 260-5226
Owner: Brett Alan Sommer, Pres.
Studio Manager: Michael Carey
Extras: Sound effects library, Voyetra 8 & Poly 61 synths, drum synthesizers, real-time cassette duplication, in-house production and creative staff, rehearsal studio.
Direction: Studios are geared to production companies with demanding audio needs as well as audio for video. Past projects include theme from "Cheers" and "Punky Brewster", children's cassette series for Edu-Sales and scores for PBS specials.

• **SOUND REFLECTIONS**
also REMOTE RECORDING
20 Vernon St., Somerville, MA 02145
(617) 628-9726
Owner: Tom Huckle
Studio Manager: Robert Brundage

•• **SOUNDS DIGITAL**
also REMOTE RECORDING
P.O. Box 4660, Stamford, CT 06907
(203) 655-0575
Owner: Jim Harris
Studio Manager: Mike Driscoll

•• **SOUND SIDE STUDIO**
also REMOTE RECORDING
53 Newbury St., Lawrence, MA 01840
(617) 682-3367
Owners: Carmen DiMarca, James Norris
Studio Manager: John P. Tomaselli

•• **SOUND SYNDICATE**
also REMOTE RECORDING
308 2nd St. Morris Park, Phillipsburg, NJ 08865
(201) 454-4402, (201) 659-3559
Owner: Duke Kish
Studio Manager: Duke Kish
Engineers: Duke Kish, Ken Wilson, John Todaro, Jake Kish, Sara Kish. Senior Technical Advisor: Ken Wilson.
Dimensions of Studios: 16 x 16 drum booth.
Dimensions of Control Rooms: 14 x 14.
Tape Recorders: Ampex (with V50) 440 8 track; Tascam 3340 4 track; (2) Sony 756 ½ track; Advent cassette; (2) Viking-Telex 888 ½ track; Sony 8 track, cassette.
Mixing Consoles: Modified Tascam 10, 12 in x 8 out. Tapco 2000, 6 in x 2 out; Tascam 2, 6 in x 2 out.
Monitor Amplifiers: Bose 1800.
Monitor Speakers: Altec 604s, Fostex 780s, and Auratone 5-Cs and other small monitors.

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•• **SPLICE OF LIFE**
6 Sparhawk St., Brighton, MA 02135
(617) 782-3384
Owner: Amy Beth Doff
Studio Manager: Coleman C. Rogers

•• **SPRING STUDIO**
Fishkill Rd., Nelsonville, NY 10516
(914) 265-2625
Owner: Don Hurtig
Studio Manager: Don Hurtig

•• **STAGE RECORDING**
also *REMOTE RECORDING*
109 Jaques St., Somerville, MA 02145
(617) 628-6141
Owner: Gregg C. McAllister
Studio Manager: Gregg C. McAllister

•• **STARDUST RECORDING STUDIO**
615 Valley Rd., Upper Montclair, NJ 07043
(201) 746-2359
Owner: George Louvis
Studio Manager: George Louvis

•• **STILLWATER SOUND STUDIO**
also *REMOTE RECORDING*
65 N. Yorktown St., Rockville Centre, NY 11570
(718) 729-3773
Owner: Dominick Costanzo
Studio Manager: Dominick Costanzo

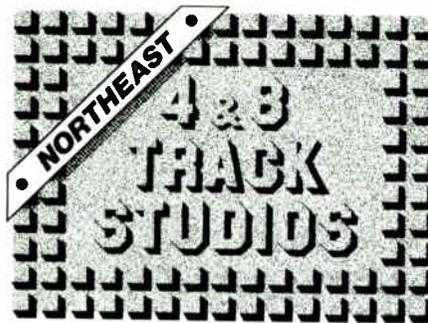
•• **STRAIGHT UP MUSIC**
1904 Mass Ave., Cambridge, MA 02140
(617) 547-3789
Owner: Larry Luddecke
Studio Manager: Larry Luddecke

•• **STROBE-LIGHT SOUND STUDIO**
also *REMOTE RECORDING*
1219 Bergen St., Brooklyn, NY 11213
(718) 771-3411
Owner: Andrei L. Strobert
Studio Manager: Andrei L. Strobert

•• **STUDIO A**
also *REMOTE RECORDING*
87 Sherry Ave., Bristol, RI 02809
(401) 253-8428
Owner: Jack Anderson
Studio Manager: Ellen Lynch of Whoa Jack Productions

•• **STUDIO 55 PRODUCTIONS**
also *REMOTE RECORDING*
42-55 Colden St., Suite 11P, Flushing, NY 11355
(718) 762-1264
Owner: George Lerner
Studio Manager: George Lerner
Engineer: George Lerner, B.S.
Dimensions of Studios: main 16 x 28, auxiliary: 14 x 16
Dimensions of Control Rooms: 12 x 16
Tape Recorders: TEAC (reel-reel) 5100 4 track, TEAC (cassette) 860A 4 track, Phase Linear 8000 2 track, (2) Pioneer 8181 cassette decks (customized)
Mixing Consoles: Fender, (CBS Labs) M12 24 (two of above, one-right channel, one for left channel). Complete customized
Monitor Amplifiers: Phase Linear D500 (3); SAE Mark XXV #6, Pioneer SPEC 1 & 2
Monitor Speakers: Altec Lansing A19 (6) custom; ESS Professional #6
Echo, Reverb, and Delay Systems: (2) Phase Linear 1100 Dynamic Expander and noise reduction; MXR system for delay, etc. Roland Chorus Master.
Other Outboard Equipment: SAE Mark XXVII-B 1/2 octave EQ (2); (3) Phase Linear parametric EQ; Phase Linear 5100 Sound Analyzer, (2) Phase Linear 8100 linear turntables
Microphones: Shure SM58, SM57, SD565, AKG D1000, various E-Vs
Instruments Available: Full drums (Gretsch), lead guitar (Gibson, Les Paul), keyboards, (2) 100W Marshall stacked lead and bass systems (4 x 12) 2 (4 x 15) 2. Others upon request
Video Equipment & Services: 1/2 track VHS color at request 24 hr notice.
Rates: Special for cassette (stereo) 2 track demo \$25/hr. plus tape. Four track \$35/hr includes tape

•• **STUDIO K GOSPEL RECORDING**
also *REMOTE RECORDING*
P.O. Box 177, 79 Lewiston St., Mechanic Falls, ME 04256
(207) 345-9073
Owner: Faith Fellowship Christian Ministries
Studio Manager: Stephen D. Kilbreth



•• **STUDIO N**
706 Waverly St., Framingham, MA 01701
(617) 872-6843
Owner: Studio N Prodcns
Studio Manager: Dave Nodliff

•• **STUDIO NORTH**
Fallston, MD 21047
(301) 879-8054
Owner: George Hagegeorge
Studio Manager: Steve Palmieri

•• **STUDIO 2005**
2005 Benson Ave., Brooklyn, NY 11223
(718) 372-9546
Owner: Joseph Cardinale
Studio Manager: Louis Vales

•• **STUDIO 237**
Yonkers, NY
(914) 476-1905
Owner: Victor J. Mandragona
Studio Manager: Victor J. Mandragona

•• **STUDIO STRADA**
also *REMOTE RECORDING*
26 Soden St., Cambridge, MA 02139
(617) 492-5381
Owner: Curtis Roads
Studio Manager: R. L. Blevins

•• **SUE'S SOUND KITCHEN**
9 Rowe St., Coram, NY 11727
(516) 736-1495
Owner: Carl P. Davino
Studio Manager: Sue Davino
Engineer: Carl P. Davino
Dimensions of Studios: 28 x 12
Dimensions of Control Rooms: 12 x 12
Tape Recorders: Otari MX5050 BSHD 8 track, TEAC 32-2 2 track; TEAC X-3 2 track, JVC KD-D4 cassette, TEAC V-350C cassette
Mixing Consoles: Sound Workshop 1280-8EQ, 12 x 8 x 2
Monitor Amplifiers: AB Systems 9220, AB Systems 410C.
Monitor Speakers: E-V S-153s, Yamaha NS-10s
Echo, Reverb, and Delay Systems: DellaLab Electron ADM 1024 digital delay, DellaLab Super Time Line ADM 2048 digital delay, Yamaha R1000 digital reverb, EVT 4500 reverbation system
Other Outboard Equipment: Omni GT-4 noise gate, MXR pitch shift doubler, Furman compressor/limiter, dbx noise reduction (2 track), Simmons Clap Trap.
Microphones: E-V PL20, (3) PL 95As, (2) PL 6s, (4) PL 5s, (3) Shure SM-57s, (2) SM-58s.
Instruments Available: Roland Juno 60 synth, Yamaha CP-10, Gallien-Kreuger and Legend amps, Slingerland drums.
Rates: \$35/hr Appointment only

•• **SUPREME SOUND STUDIO**
494 Park Ave., Paterson, NJ 07504
(201) 742-8511
Owner: Exodus Supreme Music Inc.
Studio Manager: Mikey Nichols

•• **SWIFTWATER SOUND STUDIO**
Star Route Box 32, Swiftwater, PA 18370
(717) 839-9936
Owners: Mitchell & Maria Ross
Studio Manager: Maria Ross

•• **SYNTHESOUND INC.**
2529 Universal Road, Pittsborough, PA 15235
(412) 793-7079
Owners: John J. Cardamone Jr., Dwight L. Hackett
Studio Manager: John J. Cardamone Jr.
Engineer: Ken Coey

•• **TAKE ONE AUDIO VISUAL**
only *REMOTE RECORDING*
21 Adams St., Belvidere, NY 07823
(201) 475-5789
Owners: Lawrence O. King, Layton H. Snover
Studio Manager: Lawrence O. King

•• **TELE-VUE PRODUCTIONS**
also *REMOTE RECORDING*
Box 217, Ferndale, NY 12734
(914) 292-5965

•• **T.G. STUDIOS**
P.O. Box 232, Ellington, CT 06029
(203) 871-8157
Owners: Joe Gaudette & Georgia Gaudette
Studio Manager: Joe Gaudette

•• **THEATRE WORKS**
only *REMOTE RECORDING*
1601 Village Sq. Park Ave., Danbury, CT 06810
(203) 743-5290
Owner: Chrs Pattacini
Studio Manager: Chrs Pattacini

•• **THIRD STORY RECORDING**
also *REMOTE RECORDING*
3436 Sansom Street, Philadelphia, PA 19104
(215) 386-5998
Owners: John O. Wicks, Scott Herzog

•• **TOWER STUDIOS**
Allaire Airport Indust. Pk., RD2, Box 300E
Farmingdale, NJ 07727
(201) 938-4466
Owner: Chris Cavallaro
Studio Manager: Chris Cavallaro

•• **TRAX-EAST**
32 Beebe Ave., Spotswood, NJ 08884
(201) 251-3187
Owner: Eric Rachel
Studio Manager: Eric Rachel
Engineer: Eric Rachel
Dimensions of Studios: 14 x 22
Dimensions of Control Rooms: 11 x 15
Tape Recorders: Tascam 38 8 track; Tascam 32 2 1/2 track; TEAC 3440 4 track; Sanyo cassette
Mixing Consoles: Tascam M-35, 8 in x 4 out; Tascam M-35-EX 8 in x 4 out.
Monitor Amplifiers: Phase Linear 200, Nikko Headphone Amp.
Monitor Speakers: JBL-4312, Auratone.
Echo, Reverb, and Delay Systems: Lexicon PCM-42 DDL, MXR DDL, Multivox MXD-5 analog delay, Yamaha R-1000 digital reverb, MICMIX XL-121 reverb, Blue Plate Special plate reverb.
Other Outboard Equipment: MXR dual limiters, (2) dbx-160X compressors, Symetrix-SG-200 dual gates, Aphex Aural Exciter Type B, TEAC GE-20 EQ, Soundcraftsman TG-3044-R 1/2 octave EQ, Rane RE-27 real time EQ, Rane GE-27 1/2 octave EQ, (2) TEAC Model 1 8 in x 2 out stereo headphone sends, full dbx NR on 8 track.
Microphones: Shure SM-81, SM-58, SM-57; AKG-414, D-12; Beyer M-400, M-201; E-V PL-20, PL-76; PZM; Countryman; Sony.
Instruments Available: Yamaha CS01 Keys, Casio Keys, Ampex B-115 bass amp.
Rates: \$15/hr, block rates available.

•• **TRAXX**
24 Crestway KC, New Fairfield, CT 06812
(203) 746-3561
Owner: Jim Beck
Studio Manager: Jim Beck

•• **TREE FROG PRODUCTIONS**
Box 360, Hollis Center, ME 04042
(207) 929-5415
Owner: Tim McLaughlin
Studio Manager: Tim McLaughlin

•• **VIBE STUDIO**
also *REMOTE RECORDING*
16 South 36 Ave., Long Port, NJ 08403
(609) 823-1968
Owner: Lucca Calabrese
Studio Manager: Vanessa Hays

•• **VICTORY ALLEY STUDIOS**
also *REMOTE RECORDING*
16 Sagamore Cove Road, Branford, CT 06405
(203) 481-0174
Owners: Paul Picard, Peter Hodson, Mark Pugliese
Studio Managers: Paul Picard, Peter Hodson

• **VIDEO-SOUND & MELODY PRODUCTIONS**
 28-10 Astoria Blvd., Astoria, NY 11102
 (718) 545-6021
 Owner: George T. Saddler (dba Electronic Homes Co.)
 Studio Manager: Alexandra Saddler

• **WALKWORTH MUSIC**
also REMOTE RECORDING
 542 Walnut St., Newtonville, MA 02160
 (617) 332-5805
 Owner: Walkworth, Inc.
 Studio Manager: Geoffrey C. Wadsworth

• **WATERFRONT RECORDING STUDIO**
 32 N. Main Street, Elba, NY 14058
 (716) 757-9357
 Owners: Kelly D. Schuler, Scott W. Schuler
 Studio Managers: Kelly D. Schuler, Scott W. Schuler

• **WBCO**
 8705 Deanna Drive, Gaithersburg, MD 20879
 (301) 253-5962
 Owner: Wayne E. Busbice
 Studio Managers: Wayne E. Busbice, John W. Busbice

• **WHITE CLOUD REC. STUDIO LTD.**
 P.O. Box 275, Uniondale, NY 11553
 (516) 483-7823
 Owners: Phil Antonucci, Howard Stein
 Studio Managers: Phil Antonucci, Howard Stein

• **WHITEHALL STUDIO**
 26 Whitehall Rd., Rochester, NH 03867
 (603) 332-8614
 Owner: Alphonse B. Therrien
 Studio Manager: Alphonse B. Therrien

• **WOLFRIDGE RECORDING STUDIO**
 30 Hancock St., Rochester, NH 03867
 (603) 332-2827
 Owner: Dan Cormier
 Studio Manager: Dan Cormier

• **WOOLY MAMMOTH STUDIO**
 Box 492, Alpine, NJ 07620
 (201) 768-5797
 Owner: Bill Willis
 Studio Manager: Bill Willis

• **WORLDWIDE DIGITAL SERVICES**
also REMOTE RECORDING
 266 W. Main St., Avon, MA 02322
 (617) 587-6582
 Owner: Spunk Productions
 Studio Manager: Bill Ford

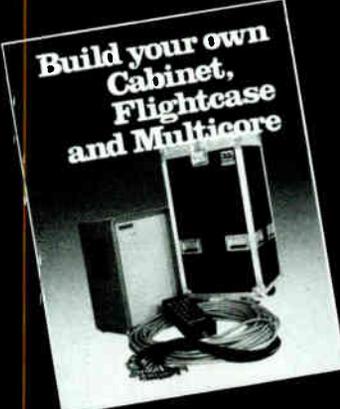
• **YOSH PRODUCTIONS**
 1900 Washington St., Auburndale (Newton), MA 02166
 (617) 965-6883
 Owner: S.Y. Yoshpe
 Studio Manager: S. Yoshpe

• **ZALMO SOUNDS**
also REMOTE RECORDING
 Ditmas Ave. & East 8th St., Brooklyn, NY 11218
 also: P.O. Box 681, Brooklyn, NY 11230-0681
 (718) 633-4166
 Owner: Sherman Schreiber
 Studio Manager: Shomer Shabbos

• **ZARR SOUND**
 1819 Avenue N, Brooklyn, NY 11230
 (718) 339-1599
 Owner: Fred Zarr
 Studio Manager: Don Feinberg

• **ZAX TRAX**
also REMOTE RECORDING
 20 Franklin St., Frederick, MD 21701
 (301) 663-0241
 Owner: Zachary Mabie
 Studio Manager: Zachary Mabie

• **ZELMAN STUDIOS LTD.**
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 (718) 941-5500
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 Studio Manager: Jerry Krone



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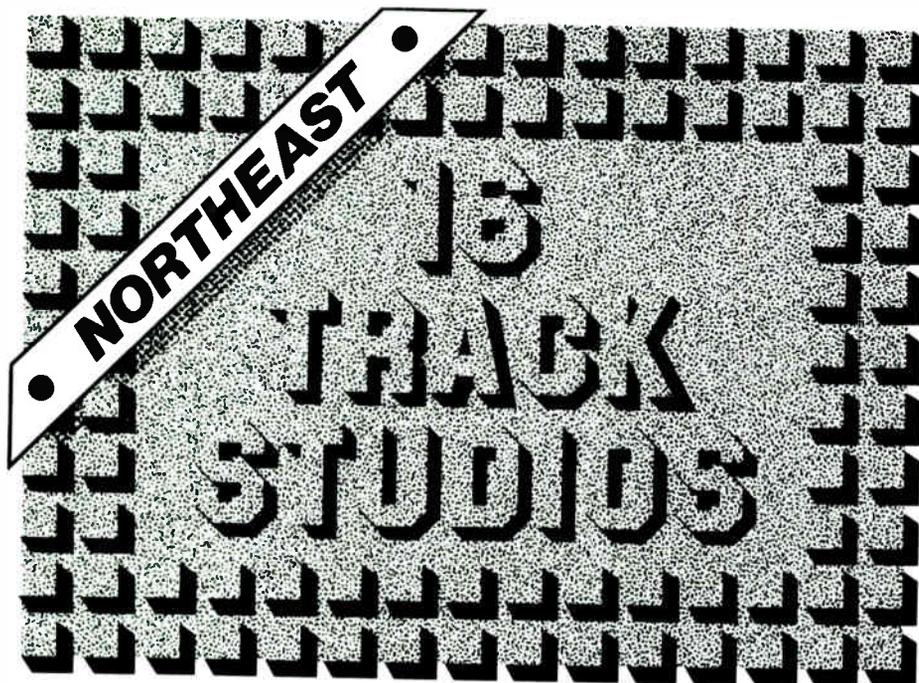
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••• ABELY SOUND STUDIOS LTD.
135 Westchester Ave., Bronx, NY 10462
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••• ADVANCED MEDIA PRODUCTIONS
also REMOTE RECORDING
18 West Maple Ave., Suffern, NY 10901
(914) 368-1143
Owner: Glenn Finerman
Studio Manager: Nan Polanski

••• AIR CRAFT STUDIOS
Dormont Square, Pittsburgh, PA 15216
(412) 343-5222
Owner: Lost In Music, Inc.
Studio Manager: Barney Lee
Engineers: Barney Lee, Henry Yoder
Dimensions of Studios: Studio A 19 x 30, Studio B 14 x 20,
Vocal Booth 9 x 9 triangular
Dimensions of Control Rooms: 13 x 20
Tape Recorders: Ampex Model MM 1200 16 track Otari MKIII
8 track, (2) Otari 5050B 2 track
Mixing Consoles: Allen & Heath Series B Syncon 26 x 24
Monitor Amplifiers: Crown, Nikko, SAE
Monitor Speakers: JBL 44 80, JBL 4311, T.O.A., Little Davids
6000
Echo, Reverb, and Delay Systems: DellaLab DL4, Orbhan stereo
reverb, Ecoplate reverb, ADA Ilanque, echo chorus, etc. ADA one
second delay
Other Outboard Equipment: Signal gates, UREI compressor/
limiter, parametric EQ, de esser, Valley People Kepex and Gain
Brain
Microphones: Neumann, AKG, Shure, Sennheiser, E.V. Calrec,
Sony
Instruments Available: 7' Baldwin grand piano, CP70 Yamaha
grand, Mini Moog, Yamaha DX 11 drum machine, Yamaha DX 7
synthesizer, Roland GR 700 guitar synthesizer, Oberheim OB-
SX, Fender Rhodes, Beck Rich, Gibson Fender, Gurnan guitars
Rates: 8 track \$40/hr plus tape, 16 track \$70/hr plus tape

••• ALLAN STUDIO MUSIC CO.
also REMOTE RECORDING
21 Whitman Ave., Syosset, NY 11791
(516) 921-6564
Owner: Allan Kashkin
Studio Manager: Allan Kashkin

••• AMERICAN UNIVERSITY RECORDING STUDIOS
c/o Dept. of Physics, McKinnell Bldg., American University
Washington, D.C. 20016
(202) 885-2759, 885-2743
Owner: The American University, Audio Technology Program
Studio Managers: Derek R. Marcell, Josh Schneider

••• ASTERIK RECORDING
also REMOTE RECORDING
700 Wood St., Pittsburgh, PA 15221
(412) 244-9596
Studio Manager: Ralph Comino

••• ATLANTIC CITY ENTERTAINMENT STUDIOS
also REMOTE RECORDING
2718 Atlantic Ave., Atlantic City, NJ 08401
(609) 344-2835
Owners: Gary Battestella, John Mulhern, Jan Rovins
Studio Manager: Gary Battestella
Engineers: Gary Battestella, Bob Kimmel, John Mulhern, Jan
Rovins
Dimensions of Studios: A 25 x 22 x 10 plus 9 x 8 iso room, B
20 x 17 (rehearsal only), C 10 x 12 (4 track pre production), D
48 x 32 x 18 (mult production w/soundstage & dance)
Dimensions of Control Rooms: 10 x 12
Tape Recorders: Fostex B 16 (+4 w/full remote) 16 tracks,
Tascam 80 8 w/dbx 8 track, Otari MX 5050 2 track, Sony PCM
501ES/Beta HiFi digital 2 track, Revox A 77 1/4 track, Technics
M253X cassette, Aiwa WX 110 cassette duplicator, Tascam 244
Portastudio
Mixing Consoles: Audioarts 8X, 24 x 8 x 24
Monitor Amplifiers: Yamaha P-2200 w/Soundcraftsmen EQ
Monitor Speakers: Tannoy, Auratone, Yamaha NS-10s
Echo, Reverb, and Delay Systems: Lexicon PCM 60 digital
reverb, Furman RV 1 spring reverb, DellaLab Effectron II ADM
1024 (2), ADM 256
Other Outboard Equipment: dbx 157 noise reduction, dbx
compressor/limiters (2) 165, (2) 161, (1) 160X, (2) Kepex, (2)
Gain Brains, (2) Ashly SC-66A stereo parametric EQ, Aphex
Aural Exciter, Omni Craft GT 4 channel noise gates, guitar
Rockman, Boss chorus
Microphones: Neumann U 47, U 87 (2), KM 84, AKG C451EB
(2), E.V. RE 20 (2), Sennheiser 421 (3), 441, Beyer M-500, Shure
SM 57 (7), SM 58 (11), SM-53 (3), SM-59, C Ducer CXS/B
system, Countryman direct boxes (3)
Instruments Available: Vintage 1921 Steinway "A" grand piano,
customized Fender Rhodes, Yamaha DX7, Korg Poly 61 ARP
Synth Ensemble, ARP Odyssey, Wurliizer electronic piano,
Yamaha RX 11 digital drum machine, complete Rogers, Slinger
land, & Ludwig drum sets, Roland GR 700 guitar synthesizer,
Gon Bop congas, Fender, Yamaha, Acoustic, Peavey & Roland
amps, 145 Leslie, large collection of vintage acoustic & electric
guitars
Video Equipment & Services: Studio "D" Soundstage available
for music/video sync recording
Rates: Please call (block available)

••• THE AUDIO DEPARTMENT, INC.
110 W. 57th St., New York, NY 10019
(212) 586-3503
Owner: Joe Danis
Studio Manager: Jane Blecher

••• AUDIO IMAGE
also REMOTE RECORDING
95 Little Tree Lane, Hilton, NY 14468
(716) 392-9500
Owner: Larry Ellis
Studio Manager: Larry Ellis

••• AUDIOVISIONS
also REMOTE RECORDING
Foley Road, Colchester, VT 05401
(802) 864-0848
Owners: Douglas Lang, Peter Wilder, Stephen Goodrich
Studio Manager: Douglas Lang

••• BAKER ST. STUDIOS
10 Wheeler Ct., Watertown, MA 02172
(617) 924-0065
Owner: Baker, Baker and Baker
Studio Manager: Tracey Pope
Engineers: Roger L. Baker, Darleen Wilson, Rick Kolow, Andy
Mendelson
Dimensions of Studios: 40 x 20 w/5 x 6 iso booth on wheels,
variable acoustics and video hard cyc
Dimensions of Control Rooms: 15 x 18 Design by Abadon/Sun
Tape Recorders: Otari MTR 90 16 track, Otari 7800 8 track
Otari MTR 10 2 track, Eumig Cassette (2)
Mixing Consoles: Tangent (w/automation) 3600 24 x 36
Monitor Amplifiers: Crown DC 300 (monitors), Crown DC 60 (2
for headphones)
Monitor Speakers: UREI 811, Auratone
Echo, Reverb, and Delay Systems: Ecoplate large plate, Biamp
Spring, DellaLab DL-4 digital delay, Ibanez 230 analog delay (2),
A/D A STD-1 stereo delay
Other Outboard Equipment: Eventide Phaser, MXR Auto
phaser, dbx 160X compressors, UREI 1178 dual compressors,
UREI 546 dual 4 band parametric EQ, MXR pitch transposer, Or-
ban silblance controller, Kepex (4), Gain Brain (2), Furman
parametric EQ, MXR 31 band graphic EQ (2), dbx noise reduction
all channels
Microphones: Neumann U 67, U 47, KM-87, AKG 451s, E.V.
RE 20, RE-55, RE 16, CS-15, Sennheiser 421, 441, Shure
SM 57, Beyer 160 260, RCA 77 DX, Crown PZM
Instruments Available: Shomer grand piano, Hammond organ,
Wurlitzer electric piano, ARP Omni, Moog, Fender and Ampeg
tube amps
Video Equipment & Services: 1/4" editing facility with JVC
KM 200 SEG and JVC VE 90AT Edit Controller, 10 x 20 Hard
Cyc with lights, JVC KY 1900U cameras (2), KNOX Character
Generator, Studio or location shoots
Rates: 16 track, \$325 10 hrs. 8 track \$195/10 hrs. video, com-
parable custom packages



THE BARGE SOUND STUDIO
Wayne, NJ

••• THE BARGE SOUND STUDIO
92 Lionhead Drive West, Wayne, NJ 07470
(201) 835-2538
Owner: Jim Barg
Studio Manager: Jim Barg
Engineer: Jim Barg
Dimensions of Studios: 17 x 27
Dimensions of Control Rooms: 14 x 16
Tape Recorders: Studer A80 VUMKIV 24/16 track (with 16
track & 24 track heads), Otari MX-5050 2SHT 2 track; TEAC
3340 4 track, Studer A80 2 track
Mixing Consoles: Custom, 26 in x 8 out w/MCI JH-600 mic
preamp
Monitor Amplifiers: SAE 2200, Yamaha P2100, Crown DC
300A, Yamaha P2100 w/Loft 402 crossover
Monitor Speakers: Custom-built 604-based system, Yamaha
NS-10, Realistic Minimus 7, Auratones

Echo, Reverb, and Delay Systems: EMT 140TS, Eventide H910 Harmonizer, DeltaLab DL-2, MICMIX XL-305, Ibanez MD2000, Lexicon 224XL, Korg SDD3000, Loft flanger.
Other Outboard Equipment: dbx noise reduction, Soundcraftsman graphic EQ, dbx 160 compressor/limiter, Orban 622B parametric EQ, Orban de-rsner, Aphex CX-1 compressor/expanders, Eventide flanger, Klark DN3030A graphic EQ.
Microphones: AKG C414EB, C505E, D12E, Neumann U87, KM87; E-V RE20, DS35; Shure SM57; Sony ECM 280, ECM 270, ECM 170, ECM 22; Beyer M500; RCA 77DX, Sennheiser MD421, Realistic PZMs.
Instruments Available: Kawai grand piano, Hammond B3 w/Leslie, Ludwig drums, percussion (various), Minimoog, ARP strings, Yamaha DX7 (2 units), Marshall & Fender amps.
Rates: 16 track, \$45 per hour; 8 track, \$35 per hour. Beginning 9/1/85: 24 track, \$70 per hour; 16 track \$50 per hour. Special daily & weekly package discounts. Flexible allowances for block bookings.

••• **BLUE DIAMOND**
also REMOTE RECORDING
 Box 102C Chubbie Rd., R.D. 1, Canonsburg, PA 15317
 (412) 746-2540
 Owner: Joe Diamond
 Studio Manager: Jay Hitt

••• **BYGOSH MUSIC RECORDING**
 RD #1, Brookfield, VT 05036
 (802) 276-3393
 Owner: Bobby Gosh
 Studio Manager: Dexter Brown

••• **C & C AUDIO-VIDEO STUDIOS**
also REMOTE RECORDING
 RD #1, Box 581-A, Glassboro, NJ 08028
 (609) 881-7645
 Owner: Ed Candelora, Jr.
 Studio Manager: Terr Candelora

••• **CHESTNUT SOUND, INC.**
also REMOTE RECORDING
 1824 Chestnut St., Philadelphia, PA 19103
 (215) 568-5797
 Owners: Joe Allonsi, Joe Massimano
 Studio Manager: Joe Allonsi, Jr.

••• **DE LANE PRODUCTIONS**
 176 Straeser Rd., Depew, NY 14043
 (716) 683-1367
 Owner: Joe Palmer
 Studio Manager: Joe Palmer

••• **DIDIK TV PRODUCTIONS INC.**
also REMOTE RECORDING
 P.O. Box 133, Rego Park, NY 11374
 (718) 843-6839
 Studio Manager: Frank Didik

••• **DIFFERENTIAL AUDIO CONCEPTS**
also REMOTE RECORDING
 103-18 98 Street, Ozone Park, NY 11417
 (718) 843-S382
 Owner: Mike Nicholas
 Studio Manager: Jaime Pauline

••• **DYNAMIC RECORDING**
also REMOTE RECORDING
 2846 Dewey Avenue, Rochester, NY 14616
 (716) 621-6270
 Owner: Dave Kaspersin
 Studio Manager: Phyllis Bishop

••• **EAB RECORDING STUDIO**
 223 Lisbon St., P.O. Box 958, Lewiston, ME 04240
 (207) 786-3476
 Owner: Edward A. Boucher
 Studio Manager: Edward A. Boucher

••• **EASTWIND RECORDING**
 6820 Ellicott Drive, E. Syracuse, NY 13057
 (315) 463-6759
 Owner: Michael Jaffarian
 Studio Manager: Michael Jaffarian
 Engineers: Ken Hoston, Philip LaDouceur, Michael Jaffarian.
Dimensions of Studios: 20 x 22. L-shaped iso. booth 6 x 8 x 12.
Dimensions of Control Rooms: 11 x 14
Tape Recorders: Tascam 90-16 w/dbx, 16 track; Ampex ATR-700 2 track; (2) Akai ¼ track stereo; TEAC cassette deck.
Mixing Consoles: Ramsa WR-8816, 16 x 4 x 2 w/16 track monitor.

Monitor Amplifiers: Crown, BGW.
Monitor Speakers: Electro-Voice Sentry 100, Sansui bookshelves, JBL and UREI available.
Echo, Reverb, and Delay Systems: DeltaLab Effectron II, DeltaLab Effectron Jr., Fisher K-10 reverb; Live chamber 20 x 75.
Other Outboard Equipment: Roland SEQ-315 dual 15 band EQ; (2) MXR ½ octave EQ; (2) Ashly SC-50 compressor/limiters; Ashly SC-52 stereo compressor/limiter; Aphex Aural Exciter Type B; Telex stereo high speed dup.
Microphones: Sennheiser, Shure, Electro-Voice, AKG, Crown.
Instruments Available: Rhodes 73, Roland Juno 60, Yamaha guitar amps, acoustic bass amp, 1968 Gibson Les Paul, 1955 Gibson ES-255, Fender Stratocaster, Fender Telecaster.
Video Equipment & Services: ½" VCR with RCA color camera, ¾" video taping available upon request.
Rates: Please call.

••• **ERNY RECORDINGS**
also REMOTE RECORDING
 1410 E. Carson St., Pittsburgh, PA 15203
 (412) 431-4848
 Owner: David W. Erny
 Studio Manager: David W. Erny

••• **EUPHORIA SOUND STUDIO**
also REMOTE RECORDING
 90 Shirley Ave., Revere, MA 02151
 (617) 284-9707
 Owner: Howard A. Cook
 Studio Manager: Simon Ritt

••• **FAR & AWAY STUDIOS**
also REMOTE RECORDING
 Box 63, Rd. 1, Chester, NY 10918
 (914) 294-7763
 Owner: Far & Away Studios, Inc.
 Studio Manager: Jim Lynch

••• **FILMSPACE AUDIO**
also REMOTE RECORDING
 615 Clay Lane, State College, PA 16801
 (814) 237-6462
 Owner: Tom Ketter
 Studio Manager: Tom Hesketh

••• **FISH BROOK MUSIC**
 2 Lawrence Road, Boxford, MA 01921
 (617) 887-2253
 Owner: Ross Warner
 Studio Manager: Ross Warner

••• **FISHTRACKS**
also REMOTE RECORDING
 62 Congress St., Portsmouth, NH 03801
 (603) 431-5492
 Owners: Thomas A. Daly, Bruce Lawson
 Studio Managers: Jeff Landrock, John Etnier

••• **FRESH TRACKS STUDIO**
 411 W. Cnelttenham Ave., Melrose Park, PA 19126
 (215) 635-S500
 Owner: Larry Spivack
 Studio Manager: Kevin Juella

••• **GAMUT PRODUCTIONS INC.**
also REMOTE RECORDING
 Latrobe 30 Shopping Plaza, Latrobe, PA 15650
 (412) 539-3211
 Owner: Todd J. Wilkins
 Studio Manager: Todd J. Wilkins

••• **CHRIS GATELY AUDIO SERVICES**
only REMOTE RECORDING
 P.O. Box 526, Bryn Mawr, PA 19010
 (215) 525-3605
 Owner: Christopher D. Gately
 Studio Manager: Albert Leslie Powell

••• **GREEN VALLEY RECORDING**
 R.D. #2, Box 281, Hughesville, PA 17737
 (717) 584-2653
 Owners: Richard and Alison Rupert
 Studio Manager: Richard Rupert

••• **HARKIN PRODUCTIONS**
also REMOTE RECORDING
 48 S. Franklin Ave., Bergenfield, NJ 07621
 (201) 384-5833
 Owner: Brenden Harkin
 Studio Manager: Brenden Harkin

••• **B. HAWK PRODUCTIONS**
 162-11 76th Ave., Flushing, NY 11366
 (718) 380-2697
 Owner: Barry Hawkins
 Studio Manager: Barry Hawkins

••• **HYMNTRONIC RECORDS**
also REMOTE RECORDING
 c/o 121 Lauriton Dr., West Seneca, NY 14224
 (716) 675-4684
 Owner: David Musial
 Studio Manager: Keith Cleversley, director

••• **J.M. STUDIO**
 149 Grand St., Newburgh, NY 12550
 (914) 562-8084
 Owner: John Mulligan
 Studio Manager: Debbie Mulligan, John Mulligan

••• **JOE'S RECORDING STUDIO**
 981 S. Broad Street, Trenton, NJ 08611
 (609) 394-JOES
 Owners: Vann Weller and Robyn Gately
 Studio Manager: Vann Weller

••• **KENNEDY MUSIC AND RECORDING**
also REMOTE RECORDING
 5253 Montour St., Philadelphia, PA 19124
 (215) 533-2380
 Owner: David H. Kennedy
 Studio Manager: David H. Kennedy

••• **KNO STUDIO**
 84 N. Summit Ave., Patchogue, NY 11772
 (516) 475-7772
 Owner: Barry Knoedl
 Studio Manager: Barry Knoedl

••• **JIMMY KRONDES VIDEO & AUDIO REC. STUDIO**
 2 Musket Lane, Darien, CT 06820
 (203) 655-3660
 Owner: Jimmy Krondes
 Studio Manager: Florence Manning

••• **CHARLES LANE STUDIOS**
 7 Charles Lane, New York, NY 10014
 (212) 242-1479
 Owner: Michael F.J. Lynch
 Studio Manager: Cliff K. Petroll
 Engineers: Cliff Petroll, Michael Lynch.
Dimensions of Studios: 20 x 30.
Dimensions of Control Rooms: 12 x 16.
Tape Recorders: Tascam 85-16B 16 track, Otari 5050B 2 track, Nakamichi 582Z.
Mixing Consoles: Soundtracs CM4400 28 input, 12 subgroup, 24 track monitor microprocessor controlled console with computer interlace and video display.
Monitor Amplifiers: Crown DC 300A, Crown DC 150.
Monitor Speakers: TAD, Auratones
Echo, Reverb, and Delay Systems: Dynacord digital echo and reverb, Sound Workshop reverb.
Other Outboard Equipment: dbx 900 series compressors, noise gates and flanger, BSS Direct Boxes AR116 and BSS Phasecheck system AR 130. Pultec EQP1A equalizer.
Microphones: Neumann U47, AKG C12A, AKG C60, RCA 77, Shure SM56 & 57, Altec 633.
Instruments Available: Hammond B3, upright acoustic piano, Sunn and Fender amps, Ludwig drums, ARP 2600 synthesizer, & Mellotron.
Rates: 16 track recording & mixing, \$25-\$40/hr. Call for details.

••• **MICHAEL LEVINE'S STUDIO**
also REMOTE RECORDING
 36 W. 38th St., 5th floor, New York, NY 10018
 (212) 354-4125
 Owner: Michael Levine
 Studio Manager: Claire Nelson

••• **LITTLE RED HEN**
 261 West 19th Street, New York, NY 10011
 (212) 989-3954
 Owner: Robert Raines
 Studio Manager: Kathleen McCutcheon (Venture Inc.)

••• **MAINFRAME STUDIOS**
 55 Bethune Street, Suite 16, New York, NY 10014
 (212) 691-6715
 Owners: Brian Eddolls, Anton Sanko
 Studio Managers: Brian Eddolls, Anton Sanko

••• MCE RECORDING STUDIOS
 also REMOTE RECORDING
 467 State St., Schenectady, NY 12305
 (518) 382-1762
 Owner: Mark Ernst

••• MIDNIGHT MODULATION
 2211 Pine Lane, Saugerties, NY 12477
 (914) 246-4761
 Owner: Michael Bitterman
 Engineers: Michael Bitterman, Andy Robinson
 Dimensions of Studios: 20 x 20
 Dimensions of Control Rooms: 10 x 8
 Tape Recorders: Tascam 85-16B 16 track, Tascam 80-8 8 track,
 Otari 5050B 2 track, Tascam 122 cassette 2 track
 Mixing Consoles: Sound Workshop 30
 Monitor Amplifiers: BGW 750B, Symetrix
 Monitor Speakers: JBL 4411 (control room), Klipsch Cornwall
 (studio); Toa cubes, Yamaha NS-10
 Echo, Reverb, and Delay Systems: Ursa Major 8 x 32 digital re-
 verb, Lexicon PCM 41 digital delay, Effectron 1024, Marshall
 Time Modulator.
 Other Outboard Equipment: dbx 160X limiter/compressor,
 UREI 1176LN limiter/compressor; DOD graphic EQ, Marshall
 Time Modulator, Valley People Dyna-Mite, Orban 622B
 parametric EQ, Aphex Aural Exciter.
 Microphones: Neumann U87 (2); E-V RE20, Sennheiser 421U
 (2), Shure SM57 (2), SM81 (2); Sony ECM 33, ECM 250, AKG
 414 P48 EB; RCA 77DX
 Instruments Available: Yamaha grand piano, ARP 2600, Linn-
 Drum computer, Yamaha DX7, 360 digital keyboard
 Video Equipment & Services: VHS documentation of recording
 session. (Call for rates)

Rates: Call for rates Special "The \$5,000 album"—call for
 details

Extras: We offer full production services. We are songwriters and
 musicians and we can produce a session or album for you. We offer
 arrangers & musicians to fit your needs. Our new "California
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 Mod a fun place to work. We have only raves about our
 studio—our clients are our best sponsors

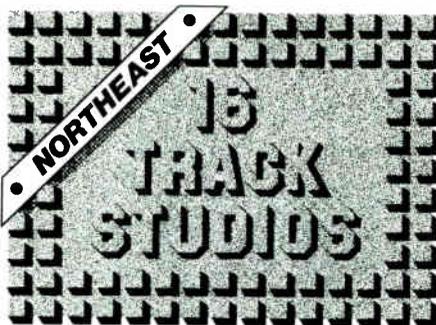
Direction: The most beautiful & relaxed studio in the Hudson
 Valley has had the top people record here. We have available the
 finest name musicians in Woodstock for your session. John Hall,
 The Band, The Fugs, Jules Shear, Arnie Trauma, John Sebastian &
 Gary Burke are just a few of our recent activity. The key to
 Woodstock recording is eclecticism—all styles from jazz-folk-new
 wave-rock-cabaret are all handled with individual style. We are
 here to service the songwriters & musicians. Our track record has
 proven this

••• MIRACLE SOUND PRODUCTIONS
 73-43 195 St., Fresh Meadows, NY 11366
 (718) 479-4389

Owner: Philip J. Molite
 Studio Manager: Nancy Molite
 Engineer: Matthew Molite
 Dimensions of Studios: 24 x 15
 Dimensions of Control Rooms: 24 x 15
 Tape Recorders: Tascam 85-16B, 16 track, Otari 5050B, 2
 track; Tascam 122 cassette 2 track, Tascam 3300SX, 2 track
 Mixing Consoles: Yamaha 1608, 16 x 8 x 2 x 16
 Monitor Amplifiers: JBL/UREI 6260 & 6230
 Monitor Speakers: Toa 380 SE, Auratone TGG, Auratone
 cubes.
 Echo, Reverb, and Delay Systems: Lexicon 200, Ursa Major
 Space Station, Lexicon PCM 41, ADA D 640, Eventide Har-
 monizer H949 Roland Space Echo.
 Other Outboard Equipment: Orban 526A de-esser, Symetrix
 501 compressor, dbx 160 compressor, Aphex compellor, Syme-
 trix SG-200 noise gates, EXR Exciter, MXR dual limiter & pitch
 shifter, Roland & MXR graphic EQs
 Microphones: Neumann TLM-170, Sennheiser 421, Shure SM
 58 Audio-Technica & others
 Instruments Available: OB8, OBX, Prophet 5, Yamaha DX7,
 Emulator with full library, Oberheim expander, DSX & Roland
 MSQ 700 sequencers, LM-1 & LinnDrum computers, Garfield
 Mini-Doc, Moog source, Minimoog, ARP 2600, Roland Vocoder
 SVC-350, plus misc "Midi" accessories, Fender Strat & Precision
 bass, Music Man 212 amp
 Rates: On request

••• MUSIC DESIGNERS
 16 West 46th St., New York, NY 10036
 (212) 228-8297
 Owner: Ernie Mavrides
 Studio Manager: Ernie Mavrides

••• NETWORK STUDIO
 Brooklyn, NY
 (718) 372-7137
 Owner: Frank Buonadonna
 Studio Manager: Frank Buonadonna



••• NEW LONDON COUNTY RECORDERS
 also REMOTE RECORDING
 2514 Rt. 32, Uncasville, CT 06382
 (203) 848-9908
 Owners: Ron Drago, Wayne Manca
 Studio Manager: Red T. Cook

••• NEW YORK POST PROD. SERVICES
 P.O. Box 133, Woodstock, NY 12498
 (914) 679-8848
 Owner: Chris Andersen
 Studio Manager: Mary Lou Arnold

••• NORTHSTAR STUDIOS
 P.O. Box 23, South Hadley, MA 01075
 (413) 533-9134
 Owner: Northstar Production Studios
 Engineer: Bruce Seifried
 Dimensions of Studios: 350 sq ft
 Dimensions of Control Rooms: 100 sq ft
 Tape Recorders: Tascam 85-16B, 16 track, Ampex 351, 4 track;
 Tascam 3440, 4 track, Technics RS1520, 2 track, Sony PCM F-1,
 2 track, (3) Aiwa AD-F660 cassette
 Mixing Consoles: Ramsa WR-T820, 20 in x 16 out, Roland 30
 channel automated mixdown
 Monitor Amplifiers: NYAL Moscode 300, SAE MK III CM
 Monitor Speakers: Klipsch Kg2; wireless headphone system with
 AKG K-240 phones
 Echo, Reverb, and Delay Systems: Lexicon 200; (2) Lexicon
 PCM-41; Dynacord tape echo, custom stereo spring reverb
 Other Outboard Equipment: Valley People 430 stereo Dyna-
 Mite, GateX four channel noise gate, Aphex Aural Exciter, dbx
 160X; (2) dbx 150, (2) SAE 2700 graphic EQ
 Microphones: Neumann U67 tube, RCA 44-BX ribbon, Country-
 man EM-101; Altec 626, (6) Western Electric 639 ribbon, (3)
 AKG 451, (3) Electro-Voice RE-16, (3) Beyer M500, (2) Crown
 PZM, (4) Sennheiser 421
 Video Equipment & Services: Post production audio for video
 Rates: \$30/hr

••• OAKWOOD RECORDING
 Box 185A, R.D. 4, Millford, NJ 08848
 (201) 995-2824
 Owner: Rob Attinello
 Studio Manager: Rob Attinello

••• ODYSSEY SOUND STUDIO
 350 Chelsea Ave., Long Branch, NJ 07740
 (201) 870-3554
 Owner: Thomas Maggio
 Studio Manager: Thomas Maggio
 Engineer: Thomas Maggio
 Dimensions of Studios: 18 x 25
 Dimensions of Control Rooms: 15 x 25
 Tape Recorders: Tascam 85-16b w/dbx 16 track, Ampex ATR
 102 2 track, Otari 5050 8 track, Otari 5050B 2 track, Tascam 44
 4 track, Tascam 52 2 track, Eumig FL-1000 Cassettes
 Mixing Consoles: Soundcraft Series II/sweep EQ 24 x 16 x 8 x 2
 Monitor Amplifiers: Kenwood LO-7s, Crown
 Monitor Speakers: B & W 801s, JBL 4411s, Auratones
 Echo, Reverb, and Delay Systems: Lexicon 224X/LARC, H910
 Harmonizer, FL 201 flanger, Effectron ADM-256, AKG-BX10-II.
 Other Outboard Equipment: Aphex II-S, UREI 1176-LNs, UREI
 539s, Eventide Omnipressors, Orban 622-B EQ, Orban 516 de-
 esser, 30 channels dbx noise reduction, dbx 160X
 Microphones: Wide selection of AKG condenser and Dynamic,
 Sennheiser, Beyer, Sony, Shure, RCA, Crown
 Instruments Available: LinnDrum, Yamaha C-3 grand piano,
 Hammond B-3/Leslie, Fender Rhodes, Slingerland drums
 Rates: Available upon request

••• PARIS RECORDING
 466A Hawkins Ave., Lake Ronkonkoma, NY 11779
 (516) 467-5143
 Owner: Brian Unger
 Studio Manager: John Francesconi

••• PLUM STUDIO
 also REMOTE RECORDING
 2 Washington St., Haverhill, MA 01830
 (617) 372-4236
 Owners: Richard and Vivian Tiegen
 Studio Managers: Richard and Vivian Tiegen

••• THE POWER HOUSE
 413 Cooper St., Camden, NJ 08102
 (609) 963-3190
 Owners: Frank & Michael Nise for Nise Productions Inc.
 Studio Manager: Mark Schultz

••• POWER PLAY RECORDS
 also REMOTE RECORDING
 198 Bloomfield Ave., Newark, NJ 07104
 (201) 481-0972
 Owner: Power Play Records
 Studio Manager: Greg Furgason
 Chief Engineer: Greg Furgason
 Engineers: Lou Nosti, Tony McDannels, Tom Terren, Kevin
 Furgason, John Terren.
 Maintenance Engineers: Chuck Russo, Greg Furgason.
 Dimensions of Studios: 30 x 13 x 14 + (2) iso. booths.
 Dimensions of Control Rooms: 14 x 18 x 12.
 Tape Recorders: Tascam 85-16B + 4dBv, 16 track; Otari
 MX-5050 8D, 8 track; (2) Otari MX-5050B half tracks, 2 track;
 Tascam 40-4, 4 track; (2) Nakamichi DMP-100 digital auto pro-
 cessors, 2 track; Otari DP-4050 cassette duplicator - 5 slaves, 2
 track; (2) Tascam 122 cassette decks, 2 track; Nakamichi 350
 cassette deck, 2 track
 Mixing Consoles: Tascam/Furgason Electronics 15B/+4, 20 x
 20 x 8 x 2; Yamaha PM-700, 12 x 12 x 2
 Monitor Amplifiers: Hafler DH-220, DH-500, (2) Sound-
 craftsmen PA-5002
 Monitor Speakers: Big Reds, Bose 800s, Auratones T-6, Electro-
 Voice Sentry 100
 Echo, Reverb, and Delay Systems: Ursa Major 232 Star Gate,
 Ecoplate II, Eventide flanger, (2) Lexicon PCM-41, DeltaLab Time
 Line, Ursa Major Space Station.
 Other Outboard Equipment: (2) Eventide Omnipressors, (3) Or-
 ban 516EC sbalance filters, (2) dbx 163 limiters, Ashly SC-50
 limiter, dbx 165A limiter, (2) Audioarts 4200 parametric EQs,
 Omni Craft GT-4 noise gate.
 Microphones: Neumann U-47, U-87, U-89; Sennheiser
 MD-441s, MD 421s, MKE-103-LAUs; Electro-Voice RE-20s,
 RE-15s, RE-11s, 664, 666s, 1777s; Sony ECM-50PS; Shure
 SM-81s, SM-57s, SM-58s, SM-60s; Countryman DIs.
 Instruments Available: Knabe 1928 upright grand piano,
 Yamaha DX7, Roland Juno 106, Oberheim OBX-A, Sequential
 Circuits Prophet 600, LinnDrum, Oberheim DX, Musicman
 HD-130, Yamaha 112, Fender Vibroverb, Peavey Deuce, Mar-
 shall 50, 100, Pearl 5 piece drum kit, Ludwig 4 piece drum kit,
 Simmons SDS8, Ampex B-15
 Video Equipment & Services: 1" Betacam, & 3/4" production &
 post-production, (3) Sony Vo-5850 3/4", Sony RM-440, Sony
 SL-2000, Panasonic WJ-4600B, (2) Panasonic WJ-200RB,
 Tektronix 528A Waveform monitor, Tektronix 1420 Vec-
 torscope, Panasonic BT-S1900 N, (2) JVC TM-R9U, video effects
 available.
 Rates: Upon request, block rates available

••• PULSE WAVE UNDERGROUND SYN. & REC. STUDIO
 19 Norwood Terrace, Trumbull, CT 06611
 (203) 268-1018
 Owner: John P. Mozzi
 Studio Manager: John P. Mozzi

••• RBY RECORDING AND VIDEO
 920 North Main St., Southbury, CT 06488
 (203) 264-3666
 Owner: Jack Jones
 Studio Manager: Marjorie Jones

••• RECORDINGLY YOURS INC.
 70 High St., Saco, ME 04072
 (207) 282-6330
 Owner: Harold E. Chamberlin, D.P.M.
 Studio Manager: Jaymie K. Chamberlin

••• RED ROCK RECORDING
 RD #1 Box 208, Saylorsburg, PA 18355
 (717) 992-5777
 Owners: Kent Heckman, Lois Brownsey
 Studio Manager: Lois Brownsey
 Engineer: Kent Heckman
 Dimensions of Studios: 9 x 12, 11 x 13
 Dimensions of Control Rooms: 11 x 13
 Tape Recorders: MCI JH24-16 with autolocator III, 16 tracks;
 Otari MX5050 MKIII-8, 8 track; Otari MX5050 B, 2 track; (2)
 TEAC C3RX, cassette.
 Mixing Consoles: Audioarts Engineering 8X with 384 point patch
 bay, 24 x 8 x 2.

—LISTING CONTINUED ON PAGE 158

That British sound

▶ ITAM #1610: 1" 16 track
Recorder/Reproducer \$11,950.00

■ 1" 8trk., pre-wired \$9,950.00

BOTH TAPE MACHINES FEATURE:

- +4dBm IN/OUT ■ 15/30ips
- Full-function 9 cue position remote-autolocator ■ stand
- 50% range vari-speed

◀ ACES TR-24: 2" 24 track
Recorder/Reproducer
\$19,950.00

■ 2" 16trk., pre-wired 24 trk

\$14,950.00

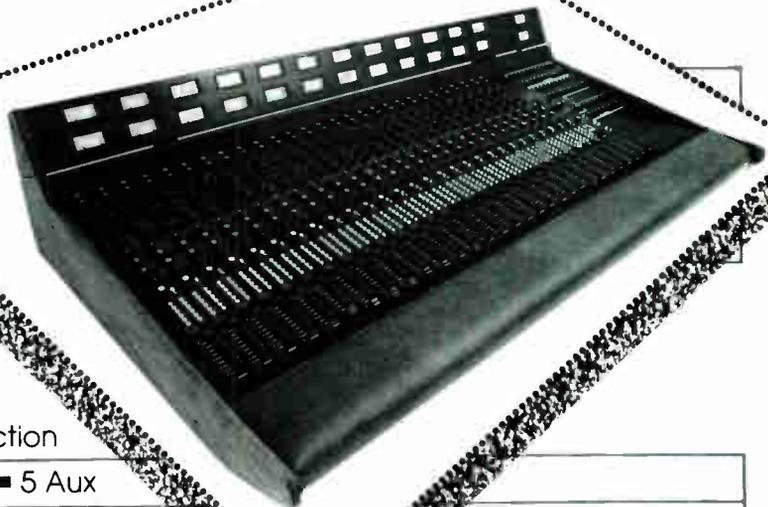


▶ ACES ML24:

I/O console, 32 in x 24 buss,
Integrated wired patch bay

\$17,025.00

■ ACES SM16: Split console,
32 in x 16 buss \$15,665.00



BOTH CONSOLES FEATURE: Fully modular construction

- Audiofad long-throw conductive plastic faders ■ 5 Aux sends
- 5 band switchable EQ ■ Input LED PPM's ■ Stand
- +48v phantom power ■ LED display (optional) ■ Two year parts warranty
- Other frame sizes available ■ Many options available

Circle #139 on Reader Service Card

—LISTING CONTINUED FROM PAGE 156

Monitor Amplifiers: Haller DH500, Nikko Alpha 2 (headphones)
Monitor Speakers: Yamaha NS-10s, Fostex RM880s, Auratones, AKG K240, Fostex T-20 headphones
Echo, Reverb, and Delay Systems: Ursa Major Star Gate digital reverb, custom made stereo plate reverb, DellaLab DL 2 Acousti-computer, Effectron 1024, Super Time Line 512, Ibanez DM-1000
Other Outboard Equipment: (4) Valley People Dyna Mites, (2) dbx 160X compressors, dbx 160 compressor, dbx 180 noise reduction, LoTech
Microphones: AKG 414EB D12-E, Sennheiser 421, 441, Shure SM57, Audio Technica ATM31, Stewart Active direct boxes.
Instruments Available: LinnDrum, Sequential Circuits Six Trak, Prophet 600, Yamaha U 1 acoustic piano, Mesa Boogie, various guitars & basses, Commodore 64 with midi sequencer Tama drums
Rates: 8 track \$30/hr, 16 track \$45/hr

••• **RED SNEAKER PRODUCTIONS**
Carpenter Rd., Hopewell Jct., NY 12533
(914) 221-4869
Owner: Michael Ginesse
Studio Manager: Michael Ginesse

••• **RESOLUTION, INC.**
also REMOTE RECORDING
1 Mill St., The Chace Mill, Burlington, VT 05401-1514
(802) 464-8881
Owner: Resolution, Inc.
Studio Manager: Michael Couture

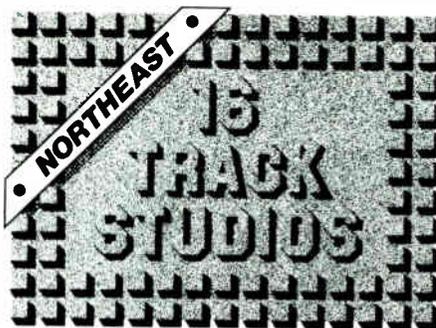
••• **ROUND SOUND**
also REMOTE RECORDING
RR 2, Box 111-C, Cresco, PA 18326
(717) 595-3149
Owner: Tommy Lewis, Jr.
Studio Manager: Tommy Lewis, Jr.

••• **SAINTS AND SINNERS SOUND STUDIO**
also REMOTE RECORDING
432 Western Ave., Albany, NY 12203
(518) 454-5178 or 454-5278
Owner: College of St. Rose
Studio Manager: Mary Anne Nelson



SEAR SOUND
New York, NY

••• **SEAR SOUND**
235 W. 46th St., New York, NY 10036
(212) 582-5380
Owner: Walter E. Sear
Studio Manager: Jerry Landesman
Engineers: Walter Sear, Bill Titus (also independents)
Dimensions of Studio: A 15 x 47
Dimensions of Control Rooms: A 12 x 16, B (film mix) 15 x 25
Tape Recorders: Ampex MM1200 16/8 track, Studer H67 2 track, Ampex 300 (3) 2 and 1 track, Ampex 351 92B mono Pilot tone, Nagra 4.2 1 track, Westrex & Magnasync 35 mm and 16 mm dubbars, 3 & 1 track
Mixing Consoles: Custom all vacuum tube 16 in x 16 out, Westrex RA1309 rerecording console 20 in x 4 out
Monitor Amplifiers: Futterman (tube)
Monitor Speakers: UREI JBL, and Auratones
Echo, Reverb & Delay Systems: EMT 140 (tube), Eventide 949 Harmonizer, Audio Instrument Co 44A DellaLab DL 1 Marshall AR 300
Other Outboard Equipment: Pultec and UREI EQs, Teletronix LA2A, and Fairchild limiters, Orban stereo synthesizer



Microphones: AKG C12, C28As, C451EB, Neumann U87, U67s, U47s, KM56s, KM84, RCA 44, 77s, Sony C37, ECM30, E.V. 666s, HE16s, Sennheiser MD421, MK405, M1805, Shure SM57s
Instruments Available: Steinway C (7'5"), Fender Rhodes, Hammond C3, Baldwin Harpsichord, Celesta, Moog IIIIC, EML 101, EMI Rock-si-chord, Fender Ampeg and Traynor amps, Rogers and Slingerland drums, Leedy Tompani, orchestra bells, bell tree, percussion kit, E7 Clavinet.
Video Equipment & Services: Scoring to video picture, 35 mm film workprint transfer to 1/4" videocassette, Sony VO5800, VO2610, Panasonic PV1200 VHS, Sony and Sharp color monitors
Rates: \$90/hr Please call for demo and block rates.
Extras: Complete 35 mm filmsound facilities, sound effects and original music libraries; large collection of famous vacuum tube equipment, classic vacuum tube microphones, many studio instruments, convenient location.
Direction: In our fourteen years, Sear Sound has served many famous musicians, producers, and record companies in producing highest quality album masters, demos, film and theatrical scores and commercials. Our clients return year after year. We are supportive to talent and producers. Our engineers are also professional musicians, familiar with artistic pressures, and provide a warm, creative atmosphere. Our equipment is carefully selected and maintained with highest sound quality our only objective

••• **SEAWIND AUDIO, INC.**
only REMOTE RECORDING
1134 Fox Chapel Rd., Pittsburgh, PA 15238
(412) 963-7455
Owner: George Mechlin
Studio Manager: Thom Mechlin
Engineers: Thom Mechlin, independents welcome
Dimensions of Control Rooms: Remote truck 20 x 7
Tape Recorders: Otari MTR-90 16 track, Tascam 80-8 8 track, Technics 1520 2 track; Pioneer CTF 9191 cassette.
Mixing Consoles: Tangent 3216, 24 in x 16 out
Monitor Amplifiers: Crown, Technics
Monitor Speakers: CSI MDM-4 near-field monitors, Auratone SC
Echo, Reverb & Delay Systems: Orban 111B reverb, Eventide H910 Harmonizer/DDL
Other Outboard Equipment: UREI LA4 compressor/limiters, Orban para EQ, 2B channels dbx, Belden snakes, Custom x'former mike splitters, RCA CCTV video monitoring system, Clear-Com 2-way intercom system.
Microphones: Condenser and dynamics from AKG, Beyer, E.V., Sennheiser, Shure, Sony
Rates: Remote recording only Please call for rates

••• **SECOND STORY SOUND (Underground)**
5 Wyngate Pl., Great Neck, NY 11021
(516) 466-4075
Owner: R. Greene
Studio Manager: Finqdat Gizzlewald

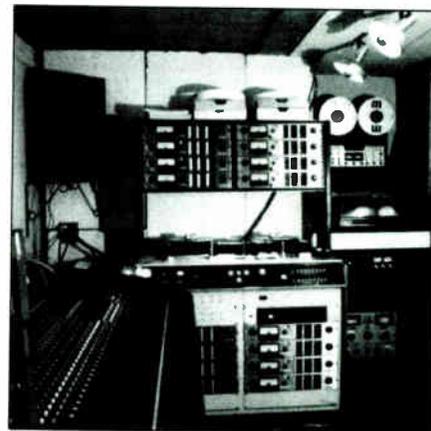
••• **SECRET SOUND**
2A Mansion Woods Dr., Agawam, MA 01001
Write for studio brochure
Owner: Kirk Cirillo
Studio Manager: Kirk Cirillo

••• **SILVER LININGS, INC.**
25 Huntington Ave., Boston, MA 02116
(617) 262-9289
Owner: Arklay F. King

••• **THE SOUND CENTER**
52 Lily Pond Lane, Katonah, NY 10536
(914) 232-8270
Owner: Joseph Knowlton
Studio Manager: Joseph Knowlton

••• **THE SOUND COTTAGE**
also REMOTE RECORDING
P.O. Box 513, Port Jefferson Station, NY 11776
(516) 928-9397
Owner: James Rattazzi
Studio Manager: Irene Rattazzi

••• **SOUNDESIGN RECORDING**
also REMOTE RECORDING
Main Street Gallery—Main St., Brattleboro, VT 05301
(802) 257-1555
Owners: Simon Challoun, Billy Shaw
Studio Manager: Simon Challoun
Engineers: Billy Shaw, Joe Podlesny
Dimensions of Studio: 28 x 30 (with separate iso. room).
Dimensions of Control Rooms: 28 x 18
Tape Recorders: Sony/MCI 24-16-16, 16 track wired for 24; Otari MK III, 8 track, Otari MX5050, 2 track; Revox A-77, 2 track, Ampex 300, 2 track, Audiotronics Corp. AV132B, reel-to-reel duplicator; Otari DP 4050, high speed cassette duplicator; (10) Akai FX71, real time cassettes
Mixing Consoles: Sound Workshop 30, 20 in x 20 out.
Monitor Amplifiers: Crown DC 300A, BGW, Soundcraftsmen.
Monitor Speakers: JBL 4311, custom air suspension system, Auratones
Echo, Reverb, and Delay Systems: Lexicon digital reverb, Effectron 1024, Master-Room stereo reverb XL-210, Sound Workshop stereo reverb.
Other Outboard Equipment: (2) MXR flanger/doubler, Sound Workshop vocal doubler, (4) Ashly limiter/compressors, (2) Teletronix LA-2A tube compressor, (2) dbx Over Easy compressors, (2) stereo Ashly parametric EQs, EXR Exciter, (4) noise gates, Alter 27 band graphic EQ, MXR 15 band EQ, dbx noise reduction.
Microphones: Neumann U87, Neumann KM84, AKG 451, AKG SE-5E-10, AKG D-1000F, Sennheiser 441, Sennheiser 421, E-V RE20, E-V RE15, E-V RE11, E-V RE10, E-V DS35, Shure SM85, Shure SM81, Shure SM58, Shure SM57.
Instruments Available: Yamaha grand piano 6'6", Ludwig drum set, Oberheim DMX drum machine, Fender twin reverb, Fender Princeton, Crate amplifiers, Roland JX-3P synthesizer.
Rates: 16 track \$35/hr, 8 track, 2 track: \$25/hr, block book and prepay discounts available.



SOUND INVESTMENTS
Scranton, PA

••• **SOUND INVESTMENTS**
also REMOTE RECORDING
R 727 North Sumner Ave., Scranton, PA 18504
(717) 346-4299

Owner: Thomas Borthwick
Studio Manager: Thomas Borthwick
Engineers: Thomas Borthwick, B.S. Music.
Dimensions of Studio: 19 x 13 x 7
Dimensions of Control Rooms: 10 x 13 x 7
Tape Recorders: Ampex MM1000, 16 tracks (2"); Tandberg TD 20-A, 2 track (1/4"), TEAC CX3 cassette, 4 track, Sony SLHF 500, 2 track (Beta)
Mixing Consoles: Tascam M-15, 24 in x 8 out.
Monitor Amplifiers: CS-400.
Monitor Speakers: JBL-4313B, custom JBL studio monitors.
Echo, Reverb, and Delay Systems: Yamaha R1000, tape delays, digital delays, tuned room reverb
Other Outboard Equipment: Orban compressor/limiter, Vocoder, Moog 12 stage phaser, Moog parametric, Tapco EQ, UREI digital metronome.
Microphones: AKG 414s, Sennheiser 441s, Sennheiser 421s, Beyer M500
Instruments Available: Baldwin grand piano, Multimoog, Clavinet E7, Korg Poly 61, Oberheim DX drums, custom built acoustic guitar, custom built electric guitar, Peavey bass, other instruments available upon request.
Rates: \$25/hr with engineer and all of the above.

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NYC, NY 10036
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South Pasadena, CA 91030

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••• SOUNDMASTERS STUDIOS INC.
344 N. Sheridan Ave., Pittsburgh, PA 15206
(412) 661-8928
Owner: Stephen H. Wachter
Studio Manager: Bruce Pleasant

••• SOUND SELLER PRODUCTIONS
Rt. 49, Pittsfield, MA 01201
(413) 499-3899
Owner: Ad Comm Inc
Studio Manager: Steve Schwarz

••• SPECTRUM RECORDING STUDIOS
416 Wilson Blvd., Mineola, NY 11501
(516) 741-6168
Owner: George Petersen
Studio Manager: George Petersen
Engineers: Richard Pozen, George Petersen
Dimensions of Studios: A 24 x 10; B 24 x 15 Keyboard Studio.
Dimensions of Control Rooms: 18 x 12
Tape Recorders: 3M (with Selectake) M79, 16 track; RCA RT21, 2 track mixdown, TEAC 3340, 4 track, Stephens 8 track
Mixing Consoles: Trident Series 70, 20 in x 8 out; Tascam M-15, 24 in x 8 out.
Monitor Amplifiers: Soundcraftsmen PE2217 preamp, Nikko Alpha 220 power amp
Monitor Speakers: ADS 2030, Auratone
Echo, Reverb, and Delay Systems: Audicon Plate Reverb (8 ft.), AKG BX-10 Lexicon and Effectron delay lines
Other Outboard Equipment: Many assorted effects including compressors, noise reduction, etc.
Microphones: Neumann U-47, U-87; AKG 414, D12, 451, Sennheiser 421 (8); RCA DX-77 (4); other assorted microphones
Instruments Available: Yamaha grand piano, Fender Rhodes Stage II, Oberheim OB-8, Yamaha DX7, Slingerland drums & assorted percussion equipment, LinnDrum computer, Fender Pro Reverb, Peavey Bass TNT, Casino Snake Eyes bass cabinet.
Rates: \$40/hr Call for block discount rates
Extras: Full production services including arranging, musicians and vocalists. Complete cassette duplication services, kitchen facilities available. We will gladly furnish transportation to and from our studio to any local public transportation facility for our out of town clients free of charge.
Direction: Spectrum has been involved with several artists over the past year in co-production deals for masters and demos. We encourage independent producers and engineers to use our studio and offer excellent facilities and staff. We look forward to hearing new talent, and strive to present a package that reflects the utmost in creativity for a workable budget. Please call for further information for these and other services designed to assist you in your musical endeavors

••• SPECTRUM STUDIOS
701A Moore Station Indust. Pk., Prospect Park, PA 19076
(215) 565-5755, 522-1177
Owners: Bob Szczepkowski, Mike Petrucci, Mark Haler
Studio Manager: Bob Szczepkowski

••• STUDIO 3
74 Elm St., P.O. Box 8643, Portland, ME 04104
(207) 772-4446
Owners: Tom Blackwell, Tim Tierney
Studio Manager: Tim Tierney
Engineer: Tom Blackwell
Dimensions of Studios: 30 x 25
Dimensions of Control Rooms: 15 x 20
Tape Recorders: Tascam 85-16B, 16 track; Tascam 80-8, 8 track; Otari 5050B, 2 track, Tascam 22-2, 2 track, Tandberg 3014, cassette
Mixing Consoles: Amek/TAC Scorpion, 20 in x 8 out.
Monitor Amplifiers: McIntosh, Ad-Com, Dynaco
Monitor Speakers: Klipsch Heresy, AuraClones AKG, Koss and Pioneer headphones

Echo, Reverb, and Delay Systems: Effectron II 1024, Lexicon PCM 60, Orban 111B, Loft 450EM.
Other Outboard Equipment: Valley People Dyna-Mite limiter/gates, dbx 163 compressors, Orban de-esser, LoTech TS-1 28 channels of dbx noise reduction.
Microphones: AKG, Sennheiser, Shure, Beyer, E-V, TEAC
Instruments Available: Yamaha CP-70B electric grand piano, Slingerland drums.
Rates: 16 track: \$40/hr; 2 and 8 track: \$25/hr.

••• STUDIO 44
also REMOTE RECORDING
44A Broadway, Mantua, NJ 08051
(609) 478-5772
Owners: Anne Cain, Philip A. Vitale
Studio Manager: Mike Cain

••• STUDIO X
47 Ethelbert Pl., Ridgewood, NJ 07450
(201) 444-9147
Owners: Bill Tesar, Rave Tesar
Studio Manager: Bill Tesar
Engineers: Rave Tesar, Bill Tesar, Rick Reineke
Dimensions of Studios: A: 17 x 12, B: 15 x 12, iso 7 x 7
Dimensions of Control Rooms: 15 x 9
Tape Recorders: Otari MX-70, 16 track, Otari MX 5050 Mark III, 8 track, Dokorder 1140, 4 track, Technics 1520, 2 track; (2) Technics RSM-280, cassettes; (2) Tascam 122, cassettes
Mixing Consoles: Sound Workshop Series 30, 32 channel.
Monitor Amplifiers: BGW, Phase Linear
Monitor Speakers: JBL 4313, Auratone 5C, Buyakas Audio.
Echo, Reverb, and Delay Systems: Ecoplate, H.B.S. reverb system, Lexicon PCM-42, (2) Lexicon PCM-41s, Roland DDL, Lexicon PCM-60 reverb.
Other Outboard Equipment: 10 channels dbx 150s, (6) Valley People Dyna-Mites, (2) dbx 160 comp/limiters, (2) dbx 160X comp/limiters, dbx 165A comp/limiters, Orban 622B parametric EQ, MXR 15 band graphic EQ, Symetrx dual signal gate, Dr. Click, Roland SBX80, MX-1 trigger, Roland Vocoder.
Microphones: Assorted Neumann, E-V, AKG, Sennheiser, PZM, Shure, Sony, Countryman & Whirlwind DIs.
Instruments Available: Emulator II, Linn 9000, Simmons SDS-7, Simmons SDS-V, LinnDrum, DMX, Kaim concert grand piano, Fender Rhodes, Yamaha DX7, Korg Poly 6, OB-Xa, Prophet 5, Minimoog, Juno 60, D6-Clavinet, Slingerland drums, Marshall, Fender, Yamaha amps, MSQ 700 sequencer, MSQ 100 sequencer, Yamaha RX-11 drum machine.
Rates: Call for rates

••• SUMMER SOUND STUDIO
c/o 72 Beresford Rd., Rochester, NY 14610
(716) 482-3260
Owner: Summer Productions
Studio Manager: Bob Mann

••• SUPER HIT RECORDING SERVICES
138-48 87 Ave. (off Q Blvd.), Briarwood, NY 11435
(718) 297-8225
Owners: Ricardo Alcaraz, Alam Gamboa
Studio Manager: Ricardo Alcaraz

••• RIK TINORY PRODUCTIONS
also REMOTE RECORDING
180 Pond Street, Box 311, Cohasset, MA 02025
(617) 383-9494
Owner: Rik Tinory
Studio Manager: Richard F. Tinory, Jr

••• TRACK RECORDERS, INC.
8226 Georgia Ave., Silver Spring, MD 20910
(301) 589-4349
Owner: Mark Greenhouse
Studio Manager: Dcug Percival
Engineers: Mark Greenhouse, Jim Crenca, John Brittan, Ron Freeland.
Dimensions of Studios: 25 x 40.
Dimensions of Control Rooms: 15 x 25
Tape Recorders: 3M M56 16 track, Scully 280 2 track (2); TEAC 3340 4 track, (4) Technics M205 cassette, Eumig FL-1000 cassette.
Mixing Consoles: Neve 8036 16 x 8 x 16.
Monitor Amplifiers: Crown, SAE
Monitor Speakers: JBL 4320, JBL 4311B, JBL L100, Auratone, Neve
Echo, Reverb & Delay Systems: Lexicon 200 digital reverb, EMT plate reverb, Eventide Harmonizer, Lexicon Prime Time, DeltaLab Effectron ADM 256, Fix flanger/doubler, live chamber.
Other Outboard Equipment: UREI LA-3A compressor/limiters, UREI 1176 compressor/limiters; UREI 565 filter set; Pultec EQ-1A3s; Kepex noise gates; Dolby A noise reduction on all channels.
Microphones: Neumann U87s, KM85s, KM84, AKG 414EBs.

AKG D12E; Sennheiser 421, MD441s; Shure SM57s, SM58s; Beyer M500.
Instruments Available: Kawai 9' concert grand piano, Fender Rhodes piano, Hammond B3 with Leslie cabinet, Prophet 5 synthesizer, Maxi Korg synthesizer, Roland string synthesizer, instrument amps by Fender, MusicMan, Ampeg and Mesa Boogie, Camco studio drums, Linn LM-1 Drum Computer. Other instruments available on a rental basis.
Rates: \$60/hr. Bulk rates available.

1176-LN, UREI LA4s, Kepexes, Eventide Phaser, Orban silbance controller.
Microphones: Neumann U87s, U64; Sony ECM 22, Shure 546s, SM81s; E-V RE16, RE15s, RE20, DO54s, 654A; Sennheiser MD 421; AKG D-24E; Altec M-30.
Instruments Available: Yamaha C-3 grand piano, Ampeg B-15 bass amp, Fender Princeton reverb amp.
Rates: 16 track: \$35/hr; 2 track: \$25/hr; 4 track: \$30/hr. Remotes quote only.

••• **WIDENER UNIVERSITY RECORDING STUDIO**
 also **REMOTE RECORDING**
 14th & Chestnut Sts., Chester, PA 19013
 (215) 499-4338
Owner: Widener University
Studio Manager: John A. Vanore
Engineers: Terry Hoffman, John Vanore.
Dimensions of Studios: 40 x 50 x 16 (tiered floor & ceiling).
Dimensions of Control Rooms: 18 x 10.
Tape Recorders: Otari MX70 16 track, Otari 5050 8 track, Tascam 40-4 4 track, Otari 5050B 2 track, Technics 1500 2 track, Technic M8511 cassette.
Mixing Consoles: Neotek 1E 16 x 8.
Monitor Amplifiers: Crown & Yamaha.
Monitor Speakers: Eastern Acoustics, Auratones, Yamaha.
Echo, Reverb & Delay Systems: MICMIX XL-305 Lexicon PCM-42, Yamaha R1000 (2) & Roland SDE1000.
Other Outboard Equipment: Orban 424A gated limiter, Gain Brain, Kepex, Ashly parametric EQ, Biamp graphic EQ, dbx for 8 track, Dolby A for 2-track, Symetrix 522.
Microphones: AKG Tube, RCA 77DXs, RCA BK-11s, Neumann U-87, AKG 414/P48s, E-V RE-20s, Crown PZM, Sony C-37Ps, Sony 989 stereos, Sony ECM-56s, Beyer M500, AKG 224, AKG 222, AKG 202, AKG 200, AKG D-1000, AKG D-12, Countryman direct boxes.
Instruments Available: Baldwin grand piano, Fender Rhodes piano, drum set, amps, tympani & percussion, Yamaha DX7 synthesizer, Yamaha PF15 piano, Roland 909 drum machine.
Video Equipment & Services: Two camera shoots using three-tube broadcast quality equipment.
Rates: Call (215) 499-4338.

••• **TURTLE BEACH RECORDINGS**
 1912 Alcott Rd., York, PA 17402
 (717) 757-6344
Owner: Roy R. Smith
Studio Manager: Lauren Hale

••• **WENDELL RECORDING STUDIO**
 Box 61, Wendell, MA 01379
 (617) 544-6466
Owner: Jeffrey Bauman
Studio Manager: Harry Wilson

••• **VICTORY PRODUCTIONS**
 also **REMOTE RECORDING**
 Box 364, Williamstown, NJ 08094
 (609) 629-4302
Owner: Victory Corp.
Studio Manager: Richard Hartline

••• **WESTRAX RECORDING STUDIOS, LTD.**
 484 West 43rd St., New York, NY 10036
 (212) 947-0533
Owner: Peter Link
Studio Manager: Bob Lowe
Engineers: Jesse Plumley, Jeremy Harris, Todd Anderson
Dimensions of Studios: 17 x 24 w/iso vocal & drum booth.
Dimensions of Control Rooms: 17 x 20.
Tape Recorders: Tascam 85-16B, 16 track w/auto locator & dbx; TEAC 80-8, 8 track; Technics 1520, 2 track; (2) Studer/Revox A-77, 2 track; Tascam 122, cassette; TEAC A-650, cassette.
Mixing Consoles: Sound Workshop Series 30, 20 in x 16 out.
Monitor Amplifiers: Hafler 220.
Monitor Speakers: JBL 4313B, Auratones.
Echo, Reverb, and Delay Systems: Ecoplate III, Orban III-B spring reverb, Lexicon PCM-42.
Other Outboard Equipment: dbx 160-X compressor/limiter, UREI 1175 LN peak limiter, Orban 622-B parametric EQ, Apple IIe computer.
Microphones: Neumann U87, AKG C-12A (tube), AKG 535, AKG 451, E-V RE-20, Sennheiser 421, Shure SM-57, among others.
Instruments Available: Yamaha 6 foot grand piano; synthesizers: Yamaha DX7, Oberheim OBX-a, Korg Poly-800, Linn-Drum, Simmons, Oberheim DSX digital sequencer, Cooper MIDI-interface; 4 piece Gretsch drums w/Ludwig snare; Zildjian cymbals; Martin 6 & 12 string guitars.
Rates: 16 track: \$55/hr; 8 track: \$40/hr; 2 track: \$35/hr.

••• **VISCOUNT RECORDING STUDIOS**
 also **REMOTE RECORDING**
 486 Wellington Ave., Cranston, RI 02910
 (401) 467-9362
Owner: Russell J. Martin
Studio Manager: Russell J. Martin
Engineers: Russell J. Martin, Patrick Eastman
Dimensions of Studios: 25 x 18 x 9 plus piano trap and isolation trap.
Dimensions of Control Rooms: 13 x 14 x 9.
Tape Recorders: MCI JH114-16 16 track; Scully 280-2 2/4 track; Crown CX801-P2 2 track; Otari 8 track for remotes.
Mixing Consoles: API/MCI custom, 16 in x 16 out; Quantum remotes, 20 in x 20 out.
Monitor Amplifiers: Crown, McIntosh, Techcraft.
Monitor Speakers: UREI 813s, E-V Sentry Vs, Auratones, and Jensen TRF 3s.
Echo, Reverb & Delay Systems: Audicon plate, Lexicon Prime Time, Lexicon digital 224 reverb; Sound Workshop, analog.
Other Outboard Equipment: Allison Gain Brains, UREI

••• **WINGS-AS-EAGLES RECORDING STUDIO**
 151 Keeley Ave., Warwick, RI 02886
 (401) 738-6914
Owner: Bill Montella, Jr.
Studio Manager: Bill Montella, Jr.

••• **WIZARD WORKS STUDIOS**
 only **REMOTE RECORDING & REINFORCEMENT**
 2124 Saranac St., Adelphi, MD 20783
 (301) 434-0537
Owner: William H. Harrison VI
Studio Manager: William H. Harrison VI

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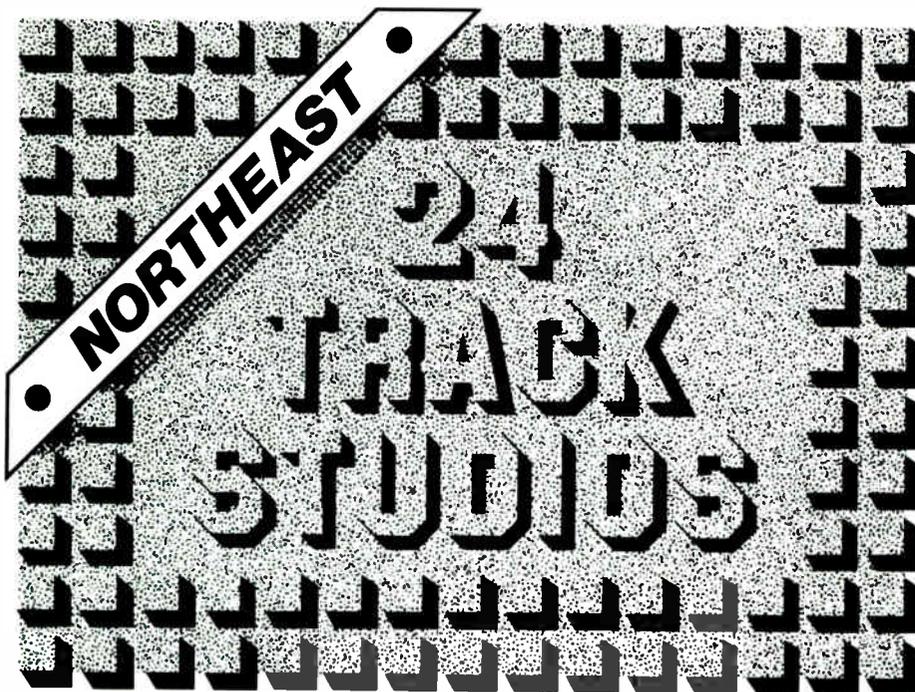
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•••• AAA RECORDING STUDIO
130 West 42nd St., Room 552, New York, NY 10036
(212) 221-6627
Owner: Fred Vargas
Studio Manager: Fred Vargas

•••• A.D.R. STUDIOS INC.
also REMOTE RECORDING
325 West End Ave., New York, NY 10023
(212) 486-0856
Owner: A.D.R. Studios, Inc.
Studio Manager: Stuart Allyn
Extras: Very extensive microphone collection. Microphones available for rental.

Direction: Our award winning engineers are fully versed in all phases of audio recording and production. They are available for complete projects from pre-production meetings through production recording (studio or location) to post production mixing, and can provide comprehensive follow through of all audio components. Specialized services include: Album and jingle production, post scoring and mixing, audio sweetening and mixing for video, audio/video production assistance, and location recording services. Credits include Hall & Oates, Billy Joel, Aerosmith, Coma-tees, Michael Jackson videos, Placido Domingo, Lionel Hampton, Mel Lewis & Orchestra, Taylor Wines, Coke, AT&T Communications, Lee Jeans, Time Magazine, etc.

•••• ALL STAR SOUND STUDIO
4 First Ave., Bloomfield, NJ 07003
(201) 743-8497
Owners: Jay Vican, Steve Becker
Studio Manager: Steve Becker
Engineers: Jay Vican, Brian Bannon, Randy Note, Steve Becker, Ed Becker

Dimensions of Studio: 15 x 20
Dimensions of Control Rooms: 15 x 15
Tape Recorders: Otari MTR-9011, 24 track; Otari MTR-10, 2 track; Tascam 35-2, 2 track, Technics M-85 MKII, cassette, Sony WM-D6, cassette.

Mixing Consoles: Neotek Series IIIC, 32 in x 24 out.
Monitor Amplifiers: Crown (Exclusive) PSA-2, DC300, D150, D75, Monitor EQ, Klark-Teknik 1/2 octave
Monitor Speakers: Big Reds, E-V Sentry 100s, JBL L100, Auratone 5-C

Echo, Reverb, and Delay Systems: Lexicon 200 digital reverb, AKG BX-10, Master-Room XL-305 chamber reverb, Lexicon PCM 42 and DeltaLab DL-2 delays, MXR digital reverb

Other Outboard Equipment: Eventide 949, dbx 900 noise gates and EQs, MICMIX Dynallange, DeltaLab DL-5 Harmonic computer, dbx 160-X compressors, Ashly SC-55 stereo compressor, and others

Microphones: Shure SM57, SM58, Neumann U-87, AKG D-12, 451, D-1000E, 414, Crown PZM, Sennheiser 421, MD4 and others.
Instruments Available: Yamaha DX7, Mini-moog, Oberheim OB-X, Sequential Circuits Pro-one & Prophet 5, Fender Rhodes piano, Harrington baby grand piano, LinnDrum computer, Simmons drum kit, Ludwig drum kit, Fender guitars, Fender and Marshall amplifiers, J Scholz Rockman amp, assorted percussion

Video Equipment & Services: Upon request.
Rates: Negotiable. Call for rates.

•••• ALPERTRACK
77 Warren St., New York, NY 10007
(212) 349-8095
Owner: Gregory Alper

•••• ALPHA INTERNATIONAL RECORDING STUDIOS
also REMOTE RECORDING
2001 W. Moyamensing Ave., Philadelphia, PA 19145
(215) 271-7333
Owner: Peter S. Pelullo
Studio Manager: Stephen Fabu



ASL MOBILE AUDIO/VIDEO
Flushing NY

•••• ASL MOBILE AUDIO/VIDEO
only REMOTE RECORDING
140-02 Poplar Ave., Flushing, NY 11355
(718) 886-6500

Owner: Aura Sonic Ltd.
Studio Manager: Steven Remote
Engineers: Steven Remote, Paul Winnicky, Sam Buccio, Gary Penovich, Man Parrish plus independent engineers upon client's consent

Dimensions of Studio: Studio dimensions vary depending on the size of the venue and/or location.

Dimensions of Control Rooms: 16' x 8' x 7'10" mobile unit

Tape Recorders: Otari MTR-90 MKII 24 track, (24/32 tr. digital recording available upon request), (2) Otari 5050 BII 2 track, Tascam 58 8 track; (2) Denon DRM4 cassette machines

Mixing Consoles: Sound Workshop Series 30, 32 x 32, (2) Sony MX-20, 16 x 8, (Additional channels available upon request)

Monitor Amplifiers: (2) Yamaha P2200, Crown DC 300A, Crown D-60.

Monitor Speakers: UREI 813B, Big Reds, E-V Sentry 100, JBL

4311, Auratone 5C and T5, Yamaha NS-10M, Fostex Echo, Reverb, and Delay Systems: Lexicon Prime time 93, Lexicon PCM41, DeltaLab DL-2, Ursa Major Space Station, (3) Korg SDD 3000, Klark-Teknik DN700, Klark-Teknik DN 780 digital reverb/processor, MICMIX XL-305, MXR 01 digital reverb, Eventide 910 Harmonizer

Other Outboard Equipment: (2) Rebs Audio RA200 racks with 16 noise gates, (4) de-essers, (4) compressor/limiters, (4) parametric EQs, timer, (4) mic/line amps, (2) dbx 160 compressor/limiters, (2) UREI 1176LN peak limiters, (2) Ashly SC-50 compressors, (2) Klark-Teknik DN360 30 band EQ, (2) Orban 622B parametric EQ, Crown EQ 2, MXR 170 dual band EQ, Orban 245E stereo synthesizer; Brooke-Siren Systems DPR-402 stereo compressor peak limiter de-esser, (4) Valley People 410 Dyna-Mites, (2) Shure Audio Masters, Shure stereo mike mixer

Microphones: Sennheiser, 441, 421, 416, 211, ME-80, ME-88; Shure SM58, SM57, 5485D, PE54D, Sony ECM-50, Electro-Voice: RE-20, RE-16, RE-15, 635A, 664, DS-35, AKG 414EB, C451E, C-12A, D-12, D 190E, D-1000E, Neumann: KM-84, Realistic PZM, Brooke-Siren AR116 active direct boxes, Sescam direct boxes, (over 76 microphones and directs)

Video Equipment & Services: For Telco and video broadcasts and/or hook ups, please call for more info

Rates: Please call for a quotation

Extras: 816 point Bantam jack field including 76 mike/line sends and returns to the truck via 4 x 19 pair snake cable 76 x 228 (3 way) splitters with transformers Over 2000' of 19 pair snake cable in various lengths Over 3000' of XL mic cable in all lengths. Also 800' of video/com cable and 1000' of AC cable

Direction: Our philosophy is to bring the multi-media, multi-track control room to the concert, studio, home and/or anywhere desired to develop the visions and sounds needed. We offer our mobile unit as a complete basic track, mixdown and pre/post audio for video production for clients ranging from top video backgrounds to local artists and bands. We have worked with Frank Zappa, James Brown, Lene Lovich, The Police, Simple Minds, Stevie Wonder, Gene Simmons of Kiss, XTC, Yello, Howard Jones, Reflex, Elvin Jones, Black Uhuru, Icicle Works, The Ramones, Dwight Twilley, Japanese Jazz all-stars, WNEW-FM, WLIR-FM, WPIX-FM, BBC-TV, MTV, PBS, Soundworks, PMC/FM TOKYO and Secret Sound to name a few!

•••• ATLANTIC RECORDING STUDIOS
1841 Broadway, New York, NY 10023
(212) 484-6093

Owner: Atlantic Recording Co.
Studio Manager: Paul A. Sloman, Frank Tahino Asst. Mgr.
Engineers: Bill Dooley, Chief Engr., Sam Uckon, Chief Tech Engr., Jimmy Douglass, Bobby Warner, Michael O'Reilly, Asst. Engrs: Dan Nash, Stephen Benben; Mastering Engrs: Dennis King, Sam Feldman

Dimensions of Studios: Studio A 35 x 48, Studio B 18 x 33; Mix Room: 9 x 13 (booth)
Dimensions of Control Rooms: A 17 x 22, B 18 x 22, Mix Room 21 x 19

Tape Recorders: Sony 3324 (digital) 24 track; Studer A-800 24 track, A-80 2 track, MCI JH 24/24 24 track MCI 110B 2 track, Otari MTR-12 2 track, Sony PCM-1610 (digital) 2 track, Audio Kinetics synchronizer available

Mixing Consoles: Neve (automated) 8108 48/32, MCI 556 56/48, MCI (automated) 538 38/32

Monitor Amplifiers: Bryston 4B bridged, Bryston 3B bridged, Studer

Monitor Speakers: UREI 813-B, Hdley/Sierra, JBL 4312, Electro-Voice Sentry 100A, Yamaha NS-10M, Visicon 9000, 7000, Pioneer HPM 100, Dalco SW-3, IMF MCR 2A, DCM-Macro, Auratone, Altec 19, Hatler and Colberts

Echo, Reverb & Delay Systems: EMT 250 & 251, Sony digital reverb, Lexicon 224X, Lexicon Super Prime Time; Eventide 1745M, Marshall AR-300, Lexicon PCM 42, Korg SDD-3000, Audio Digital TC-2, Ursa Major SST 282, Audio Digital TC 3 and (5) EMT stereo 140 chambers, AMS DDL, AMS Reverb; Quantec QRS

Other Outboard Equipment: Over 60 compressors/limiters including Fairchild 670, SpectraSonic 610, Teletronix LA-2A & 3A, UREI 1176LN, dbx 160 and 160X, and Gain Brain II. Over 20 spectral processors including Publison, Eventide SP 2016, Valley People Dyna-Mite, Eventide Phaser, Eventide flanger and Harmonizer H-949, EXR-EK2 and (3) Audio + Design Scamp racks. With a full complement of equipment for each rack, over 80 equalizers including Pultec, Lang, Aengus, Orban, Sontec, DataTronix 550A, Audio + Design and Neve. Full Valley People rack in each room.

Microphones: Crown PZM, Sanken C41, Beyer M88 & M160, E-V RE15, 16, 20, 55 and Shure SM7, 57, 58, 81 and Sennheiser MKH-415, MD-421, MD441 and Neumann U47 tube and FET, U48, M49, U67, U87, KM84, KM86, U89, and Telefunken 251 and AKG C451, C414, C33, D12 and RCA SK46, 44, 77DX and Sony C37, C48 & ECM50, and B&K 4003 & 4004 and more

Instruments Available: (2) Hammond B3 organs, La-Piana baby grand, Steinway grand, Wurliizer piano, Fender Rhodes and Rhodes Dynamite piano, Hohner Clavinet, amplifiers including Fender, Music Man, Polytone, full Ludwig drum kit, and misc. percussion instruments, Synclavier, DX7 keyboards; LinnDrum machine, Mesa Boogie, Roland Jazz, Marshall Lead 100 amps

Video Equipment & Services: Sony video monitor in each studio, BVU-800 videocassette recorders, provision for external video equipment

Rates: \$200/hr., 24 track analog recording/mixing

**** **AUDIO ART STUDIO**
102 Greene St., New York, NY 10012
(212) 226-3685
Owner: Audio Art, Inc.
Studio Manager: Nak Suzuki

**** **AUDIO INNOVATORS, INC.**
also **REMOTE RECORDING**
216 Boulevard of the Allies, Pittsburgh, PA 15222
(412) 471-6220
Owner: Norman J. Cleary
Studio Manager: Susan Harger

**** **AURA SONIC MOBILE AUDIO**
only **REMOTE RECORDING**
140-02 Poplar Ave., Flushing, NY 11355
(718) 886-6500
Owner: Aura Sonic Ltd.
Studio Manager: Steven Remote

**** **AUTOMATED SOUND STUDIO**
1500 Broadway, New York, NY 10036
(212) 869-8520
Owner: Gordon Enterprises Ltd.
Studio Manager: Lorna Levine
Engineers: Arthur Friedman, Steve Friedman, Kevin Halpin, Gary Boyle
Dimensions of Studios: A. L-shaped 60 x 45 x 36; B. 30 x 25; 3 4-track narration rooms.
Dimensions of Control Rooms: A. 20 x 20; B. 15 x 15; 24 track mix room 20 x 25 w/vocal booth.
Tape Recorders: (2) 24 track Studer A800s, Studer 8710 cassette tape machines; (2) Technics cassette tape machines; Studer B67 1/4 track; (2) Studer A-80 24 track, 3M Series 79 24 track; (5) Studer A-80 4 track; (5) Studer B-67 2 track; (5) Studer A-67 2 track; Studer A-80 2 track (4); (6) Studer A-80 mono
Mixing Consoles: (2) Neve 8078 (custom) w/Necam, 40 in x 32 out; Neve (custom) 8058, 38 in x 24 out; (3) Audiotronics 501, 24 in x 24 out.
Monitor Amplifiers: (14) McIntosh 2100s; (8) Crown headphone amps, McIntosh 2300.
Monitor Speakers: (16) 604-BGs, Big Reds, (2) JBL 4311s, (2 pair) Kirksaeters, (5) Auratones, Visonik, K.L.H., UREI 813A, (pair) 604E Altec, (pair) Yamaha NS10s, (pair) Fostex's
Echo, Reverb & Delay Systems: (6) EMT, Master Room reverb; (3) Lexicon digital 224s; (2) DDL
Other Outboard Equipment: Scamp Rack, Harmonizers, Orban parametrics, LA4A, LA3s, Neve compressors, Dolby, (4) 165 dbx limiters/compressors "easy-over"; (2) 949 harmonizers; (2) TC2s flangers; (4) Pultec equalizers.
Microphones: Neumann U87s, U47s, KM86, 85; AKG 414s, AKG tubes, AKG 460s, PZMs, 60 assorted mikes.
Instruments Available: (2 sets) Yamaha drums, Roland jazz chorus amps, (2) Markley amps, (2) Steinway grand pianos, (2) Fender Rhodes pianos, (2) Hammond B-3 organs w/Leslie speakers, (2) Musser vibes, (5) Fender amps, assorted percussion
Video Equipment & Services: JVC, Sony, TLS 4000 Interlock, (2) Sony 25" monitor
Rates: Please call.

**** **AVIATION SOUND STUDIOS**
1615 Gravesend Nice Road, Brooklyn, NY 11229
(718) 646-1992
Owner: Mr. Jan Teller
Studio Manager: Ms. Betsy Grant

**** **AZIMUTH RECORDING STUDIO**
also **REMOTE RECORDING**
P.O. Box L, Malaga, NJ 08328
(609) 697-2605
Owner: Jim Langley
Studio Manager: Brenda Langley
Engineers: Jim Langley, Ed Candelora, Jeff Candelora, Mike Holland
Dimensions of Studios: 18 x 24, iso booth 10 x 10.
Dimensions of Control Rooms: 12 x 14
Tape Recorders: Soundcraft SCM 760-24 2 track; Otari 5050BII 2 track, TEAC 25-2 2 track, (2) Akai cassette decks; Sony PCM1 2 track
Mixing Consoles: Soundcraft Series 1600, 24 x 8 x 24
Monitor Amplifiers: Crown, Haller
Monitor Speakers: JBL 4411, JBL 4312
Echo, Reverb, and Delay Systems: Yamaha digital reverb, (3) DeltaLab 1050, 1024, Eventide harmonizer
Other Outboard Equipment: dbx noise reduction, dbx 160X compressors, Valley People Dyna-Mites, Ashly parametric EQ, GLI graphic EQ, direct boxes.
Microphones: AKG 414, Sennheiser 441, 421, E-V RE-20, Neumann U87, PZM, Audio-Technica, Shure, etc.
Instruments Available: Ovaton 6 string, Yamaha DX7, Ensoniq; Kawai grand piano, LinnDrum, Tama drums; various percussion instruments.
Video Equipment & Services: Video production is available through our sister studio C & C Studios in Glassboro, NJ
Rates: Rates lower than most 16 track studios. Call us!!!

**** **BATTERY SOUND**
90 West St., New York, NY 10006
(212) 227-3896
Owner: Mark Freedman
Studio Manager: Pasquari Frates

**** **BAYSIDE SOUND STUDIOS**
also **REMOTE RECORDING**
P.O. Box 129, Bayside, NY 11361
(718) 225-4292
Owner: Bayside Sound Recording Studios, Inc.
Studio Manager: David Eng
Engineers: Steve Pouchie, Andre Debourg, Herman Eng, David Eng.
Dimensions of Studios: 20 x 20
Dimensions of Control Rooms: 16 x 12
Tape Recorders: MCI JH24 w/AL III 24 track, MCI JH 110B 2 track; Otari 5050BII 2 track; TEAC and Sony cassette decks.
Mixing Consoles: MCI JH636 automated 32 in x 24 out
Monitor Amplifiers: Crown, Yamaha, Phase Linear, BGW
Monitor Speakers: UREI 811, JBL 4311, Electro-Voice 100A, Yamaha NS10M, Auratones
Echo, Reverb & Delay Systems: Lexicon 200 digital reverb, Stockronics Plate, Yamaha digital reverb, Korg 3000 professional delay, Lexicon Prime Time, Lexicon PCM 42, DeltaLab DL4 and DL2, tape delay.
Other Outboard Equipment: Eventide Harmonizer, Valley People Dyna-Mites, Orban parametric and graphic EQs, dbx limiters, UREI limiters, MXR flanger.
Microphones: Neumann U87s, AKG 414s, 452s, D12s, 451s; E-V RE20s; Sennheiser 421s, 441s; Shure SM57s; Sony ECM 23s; PZM.
Instruments Available: Fairlight computer, Yamaha DX7, Hohner clavinet, Prophet 5, Roland Juno 60, Roland 808 drum computer, Oberheim DMX drum computer, LinnDrum computer, Fender Rhodes, Fender amps, Roland jazz chorus amp, Mesa Boogie amp, ARP Odyssey, Slingerland drum kit, Yamaha grand, Ampeg B12.
Video Equipment & Services: Available on request
Rates: Please call.



B.C. STUDIO
Brooklyn, NY

B.C. STUDIO (formerly O.A.O. Studio)
Brooklyn NY

**** **B.C. STUDIO (formerly O.A.O. Studio)**
P.O. Box 59, Brooklyn, NY 11215
(718) 237-9692
Owner: Martin Bisi
Studio Manager: Victoria Bisi

**** **BEARVILLE STUDIOS**
P.O. Box 135, Speare Rd., Bearsville, NY 12409
(914) 679-8900
Owner: Albert Grossman
Studio Manager: Steven Bramberg
Engineers: Mark McKenna, Ray Niznik, Ken Lonas
Dimensions of Studios: Studio A. 60 x 40, ceiling 38'; Studio B. 30 x 24, ceiling 20'.
Dimensions of Control Rooms: A. 19 x 20; B. 23 x 18.
Tape Recorders: Studer A-800 MKIII 24 track; Studer A-80 MKIII 24 track; Studer A-810 2 track; Studer A-80RC 1/2" 2 track; Studer A-80RC 1/4" 2 track; Studer A-80 VU 1/2" 2 track; Studer B67 1/4" 2 track.
Mixing Consoles: Neve 8088 40/(80 mix inputs); Neve 8068 32 input.
Monitor Amplifiers: Yamaha, UREI, Crown, Perreaux
Monitor Speakers: UREI 813A & 813B w/JBL subwoofer system; Yamaha NS-10M, Auratone, Visonik David 7000, JBL 4311, ROR, Tannoy SM12B (Little Reds)
Echo, Reverb, and Delay Systems: Echo: Live chamber, EMT

240, (2) EMT 140s, Lexicon 224X w/LARC; Delays: Prime Time II, Eventide 949 Harmonizer, Kark-Teknik DN 84 analog time processor, Lexicon Prime Time, AMS digital delay.
Other Outboard Equipment: 24 tracks dbx & Dolby noise reduction; Drawmer DS-201 gates; Pultec EQP 1A3, MEQ-5; Valley People Maxi Qs, Kepex IIs, Gain Brains; UREI LA2A, 1176, 1178, LA3, LA4, 565 filters; Neve 32264A comp/limiter, 32257 expander/gates; AFSI graphic EQ; Aengus graphic EQ; dbx 160, 162, 165 comp/limiters, 503 expander; Aiwa turntable; Yamaha pedal effects board.
Microphones: AKG, Sennheiser, RCA, Shure, Electro-Voice, Sony, Neumann, Crown PZM.
Instruments Available: Yamaha and Bosendorfer grand pianos; Hammond B-3 organ w/Leslie; Musser vibes; Fender Rhodes; Jupiter-8 synth; LinnDrum; Pearl and Ludwig drums; assorted guitar amps.
Video Equipment & Services: Complete state of the art video facility on premises
Rates: Call Steven Bramberg for info. Block bookings welcome.

**** **BEARTRACKS RECORDING STUDIO**
278 Haverstraw Road, Suffern, NY 10901
(914) 362-1620
Owners: Jay Beckenstein, Rich Calandra
Studio Managers: John Penzotti, Larry Swist

**** **BERKLEE COLLEGE OF MUSIC STUDIOS**
150 Massachusetts Ave., Boston, MA 02115
(617) 266-1400
Studio Managers: Don Puluse, Joe Hostetter

**** **BIG APPLE STUDIOS INC.**
also **REMOTE RECORDING**
353 West 48th St., 6th floor, New York, NY 10024
(212) 974-1755
Owners: Bernard Fox, Larry Harlow, George Kazane
Studio Manager: Larry Harlow
Engineers: Bernard Fox, George Kazane, Ion Fausty, Maribeth Back, Sammy Velasquez, Larry Harlow
Dimensions of Studios: A. 40 x 35 plus 8 x 8 vocal booth; B. electronic room plus 8 x 8 vocal booth.
Dimensions of Control Rooms: A. 18 x 16; B. 18 x 16
Tape Recorders: Mitsubishi 32 track digital X-800 32 & 4 track; (2) Studer A-80s 24 track; Studer A-810 2 track; Studer A-67 2 track.
Mixing Consoles: Neve (custom) 8048, 32 x 16 x 32; Neve 8068, 32 x 16 x 24.
Monitor Amplifiers: Haller 500s, Phase Linear 400s, Crown 300As.
Monitor Speakers: UREI, Yamaha, JBL, Auratone.
Echo, Reverb, and Delay Systems: Yamaha digital reverb, Lexicon 224X, AKG BX-10, Furman, Brnck & EMT
Other Outboard Equipment: (2) Lexicon Prime Times, Eventide Harmonizer, (16) Neve noise gates, (4) Roger Mayer gates, (4) Kepex II gates, (12) Neve comp/limiters, (2) dbx comp/limiter, Orban parametric EQs, MXR power flanger, (2) MXR graphic EQs, UREI graphic EQ, Teletronix leveling amps, Quantel Room Simulator, Aphex Aural Exciter.
Microphones: Neumann, AKG, Sennheiser, Sony, RCA, Shure Electro-Voice, Beyer & Countryman Directs.
Instruments Available: Hammond B-3 w/Leslie, Yamaha DX7, Minimoog, Emulator II, ARP string ensemble, Clavinet D6, Hardman 8' grand piano, Fender Rhodes, Kustom 88, Prophet 5, OBX, LinnDrums w/various chips, Rogers drums, L.P. congas, L.P. timbales, assorted percussion, Synclavier available upon request.
Video Equipment & Services: (2) 1/4" JVC color decks, (2) NEC color monitors, (2) BTX Shadows & Controller, (2) Tektronix sync generators, and full remote packages available.
Rates: Upon request.

**** **BIOYA RECORDING STUDIOS**
32 Hoxey St., Paterson, NJ 07501
(201) 742-7704
Owners: Len and Lou Argese
Studio Managers: Len and Lou Argese

**** **BLANK TAPES INC. RECORDING STUDIOS**
37 West 20th St., New York, NY 10011
(212) 255-5313
Owner: Richie Vetter, Pres.; Lou Vetter, Vice Pres.; Bob Blank Studio Manager: Lou Vetter, General Mgr.; Jim Doherty, Studio Mgr.; Susie Doherty, Office Mgr.
Engineers: Chief Engineer: John Bradley; Chief of Maintenance: Rich Faszczewski; Engineers: Joe Arlotta, Bob Blank, Jim Doherty.
Dimensions of Studios: A. 24 x 35; B. 8 x 10; C. 20 x 26; D. 35 x 40.
Dimensions of Control Rooms: A. 12 x 16; B. 14 x 16; C. 16 x 20; D. 18 x 22.
Tape Recorders: Sony 3324 digital 24 track; (4) MCI JH114 24 track; MCI 14" reel 4 track; (5) MCI JH110 2 track; Scully 280 2 track; Studer A80 2 track, (2) MCI JH-110 2 tracks; (2) MCI 1/2" 2 tracks; Studer 1/2" 2 track.
Mixing Consoles: MCI 636 automated console, MCI automated 542, 42 in x 42 out; MCI automated 428, 28 in x 24 out.

—LISTING CONTINUED ON PAGE 164

McVEE PRODUCTIONS

(A Division of M.C.V.P. Inc.)
Connecticut's Leading
Independent Production
Center

- 22' Remote Production Truck
- Hitachi, RCA and Ikegami Color Cameras
- 1" Ampex VPR 80's with Slomo and Still Frame
- 1" VPR 20 Portable Type C VTR
- 45' X 48' Studio with Full Lighting
- Full 1" and 3/4" Computerized Editing
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86

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—LISTING CONTINUED FROM PAGE 163

Monitor Amplifiers: UREI 6500, BGW 75s, (3) Crown 300s, (3) Crown 150s, (3) Crown 75s, (3) Crown 60s, (2) McIntosh 2105s, (2) McIntosh 2505s, (2) Bryston 4B, Bryston 3B.

Monitor Speakers: EV-100s, UREI 813As, Biamped Time Aligned Big Reds E2s, JBL 4311s, Auratones, also any additional speaker on request.

Echo, Reverb & Delay Systems: The Plate, AKG BX-10, BX-20, Lexicon 224X, Lexicon 200 & Lexicon Prime Time.

Other Outboard Equipment: UREI 535, (2) dbx 165s, dbx 165A, BTX Shadow & Cypher, Diskmix mixing computer, Pultec MCQ 5 & EQH 2 equalizers, UREI 539, 1176, 530 EQ; parametric 622B; Teletronix LA2A, LA3As, UREI 175-A limiter, Kepex and Roger Mayer noise gates, Gain Brains, dbx 160s, Fairchild 160 compressor, Eventide Harmonizers and Instant Phasers, Altec Filter 9067B, Orban Sibilance Controller 516 EC, DeltaLab Acousticcomputer, Audio Design Recording Vocal Stressor F 769 X-R, Dolby and dbx noise reduction on every machine.

Microphones: (2) AKG tube microphones, Neumann U87s, U47s, U67s, U64s, KM85s, KM84s; Sennheiser 421s, 441s; RCA DX77s 44s; E-V RE20s, RE16s, RE15s; Sony 224s, ECM 50s, AKG 451s, D190ES, D60s; Shure SM57s, D24s, Beyer M160s.

Instruments Available: Emulator, LinnDrum machine, Tama drums, OB-8, DSX, Polysix, DMX, Steinway M grand piano, Yamaha C7 grand, Hammond B3 organ, Mellotron, String Ensembles, Slingerland drums, Clavinet, Fender Rhodes 88 and 73, Sydrums, congas, timbales, vibes, percussion kits, other rentals also available on request.

Rates: Contact General Manager, Lou Vetter



BLUE JAY RECORDING
Carlisle, MA

•••• BLUE JAY RECORDING
669 Bedford Rd., Carlisle, MA 01741
(617) 369-2200

Owner: Bob and Janet Lawson, Steve Langstaff
Studio Manager: Bob Lawson

Engineer: Gragg Lunsford.

Dimensions of Studio: 27 x 38.

Dimensions of Control Rooms: 18.5 x 17.

Tape Recorders: MCI JH114 24 track; Studer A-80 1/2" 2 track; Studer B-67 1/4" 2 track; DBX-700 digital 2 track; (2) MCI JH110B 1/4"; (7) Tascam 122 cassette decks (Dolby A is available for all tape machines).

Mixing Consoles: MCI JH636 automated, parametric EQ, modified 32.

Monitor Amplifiers: Bryston 4, McIntosh 2100, (3) BGW 250.

Monitor Speakers: UREI Time Aligned Monitors, Auratones, Yamaha NS10s

Echo, Reverb & Delay Systems: Lexicon 224 digital reverb-eration system, Loft flanger, Lexicon 93 Prime Time, Ursa Major Space Station, DeltaLab Harmoniccomputer, (2) DeltaLab Effectrons, Lexicon PCM60; (2) Lexicon PCM-42; Lexicon Prime Time Two; EMT 140 Plate; Eventide 949 Harmonizer.

Other Outboard Equipment: UREI LA4As, 1176LNs and LA-2As, Allison Research Gain Brains and Kepexes, Dolby M24-H noise reduction, Trois parametric EQs, Ashly stereo parametric equalizer SC66A, Orban stereo parametric equalizer 662B, (2) dbx 165 compressors, (9) dbx noise gates, (3) Pultec EQP equalizers, (2) dbx 906 flangers, (2) dbx 902 de-essers, (2) 903 compressors, (2) dbx 160X compressors, Aphex aural exciter.

Microphones: Telefunken 251, Neumann U64 stereo pair, RCA 77 Ribbon, pair of Bruel & Kjaer, Neumann U47s, U87s, KM86s, KM84s, AKG C414 EBs, C451s; others: Sennheiser, E-V, Shure, Beyer, Crown, PZMs, AKG C-12 (tube).

Instruments Available: DMX drum machine, Steinway "B" 1927 seven foot; Rhodes 88.

Extras: Energy-saving earth-sheltered custom building in country setting 30 minutes from Boston offers lounge, kitchen, privacy, extreme acoustical isolation and a wide-dynamic range studio suited to both noise-reduced and digital recording.

Direction: George Thorogood and the Destroyers, Aerosmith, Pat Metheny, Andy Pratt, Tom Rush, Joe Perry, J. Geils Band, Jonathan Edwards, Artie Shaw, Paul Winter Concert. Also industry work for Lexicon, Kurzweil, dbx, Ursa Major, DeltaLab.

•••• BLUE ROCK STUDIO

also REMOTE RECORDING

29 Greene St., New York, NY 10013
(212) 925-2155

Owner: Edward Korvin

Studio Manager: Estelle Lazarus

•••• BOLOGNESE RECORDING STUDIOS

989 Jerusalem Ave., North Merrick, NY 11566

(516) 221-5555

Owner: Lou Bolognese

Studio Manager: David Barratt



BOOGIE HOTEL STUDIOS
Port Jefferson, NY

••••BOOGIE HOTEL STUDIOS

709 Main St., Port Jefferson, NY 11777

(516) 473-6655

Owner: Steve Bramberg, Jeff Kawalek, Don Berman, Robert Ludwig, John Rose.

Studio Manager: Jeffrey Kawalek.

Engineers: Don Berman, Jeff Kawalek, Bob Ludwig, Chris Isca, Jim Sparling, Bob Tis - Chief Engineer.

Dimensions of Studio: 50 x 60 x 20 ceiling w/2 iso booths, 15 x 20 each.

Dimensions of Control Rooms: 14 x 20.5.

Tape Recorders: Studer A80VU MKII 24 track; Studer A80RC 2 track; (2) Studer B67 MKII 2 track.

Mixing Consoles: Custom Neve 8000 Series/48 in.

Monitor Amplifiers: McIntosh, Crown, H & H.

Monitor Speakers: UREI 813A, JBL 4311, JBL 4313, Auratones, Mitsubishi DS-181W, Yamaha NS 10M.

Echo, Reverb & Delay Systems: EMT stereo plate, 2 live chambers, Hohner digital reverb system, Marshall tape eliminator.

Other Outboard Equipment: (2) Eventide Harmonizers, (6) Pultecs, Orban 622 parametric EQ, (8) Valley People dyna-Mites, (4) MXR phaser/flangers, (2) United Audio tube limiters, (4) Neve limiter/compressors, (2) LA3As, (2) UREI 1176s, dbx 165 limiter.

Microphones: (2) Neumann M-49s (tube-type), (2) Neumann U47s FETs, (2) U87s, KM84, KM86; AKG C451E, (2) EB414, (2) C60, (2) D1000E, D12E; Sennheiser (10) 421, (4) 441; Shure SM53, SM56, SM58, SM7; E-V 666, (2) RE20; (2) Crown PZMs, (2) Sanken RU41.

Instruments Available: Yamaha grand piano, Hammond B3 w/Leslie, Ludwig & Rogers drums, assorted guitar amps.

Rates: Call for info. Block rates available.

Extras: Lodging for 8 to 10 people, full kitchen (optional meal

—LISTING CONTINUED ON PAGE 166

TESTED. PROVEN.

The Carver PM-1.5 Magnetic Field Power Amp—For performance, reliability and sound.

On the Road Since the professional debut in 1983 of the Carver PM-1.5 Low Feedback High Headroom Magnetic Field Power Amplifier, the sonic excellence and reliability of this 21-lb., 450 watts per channel* powerhouse has been tested—and proven—on some of the biggest and toughest tours ever to go on the road. 108 Carver PM-1.5's were used by Clair Brothers on the Bruce Springsteen tour, and 180 PM-1.5's on the Michael Jackson "Victory" tour. In both cases the result was purely awesome power.

"Our new Carver amp racks pack twice the number of channels in about the same truck volume as the conventional racks they replace. In addition the average power per channel has increased while the average weight per channel has decreased. In the low end, for example, we now have 1,200 watts per cabinet where 650 watts were previously available. They take less room on the truck, they weigh less and our systems have more headroom than before. The Carver amplifier has allowed us to take a significant step in improving our sound systems." **CLAIR BROTHERS**

And not only a sound industry giant like Clair Brothers tours with Carver.

"We have toured Carvers with the following artists: Softcell, Paul Young, Johnny Mathis, Donna Summers, Howard Jones, Pointer Sisters, Psychedelic Furs, Lee Greenwood, General Public, George Thorogood. This is exclusive of our numerous one-nighters. The consensus of the performers is that the equipment sounds great. They have been amazed by the sound of the amps as well as their size and weight. As for reliability, out of 50 amps we had only one fail in the past year of touring. This is by far the best record we've had with any manufacturer of amplifiers. Sonically, the extra headroom is readily apparent. We, at Manticore unanimously agree that the PM-1.5 is incredible and is the only amp we intend to buy."

Tom Whisner (owner) MANTICORE

In the Laboratory The Carver PM-1.5 was rigorously tested by Len Feldman for MODERN RECORDING (February 1985). His laboratory test results also prove that the PM-1.5 really delivers. The following quotes from the Lab Report are reprinted with permission of MODERN RECORDING & MUSIC:—

"The first thing we noticed when we began to work with the Carver PM-1.5 was the ease with which the amplifier delivered almost limitless power to speaker loads which we had previously considered to be difficult to drive to loud levels. This is the sort of amplifier that just refuses to quit."

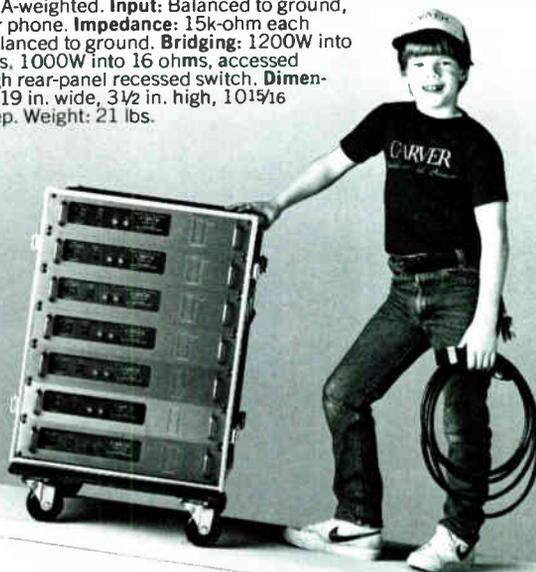
"The amplifier delivered a clean 480 watts per channel into 8-ohm loads with both channels driven for its rated harmonic distortion level of 0.5%. Even at the frequency extreme of 20 Hz, power output for rated THD was 470 watts as against 450 claimed by Carver. Furthermore, at rated power output, distortion decreased to an insignificant 0.015% at mid-frequencies and 0.007% at 20 Hz. When connected to 4-ohm loads, the PM-1.5 delivered 750 watts per channel for rated THD of 0.05%—far more than the 600 watts claimed by Carver. Clearly, when it comes to specs for a professional amplifier, Carver has taken a very conservative approach... All (manufacturer's claims) equaled or exceeded published specifications—usually by a wide margin."

"Carver has managed to deliver a tremendous amount of power in a small lightweight package at a very reasonable cost..."

"For the professional audio engineer or technician who has to move a lot of gear around much of the time and who expects total reliability and circuit protection, come what may, the Carver PM-1.5 represents, in our view, a real winning product. We will probably see it used increasingly by professionals in every area of sound reinforcement."

Now—don't you think you owe it to yourself to hurry over to your local Carver Pro Sound Dealer and *test your own PM-1.5?* Whether you run a megawatt sound company, a struggling bar band, or a recording studio gearing up for digital, the Carver PM-1.5 will pay you. In increased portability and reduced freight costs. In freedom from expensive blown drivers. In sheer sonic excellence.

***Power:** 8 ohms, 450 watts/chan. 20 Hz-20 kHz both channels driven with less than 0.5% THD, 4 ohms, 600 watts/chan. rms 20 Hz-20 kHz both channels driven with less than 0.5% THD. 16 ohms, 300 watts/chan. 20 Hz-20 kHz both channels driven with less than 0.5% THD. 2 ohms, 525 watts/chan. at clipping, 1 kHz, with less than 0.5% THD. Note: 2-ohm specification for information purposes only. Operation at 2 ohms is permissible but not recommended. **IM Distortion:** Less than 0.1% SMPTE. **Frequency Response:** -3 dB at 3 Hz, -3 dB at 80 kHz. **Damping:** 200 at 1 kHz. **Gain:** 26 dB. **Noise:** Better than 115 dB below 450W A-weighted. **Input:** Balanced to ground, XLR or phone. **Impedance:** 15k-ohm each leg, balanced to ground. **Bridging:** 1200W into 8 ohms, 1000W into 16 ohms, accessed through rear-panel recessed switch. **Dimensions:** 19 in. wide, 3 1/2 in. high, 10 1/16 in. deep. Weight: 21 lbs.



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For more information write to CARVER CORPORATION, 19210 33rd Avenue West, P.O. Box 1237, Lynnwood, WA 98046
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—LISTING CONTINUED FROM PAGE 164

plans available), full bar, artists lounge w/video games, pool table, etc. Located near active town, shops, beach, water sports, Bridgeport Ferry. Boogie Hotel is also affiliated with two major mobile recording trucks, and can accommodate any remote location recording needs.

Direction: Boogie Hotel is a truly unique concept in modern-day recording studios in that it combines the most up-to-date studio facility with the old-world charm of a private hotel, featuring gourmet cuisine and total, personalized service, all within easy access to a major metropolitan area. Every aspect of the recording process has been considered, thus freeing the artist and producer to create in a relaxed, enjoyable atmosphere.

◆◆◆ BROCCOLI RABE RECORDING STUDIO

15 Gloria Lane, Fairfield, NJ 07006
(201) 575-7460

Owner: Brian Drago
Studio Managers: Vickie Kovar, Bo Blaze

◆◆◆ CALF AUDIO

also REMOTE RECORDING

207 S. Tioga St., Ithaca, NY 14850
(607) 272-8964

Owner: Alfred B. Grunwell, Crjzabo
Studio Manager: Louse Cataldo



CARRIAGE HOUSE STUDIOS
Stamford, CT

◆◆◆ CARRIAGE HOUSE STUDIOS

119 West Hill Road, Stamford, CT 06902
(203) 358-0065

Owner: West Hill Productions, Inc

Studio Manager: Johnny Montagnese, Asst. Mgr. Jim Bruno

Engineers: Phil Magnotti, Alec Head, Cliff Pia, Jim Bruno

Dimensions of Studios: Main Room 30 x 30, iso booths 8 x 8, 6 x 6; Live Room 25 x 20

Dimensions of Control Rooms: 25 x 25

Tape Recorders: Otari MTR 90-II 24 track, Otari MTR 10 1/2" 2 track, Otari MTR 10 1/4" 2 track

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

Monitor Amplifiers: UREI, BGW, Accoustate, Phase Liner

Monitor Speakers: JBL 4435 bi-amped w/crossover, Yamaha NS-10s

Echo, Reverb, and Delay Systems: Lexicon 224X, EMT plate, Orban, live chamber

Other Outboard Equipment: Eventide Harmonizer 949, 910, flanger; UREI LA-4s, 1176s, dbx 160s, Dyna Mites, PCM 42s, DeltaLab digital delay, Accoustic Computer, Roland Dimension "D"; Aural Exciters; De-esser, Trident Parametrics, UREI dual-parametric EQs

Microphones: Neumann 89, 87, 47, AKG 414, 452, Shure 57, PZM, Sennheiser 421, etc

Instruments Available: Tadaishi grand piano, Yamaha electric grand, Fender Rhodes, DX 7, OBXs, Poly Six, DMX drum machine, Ludwig drums, Tympani, Vibes, full percussion, Kurzweil synthesizer

Video Equipment & Services: 1/4" taping & editing

Rates: \$60, \$80, \$120 basic starting rates, Project oriented pricing

◆◆◆ DON CASALE RECORDING STUDIOS

377 Plainfield St., Westbury-Long Island, NY 11590
(516) 333-7898

Owner: Don Casale
Studio Manager: Don Casale



◆◆◆ CELEBRATION RECORDING

2 West 45th St., New York, NY 10036

(212) 575-9095

Owner: MZH & F Inc

Studio Manager: Mr. Sal Ciampini

Engineers: Maurice Puerto, Chris Terjesen, various independents

Dimensions of Studios: A 33 x 28 plus drum room and isolation room, B 14 x 16

Dimensions of Control Rooms: A 18 x 24, B: 15 x 17

Tape Recorders: Studer A-80 MKIII 24 track; Studer A-80 MKIII 1/2" 4/2 track; Studer A-80 MKIII 1/4" 2 track; (2) Studer A-810 full track; 3M M79 24 track; (2) 3M M79 4 track; (2) 3M M79 2 track; (2) Otari MX5050 2 track; (2) Otari MX5050 full track

Mixing Consoles: Harrison 3232 32 in x 32 out; Harrison 3624 36 in x 24 out, Soundcraft 200 8 in x 4 out

Monitor Amplifiers: Haller, Crown, Phase Linear

Monitor Speakers: Westlake, Yamaha E.V., Auratone

Echo, Reverb, and Delay Systems: Lexicon 224X, Lexicon Model 200, EMT 140, (2) AKG BX20, Lexicon Prime Time II, Lexicon PCM 42, Ursa Major Star Gate 323, Eventide H910 Harmonizer

Other Outboard Equipment: Pultec, Orban, Audionics, UREI EQ; (5) dbx 160 compressors; (2) UREI Teletronix LA-3A limiters; (2) Universal Audio 1176 limiters; UREI Teletronix LA-2A limiter; (2) UREI digital metronomes; Dolby A-Type noise reduction available throughout

Microphones: Neumann U87, U67, U47, KM84, KM64, AKG 414, D224, D190, Beyer M160, M360; E.V. RE20; Sennheiser 421, 441, RCA 77DX, 44BX, Sony 37; PZM

Instruments Available: At no charge. Steinway grand piano, Baldwin grand piano, (2) Fender Rhodes, clavinet, tack piano, Yamaha and Ludwig drum kits, vibes, tympani, congas, hand percussion, guitar and bass amps. All other equipment via rental

Video Equipment & Services: Q-Lock 3 1/2" 2 synchronizer, JVC 8250 video cassette Synchronization to videotape for post-scoring and video mixing \$50 per hour extra charge. Audio relay to video cassette

Rates: Competitive and flexible. Please call for quote.

◆◆◆ CELESTIAL SOUNDS

919 Second Ave., New York, NY 10017

(212) 355-4825

Owner: Toni and Celeste Pinelli

Studio Managers: Pete Sobel, Yvonne Sewall

Dimensions of Studios: 22 x 20 plus drum and iso booths

Dimensions of Control Rooms: 21 x 17

Tape Recorders: Studer A80 MK III 24 track, Studer A80 1/2" 2 track, (2) Studer B-67 1/4" 2 track; Revox A-77 1/4" 2 track; Aiwa 6900 MK II cassette

Mixing Consoles: MCI 636 automated 36/40

Monitor Amplifiers: (3) BGW 750B, BGW 250, (3) SAE 250

Monitor Speakers: UREI 813, Yamaha NS10M, ADS300, Auratones

Echo, Reverb & Delay Systems: EMT 250 digital reverb, EMT 140 stereo plate, Lexicon Prime Time, Eventide Harmonizer, flanger

Other Outboard Equipment: (3) Pultec EQP-1A, (8) API 550/550A EQs, (4) Kepex II noise gates, 30 channels dbx 216 noise reduction, dbx 160 & 165 comp/limiters, (2) Teletronix LA-2A limiters, UREI LA-3A, (2) UREI LA-4, (2) UREI Parametric EQs, (2) Orban Parametric EQs, (2) Neve 4 band EQ/pre-amps; (6) Neve 3 band EQ/pre-amps

Microphones: Neumann U47 Tube (VF-14), U67 (Tube), U87, U89, AKG C 24 stereo tube, 414EB, D224E, Sennheiser 441, 421, E.V. RE20, Shure SM57

Instruments Available: Steinway B grand, Dyno-My-Rhodes, Hammond B-3/Leslie Pearl drums, Fender and Mesa Boogie amps, Sunn bass amp, Hi-watt 4 x 12 cabinet, Roto-Toms, assorted percussion. Available for rent, prior request. Drumulator, Linn, DMX, DX drum machines, PPG Wave 2.2 digital synth, OBX A, OBX-B, Prophet 5, DX-7, Voyetra 8 synthesizers, Yamaha recording series drums

Rates: \$125/hr. Block rates available

◆◆◆ CENTURY RECORDING, INC.

545 Boylston St., Suite 505, Boston, MA 02116

(617) 267-9800

Owners: Kevin and Janet Tracey

Studio Manager: Gregg McAllister



CENTURY III TELEPRODUCTIONS
Boston, MA

◆◆◆ CENTURY III TELEPRODUCTIONS

651 Beacon St., Kenmore Square, Boston, MA 02215
(617) 267-6400

Owner: Ross Cibella

Studio Manager: Richard Parent, VP/dir. of engr; Lee Rubenstein, senior acct. exec; Judy Downes, mar. corp. comm.

Engineers: 65 employees on staff

Tape Recorders: Otari MTR 90 24 track, Studer 2 track with SMPTE; MCI JH 1103 8 track; Otari 5550 MKII 2 track, MTE 16 35mm dubber, Nikko cassette deck

Mixing Consoles: MCI 636 w/automation, 32 input, Soundcraft 24 input, Tapco 16 input

Monitor Amplifiers: 5 ystion

Monitor Speakers: UREI 811B, JBL

Echo, Reverb, and Delay Systems: Lexicon 200, Lexicon Prime Time I, Lexicon 120GE, Harmonizer

Other Outboard Equipment: Aphex Type-B Aural Exciter, Aphex Compellor, Orban de-esser, Dynallex noise reduction, ETX Sol-touch synchronizer

Microphones: Neumann, AKG, Electro-Voice

Instruments Available: Moog synthesizer. Large library of music and sound effects. DeWolfe, Valentino/Major, KPM/Bruton, Network, Chappell, CBS. Call music/effects director Nancy Hersh for details

Video Equipment & Services: 30' x 60' studio w/TC cyc and 16' grid, Amflex 35 BL-2 camera, Ikegami studio cameras full complement of grip and lighting gear, (3) CMX edit suites, fully loaded, 1/4" to 1" multiformat suite, 6'35mm neg. pos. film transfer via Bosch FDL 60 2B CCD unit, large assortment of digital video effects gear, Quanter Paint Box, NEC DME/DVE, Bosch FGS-4000, Sony 2500 single frame recorder; animation stand 30' x 40' insert stage (50' x 100' stage also available), much, much more

Rates: Please call or write for information

◆◆◆ CLASSIC SOUND

548 Broadway, Suite 5 J, New York, NY 10012

(212) 925-1839

Owner: Fred Hersch

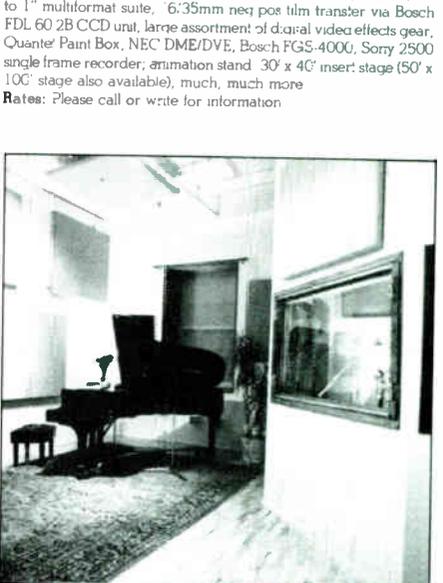
Studio Manager: Fred Hersch, manager, M Denise McGrath, asst. manager

Engineers: A.T. Michael MacDonald, chief engineer, Judith Elliot-Brown, chief maintenance engineer, M Denise McGrath, asst. engineer

Dimensions of Studios: 18 x 20 x 13 including 8 x 10 drum iso booth, 5 x 7 vocal iso booth

◆◆◆ CLASSIC SOUND

New York, NY



CLASSIC SOUND
New York, NY

◆◆◆ CLASSIC SOUND

548 Broadway, Suite 5 J, New York, NY 10012

(212) 925-1839

Owner: Fred Hersch

Studio Manager: Fred Hersch, manager, M Denise McGrath, asst. manager

Engineers: A.T. Michael MacDonald, chief engineer, Judith Elliot-Brown, chief maintenance engineer, M Denise McGrath, asst. engineer

Dimensions of Studios: 18 x 20 x 13 including 8 x 10 drum iso booth, 5 x 7 vocal iso booth

Dimensions of Control Rooms: 14 x 11 x 9

Tape Recorders: MCI JH16/114 with Autolocate III 24 track, Ampex 440C (DC/Servo) 2 track, Otari 5050BII 2 track; Sony PCM-F1 Digital 2 track, (3) TEAC C-3RX cassettes

Mixing Consoles: Tangent 3216, 32 x 24 x 16

Monitor Amplifiers: Hafler DH220, (2) Nikko NA-1090

Monitor Speakers: Altec 6048H in custom enclosures; JBL 4312s; Celestion Dilton 100s, Boston Acoustic A40s, ROR Cubes
Echo, Reverb, and Delay Systems: Klark Teknik DN780 digital reverberation system, Ecoplate III plate reverb, Roland 501 chorus-echo, Ellectron II ADM 1024 digital delay, Dimension "D" stereo chorus

Other Outboard Equipment: 26 channels Dolby "A" noise reduction, dbx 160, 161, and stereo 162 compressor/limiters, Valley People stereo "Dyna-Mite", Orban 621B parametric equalizer, (2) UREI 539 graphic equalizers, Gemini "Easy Rider" stereo compressor/limiter

Microphones: Neumann U47 Tube and (3) U87s, (2) Neumann KM84; RCA 77-DX and 44, AKG C 33 stereo, D-12, (2) 451-E, and (2) 414, (3) Sennheiser 421, (2) EV RE-20, Shure 81-LC and (2) SM-57, (2) Beyer 160, (3) Countryman direct boxes; (2) Whirlwind "Director" passive direct boxes

Instruments Available: Superb seven-foot Steinway "B" grand piano, Fender Rhodes, Yamaha DX7 synth, Roland Juno 106 synth; Oberheim DX drum machine, Ampeg B-15 bass amp, Fender Twin Reverb guitar amp

Video Equipment & Services: Color monitor and Beta transport available

Rates: Call (212) 925-1839 for reasonable rates

Extras: Up to 3 custom cue mixes, all sound absorption panels easily removable for custom acoustical modification, production assistance, kitchen facilities

Direction: Classic Sound's comfortable "living room" atmosphere, excellent natural acoustics, and personalized attention to detail have attracted some of the biggest names in jazz, pop, and classical music—we had 30 albums to our credit in 1984. The superb piano, extensive mike collection, and low rates make it an ideal room for tracks or overdubs. For your next project, make music with us in a relaxed environment.



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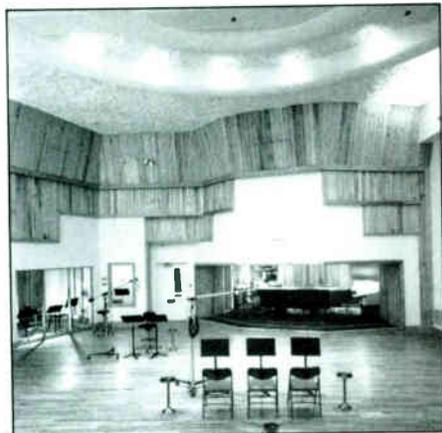
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CLINTON RECORDING STUDIOS INC.
New York, NY

•••• CLINTON RECORDING STUDIOS INC.

653 10th Ave., New York, NY 10036

(212) 246-2444

Owner: Bruce Merley, Ed Rak

Studio Manager: Charles Mills

Engineers: Ed Rak, chief engineer, Jay Rifkin

Dimensions of Studios: Studio A 2000 sq Ft., 22-ft ceiling,

Studio B 1,000 sq ft, 15-ft ceiling

Tape Recorders: Studer A800, A-80, A-810, Mitsubishi: digital X800, X80

Mixing Consoles: (2) Neve custom 8078, 40 x 32 (one console with Necam II automation)

Monitor Amplifiers: McIntosh 2500, 2300, 2200

Monitor Speakers: UREI 813B, Visonik 803, Visonik 9000,

Yamaha NS-10M, Electro-Voice Sentry 100, Auratone 5C

Echo, Reverb & Delay Systems: EMT stereo & mono plates, Lexicon Super Prime Time, Marshall time modulator, Audio Digital TC2

Other Outboard Equipment: BTX Softouch, Drawmer noise gates, BTX Cypher, Dolby SP24, Dolby 361 noise reduction, UREI LA3A, UREI 1176, dbx 160, Scamp rack, Orban 622 equalizers, Pultec EOPIA, Eventide Harmonizer

Microphones: Over 100 Neumann, AKG, Sony, Shure, Sennheiser, Schoeps, Crown & Electro-Voice

Instruments Available: Yamaha tour-series drums, Yamaha C7 piano, Steinway D piano, Roland jazz chorus 120, guitar amps, Acoustic bass amp

Video Equipment & Services: JVC 6650 3/4" VTR w/remote, Sony 25" Profeel monitor

Rates: Please call

Circle #147 on Reader Service Card

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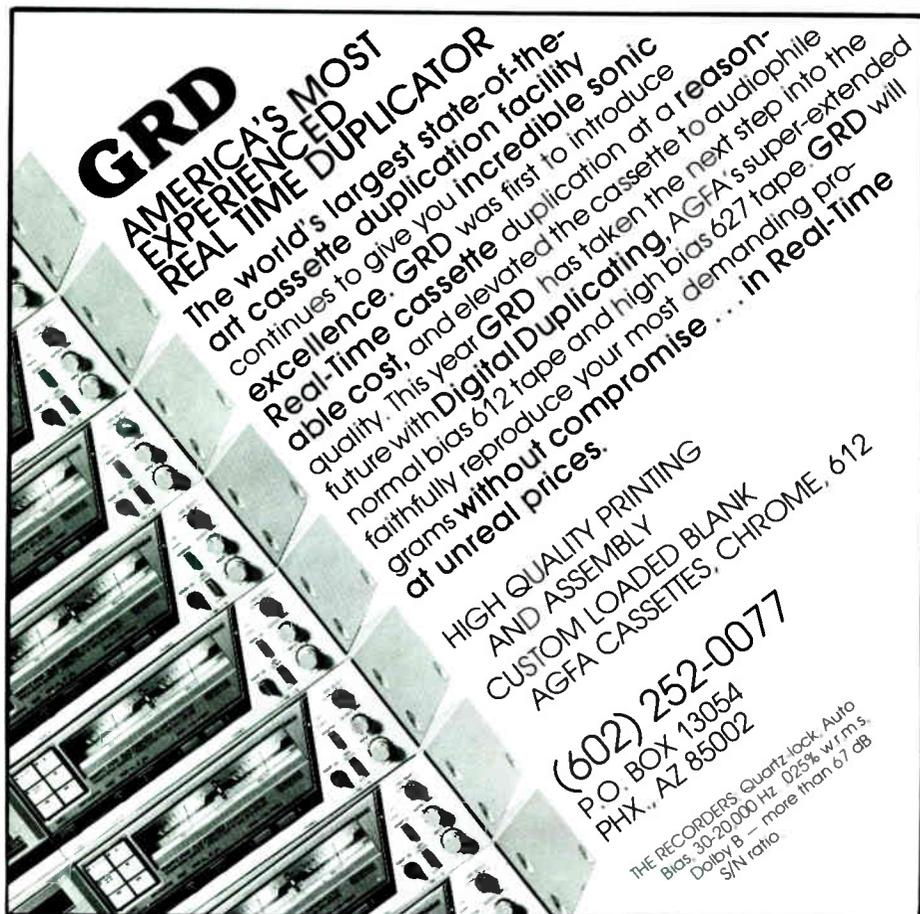
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•••• COLUMBIA RECORDING STUDIO
also REMOTE RECORDING
49 E. 52nd St., New York, NY 10022
(212) 975-2958
Owner: CBS Inc.
Studio Manager: William Townley

•••• CONNECTICUT RECORDING STUDIOS, INC.
1122 Main St., Bridgeport, CT 06604
(203) 366-9168
Owner: Paul Leka
Studio Manager: Jo Ann Venditelli; Asst. Mgr.: Joe Bevilacqua
Engineers: Carl Osgood, chief engineer, Independent engineers are welcome
Dimensions of Studios: Main Room 30 x 15 x 11½, Keyboard Room 24 x 12 x 12
Dimensions of Control Rooms: 20 x 13 x 10
Tape Recorders: MCI JH-114 24 track; MCI JH-110B ¼" 2 track; MCI JH 110A w/Dolby A ¼" 2 track; Scully 280 ¼" 2 & 1 track; Revox B77 ¼" 2 track; TEAC A2000R ¼" 2 track; Eumig FL 1000 cassette
Mixing Consoles: Neve 8058 MKII w/VCA ladders & groups, 28 x 16 x 4
Monitor Amplifiers: (2) Crown PSA 2, Yamaha P2100, (2) Crown D75, (2) H H TPA250D
Monitor Speakers: Big Beds w/604E and Time Sync., Yamaha NS-10M, Eastern Acoustic MS-50, Auratone 5C
Echo, Reverb, and Delay Systems: Lexicon Prime Time, Eventide 910 Harmonizer, AKG BX20, (2) EMT 140, (1) live chamber 67 x 20 x 11, (1) live chamber 59 x 22 x 11, (1) live chamber 44 x 19 x 15
Other Outboard Equipment: (2) UREI 1176LN, (2) UREI LA-3A, (2) dbx 160, (2) UREI 527A EQ, (4) Puller EOH-2, Pultec MEQ 5, (3) Allison Research Kepex, A-R Gain Brain, Roger Mayer noise gate, Electro Harmonix vocoder, Eventide Instant Flanger, White 4100 EQ, Moog MKEP-EQ, Dual 506 turntable.
Microphones: (6) Neumann U87 FET, (3) KM84, U47 FET; (3) Shure SM-57, (2) SM81, (6) Sennheiser 421, (3) EV RE20; (2) AKG C452 E, (2) C451
Instruments Available: 74" Steinway piano, Steinway upright piano, honky tonk piano, Oberheim OB Xa, Yamaha CS-80, Hohner Clavinet, Fender Rhodes electric piano, studio drum set.
Rates: Please call.

•••• COUNTERPOINT RECORDING STUDIOS, INC.
723 7th Ave., New York, NY 10019
(212) 398-9550
Owner: Jerry Ragovoy
Studio Manager: Raya Martins
Engineers: Gary Chester, Ben Wisch, Leslie Mona, Mart Robertson, Larry Collen, Ed Rice, Bob Clifford, Arthur Payson.
Tape Recorders: Otari 24 track, Studer 24 track.
Mixing Consoles: SSL 48 input
Monitor Amplifiers: McIntosh
Monitor Speakers: UREI 813
Echo, Reverb, and Delay Systems: EMT, Lexicon, AMS, AKG
Other Outboard Equipment: Lexicon Prime time, Harmonizer, Flanger, Phaser, Kepex
Microphones: Neumann 87, Sennheiser, AKG, Sony
Instruments Available: Piano, Fender Rhodes, drums, all amps.
Video Equipment & Services: IVC w/SMPT lock-up.

•••• COURTLLEN RECORDING
149 MaQuan St., Hanson, MA 02341
(617) 294-8316
Owners: Fred and Pat Danner
Studio Manager: Pa Danner
Engineers: Fred Danner, David James, John Van Ammes, L.C. Spiker, independents.
Dimensions of Studios: 25 x 23 with 8 foot and 20 foot ceilings.
Dimensions of Control Rooms: 20 x 15
Tape Recorders: 3M 79 24 track; Studer/Revox PR99 MKII 2 track; Ampex AG350 2 track; Aiwa M800B cassette.
Mixing Consoles: Aengus 2808 28 (many custom features, graphic, 4 hand overlap plus parametric EQ) 28.
Monitor Amplifiers: Crown with Klark-Teknik DN 360B EQ.
Monitor Speakers: UREI 813B, JBL 4311B, Yamaha NS-10, Auratone
Echo, Reverb, and Delay Systems: Lexicon 200 w/1.3 software.

AKG BX-10 MXR plus any delay available as needed; plate and live chamber coming.

Other Outboard Equipment: (2) LA-2A, (2) dbx 160, USA Audio noise gates, Aphex B.

Microphones: Neumann, AKG, Electro-Voice, PZM, Shure, RCA 77D, Sennheiser, Beyer.

Instruments Available: Baldwin baby grand, DMX, Marshall amps & cabs, many other keys and amps readily available

Rates: Basic 24 track, \$45/hr

•••• **DAK AUDIO**

also **REMOTE RECORDING**

315 Rickert Rd., Sellersville, PA 18960

(215) 723-1167

Owner: Daniel A. Kendra

Engineers: Griffith Wm Foulke, Karl Frick

Dimensions of Studio: 20 x 23, 6 x 6

Dimensions of Control Rooms: 17 x 10, 16 x 8.

Tape Recorders: 3M M79 24 track, Tascam 80-8 8 track,

Tascam 3440 4 track; Studer B67 2 track; Otari MX 5050B 2

track; Pioneer RT 1050 2 track.

Mixing Consoles: Tangent 3216 24 x 24, Studiomixer II 20 x 8 x

4 x 2, Sunn 2216 16 x 2 x 1.

Monitor Amplifiers: Crown, Yamaha

Monitor Speakers: JBL 4435, JBL 4313B, JBL 4401; Cerwin

Vega; Auratone.

Echo, Reverb & Delay Systems: Lexicon 200 digital reverb,

Lexicon Prime Time II digital delay, DeltaLab Effectron 1024,

Korg SDD 3000

Other Outboard Equipment: Kepex, Gain Brain, Symetrix

CL-100, Furman Parametric EQ, UREI 537 EQs, dbx, Dolby,

Tapco, Soundcraftsman, Biamp.

Microphones: AKG C414EB, Sennheiser 421, Electro-Voice

RE20, Crown PZM, Shure SM81, SM57, SM58, PE50SP

Instruments Available: Hammond M3 organ w/Leslie 145,

Fender Rhodes piano, upright acoustic piano, acoustic and electric

guitars, guitar and bass amplifiers.

Rates: 24 track, \$75/hr, Block rate \$55/hr. 8 track, \$35/hr.;

Block rate \$28/hr. Mobile 8 track, \$38/hr.

•••• **DELTA RECORDING STUDIOS**

16 W. 46th St., New York, NY 10036

(212) 840-1350

Owner: Bernard Zimney

Studio Manager: Bram



*DIGITAL BY DICKINSON
Bloomfield, NJ*

•••• **DIGITAL BY DICKINSON**

9 Westinghouse Plaza, Box 547, Bloomfield, NJ 07003

(201) 429-8996

Owner: Frank R. Dickinson Jr.

Studio Manager: Ern Ohlsen

Engineers: Frank R. Dickinson Jr., Pam Bartella

Dimensions of Studio: 18 x 20.

Dimensions of Control Rooms: 12 x 16.

Tape Recorders: (4) 3M digital mastering system 32 track; (6)

JVC 8200 VTRs 2 track; (2) JVC DAS-90 digital audio processor

2 track; Sony F-1 digital processor 2 track; Ampex AG440C 4

track, Ampex ATR100 2 track; Sony PCM-10 digital processor 2

track.

Mixing Consoles: Trident TSM40 40/32/24; Studer 12/2

Monitor Speakers: B&W 801, UREI 848, VMPS column towers,

Yamaha NS10M.

Echo, Reverb & Delay Systems: (2) EMT 140 stereo plates, (2)

EMT 140 mono plates, Prime Time II, Lexicon PCM41 digital

delay, AKG BX-10 stereo reverb, AMS digital reverb.

Other Outboard Equipment: Eventide Omnipressor, Valley People stereo Dyna-Mites, dbx-160, Inovonics Model 201, Fairchild Model 602, Fairchild Model 670, Valley People Gain Brain, Pultec EQP-1A EQs, Valley People Kepex.

Microphones: Neumann U87s, U67s; AKG 414s; Sennheiser 421s; PZM BPTs; E-V RE20; Altec, Sonys, Schoeps CMC3s.

Instruments Available: Steinway grand piano, Hechner Clavinet

D-6, Fender Rhodes 73, upright grand piano w/tack attachment.

Video Equipment & Services: Audio Kinetics Q-Lock system

w/interfaces, (6) JVC 8200 ¾" video machines, JVC 2082UM col-

or monitor, JVC 6400 ½" VHS machine, Sony SL-2000 ½" Beta

machine, Yamaha DX-7.

Rates: Rates similar to analog (No analog overhead).

Extras: JVC DAS90 digital audio system w/complete editing

capabilities available on or off premises. 3M digital mastering

system complete w/editor. All types of location recording from

classical to rock & roll as well as studio on premises completely

multi-track digital, w/Trident console capable of handling two 3M

digital 32s for 64 tracks.

Direction: More pure digital recordings in the marketplace, espe-

cially for Compact Disc release for 40% more dynamic range

over analog and more digital audio lock to video and film. Recent

100% pure digital projects include Joe Jackson and Kashif's latest

albums in production, along with "Le Cage Aux Folles" RCA,

"Sunday in the Park with George," Joe Jackson's "Body & Soul,"

"Infidels" Bob Dylan, "Hearts & Bones" Paul Simon, Don Q rum

jingle lock to video, Epcot Center Walt Disney, "In the Digital

Mood" Glenn Miller Orchestra Grusin-Rosen Prods, Musical

Heritage Society; analog transfers of archival masterpieces to

digital for Readers Digest etc. Ask for literature

•••• **DIGITAL SOUND INC.**

1650 Broadway, Suite 1201, New York, NY 10019

(212) 977-4510

Studio Manager: Griffith W. McRee

•••• **DIMENSIONAL SOUND, INC.**

301 West 54th St., New York, NY 10019

(212) 247-6010

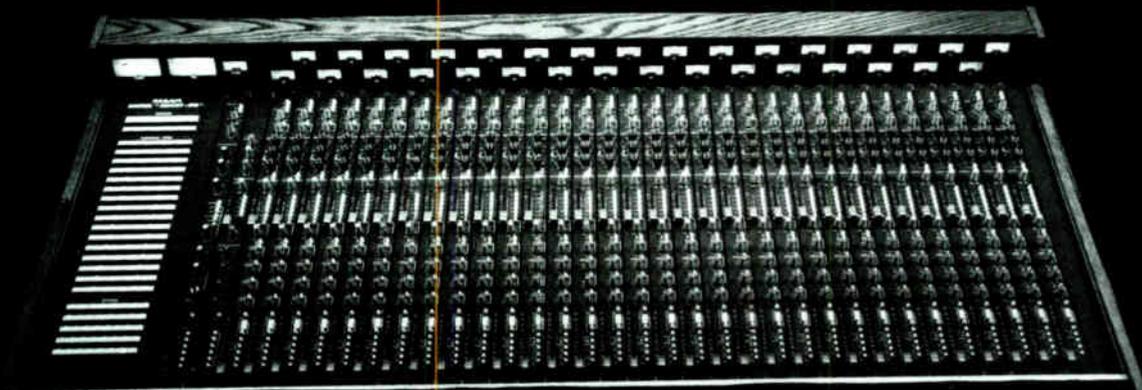
Owner: Ed Chalpin

Studio Manager: Vincente Scarpitta

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•••• DOWNTOWN RECORDERS

537 Tremont St., Boston MA 02116
(617) 426-3455

Owner: Mitch Benoff

Studio Manager: Anne Richmond

Engineers: Joe Cuneo, Jeff Whitehead, James Mase

Dimensions of Studios: 23 x 28 plus 4 iso booths

Tape Recorders: MCI JH 24 24 track (16 track also available);

MCI JH24 2 track, Otari M5050B 2 track, Revox A77H 2 track

Mixing Consoles: Tangent (modified) 3216, 32 in x 24 out

Monitor Amplifiers: Ashly FET500s, Ashly FET200, Crown

DC-300s, DC 150, Dynaco

Monitor Speakers: UREI 813s; Yamaha NS-10Ms, JBL 4311s,

Auraltones.

Echo, Reverb & Delay Systems: Lexicon 224X digital reverb,

w/LARC, Clover reverb, 100 dome acoustic chamber, plate

reverb, Lexicon Super Prime Time, DL-4 digital delays.

Other Outboard Equipment: Eventide Harmonizer, dbx 165s,

LA4s, 1176s, UREI 175 tubes and Ashly SC50 compressors,

Valley People and Roger Mayer noise gates; Ashly SC66A

parametric EQs

Microphones: Neumann U87s, KM-84; Sennheiser 441s and

421s; Shure SM81s and SM57s, AKG D12, 414s and 451s; E-V

RE15, RE20s and 664; Beyers 500s, Crown PZMs.

Instruments Available: 1920 Steinway grand piano, Hammond

B 3 organ w/Leslie speaker, Wurflitzer electric piano

Rates: \$55/hr, 24 track package rate; \$35/hr, 16 track package

rate, special weekly lock-out rates.

4311, Minima 7s, Auraltones.

Echo, Reverb & Delay Systems: Ecoplate, EMT 250, Lexicon

224X reverb, PCM 41, PCM 42, Lexicon Prime Time, Eventide

Harmonizer.

Other Outboard Equipment: UREI LA-3A, LA-4, dbx 160s,

UREI 1176, Kexep II noise gates (8), Omni-craft gates (4), Pultec

EQs, APSI graphic and parametric EQs, Lolt delay/flanger, Castle

Phase Shifter, Orban De-Esser, Dolby noise reduction

Microphones: Neumann U87, U47, KM84, Telefunken 251 tube,

AKG 414, 452, Sennheiser 441, 421; E-V RE20, Beyers M250,

500, 160; Shure 58, 57, 81

Instruments Available: Yamaha C-7 grand piano, Hammond

B-3 w/Leslie, Fender Rhodes electric piano, Linn LM 1 and

Oberheim DMX drum machines, Prophet V synthesizer, Tama 8

piece drum kit, various percussion instruments, Fender, Yamaha,

Sunn, Vega and Kustom guitar amps, Emulator II, Prophet 5 with

MIDI, Yamaha DX7, Roland MSQ 700

Rates: Upon request



**EASTERN ARTIST'S RECORDING STUDIO
Orange, NJ**

•••• ERAS RECORDING CORPORATION

226 East 54th St., New York, NY 10022

(212) 832-8020

Owner: Boris Midney

Studio Manager: Cynthia Daniels

•••• EVERGREEN RECORDING

215 W. 91st St., New York, NY 10024

(212) 362-7840

Owner: Joel Greenbaum

Studio Manager: Raf Hejduk

Engineers: Rob Steven, Chief Eng., independents.

Dimensions of Studios: Main recording area, glass enclosed

drum room, two isolation booths total 500 sq ft

Dimensions of Control Rooms: 200 sq ft

Tape Recorders: Ampex MM1200 24 track, Otari MTR10 2

track, Ampex/Innovations 2 track, Technics 1500 2 track, Pioneer

RT1050 2 track, Aiwa and Akai cassette decks

Mixing Consoles: Harrison MR3 46 in x 24 out, Allison 65K Pro-

grammer automation

Monitor Amplifiers: Yamaha P2200, Bryston IV, Marantz tube

Monitor Speakers: UREI 813s, Burhoes Crimsons, Auraltones, JBL

4401s, RCRs, Yamaha NS-10Ms

Echo, Reverb & Delay Systems: Lexicon model 200, Lexicon

PCM 42, Lexicon 224XL, Bel BD 80 DDI & sampler (w/8 seconds),

Ecoplate II, Ursa Major Space Station, MXR DDL, Eventide Har-

monizer, Eventide SP2016, Lexicon Prime Time II

Other Outboard Equipment: Kexep, Ashly comp/limiters, dbx

160s, 161s, Valley People Dyna Mites, dbx 904 noise gates, dbx

909 de-esser, Orange County comp/limiter noise gate (stereo),

Pultec EQ, Ashly parametric EQ (stereo)

Microphones: AKG 414s, 451s, Neumann U48, U87s, Sennheiser

421s, 441s, Shure SM57s, 58s, Crown PZMs, E-V RE20s

Instruments Available: Complete Slingerland drum kit (wood

snare or Ludwig metal snare), Boogie, Fender, Ampeg, Polytone

amps, grand piano, Rhodes, Roland Juno 60 synthesizer, Linn-

Drum, Steinway grand piano, Yamaha DX7, Oberheim OB-8,

Roland MSQ 700 & MSQ 100 sequencers, Dr. Click

Rates: Call for info

•••• EVERGREEN RECORDING STUDIOS INC.

also REMOTE RECORDING

1373 McLaughlin Run Rd., Pittsburgh, PA 15241

(412) 221-2737

Owners: Harry Coleman, Charlotte Coleman, Elgin Essler as

ERS Inc.

Engineers: H. Coleman, Michael J. Hurzon

Dimensions of Studios: 24 x 18 w/drum isolation booth & no 90°

angles, floating floor system, triple wall construction

Dimensions of Control Rooms: 14 x 13 live end dead end

acoustics.

Tape Recorders: Ampex MM1200 24 & 16 track, Otari MX5050

**DOWNTOWN RECORDERS
BOSTON**



**DOWNTOWN RECORDERS
Boston, MA**

•••• EAST COAST SOUND LAB

also REMOTE RECORDING

8317 Philadelphia Rd., Baltimore, MD 21237

(301) 574-4223

Owner: Norman Noplock

Studio Manager: David Kalmbach

•••• EASTERN ARTIST'S RECORDING STUDIO

36 Meadow St., E. Orange, NJ 07017

(201) 673-5680

Owner: Bill Galanty

Studio Managers: Christopher Rich, Leslie Ballard, asst mgr.

Engineers: Andy Wallace, Tom Zepp

Dimensions of Studios: 15 x 30

Dimensions of Control Rooms: 15 x 17

Tape Recorders: Studer A 80 VU MK III 24 track, Ampex

ATR 102 2 track, Studer B67 2 track, Studer/Revox B77 2 track.

Mixing Consoles: Audio Processing Systems Inc (APSI) 3001

32 x 24

Monitor Amplifiers: Hafler 500 (2), Hafler 220 (3), Crown

D-300 (Cue, 2)

Monitor Speakers: UREI 813 As, Electro Voice Sentry 100s, JBL.

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MKIII 1/2" 8 track; (2) Scully 280B 2 track; Revox-Studer PR99 2 track; TEAC C3RX cassette.
Mixing Consoles: A-mek/TAC Matchless w/384 P.T.P Bay, 26 in x 24 out w/8 sub groups.
Monitor Amplifiers: Harman/Kardon Citation 16, SAE, Marantz Symetrix headphone amp w/custom speak distribution boxes
Monitor Speakers: Fostex LS2s, RM780
Echo, Reverb & Delay Systems: MICMIX XL515, ART digital reverb, ADA stereo tapped delay, (2) ADA 1280 delays, Eventide 910 harmonizer, Eventide Flanger, Loft analog delay
Other Outboard Equipment: EXR Aural Exciter, Symetrix parametric equalizer, (2) Klark-Teknik DN 27A 1/2 octave equalizers, Rebs Rack noise gates, compressor/limiters & parametric equalizers, dbx stereo compressor/limiters, (2) Symetrix 522 compressor/limiters/expander/noise gates/duckers, (2) Symetrix CL150 compressor/limiters, Omnicraft noise gates, Axe direct boxes, Brooke-Siren direct boxes.
Microphones: AKG "The Tube", C-414 EB/P48s, C451s, C535s, D-12Es, D-202Es, 330BTs, Beyers M-80s, M-260s; E-V Re-20s; Sen-

nheiser MD 421Us, MD 441Us; Shure SM-81s, 57s; Sony ECM-56Fs.
Instruments Available: Kawai GS30 6'1" conservatory grand piano, Yamaha "Recording Series" drum kit w/Zildjian & Paiste cymbals, Memory Moog Polyphonic synthesizer, Yamaha PF-10 electronic piano, E-MU drumulator, Washburn acoustic guitar, Ibanez electric guitar, Ibanez bass guitar, Rockman
Rates: 24 track: \$75/hr. 16 track: \$60/hr. 8 track: \$35/hr



GOLDEN APPLE MEDIA INC.
 Mamaroneck, NY

•••• **EXCALIBUR SOUND PRODUCTIONS**
 320 W. 46th St., New York, NY 10036
 (212) 541-7799
 Owner: Ar Polhemus
 Studio Manager: Tim Wieglo

•••• **FEDCO AUDIO LABS**
 310 Greenwood Ave., E. Providence, RI 02916
 (401) 272-3157
 Owner: Tom Armon, president
 Studio Manager: Jeff Eustis, general manager

•••• **FUNKY RECORDS**
 244 Lyell Ave., Rochester, NY 14608
 (716) 458-5610
 Owner: Boyd McCoy
 Studio Manager: Boyd McCoy

•••• **THE GALLERY**
 87 Church St., E. Hartford, CT 06108
 (203) 528-9009
 Owner: Doug Clark
 Studio Manager: Doug Clark

•••• **GOLDEN APPLE MEDIA INC.**
 also **REMOTE RECORDING**
 112 West Boston Post Rd., Mamaroneck, NY 10543
 (914) 381-4141
 Owners: Larry Fillingham, Lauren O'Neill
 Studio Managers: Herb O'Neill, Dan Lichtenstein
 Engineers: Rory Young, Peter Denenberg, Flip Logudice, Andy Block
 Dimensions of Studio: 23 x 25 (plus various iso-booths)

throughout building)
Dimensions of Control Rooms: 12 x 18 (plus machine room 7x9')
Tape Recorders: Ampex MM-1000 2" (custom, modified) 24 track; MCI JH-110c 1/2" 2 or 4 track; (2) MCI JH-110b 1/2" 2 track; Otari 5050 2 track; Ampex 350 2 track, TEAC 7300 2 track, Digital Mastering System w/Sony EVH-800 and PCM-701.
Mixing Consoles: Allen & Heath Syncon 25 in x 24 out; Additional 8 input effects return mixer.
Monitor Amplifiers: Yamaha, BGW, Crown
Monitor Speakers: Custom designed by Al Fierstein of Acoustilogue pyramid 604E enclosures with subwoofer, Yamaha NS-10M, Auratones.
Echo, Reverb, and Delay Systems: Lexicon, 224 digital reverb, Applied-Research and Technology digital reverb, Lexicon PCM-41 ddl, Eventide Harmonizer, MXR G11, Roland ddl, Loft analog delay.
Other Outboard Equipment: dbx noise reduction (28 channels), Dolby (4 channels), dbx 900 rack w/3 compressors, 2 gates, de-

—LISTING CONTINUED ON PAGE 172



EVERGREEN RECORDING STUDIOS INC.
 Pittsburgh, PA

BRYCE and TASCAM

A Sound Partnership

The inside story? At TASCAM the business is providing tools for audio production that deliver high quality performance at an affordable price. At BRYCE the business is providing accurate and timely product information by an experienced technically expert sales force that is focused on your individual needs. Tascam Series 30 recorder/reproducers bring you 1985 technology at 1975 prices. Series 30 heads are made of new, higher density permalloy material which is 30% harder and has at least 20% longer life than previous permalloy compounds. Erase heads are made with a high beta material that provides 25% higher magnetic flux density at saturation than previous heads. You get more



complete erasure for quieter tapes overall and less leakage on overdubs. On the Tascam 38 heads are mounted on a precision diecast and machine blocked which keeps them aligned. Tapes won't swish, nor will high frequencies disappear due to inter-track phase cancellation. The mount is so rigid that after heads are aligned you can plug in a replacement assembly in the field without extensive mechanical realignment. The 38 operates at nominal 15 ips and uses an 8 track 1/2" format. It comes with IEC record/play equalization. To find out more about Tascam Series 30, call Bryce at 212-575-8600 or out of state—1-800-223-1346. BRYCE—34 years of experience making the complex familiar.

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World Radio History

—LISTING CONTINUED FROM PAGE 171

esser, (6) Dyna-Mites by Valley People, 360 Systems program-mable EQ, UREI 1176 limiter, Aphex Aural Exciter, EXR exciter, Orban parametric EQ (stereo), White equalizers (on studio monitors) BTX Shadow synchronizer system w/full time code comple-ment

Microphones: Neumann U87, KM84, AKG 414 (2), D-224E; Crown PZM (2), Calrec; Sennheiser, Electro-Voice; Shure; Beyer
Instruments Available: Steinway grand piano, Yamaha DX7, DMX drum machine, Oberheim Expander (MIDI), Ludwig/Tama/Slingerland drums incl Octobans and Roto-Toms, Steinberger bass and guitar, Marshall, Fender guitar amps, and more—too numerous to mention.

Video Equipment & Services: Broadcast quality 1" post production editing suite. Complete production facilities available. Golden Apple won a bronze medal in the International Film & Television Festival of New York for the rock video "It's Only Love."

Rates: Call for information, block rates available.

Extras: Golden Apple Media offers even more than top-quality recording equipment, for our greatest assets—our engineers—are professional recording artists themselves. More than just button-pushers, they're experienced pros completely in tune with the creativity and patience required to produce the finest audio product. And if you want to make a music video, Golden Apple's award-winning team of writers, artists and video professionals will do it all, from concept development to finished master.

Direction: Golden Apple Media is a full-service audio-visual production facility offering a quality product at cost-effective rates. Located just 35 minutes from Manhattan and its clamor, congestion and expense, we serve a wide range of clients in broadcast and non-broadcast entertainment, educational, commercial and industrial programming. Our video editing suite is fully interlaced with our 24-track studio, so we provide the convenience of genuine "one-stop shopping" to the recording industry.

•••• GOLDEN HORN RECORDING STUDIOS

97 W. 2nd St., Freeport, NY 11520

(516) 623-1672

Owner: M. Sami Uckan

Studio Manager: Hope Uckan

•••• GREAT IMMEDIATELY RECORDING

423 West 22nd St., New York, NY 10011

(212) 206-8561

Owner: Bob Christanson

Studio Manager: Bob Christanson



Greene Street Recording, Inc.

112 GREENE STREET • NEW YORK, NEW YORK 10012
(212) 226-4278

GREENE STREET RECORDING
New York, NY

•••• GREENE STREET RECORDING

112 Greene St., New York, NY 10012

(212) 226-4278

Owner: Sieve Loeb

Studio Manager: Robyn Sansone

Engineer: Roddy Hui

Dimensions of Studios: 20 x 34

Dimensions of Control Rooms: 20 x 25

Tape Recorders: MCI JH114 24 and 16 track, Studer A80 2 track; Ampex 440C 2 track/mono

Mixing Consoles: Trident TSM, 28 in x 24 out, includes Allison Fader Automation.

Monitor Amplifiers: Crown PSA2, BGW 600

Monitor Speakers: JBLs, Auratones, Yamaha NS10s, E-V Sentry 100s, Meyers

Echo, Reverb & Delay Systems: EMT 140Ts, AKG BX20E, Eventide 1745A, Eventide 910 Harmonizer, tape delay with vari-speeds, Lexicon 224X w/Larc, (2) PCM 42s w/memory, Eventide 949, The Plate II, Bel D80, Quantec Room Simulator.

Other Outboard Equipment: Orban 621B parametric EQ, Auditrone PEQ 82 EQ, Neve limiter compressors (4) ADR Com pex compressor/limiter/expander (2) Eventide Phaser and Har-



monizer, UREI 1176 LN compressor/limiter (2), Scamp com-pressors (2), noise gates, ADR Vocal Stressor, Marshall Time Modulator, Ursa Major Space Station, (2) Scamp Pan modules, (3) UREI 1176LN compressor/limiters, 2LA3s limiters, Aphex Aural Exciter II, Kepex II (5), Gain Brain II (4)

Microphones: Neumann U87s, U89, KM86s, U47 tube, KM56s; AKG 414s, 452s, C34; Shure SM53s, Sennheiser 421s, 441s; AKG D202Es, Altec 21s; Schoeps tube MK2s; Sony ECM50; assorted dynamics

Instruments Available: Steinway concert grand, Hammond B-3 w/Leslie, Rhodes, Yamaha organ/synth, Hohner pianet, ARP Soloist and Explorer, drum kit, assorted percussion, congas, Yamaha DX7 synthesizer, Doctor Click, Oberheim DX drums, Emulator II, OB8, Juno 106, Jupiter 6, Prophet 5, Roland MKB 1000 with modules Super Jupiter, Super Jupiter programmer, Planet P, Planet S, Drumulator, MSQ 700, Roland 909, Simmons DSD7, Roland 707, Roland SBX80.

Rates: Upon request.

•••• GRENADIER

also REMOTE RECORDING

3 Lille Lane, Cheektowaga, NY 14227

(716) 668-1133

Owner: T. Greene

Studio Manager: J. Greene

•••• GRENADIER AUDIO

also REMOTE RECORDING

10 Parkwood Ave., Rochester, NY 14620

(716) 442-6209

Owner: T. Greene

Studio Manager: P. Greene

•••• THE HIT FACTORY

237 West 54th St., New York, NY 10019

(212) 664-1000

Owner: Edward Germano

Studio Manager: Troy Germano

•••• HIT AND RUN STUDIOS

18704 Muncaster Rd., Rockville, MD 20855

(301) 948-6715

Owner: Steve Carr

Studio Manager: Steve Carr

Engineer: Steve Carr

Dimensions of Studios: Main Room: 27 x 18; Drum Room: 14 x 13.

Dimensions of Control Rooms: 17 x 13.

Tape Recorders: Soundcraft 760 24 & 16 track; Otari MKIII 8 track; Technics 1500 US 2 track; TEAC 3440 4 track; (4) Technics cassettes.

Mixing Consoles: Soundcraft 1600 producer, 24 x 8 x 24.

Monitor Amplifiers: (2) Yamaha 2200.

Monitor Speakers: UREI 811A, Yamaha NS-10, Auratone 5-C, home stereo speakers.

Echo, Reverb, and Delay Systems: DeltaLab DL-5 Harmonizer, Lexicon PCM-41, (2) Korg 3000 programmable digital delays, (2) Lexicon PCM 60 digital reverbs, Orban IIIB stereo reverb.

Other Outboard Equipment: (2) ATS vocal exciters, (2) UREI 1176LN comp/limiters, (2) dbx 165 comp/limiters, dbx 165 comp/limiter, (2) Ashly 66 dual parametric EQ, Orban dual parametric EQ, (2) Ashly 50 dual noise gates, dual 10 band graphic EQ, punching bag.

Microphones: Neumann U87; AKG 414, 451; Crown PZM; Sennheiser 441; Shure SM-57

Instruments Available: 5 piece drum set, LinnDrum, Yamaha DX7 synth.

Rates: Call.

•••• HOT HOUSE PRODUCTIONS

also REMOTE RECORDING

Rd 1 Box 362A, Highland, NY 12528

(914) 691-6077 (11AM-6PM)

Owner: Hot House Productions, Ltd.

Studio Manager: Richard Rose

•••• IAN LONDON STUDIO

229 Sherry St., East Islip, NY 11730

(516) 277-6273

Owner: Ken Wallace

Studio Manager: Ken Wallace

Engineers: Ken Wallace, Riche Bifocal, freelance engineers.

Dimensions of Studios: 22 x 18.

Dimensions of Control Rooms: 16 x 18.

Tape Recorders: Studer 24 track, Otari 2 track.

Mixing Consoles: Neve 10 in x 10 out, Tangent 30 in x 24 out.

Monitor Amplifiers: Crown.

Monitor Speakers: UREI 815s.

Echo, Reverb, and Delay Systems: (2) Lexicon digital reverb,

(2) Lexicon Prime Time, Eventide Harmonizer 949, Ecoplate II, MXR digital delay, Loft digital delay.

Other Outboard Equipment: UREI Compressors, Neve EQ, API EQ, dbx compressor/limiters.

Microphones: Neumann 87s, 47s; AKG 414; Sennheiser 421.

Instruments Available: OBX-A, Yamaha 74" grand, Fender Rhodes, Clavinet, Emulator, Prophet 5, LinnDrum, Simmons drum, Yamaha DX7.

Video Equipment & Services: Video available.

Rates: 24 track: \$40/hr.

•••• "IF WALLS COULD TALK" STUDIOS

40 Temple Place, Passaic, NJ 07055

(201) 773-6866

Owner: Glenn M. Taylor

Studio Manager: Glenn M. Taylor

Engineers: Glenn M. Taylor, Seth Walter, Pauline Yeannakis.

Dimensions of Studios: 22 x 24, vocal booth: 8 x 5, drum booth:

11 x 9.

Dimensions of Control Rooms: 17 x 4.

Tape Recorders: 3M M-79, 2416/8 track; Otari MKIII 8/4 track; TEAC 3440 4 track; (2) Otari MX 5050B 2 track; Studer MK IV A-80VU 1/2" & 1/4" 2 track; Pioneer 1020L 1/4 track; (8) Tascam 122 cassette.

Mixing Consoles: Speck 800-C, 34 in x 24 out.

Monitor Amplifiers: BGW 250 "D", Yamaha 2000, Pioneer Int. Amp.

Monitor Speakers: JBL 4311s, Yamaha NS-10Ms, Auratones, Yamaha "walkman" phones.

Echo, Reverb, and Delay Systems: Lexicon 224-XL digital w/LARC and new version 8.20 software, Lexicon 224 digital, EMT 140 stereo plate w/custom N.Y. Technical Support elec-

tronics, Master-Room XL-305 spring reverb., DDLs: Lexicon Prime Time, PCM-41, Korg SD3000, DeltaLab ADM2048, MXR ddi (4 cards), Echoplex tape unit.

Other Outboard Equipment: 28 channel Dolby A, dbx N.R., Eventide H949 Harmonizer, A&D Panscan, Aphex exciter, EXR

exciter, (5) Kepex, (2) Gain Brain, (2) Maxi-Q EQs, (2) MXR Flangers, 8 channels of Omni Craft noise gates, Symetric N.R.;

Limiters: (2) dbx 165, (2) dbx 161, (2) Trident, Ashly parametric EQ-stereo, biamp graphic EQ-stereo, White Room EQs, (3) Or-

ban de-essers.

Microphones: Neumann: (2) U87s, U89, U47; AKG: (2) 414s, D-12, (2) 451-Es, (2) C-60 tube, "The Tube"; Shure: (2) SM-81s,

(2) 58s, (6) 57s, 54; Sennheiser: (6) 421s, 441.

Instruments Available: E-mu II, Prophet-5, Roland Super-Jupiter, Mini-moog, Oberheim X-Pander, Korg 800, Poly-6, ARP,

Elka-Strings, Roland Vocoder, Yamaha DX7, LinnDrum, Sim-

mons, Rhodes, Hammond/Leslie, Wuritzer & Baldwin pianos,

Casio, Fender, Gibson, Martin guitars, Fender, Marshall and Acoustic amps, full 7 piece Slingerland/Rogers/Zildjian drum kit,

percussion.

Video Equipment & Services: Video Post: JVC 1/4" deck, Time-Line Lynx generator synchronizers, NEC monitor, Panasonic VHS

Services: full custom music production for industrial or com-mercial broadcast.

Rates: Reasonable rates available on request. Call anytime!

•••• I.N.S. RECORDING

19 Murray St., New York, NY 10007

(212) 608-1499

Owners: Ian North, Deborah North

Engineers: Craig Bevan, John Poppo

Dimensions of Studios: 12 x 12.

Dimensions of Control Rooms: 12 x 18.

Tape Recorders: MCI JH-114 24 track; MCI JH-110C 1/4" & 1/2" 2 track; Tascam 80-8 8 track; Tascam 32-2 2 track; Tascam 122B

cassette; TEAC V-5RX cassette.

Mixing Consoles: MCI 636 Automated 32 in x 24 out.

Monitor Amplifiers: Halfer, UREI, Peavey.

Monitor Speakers: EV Sentry 500s, Yamaha NS-10s, MDM 4s, Auratones.

Echo, Reverb, and Delay Systems: Lexicon 224X w/LARC digital reverb, Lexicon 200 digital reverb, Lexicon PCM 41

digital delay, Eventide H-910 Harmonizer, (2) DeltaLab Effectron II ADM 1024 digital delays, Orban IIIB stereo spring reverb.

Other Outboard Equipment: (2) dbx 160X compressor/limiter, (2) Valley People Maxi-Q parametric equalizer, (4) Valley People

Kepex II noise gates, Valley People Gain Brain compressor/limiter, Garfield Electronics Mini Doc, Roland SBX-80.

Microphones: Neumanns, Sennheiser, AKGs, Shures, Beyer, Electro-Voice, etc.

Instruments Available: Emulator II, Yamaha DX7, Sequential Circuits Prophet 5, all with MIDI interface and Commodore com-

puter with custom music program, LinnDrum, Oberheim DMX,

Roland TR808 drum computers, 5 piece Simmons drums, Roland Vocorder SVC-350, Korg MS-20.

Rates: Hourly rate includes all equipment, no extra charges. Call for current rate

♦♦♦♦ JTM RECORDING STUDIO

686 Best Avenue, Knox, PA 16232
(814) 747-5883

Owner: Frank T. Battista
Studio Manager: Frank Thomas Battista

♦♦♦♦ K

31 Bond St., New York, NY 10012
(212) 228-3063



KAJEM STUDIOS
Gladwyne, PA

♦♦♦♦ KAJEM STUDIOS

1400 Mill Creek Rd., Gladwyne, PA 19035

(215) 649-3277

Owner: Mitch Goldfarb, Joe Alexander, Kurt Shore, Sam Moses

Studio Manager: Mitch Goldfarb

Engineers: Mitch Goldfarb, Joe Alexander, Terry Hoffman.

Dimensions of Studios: Hexagonal 35 x 30, plus an adjacent

2000 sq. ft. ambient room w/25' ceilings

Dimensions of Control Rooms: 22 x 20

Tape Recorders: Studer A80 MK III 24 track, Studer A80 RC

1/2" 2 track, Studer B67 2 track, Tascam 90-16 16 track, Copy

Machines—Revox, TEAC, Crown, Ampex

Mixing Consoles: Solid State Logic 4000E w/Primary Computer,

48 in x 96 in

Monitor Amplifiers: Haller P500, DH220, Crown DC300, SAE

2200.

Monitor Speakers: UREI Time Aligned 813s, JBL L60, Yamaha

NS 10s, Auratone, Visonik, JBL C50; reference headphones by

Koss, AKG and Fostex.

Echo, Reverb & Delay Systems: EMT 251, Sony DRE 2000,

Eventide Instant Phaser/Flanger, Eventide DDL, Eventide Har-

monizer, MXR Pitch Transposer, Ursa Major Space Station,

Acousticcomputer, Lexicon Prime Time, MXR DDL, Master-Room.

Other Outboard Equipment: LA2A, Pultecs, SAE Parametric,

Scamp Rack, Roger Mayer noise gates, Symetrix compressors,

Sweep EQ, Kepex II, Gain Brain II, ADR Compex Vocal Stressor,

EXR Exciter, Scamp De-Esser, Scamp Dynamic Noise Filter/Gate,

Scamp Pan Scan, API 550As

Microphones: Neumann U47, U87s, KM84, Sennheiser 421s;

E-V RE20s, 16s; AKG 451s, 414s, D12s, "The Tube", Shure 57s,

54s, 81s, Sony ECM33s, ECM989, 37P, Crown P2M

Instruments Available: Mason Hamlin grand piano, ARP Omni,

Vox organ, Pearl and Rogers drums, Tack piano, Wurlitzer, elec-

tric piano, Fender, Acoustic, and Music Man amps, Roland Juno

60, DX7, LinnDrum, rentals available upon request

Rates: Please call for rates. Package rates available.

Extras: Housing including gourmet cooking (if requested) can be

provided. Half-court basketball—indoors! TV, video games, etc.

Direction: Kajem is Philadelphia's only SSL-equipped facility.

Located in the original Derringer Gun Factory of Civil War Fame,

Kajem combines solid acoustic construction (which includes

twenty-five foot ceilings) with a beautiful aesthetic provided by the

woods and waterfalls surrounding the studio. Come be a part of

the history Lou Rawls, Robert Hazard, Teddy Pendergrass, &

Alan St. Jon already have

♦♦♦♦ KINGDOM SOUND STUDIOS

6801 Jericho Turnpike, Syosset, Long Island, NY 11791

(516) 364-8660

Owner: Bill Civitella

Studio Managers: Bill Civitella, Barbara Warren

In A/B tests, this tiny condenser microphone equals any world-class professional microphone. Any size, any price.

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Compare the Isomax II to any other microphone. Even though it measures only 5/15" x 5/8" and costs just \$189.95,* it equals any world-class microphone in signal purity.

And Isomax goes where other microphones cannot: Under guitar strings near the bridge, inside drums, inside pianos, clipped to horns and woodwinds, taped to amplifiers (up to 150 dB sound level!). Isomax opens up a whole new world of miking techniques — far too many to mention here. We've prepared information sheets on this subject which we will be happy to send to you free upon request. We'll also send an Isomax brochure with complete specifications.

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* Pro net price for Omnidirectional, Cardioid, Hypercardioid, and Bidirectional models.



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•••• LE MANS SOUND
331 Triagle Rd., Somerville, NJ 08876
(201) 359-5520
Owner: Bernard Goydsh
Studio Manager: Sam DeSalvo

•••• LE STUDIO INC.
also REMOTE RECORDING
715 Boylston St., Boston, MA 02116
(617) 267-2825
Owner: Samuel Boroda
Engineers: Samuel Boroda with team of free lance engineers
Dimensions of Studios: Studio One 30 x 30, Studio Two 8 x 8
announcer booth
Dimensions of Control Rooms: Studio One 18 x 15; Studio Two 20 x 15, Remote Unit 26 x 7
Tape Recorders: Otari MTR90 24 track, Scully 280 8 track, 3M 79 4 track, Scully 280 2 track, Nagra 4 2 mono, Sony TCO5 2 track
Mixing Consoles: Studio One MCI/Sony 636, 36 in x 24 out, Studio Two Audio and Design (custom), 16 in x 8 out, Remote Aengus-AP1 3216, 32 in x 16 out
Monitor Amplifiers: Crown, CM Labs, Hafler, McIntosh
Monitor Speakers: UREI 811, JBL 4311-13, Yamaha NS10, Auratone cubes, Toa cubes, Philips MF
Echo, Reverb, and Delay Systems: Ursa Major, Lexicon, Delta T

Other Outboard Equipment: Teletonix tube limiter, UREI limiters, Orban de-esser, Lexicon Prime Time, Noise Gates, Harmonizer, etc., dbx 1 and 2 noise reduction
Microphones: Neumann, Shure, AKG, RCA, Electro-Voice, Sony, Crown, Sennheiser
Instruments Available: Henry Miller baby grand piano, other instruments upon request
Video Equipment & Services: 1/4" playback with SMPTE interlock
Rates: Starting at \$50/hr

•••• LION & FOX RECORDING
1905 Fairview Ave. N.E., Washington DC 20002
(202) 832-7883



LONG VIEW FARM
Brookfield, MA

•••• LONG VIEW FARM
also REMOTE RECORDING
Stoddard Road, No. Brookfield, MA 01535
(617) 867-7662, (800) 225-9055
Owner: Gil Markle
Studio Manager: Andrea Marchand
Engineers: Jesse Henderson (chief), Bill Ryan (tech dir.), Geoff Myers, Mike Mullaney
Dimensions of Studios: A 25 x 30 x 16; B 26 x 32 x 23; Soundstage 38 x 28 x 18
Dimensions of Control Rooms: A 16 x 27 x 9; B 14 x 21 x 12, Video Suite 12 x 12 x 8
Tape Recorders: Otari MTR 90 24 track, MCI JH Autolocator II 24 track, 3M M79 16 track, Studer A-80VU II 1/2" 2 track, Studer A-80RC 1/4" 2 track, Nakamichi 1000 cassette, Sony TC-V7 cassette, Tascam 122 cassette
Mixing Consoles: Sound Workshop Series 34, 32 x 24 x 32 automated, MCI 528, 28 x 28, Aengus 1608, 18 x 16



Monitor Amplifiers: Bryston 4Bs, Crown 300s, McIntosh, BGW cue amps

Monitor Speakers: UREI 813A, JBL 4411/4311/L-100s, Yamaha NS-10M, E.V. S-100s

Echo, Reverb, and Delay Systems: Live chamber, EMT 140, AKG BX-20 & BX-10, Publison 89 audio computer, Lexicon Super Prime Time, Eventide 1745 digital delay, Harmonizer, DeltaLab DL-2 & DL 4 delay lines

Other Outboard Equipment: ADR Vocal Stressers, Ashly, Kepelex, & Roger Mayer noise gates, Pultec tube and API 560 graphic equalizers, dbx 160, UREI 1176 & LA-3A limiters, Dolby and dbx noise reduction

Microphones: Vintage RCA ribbons, rare Schoeps CMT 46s, Neumann, AKG, Sennheiser, Shure, Sony, E.V., Crown PZMs and more etc.

Instruments Available: Steinway and Baldwin grand pianos, Hammond organ & Leslie, Sequential Circuits Prophet V, Fender Rhodes 73', Roland 808 drum machine, studio drum and percussion kit, etc.

Video Equipment & Services: JVC KY-1900 and Ikegami: 350 cameras, JVC 4700 U-matic portable VCR, Sony BVU-800s, Crosspoint Latch 6112 effects switcher, off-line editing, laybacks, character insertion, special effects, 48 track audio sweetening, soundstage for live taping and large Disney-like vistas

Rates: Available upon request, please call

Extras: User friendly computers IBM system 36 to access music and video industry professionals, IBM PCs, Micro-Terms, and model 100s to access telecommunications networks and electronic mail Sauna, jacuzzi, well equipped exercise room, horseback riding, movie library, in house cable TV including satellite earth station Secretarial services, in house IATA travel agency and private air charter. Entire facility—control rooms, studios, soundstage—are linked by audio/video tie lines throughout
Direction: Long View is a world-class residential recording facility, located on 165 acres of picturesque countryside. Along with state-of-the-art technical quality, Long View offers sumptuous accommodations, fine food and privacy, by a friendly and highly experienced support staff. Credits include The Rolling Stones, J Geils Band, Face to Face, Til Tuesday, Dan Fogelberg, Pat Metheny, Arlo Guthrie and many more

•••• M & I RECORDING ENTERPRISES LTD.
630 9th Ave., New York, NY 10036
(212) 582-0210

Owners: Mitch and Ira Yuspeh
Studio Manager: Steve Hasday

•••• MARK STUDIOS
also REMOTE RECORDING
10815 Bodine Rd., Clarence, NY 14031
(716) 759-2600

Owner: Vincent S. Morette
Studio Manager: Fred Betschen
Engineers: Fred Betschen, Vince Morelto, Larry Swist
Tape Recorders: Otari MTR90 24 track, Ampex ATR 102 2 track, Ampex AG440B 4 track, Otari MTR110 2 track, Studer A80 2 track, 50 Nakamichi LX-5 cassette decks for real time duplication
Mixing Consoles: Amek 3000M, 36 in x 24 out, Audiotronics 110-8 24 in x 24 out
Monitor Amplifiers: Crown PSA2, UREI 6500
Monitor Speakers: UREI 813, 811, miscellaneous small speakers

Echo, Reverb & Delay Systems: Ecoplate II, BX-20E, BX-10E, EMT 240, Lexicon 200 digital reverb, Lexicon PCM 41, Lexicon PCM 42 w/meo, pitch transposer, Ursa Major Space Station, Roland delays, Lexicon 224X
Other Outboard Equipment: UREI 1176LN (2), LA 4, LA 3, AD & R Complex F760 RX, gates, Audioarts parametrics, UREI parametrics, Aphex Exciter, EXR Exciter, many tape echo decks
Microphones: AKG 414EB, P48, Beyer 260, 160, 69, 500, 400, AKG C12, Shure SM57, 58, 59, 81, Sennheiser MD421, 402, AKG Tubes, U67, U89, AKG C451EB, C452EB
Instruments Available: Kawai grand, Moogs, Prophet, Fender, Acoustic, drum machines, etc.

Rates: Package rates available for remote and studio, so no clock watching is needed

•••• MASTERMIND RECORDING STUDIOS

1650 Broadway, New York, NY 10019
(212) 765-7400
Owner: Anne Wood
Studio Manager: Joan Meisel
Engineers: (Chief) Keith Walsh, Jim Regan, Matt Suskind, Pat Smith (Chief tech engineer)

Dimensions of Studios: Studio C 12 x 35 x 20; Studio A 12 x 50 x 25

Dimensions of Control Rooms: Studio C 50 x 35 x 20, Studio A 60 x 50 x 25

Tape Recorders: MCI (2) JH-24 transformerless 24 track, MCI JH-110B 2/mono track, Scully (8) 280 2 track, Magna-Tech 35mm/full coat & stripe 1-4 track, (2) Aiwa F-770 cassette recorders

Mixing Consoles: Studio A MCI JH636 automated transformerless, 36 x 24, Studio C: MCI JH-528 "D" transformerless 28 x 24

Monitor Amplifiers: Carver PM 1 5s and Crown D-75 for cue.
Monitor Speakers: "Big Blues" (custom Altec 604E), Westlakes, ADS 300, Auratone 5C

Echo, Reverb & Delay Systems: (4) EMT "tube" chambers, Harmonizer, Orban stereo, and Prime Time

Other Outboard Equipment: Harmonizer, Instant flanger/phase Kepelex, Lang EOs, UREI LA-3 comp/limiters, 1176 comp/limiters, Little Dipper Filter

Microphones: Neumann U-87s, U-47s, AKG 451 EBs, Shure SM-57, EV RE-20s, Beyer 160s, Custom PZMs, RCA 44s, AKG 414s, KM-84s, RE-16s

Instruments Available: (2) Steinway grand pianos, honky tonk piano, Hammond organ w/Leslie, Slingerland drum set, Tama drum set, RMI electric piano and Celeste

Video Equipment & Services: Sony video playback systems.
Rates: Competitive rates (Please call us or write for our rate sheet)



MASTER SOUND ASTORIA
Astoria, NY

•••• MASTER SOUND ASTORIA
34-12 36th St., Astoria, NY 11106
(516) 354-3374

Owners: Ben Rizzi, Maxine Chren
Direction: Formerly Master Sound Productions of Franklin Sq., Ben Rizzi and Maxine Chren have joined with Kaufman Astoria Studios to create the new Master Sound Astoria. Opening with two recording studios in spring 1985, studio A1 will have projection for scoring sessions, while A2 will be geared toward post. The entertainment complex of Kaufman Astoria Studios contains the largest shooting stages on the east coast. MSA as the exclusive audio facility, will have audio/video tie lines to all major stages. Ready to serve the recording needs for records, video and film to the highest professional standards, we are Master Sound Astoria.

•••• MAYFAIR RECORDING STUDIO
also REMOTE RECORDING
701 Seventh Ave., New York, NY 10036
(212) 581-2178
Owner: Jay Siegel
Studio Manager: Joyce Manchess

•••• MEDIA SOUND INC.
311 West 57th St., New York, NY 10019
(212) 765-4700
Owner: Michael D. Hektoen, Domino Media, Inc.
Studio Manager: Cheryl Dolby
Engineers: Michael Barbero, Douglas Epstein, Stephan Gallas, Tim Hatfield, Tom Roberts
Dimensions of Studios: A: 30 x 50 (former church); B 20 x 20; C 10 x 15, Lounge: 15 x 15
Dimensions of Control Rooms: A 15 x 10, B 14 x 14; C 10 x 14, Lounge: 10 x 14
Tape Recorders: Studer A800s, Studer B67s, Studer A80s; 1/2"

and 2 track stereo capability in all rooms.

Mixing Consoles: (2) Neve 8068 modified, 42 x 16; Harrison 4032, 32 x 32; Harrison Raven, 32 x 12.

Monitor Amplifiers: McIntosh 2500s, Altec 9440s, H & H V800, H & H 4900

Monitor Speakers: UREI 813As.

Echo, Reverb, and Delay Systems: EMT 140, AKG, Eventide DDL, Lexicon Prime Time, Lexicon 224, AMS reverb, Quantec reverb.

Other Outboard Equipment: Pultec EQ, UREI limiters, Neve limiters, Eventide phasers & flangers, MXR phasers and flangers, Kepex I & II, Gain Brain, Eventide Harmonizers, dbx limiters, Marshall Time Modulators, Trident limiters; too much to list, please call for additional info.

Microphones: Neumann, AKG, Shure, Sennheiser, E-V, Beyer, Pressure Zone, old tube Neumann microphones.

Instruments Available: Vibes, xylophone, celeste, Hammond organ, Fender Rhodes, tympani, LinnDrum, Yamaha grand pianos, more.

Video Equipment & Services: VCR and monitor.

Rates: Upon request.

**** MEGA MUSIC

345 E. 62nd St., New York, NY 10021
(212) 838-3212

Owner: Donald Dannemann

Studio Manager: Peter M. Serenita

**** METRO RECORDING STUDIO

1422 Crain Highway S.W., Glen Burnie, MD 21061
(301) 761-6159

Owner: Joe L. Jacobs

Studio Manager: Joe L. Jacobs

**** MILLBROOK SOUND STUDIOS

P.O. Box 317, Millbrook, NY 12545
(914) 677-3733, 677-3744

Owner: Michael Danielle

Studio Manager: Rick Kennell

Engineer: George Cowan

Dimensions of Studios: 34 x 23 x 12, with iso booths for drums and vocals.

Dimensions of Control Rooms: 24 x 14.

Tape Recorders: Ampex MM 1200 24 track; Otari MTR 12 1/2" 2 track; Otari MTR 10 1/4" 2 track; Technics M85 MKII cassette; Yamaha CS 400, cassette.

Mixing Consoles: NEOTEK Series IIC, 36 in x 24 out.

Monitor Amplifiers: Yamaha, Crown.

Monitor Speakers: UREI, JBL, Yamaha, Tannoy, Auratone, Altec.

Echo, Reverb, and Delay Systems: Urso Major 8 x 32 digital reverb, ART digital reverb, "live" chamber room, (2) Korg SDD 3000 digital delays, ADA stereo tapped delay, Eventide Harmonizer 910.

Other Outboard Equipment: (10) Valley People Kepex IIs, (10) Valley People Gain Brain IIs, (2) dbx compressors/limiters, UREI 1178 dual peak limiter, (2) Aphex Aural Exciters-Type B, (2) Orban Dynamic Sibilance Controllers 516EC, (4) Orban stereo parametric EQs, (4) White Series 4000 1/2 octave rotary graphic equalizers.

Microphones: (4) AKG 414s, (6) Sennheiser 421s, (2) Sennheiser 441s, (2) E-V RE20s, (2) Neumann U87s, (2) Tascam PE 250s, (3) Crown PZMs, (4) Countryman Isomax IIs, (8) Shure SM 57s, (8) Shure SM 58s.

Instruments Available: Yamaha DX7, Oberheim DX drum computer, Korg Poly-61, Yamaha PF-10 piano, 5 piece set of Sonor drums, Conn strobe tuner, Korg tuner

Rates: Call for further information (914) 677-3733, 677-3744.

**** MINOT SOUND STUDIO, INC.

19 South Broadway, White Plains, NY 10601
(914) 428-8080

Owner: Ron Carran

Studio Manager: Thom Cimillo

**** MOBILE RECORDERS LTD.

only REMOTE RECORDING
Berkshire Rd., Southbury, CT 06488
(203) 264-2659

Studio Manager: G. Rothar

**** MSP MUSIC, INC.

476 Broadway, #11R, New York, NY 10013
(212) 226-1030

Owner: Ned Liben

Studio Manager: David C. Lee

**** MUSIC AMERICA RECORDING STUDIOS LTD.

120 East Avenue, Rochester, NY 14604
(716) 325-7235

Owners: Paul Curcio, Jim Alaimo, Joe Petrino

Engineers: Chns Bubacz, Gary Zefling, various independents.

—LISTING CONTINUED ON PAGE 176

BRYSTON



Bryston's 2B-LP

Bryston has been known and respected for years as the manufacturer of a line of amplifiers which combine the transparency and near-perfect musical accuracy of the finest audiophile equipment, with the ruggedness, reliability and useful features of the best professional gear. Thus, Bryston amplifiers (and preamplifiers) can be considered a statement of purpose to represent the best of both worlds - musical accuracy and professional reliability to the absolute best of our more than 20 years' experience in the manufacture of high-quality electronics.

The 2B-LP is the newest model in Bryston's line, and delivers 50 watts of continuous power per channel from a package designed to save space in such applications as broadcast monitor, mobile sound trucks, headphone feed, cue, and any installation where quality must not be limited by size constraints. As with all Bryston amplifiers, heatsinking is substantial, eliminating the requirement for forced-air cooling in the great majority of installations. This is backed up by very high peak current capability (24 amperes per channel) and low distortion without limiting, regardless of type and phase angle of load. In short, the 2B-LP is more than the functional equivalent of our original 2B in spite of the fact that it occupies only half the volume, and will fit into a single 1.75" rack-space.

The usefulness of the 2B-LP is extended by a long list of standard features, including: Balanced inputs; female XLR input jacks; dual level-controls; isolated headphone jack; and individual two-colour pilot-light/clipping indicator LEDs for each channel. In addition, the channels may be withdrawn from the front of the amplifier while it is in the rack, vastly facilitating any requirement for field-service, including fuse-replacement.

Of course, in keeping with Bryston's tradition of providing for special requirements, the 2B-LP can be modified or adapted to your wishes on reasonably short notice, and at nominal cost.

Best of all, however, the 2B-LP is a Bryston. Thus the sonic quality is unsurpassed. The difference is immediately obvious, even to the uninitiated.

Other amplifiers in Bryston's line include the model 3B, at 100 watts per channel, and the model 4B, at 200 watts per channel. All ratings continuous power at 8 ohms at less than 01% IM or THD.

IN THE UNITED STATES

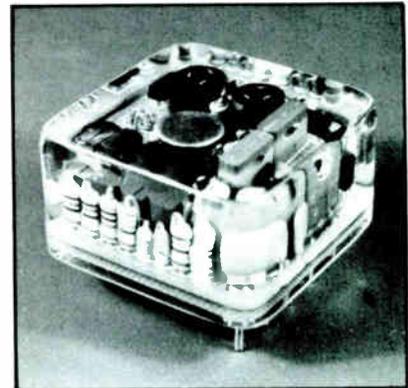
BRISTON VERMONT
RFD #4, Berlin, Montpelier, Vermont 05602

IN CANADA

BRISTON MARKETING LTD
57 Westmore Dr., Rexdale, Ontario, Canada M9V 3Y6

Circle #156 on Reader Service Card

990 Discrete Op-Amp



**Electronic Design by Deane Jensen
Packaging & Production Design by John Hardy**

- **Fast:** 18V/ μ S @ 150 Ohms, 16V/ μ S @ 75 Ohms
- **Quiet:** -133.7 dBv E.I.N. (20—20kHz, shorted input, unweighted)
- **Powerful:** +24 dBv @ 75 Ohms (Ref: 0dBv = .775 V)

AND IT SOUNDS GREAT !

THESE USERS AGREE:

Sunset Sound, JVC Cutting center, Mobile Fidelity, K-Disc Mastering, Sony (Digital Audio Div.), Capitol Records, Inc., WFMT Chicago, Jensen Transformers, Bonneville Productions, DeMedio Engineering, ABC-TV, 20th Century Fox, Armin Steiner, and many more !

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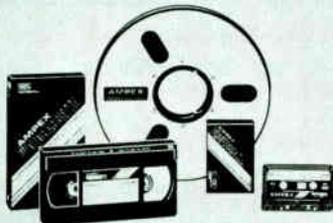
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9 HENEARLY DRIVE,
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Circle #158 on Reader Service Card

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Authorized Reseller
Information Processing Media **BASF**

Circle #159 on Reader Service Card



—LISTING CONTINUED FROM PAGE 175

Dimensions of Studios: 18 x 30 (drum booth, vocal booth & additional iso room 18 x 90)

Dimensions of Control Rooms: 16 x 20

Tape Recorders: MCI JH24, (2) Ampex ATR102 w/1/4" and 1/2" heads, Sony 1/4-track

Mixing Consoles: MCI JH636 automated console, parametric EQ, plasma metering

Monitor Amplifiers: Banner, Mosset, Phase Linear, SEA, BGW. Monitor Speakers: JBL 4430s, Auratones, Yamaha NS-10.

Echo, Reverb & Delay Systems: Lexicon 224, Lexicon Prime Time, MXR Digital Delay, Ecoplate reverb, live echo chamber, MXR Digital Delay II, Lexicon PCM 41

Other Outboard Equipment: White 4400 1/3-octave equalizer, UREI 1176 compressor/limiters, Dolby 361s, dbx noise-reduction, Ashly level-processors, Ashly noise gates, Valley People noise gates, MXR Pitch Transposer, MXR Flanger Doubler

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

Instruments Available: Kawai 7'4" grand piano, Hammond C-2 organ/Leslie, Oberheim synthesizer, Mini-Moog synthesizer. Other instruments available for rental

Rates: Hour rates, block rates available upon request.

Extras: Coffee bar, lounge area, 24-hr restaurant & major hotel across the street.

Direction: MARS Ltd. is truly the only state-of-the-art recording facility for both artists and producers with an experienced professional staff in the western New York area. Owners have been involved with 16 gold and platinum records. We have recently associated with Ralph Ackerman, former director of Green Mountain Video & Film. We now have the ability "in house" to direct & produce videos that compete on a national level.

MusicAmerica Recording Studios, Ltd.

MUSIC AMERICA RECORDING STUDIOS LTD.
Rochester, NY

•••• MUSICORP RECORDING

Northern Blvd., Amherst, NH
(603) 889-5000

Owners: Tom Finn, David Rybacki
Studio Managers: Bill Tracey, Jack McMahon
Engineer: Bill Tracey

Dimensions of Studios: 30 x 30 w/10 x 9 iso booth.

Dimensions of Control Rooms: 22 x 20

Tape Recorders: Sony/MCI JH 24-24 24 track; Sony/MCI JH110C 1/2" 2 track, Sony/MCI JH 110C 1/4" 2 track,

Mixing Consoles: Amek full automation 2500, 32 in x 24 out.
Monitor Amplifiers: Bryston, Crown.

Monitor Speakers: UREI 813B, Yamaha NS-10, Auratone cubes
Echo, Reverb, and Delay Systems: Reverbs: Lexicon, Ursa Major Lexicon delay lines.

Other Outboard Equipment: Valley People Rack, Kepex and Gain Brain II, UREI LA4 compressor/limiter, Aphex Exciter,

Aphex compellor, Eventide Harmonizer, UREI 1176 comp/limiter.

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

Instruments Available: Steinway 7B grand piano, Yamaha DX7, Prophet 5, Prophet 600, Rhodes, DMX drum machine, etc.

Video Equipment & Services: 1/4" remote video, Ikegami 79 camera, JVC deck, light kits, mix to picture in studio, BTX Shadow, Softouch.

Extras: Musicord International offers personal management and booking on both the regional and national levels. The recording division offers Music Minus One packages, pressing services, custom jingles, etc. In-house arrangement and production services are also available.

Direction: A technically advanced facility for the serious recording artist. Particular attention has been paid to the acoustical design of the studio and control room as well as equipment selection.

MUSICORP RECORDING

MUSICORP RECORDING
Amherst, NH

•••• MUSIC DESIGNERS INC.

241 White Pond Rd., Hudson, MA 01749
(617) 890-8787

Owner: Jeff Gilman

Engineers: Jeff Gilman, Fred Mueller

Dimensions of Studios: 26 x 36 x 17, iso room 13 x 17

Dimensions of Control Rooms: 17 x 25

Tape Recorders: 3M Mincom M79 24 track, 3M Mincom M 79 16 track; MCI JH-110 4 track, MCI JH-110 2 track; Otari 5050 2 track

Mixing Consoles: Harrison w/Allison 64K Automation 3232B 32/32

Monitor Amplifiers: Bryston, APT, Phillips.

Monitor Speakers: UREI 813s, JBL 4311, custom (near field)

Echo, Reverb & Delay Systems: FMT stereo, AKG BX20, custom plate, Lexicon, Eventide, DeltaLab.

Other Outboard Equipment: Multitrack and Audioarts parametric EQ, Teletronix tube LA-2, UREI 1176 and LA4 comp/limiters, Spectra Sonics comp/limiter, Allison Kepex & Gain Brains, frequency shifter, phasers, dbx noise reduction (32 channels) if we don't have it, we can get it!

Microphones: All the standards plus an excellent assortment of tube condensers by Telefunken, Sony & Altec

Instruments Available: Bluthner 7 ft grand piano, Hammond B-3, harpsichord, ARP-Omni, Sonor drums, Roland, Fender & Acoustic guitar amps, Roland & Oberheim drum machines.

Video Equipment & Services: Special rates on nearby furnished apartments for lengthy stay

Rates: Call for information on rates and accommodations

•••• THE MUSIC FACTORY

150 6th Ave., Troy, NY 12180
(518) 447-5733

Owner: Ed DeLaney

Studio Manager: Linda Klein

•••• NATIONAL RECORDING AND VIDEO CENTER

also REMOTE RECORDING

460 W. 42nd St., 228 W. 47th St., New York, NY 10036
(212) 279-2000

Owner: Irving Kautman, Hal Lustig

Studio Manager: Jeff Pastelov, Eldo Luciani (audio), Herb Ohlandt (video)

Engineers: 40.

Dimensions of Studios: 12 studios from one voice to full symphony, 6 edit rooms, 2 shooting stages (where "Tootsie" was filmed).

Dimensions of Control Rooms: To match

Tape Recorders: 45 Audio tape recorders, MCI, Ampex, Neve, 46 tracks to mono, 23 Magna-Tech film dubber-recorders, 4 Norelco projectors, all synch locked to video or film, 2 Vidimag

sprocket video recorders, 21 Ampex 1" video recorders, 6 video cameras RCA-TK47B and IKE-HL79, Q-Lock and Shadow Synch systems.

Mixing Consoles: 16 consoles including automated MCI, Sound Workshop, Grass Valley, Audio Designs, Trident.

Monitor Amplifiers: Crown, McIntosh.

Monitor Speakers: UREI, Altec, Electro-Voice, Auratone.

Echo, Reverb & Delay Systems: EMT, AKG, Lexicon, Lexicon Time Compressor.

Other Outboard Equipment: Full stock of state-of-the-art devices.

Microphones: More than 150.

Instruments Available: Standard popular instruments.

Video Equipment & Services: Two shooting stages, 14 video edit rooms, Grass Valley 300 switchers, Grass Valley DVE Mark II, Ampex A.D.O.'s, 21 Ampex VPR 2 or 3, CMX 340, Datatron Vanguard, Chyron and BEI character generators, Bosch FDL60B Telecine with Corporate Communications color corrector, all Tektronix and Conrac monitoring.

Rates: On request.

Extras: Complete complex from microphone or camera to final product, all in one house.

Direction: Full spectrum of audio, video and film with expertise built up through 25 years of experience at broadcast quality level for top advertising agencies, film houses and major product companies throughout the world. TV situation shows, sports casts, commercials, music albums, industrial and education recording, all performed at the same high standards.

•••• **THE NATIONAL RECORDING STUDIO**
also **REMOTE RECORDING**
3016 Greenmount Ave., Baltimore, MD 21218
(301) 467-7900
Owners: Eugene Mauro, Terra Mauro
Studio Manager: Terra Mauro

•••• **NICKEL RECORDING**
also **REMOTE RECORDING**
168 Buckingham St., Hartford, CT 06106
(203) 524-5656
Owner: Jack Stang
Studio Manager: Jack Stang

•••• **THE NINETEEN RECORDING STUDIO**
also **REMOTE RECORDING**
19 Water St., South Glastonbury, CT 06073
(203) 633-8634
Owner: Jonathan Freed
Studio Manager: Bonnie La Marche
Engineers: Ron Scalise, Jonathan Freed
Dimensions of Studio: 42 x 42 includes semi-open drum booth and isolation booth, isolation booth overlooks beautiful trout stream. Total studio building is 4000 sq. ft.
Dimensions of Control Rooms: 22 x 24 also overlooks trout stream.
Tape Recorders: All recorders equipped with dbx noise reduction. MCI JH114 16/24 track; Otari 2 track; (2) Revox A77 2 tracks; Technics, TEAC, Nakamichi cassettes.
Mixing Consoles: Sound Workshop 1600/automated, 24 in x 24 out.

Monitor Amplifiers: Epicure, Crown, SAE.
Monitor Speakers: UREI B13B Time Aligned, ADS L-300C, Auratones.

Echo, Reverb, and Delay Systems: Lexicon digital reverb; stereo plate reverb (Proprietary Design); MXR digital delay; others available by request.

Other Outboard Equipment: dbx and UREI compressor/limiters; Eventide Omnipressor; SAE 2-channel 1/2-octave graphic EQ; parametric EQs; Eventide Harmonizer, MXR delay w/flange/phase effects; 2B channels dbx noise reduction; others available by request.

Microphones: Neumann U87, U47, KM-84/83; Sony C37 tube mics, ECM 33P; AKG C451, Sennheiser 421, 441; Beyers M500, M260; Shure, E-V; others.

Instruments Available: Fairlight CMI, full set of drums, 1919 Knabe baby grand piano, Hammond B3 w/Leslie, Fender Rhodes piano, Mellotron, synthesizers, Yamaha CP70 electric grand, Alembic, Fender and Gibson bass guitars; Fender and Acoustic amplifiers, full assortment of percussion instruments; OBXA and Prophet 5; Mesa Boogie.

Rates: 24 track: \$90/hr; 16 track: \$70/hr; 8 track: \$50/hr; 2 track: \$40/hr. Remote recording: call for rates.

•••• **NORMANDY SOUND, INC.**
25 Market St., Warren, RI 02885
(401) 247-0218

Owners: Arnold Freedman, Ogden Fell, Phil Greene
Studio Managers: Ogden Fell, Sandra Reeves
Engineers: Phil Greene, Tom Soares, Bob Winsor.
Dimensions of Studio: 1,000 sq. ft.; 2,000 cu. ft. iso booth.
Dimensions of Control Rooms: 460 sq. ft.
Tape Recorders: MCI JH24 24 track; Studer A80 VU 1/2" 2 track; Scully 280-B 1/4" 2 track; Mitsubishi X-80 digital 2 track (on request).
Mixing Consoles: MCI 636 automated, 28 in x 24 out.
Monitor Amplifiers: McIntosh 2500; Crown D-75; Crown D-60; Ashly FET-500; Ashly FET-200.

Monitor Speakers: UREI B13-A Time Align with Gauss Coaxials; Yamaha NS-10M; Auratone Supercubes.

Echo, Reverb, and Delay Systems: Lexicon 224X, EMT ST-140; acoustic chamber (1,000 cu. ft.); Lexicon Prime Time; Eventide 949-H Harmonizer; DeltaLab Compu-Effector; DeltaLab ADM-1024; Korg SDD-3000; A/D A stereo tapped delay; A/D A 2XF digital multi-effect; MXR pitch transposer; Loft delay line flangers.

Other Outboard Equipment: Valley People Dyna-Mites; UREI 1176-LN; UREI LA-4A; Ashly SC-50; Allison Gain Brains; Roger Mayer noise gates; Teletronix LA-2 tube compressor; Pultec tube program EQ; Ashly SC-66 stereo parametric EQ; notch filter; Tascam PE-40 parametric EQ; Acoustilog Image Enhancer; Allison Apex; Orban 3-channel sibilance controller; Aphex Aural Exciter; Aphex Compeller; MXR auto flanger; MXR auto phaser.

Microphones: Neumann M49, Tube U47, U87, KM-84; Schoeps (Telefunken) CM-65; AKE C-12A, C-414EB, C-451; Sony C-500; E-V RE-11, DS-35; Sennheiser MD 441, MD 421, MD 211; Beyers M-160, M-88; Shure SM-57, SM-53, SM-58, SM-81; Realistic P2M.

Instruments Available: Yamaha conservatory grand piano; Fender Rhodes; Hammond A-100 (Console B-3) organ; Oberheim OBEX Poly-Phonic synthesizer; SDS-5 Simmons drums;

—LISTING CONTINUED ON PAGE 178



NORMANDY SOUND, INC.
Warren, RI

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MIDITRACK II™
The 16 Track MIDI Recorder, MIDI Remote Control, Synchronizer with: Locate/Punch In-Out/End, Auto Correct, Sync to all clocks & tape. More features than the \$6,000 machines, THE BEST MIDI RECORDER AVAILABLE AT ANY PRICE! (Under \$600 with computer).

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Prerecorded tracks for your use or study (works with MIDITRACK II).

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Hybrid Arts™

PO Box 480845 Los Angeles, CA 90048 (818) 508-7443

Circle #160 on Reader Service Card

Oberheim DX digital drum machine, 1960 Fender Stratocaster guitar, 1968 Fender Precision bass, Fender-75 (Music Man) amp/liter, various percussion instruments

Rates: On request

Extras: Located two blocks from the upper Narragansett Bay in Warren, Rhode Island Normandy Sound, Inc. offers discriminating artists and producers state-of-the-art recording/mixing facilities with a private three bedroom full efficiency apartment complimentary with the recording package. All travel arrangements made on premises. Located 15 minutes from downtown Providence, 1 hour from downtown Boston, 20 minutes from historic Newport

Video Equipment & Services: Credits: Jeff Lorber, John Callery and The Beaver Brown Band, Steve Smith, Tom Browne, Maurice Starr, Billy Cobham

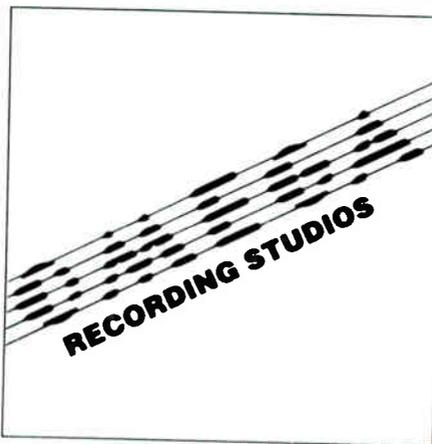
•••• NORTH LAKE SOUND, INC.
3 Lakeview Drive, North White Plains, NY 10603
(914) 682-0842/43
Owners: Joe Henda, Chip Taylor, Jon Voigt
Studio Manager: Joe Henda

•••• TROD NOSSEL RECORDING
P.O. Box 57, 10 George St., Wallingford, CT 06492
(203) 269-4465
Owner: TNA Records & Studios
Studio Manager: Richard P. Robinson

•••• NOVA SOUND STUDIO
540 E Jim Leeds Rd., Absecon (Atlantic City), NJ 08201
(609) 652-3142
Owner: Tony Piraciotti
Studio Manager: Kent Longer

•••• NRS RECORDING STUDIO
Hurley Mountain Road, Hurley, NY 12443
(914) 331-3060
Owner: Nibor Music Enterprises, Inc., Robin Rocke, pres
Studio Manager: Todd Miller
Engineers: Scott Petito director of engineering and music production, Bill Robertson chief of maintenance
Dimensions of Studios: 28 x 24
Dimensions of Control Rooms: 20 x 14
Tape Recorders: Soundcraft 760 24 track, TEAC/Tascam 80-8 8 track, Tascam 38 8 track, Otari 5050B II 2 track, Sony PCM-F1 digital 2 track, Sanyo Beta HiFi 2 track, Kenwood, Technics, and Tascam cassette decks, Tandberg reel-to-reel 1/4 track
Mixing Consoles: Soundcraft 1600 producer series
Monitor Amplifiers: Haller
Monitor Speakers: JBL 431 1B, Yamaha NS-10M, TOA cubes
Echo, Reverb, and Delay Systems: Ecoplate III, Lexicon digital reverb, Lexicon Prime Time and Prime Time II delays, Roland SDE 1000 delay
Other Outboard Equipment: Symetrix & Omni Craft noise gates, Symetrix 501 compressor/limiter (4), Audioarts parametric EQ, dbx noise reduction systems
Microphones: AKG, Crown, Electro Voice, Neumann, Sennheiser, Shure, Sony
Instruments Available: Baldwin baby grand piano, Fender Rhodes, GH 202 guitar/synth, Pro One, Prophet 5, Emulator II, Apple Macintosh computer, LinnDrum, Roland TR808, Chapman stick, Fender bass, Commodore 64 computer, Hohner clavinet, other instruments available on request
Video Equipment & Services: Assortment of 1/2" VHS and Beta video recorders. Other equipment available on request
Rates: Please call

•••• OMEGA RECORDING STUDIOS
also REMOTE RECORDING
10518 Connecticut Avenue, Kensington, MD 20895
(301) 946-4686
Owner: Bob Yesbek
Studio Manager: Bill Brady
Engineers: Bob Yesbek, Bill Brady, Tom McCarthy, Sharon Shapiro, Jack Knepley
Dimensions of Studios: 40 x 35
Dimensions of Control Rooms: 27 x 19
Tape Recorders: Studer A 80MKIII 24 track, MCI JH 114 16/24 track, Studer A 80 1/2" 2 track, (5) Studer B-67 2 track, (2) MCI JH 110 4 1/2" 2 & 4 track, (2) MCI JH 110 2 2 track
Mixing Consoles: API 2488 w/automation & 4 cue systems, 32 in x 32 out, MCI JH 6 28 w/automation, 28 in x 24 out, Audioarts Grandson 110, 12 in x 4 out (production)
Monitor Amplifiers: AB Systems, Crown
Monitor Speakers: Westlake, UREI 813, UREI 811, David 9000, Klipsch, Auratone
Echo, Reverb & Delay Systems: EMT 251, EMT 140 ST, EMT 240, (2) Lexicon 224 digital, (3) AKG BX 20E, (2) Harmonizers, (4) Lexicon Prime Time, (4) Effectrons, (2) DeltaLab
Other Outboard Equipment: Limiters Neve, UREI LA 4s and 1176 LNs, Sontec, Dyna Mites, API, Gain Brains Equalizers API 550As, API 560s, Neve, Orban, Pultec, Sontec, MAP, UREI, Audioarts, White Miscellaneous Kepex's, MXR phasers, flangers, Eventide Omnipressor, UREI Little Dipper, Roland stereo flanger, Ak-mix preamps, Orban de-essers
Microphones: (16) Neumann U87, (6) Neumann FET 47s, (6) Neumann KM 84, 84, 85, (4) KM 86, (8) Sennheiser 421, (12) E.V. RE20s, Neumann U 47 tube, Neumann U-67 tube, (4) AKG-



OMEGA RECORDING STUDIOS
Kensington, MD

C414EB, AKG-C451, E.V. RE15s, Sony ECM 55s, Crown PZMs
Instruments Available: Steinway baby grand piano, Hammond B 3 & Leslie, Yamaha DX7, 2 sets Yamaha drums, clavinet, Fender Rhodes 88, various percussion instruments, LP and Gon Bop congas, Wurliizer electronic piano
Video Equipment & Services: Sony BVU-800, BTX sync equipment, JVC Playback (1/4")
Rates: Studio A \$105/hr, Studio B \$55/hr. Package rates available

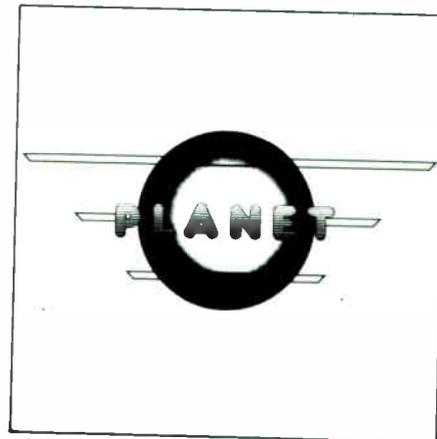
•••• THE OUTLOOK
Star Route Box 180, Bethel, ME 04217
(207) 824-3246
Owner: Outlook Productions
Studio Manager: Connie St. Pierre

•••• P&P STUDIOS, INC.
also REMOTE RECORDING
17 Viaduct Road, Stamford, CT 06907-4185
(203) 327-9204
Owner: John Fishback
Studio Manager: Aldena Leonard, Edgar Bernstein, V.P. Sales
Engineers: Dan Pickering, John Fishback, Dan Buckley
Dimensions of Studios: A 1000 sq ft B 100 sq ft
Dimensions of Control Rooms: A 350 sq ft B 100 sq ft
Tape Recorders: MCI JH24 24 track, MCI JH110 4 track, Ampex 440C 4 track, Ampex 440B 4 track, MCI JH110TC3 2 track w/SMPTE, MCI JH110 2 track, Ampex 440C 2 track, Ampex 440B 2 track, Tandberg 6000 1/4 tk, TEAC 2340 4 track, Nakamichi 480 cassette, Tascam 122 cassette
Mixing Consoles: A. Syncon, 28 x 24, B. Allen & Heath, 8 x 4
Monitor Amplifiers: PSE, McIntosh, HH Dyna
Monitor Speakers: Big Buds, Auratones, DAC 710s
Echo, Reverb & Delay Systems: MICMIX CSREO 23 and M R III, Loft delay
Other Outboard Equipment: dbx 160s, LA 3As, Orban parametric, Multi-track parametric, Tapco graphic, SAE graphic, Eventide Omnipressor, Eventide Harmonizer, Valley People Dyna Mite, Aphex Aural Exciter, Dynaflex, Sony Syncmaster SMPTE system
Microphones: Neumann, AKG, Sennheiser, Beyer, Shure, E.V., Sony, PZM, etc
Instruments Available: Yamaha grand, Rhodes 88, Gretsch kit w/various small percussion, Oberheim drum machine, Roland Juno 60 synth, Clavinet, Fender Twin Reverb and Bassman amps (tube)
Video Equipment & Services: Video/audio lock-up via SMPTE for sweetening and layback. Shooting stage on premises. All formats available 1/2", 3/4", 1", 3/4" Off line video editing w/CMX compatible list w/Sony BVU 800s
Rates: 24/8/4/2/1 track. \$75-\$50/hr. Video, film and multi media rates available upon request
Extras: Music videos, Video editing, Sweetening, Cassette duplication, Multi-image programming w/AVL, film/video stage, jingles and scoring for video, film, slide shows & P & P Music library
Direction: P & P has evolved from an audio only operation into a full-service media production company. We have the equipment to work in a variety of media. But, more importantly, we have the people who are not only competent and experienced, but take pride in doing the job right—the first time

•••• PEABODY RECORDING STUDIOS
also REMOTE RECORDING
1 East Mt. Vernon Place, Baltimore, MD 21202
(301) 659-8136
Owner: Peabody Institute of the John Hopkins University
Studio Manager: Alan P. Kelauer
Dimensions of Studios: A 20 x 32, B 450 seat hall
Dimensions of Control Rooms: A 12 x 20, B 15 x 20
Tape Recorders: Ampex MM-1200 24 track, Ampex ATR-104 4 track, (2) Ampex ATR-102 2 track; (2) Ampex ATR-802 2

track, Sony PCM 701 es/VO-5850 2 track digital, Tascam 122 cassette
Mixing Consoles: A. Sound Workshop 1600 w/VCA; B. Sound Workshop Series 30 w/VCA
Monitor Amplifiers: UREI, JBL and SAE
Monitor Speakers: JBL 4430, UREI 811, Tannoy Gold 10
Echo, Reverb & Delay Systems: Lexicon 224, Lexicon 200, DeltaLab DL-2, AKG BX-10E
Other Outboard Equipment: UREI LA4 Compressors (4), UREI 1178 limiters (2), UREI 546 equalizer, UREI 565T filters, MICMIX Dynaflex, Lang PEQ-2A equalizers, dbx noise reduction (36 channels), UREI equalizers
Microphones: Neumann KM-84s, KM-83s, KM-86s, U-87s, KM-88s, U-67s (tube), SM-69s, AKG 414EB—48s, 422s, Milab DC-63s, Sony C 37Ps, Beyer M-500s, M-160s, M 260s, M-101s, M 201s, M-69s, Electro-Voice dynamics, Shure dynamics, AKG dynamics, UREI direct boxes, PZMs and much more
Instruments Available: Steinway 9' concert grand, Steinway 7' concert grand, other instruments and devices on request
Rates: Call for rates
Extras: Studio A is tied to a 750 seat Concert Hall with a stage suitable for a 100 piece orchestra, and is available for a nominal charge. A full duplicating facility is also on premises
Direction: The Peabody Recording Studios is a classically oriented full service studio serving the needs of The Peabody Conservatory of Music and the surrounding community

•••• PENNY LANE STUDIOS
1350 Avenue of the Americas, New York, NY 10019
(212) 687-4800
Owner: Harley Flaum
Studio Manager: Alan Varner
Engineers: Alan Varner, Exec. Engr. William Schillinger, Tara Shanahan, Engrs
Dimensions of Studios: A 25 x 36, B 10 x 12
Dimensions of Control Rooms: both 18 x 20
Tape Recorders: Otari MTH 90 24 track, 3M 79 24 track, Ampex ATH 2 & 4 tracks
Mixing Consoles: Trident TSM, 32 in x 24 out, Trident Series 80B 32 in x 24 out
Monitor Amplifiers: McIntosh, Carver
Monitor Speakers: Big Buds, E.M. Long, Visconk, JBL, Auratone, Yamaha
Echo, Reverb & Delay Systems: EMT 140, BX20, Eventide SP2016, Lexicon Prime Time and Super Prime Time
Other Outboard Equipment: UREI, Allison, Trident, Eventide, Pultec, etc
Microphones: Full range of professional mikes.
Instruments Available: Drums, Rhodes, Steinway B, synthesizers
Video Equipment & Services: Full audio-for-video post-production with Q-Lock 3 10, JVC 6650 and JVC 6600 interlocked to 24 track and 2 track machines



PLANET SOUND STUDIOS
New York, New York

•••• PLANET SOUND STUDIOS
251 West 30th Street, New York, NY 10001
(212) 594-7554
Owner: John Grossbard, Mike Theodore, Bob Babbitt, Andy Hernandez, Rick Kerr
Studio Manager: Isabel Story
Engineers: Rick Kerr, Mike Theodore, Andy Heermans, Julian McBrowne and independents
Dimensions of Studios: C 24x45 + isolation and vocal booth, D 25x45 flexible iso and vocal areas, 40 foot ceiling
Dimensions of control rooms: C 18x23, D 18x23. Both rooms similar acoustic design
Tape recorders: Studer A80 24 track, AHO 1/2" & 1/4" two track, MCI 24 track, Ampex ATH 2/4 track, Otari 1/4", Mitsubishi digital mix
Mixing consoles: Trident Series 80, 40 input (64 mix) with automation, modified MCI 536 with automation and John Hardy pre amps

Monitor amplifiers: Haller and Crown

Echo, reverb, & delay: EMT stereo plates, (2) Lexicon 224X digital reverb with LARC, AMS rmx16 reverb, AKG BX20, (5) Lexicon PCM 42s, AMS dmx digital delay, Lexicon Super Prime Time

Other outboard equipment: (2) Pan Scans, (2) Marshall Time Modulators, Eventide 949 and 910 Harmonizers, limiters include dbx 160s and 165s, UREI LA2As, LA3As, and 1146s Pultec, Orban and API equalizers Chorus, flange, phasing and doubling units Valley People Dyna Mites, dbx and Kepex II noise gates

Microphones: Neumann 87s, 89s, U47s, KM84s, PZMs, AKG 414s, 451s and C12, Sennheiser 421s and 441s, Shure 57s and 58s, Electro Voice RE20s, other special and vintage selections available upon request

Instruments available: Custom oversize Milestone drum kit, Yamaha C7 grand piano, Yamaha CP70 and CP40 electric grands, Rhodes electric, (2) Yamaha DX7 synthesizers, Oberheim OBX synth and Expander module, LinnDrums, DMX drums, Simmons drums, Emulator 2 Full MIDI

Video equipment & services: JVC 6650 deck, AI and Beta 2000, 25" color monitor, full SMPTE lock-up available

Rates: Please call or write for specific project (block) rates

Extras: Unusual live drum environment — wooden floors, angled walls, high ceilings providing live ambience with gated room and reverb effects

Direction: Recent projects include Chaka Khan 'I Feel For You' Warner Bros. album, TS Monk & Eric Mercury Manhattan/Capitol EMI album, Steps Ahead, Jane Fonda Prime Time, Ramones, Colt 45 Natsco, Subaru Chrysler Corp. Our goal is to provide up to date technology, modern engineering, realistic prices

****** PLATINUM FACTORY INC.**

1368 Fulton St., Brooklyn, NY 11216
(718) 636-1401

Owner: Derek P. McDowell, President

Studio Manager: Derek P. McDowell

Engineers: Jon Evans, Franklyn T. Grant, Dick Hammond, Cirland Noel; **Asst. Engrs:** Derek Davis, Alvin Jowers, David Roberts-English

Dimensions of Studios: 35 x 25 x 15

Dimensions of Control Rooms: 18 x 14

Tape Recorders: Studer A80 24 track, Studer A80 2 track, Ampex ATR 102 2 track, AIWA cassette deck F 700 2 track.

Mixing Consoles: MCI JH428 2B/24

Monitor Amplifiers: Crown D150 A(2), Crown D 75, Perreaux 5000 B, (2) Crown DC 300A

Monitor Speakers: UREI 813, JBL 4312, Yamaha NS-10, Auratones

Echo, Reverb & Delay Systems: Ecoplate III reverb plate w/remote, Eventide SP 2016, Audio Digital TC-3, AKG BX 10, Prime Time

Other Outboard Equipment: dbx 160X compressor/limiters, Valley Kepex II, noise gates, Valley Maxi-Q parametrics, Eventide 910 Harmonizer, Eventide H-949 Harmonizer, Lang EQ, Orban/Parametric EQ

Microphones: AKG 451, AKG C414 EB, Crown PZM 30 GP, Shure SM81, Neumann 87, 47, Shure SM58; Sennheiser MD421

Instruments Available: Yamaha DX7, Oberheim OB-8, LinnDrum, Yamaha baby grand, Yamaha Studio Series drum, Hammond B-3, Oberheim Sequencer, Fender Rhodes

Rates: 12, 25, 50 hour packages, Christmas Package 4 hour pre-production bonus



• Platinum Factory Inc. ◀

Recording Studio

(718) 636-1401

PLATINUM FACTORY, INC.
Brooklyn, NY

****** POWER PLAY STUDIOS**

38-12 30th St., Long Island, NY 11101
(718) 729-1780

Owner: Anthony V. Arfi

Studio Manager: Gary Saizman, Diane Ragone

Engineers: Rick Gratz, Julian Herzfeld, Tony Arfi, Vaughan Mason, Mike Young, Robbie Watson, Patrick Adams, Harry Spiradakis

Tape Recorders: Studer A80 24 track, MCI JH24 24 track; (3) MCI 110B 2 track; MCI 110A 2 track; Tascam 80-8 8 track, Tascam 40-4 4 track; Technics RSM 95, 65 cassette; Onkyo 2060 cassette

Mixing Consoles: MCI 636 30 x 30; Trident Series 70, 28 x 24. **Monitor Amplifiers:** Haller P500, Crown DC-300A, Phase Liner 400, Yamaha P2100, P2050, SAE 50, Unisync 100

Monitor Speakers: UREI 813B, JBL 4430, JBL 4311s, Big Reds, (2 sets) Yamaha NS-10Ms, (2 sets) Auratones

Echo, Reverb & Delay Systems: Yamaha REV-1, Lexicon 200, PCM 60, Ursa Major Space Station, (2) MXR 01 reverbs, (2) AKG BX10s, (2) Eventide Harmonizer, (4) PCM 42s, (2) PCM 41, MXR flanger/doubler.

Other Outboard Equipment: (2) dbx 165As, (4) dbx 160X, (5 pair) Dyna-Mites, Symetrix CL100, Orban stereo parametric, Klark-Teknik stereo 27 band EQ

Microphones: AKG "Tube"; Neumann U47, U87s, KM-85, KM-84, AKG 414, 452, 451, 535, EB; (7) Sennheiser 421s; (5) Shure SM57; PZM.

Instruments Available: DX-7, Prophet 5, PPG Wave, Emulator, Juno 106, 60, Mini Moog, Pro-1, LinnDrum, (2) Yamaha RX-11, MSQ 700, Super Replay, total MIDI interface.

Rates: Studio B: 24 track, \$40/hr; 8 track, \$35/hr

****** POWER STATION**

441 W. 53rd St., New York, NY 10019
(212) 246-2900

Owners: Bob Walters, Tony Bongiovi
Studio Manager: Dianna Alleyne

****** PRO AUDIO, INC.**

only REMOTE RECORDING
12255 Veirs Mill Road, Wheaton, MD 20906
(301) 946-3043, 946-7364

Owners: Ed Eastridge, John Sprung
Studio Manager: Ed Eastridge

—LISTING CONTINUED ON PAGE 180

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—LISTING CONTINUED FROM PAGE 179

Engineers: Ed Casey, Jim Crenca
Dimensions of Studios: 8 x 24
Dimensions of Control Rooms: 8 x 24
Tape Recorders: MCI JH-114 24 track; Crown 844 4 track; Tascam 58 8 track, Revox PR 99 2 track.
Mixing Consoles: Custom built main console, 40 x 16 x 24; Soundcraft sub-mix 200, 16 x 4
Monitor Amplifiers: Crown DC-300, D-150
Monitor Speakers: UREI 811B
Echo, Reverb, and Delay Systems: AKG BX10, Lexicon Prime Time, Eventide Harmonizer
Other Outboard Equipment: Valley People Gain Brain IIs, Kepex IIs, Audioarts parametric EQ
Microphones: Neumann U87, U89; AKG C414, C451, Sennheiser MD 421, Shure SM57, SM58, Crown P2M
Instruments Available: Two channel intercom system, 59 channels of stage snake with Jensen transformer mike splitter system
Video Equipment & Services: 19" color video monitor, camera switchable between stage & preview inputs.

••• PYRAMID SOUND, INC.
 also REMOTE RECORDING
 105 E. Clinton St., Ithaca, NY 14850
 (607) 273-3931

Owners: John Peralas, Alex Peralas
Studio Manager: Peter Bombar
Engineers: Chief Engineer: Alex Peralas; 2nd Engineer: Peter Bombar
Dimensions of Studios: Main Room 38 x 45 x 15 (average height) Three isolation rooms are available with soft and/or hard surfaces
Dimensions of Control Rooms: 25 x 28 LEDE design
Tape Recorders: Studer A80 VUMK III 24 track, Studer B67 2 track, Crown 722 2 track, Tandberg 9000X 2 track, NAD 6150C cassette, Tandberg TD 20A 2 track, Revox A77 2 track
Mixing Consoles: Harrison/64K Allison MR-3 automated 36 in x 24 out
Monitor Amplifiers: BGW, Bryston, Kenwood, McIntosh, NAD
Monitor Speakers: UREI 813B Time Aligned, E V century 3s, 604Es, Yamaha NS-10M, JBL 4312, Auratones
Echo, Reverb, and Delay Systems: Lexicon 224XL w/LARC and 8-20 software, Lexicon PCM 41, DeltaLab ADM 512 & 2048, EMT 140S plate, Eventide 1745M digital delay, Lexicon Prime Time II



Other Outboard Equipment: Orban 622B parametric EQs, dbx 160Xs, Valley People Kepex IIs, Gain Brain, Maxi-Q; UREI 1176 I.Ns, dbx 160s, UREI LA-3As, Aphex Aural Exciter B, EXR Exciter, Orban de-esser, Eventide H910 Harmonizer, Drawmer P5201 noise gate/duckers; Ibanez VE 40s multi effects.
Microphones: AKG; Sennheiser; Neumann U47, U67s; Crown; Electro-Voice, Beyer; Countryman, Shure.
Instruments Available: Steinway Model B grand piano; Ludwig drums, Zildjian cymbals, Gibson and Fender guitars; amps by Fender, Altec, Spectra, Marshall; LinnDrum, EMU Drumulator; synths by Yamaha, Korg, Roland; other equipment available upon request
Video Equipment & Services: State-of-the-art video service sub-contracted upon request. Sessions musicians available
Rates: \$60/hr + tape. For block rates please call.

••• QUADRASONIC SOUND
 also REMOTE RECORDING
 723 7th Ave., New York, NY 10019
 (212) 730-1035

Owner: Lou Gonzalez
Studio Manager: Laurie Gonzalez
Engineers: Lou Gonzalez, Peter Lewis, Alan Meyerson, Dave Ogrin
Tape Recorders: Studer A80 15/30 ips 24 track; Studer A80 15/30 ips 2 track, Ampex 440 15/30 ips 2 track; TEAC A-3440 4 track; TEAC C-3X cassette; Technics M-65 cassette.

Mixing Consoles: Solid State Logic 4000E with Solid State Logic Automation Computer

Monitor Amplifiers: Crown PSA2 (mains), McIntosh 250s, McIntosh 2100s

Monitor Speakers: UREI 813, JBL 4311, Yamaha NS-10s, Auratones

Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb system; EMT 140 stereo plate; EMT 140 mono plate; spring reverb; AMS digital reverb; (2) Lexicon PCM-42 digital delays with extended memory; Lexicon Prime Time digital delay; (3) DeltaLab DL-1 digital delay; Eventide Harmonizer; AMS 6.4/1.6 sec. digital delay; Roland SBF 325 stereo flanger.

Other Outboard Equipment: Dolby Type A 24 track, Dolby Type A 2 track (3 pairs); Burwen DNF 1000 (4 channels); Roland SDD 320 Dimension D; (2) Valley People Dyna-Mites; Teletronix A-2A; (2) dbx 160; (2) UREI LA-4; (2) Universal Audio 1176LN; (8) Kepex (Allison Research); Eventide Omnipressor; (2) Pultec EQH-2 program EQ, Pultec EQP-1S program EQ; Pultec MEQ-5 mid-range EQ; (8) API 550 EQ; Roland SEQ 315 2 channel graphic EQ; Roland SEQ 331 1 channel graphic EQ; Orban 662 parametric EQ.

Microphones: (6) Neumann U-67; (4) Neumann U-87; (2) Neumann KM-84, Neumann KM-85; (2) Neumann M49B, (2) AKG 414; (4) AKG 451; (2) AKG D-1000E; (2) Electro-Voice RE-20; (3) RCA 77DX; RCA 44BX; (3) Sennheiser 421; Sennheiser 441; Shure SM7B; Shure 548SD; Shure SM57; Audio-Technica AT 802

Instruments Available: Prophet V w/MIDI & 120 presets; MiniKorg synthesizer, Moog Liberation, Steinway B grand piano (6'), Rhodes electric piano, Steinway L baby grand piano, Yamaha DX-7 w/8 ROM cartridges, Pearl drum kit, LinnDrum w/alternate sounds, Dr. Click, Amps: (2) Polytone 427-S, (2) Fender Twin Reverb, Kustom K1000-S, Peavey Century, Peavey Speakers, Marshall Major amp

Video Equipment & Services: Sony VO 1800 U-Matic videocassette recorder, Sony VO 2850 U-Matic videocassette recorder, JVC VHS videocassette recorder, Sony Pro-Feel 19" monitor.
Rates: \$150/hr

Extras: (8) API mike pre-amps, (3) API line amps; UREI digital metronome; Crown RTA-2 spectrum analyzer; BTX edit code synchronizer; 1/2" mastering capability

Direction: Our Studio B (now under construction) will offer a Harrison 32 track console and Studer tape machines for \$75/hr. Please call us for more information.



QUADRASONIC SOUND
 New York, NY

••• QUEEN VILLAGE RECORDING STUDIOS
 800 S. 4th St., Philadelphia, PA 19147
 (215) 463-2200
Owner: Walter Kahn
Studio Manager: Julie Carter

••• THE RANCH RECORDING STUDIO
 37 W. 20th St., Suite 1107, New York, NY 10011
 (212) 741-0784

Owner: Andy Parks Productions, Inc.
Studio Manager: Cathy Parks
Engineers: Dave Ruffo, Robbie Norris
Dimensions of Studios: Main Room: 16 x 26, Drm Room: 15 x 13; Vocal Booth: 9 x 7

Dimensions of Control Rooms: 16 x 14 1/2 x 10 ceiling
Tape Recorders: 3M 79 24 tracks; Ampex ATR 102 (w/1/4" + 1/2" heads) 2 track, Sony 850 2 track, Sony 854 4 track; Nakamichi BX-1 cassette.

Mixing Consoles: Amek MM2500 (fully automated), 36 in x 24 out.

Monitor Amplifiers: McIntosh, Crown.
Monitor Speakers: Altec 6048H, JBL 4311, Auratones, Yamaha NS-10M.

Echo, Reverb, and Delay Systems: (2) Audicon full size plates, Lexicon 224XL, Lexicon Super Prime Time, Lexicon Delta-T fully loaded; Effectron II, Eventide 11910 Harmonizer, Yamaha D1500 DDL w/MIDI.

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Other Outboard Equipment: Teletronix LA2A, LA3, (2) 1176, (2) LA4, (2) Symetrix CL-100, dbx 160, (2) Kepex Is, (4) Kepex II; Eventide flanger; Pultec Lang & Ashly EQs; EXR Exciter; 24 track Dolby A, 2 track Dolby B, Roland SBX-80 (sync box) w/SMPTE.

Microphones: Neumann (2) Tube U47, FET U47, (3) U87, KM84, (2) AKG 414EB, (2) 251, D224, D12, D202, Sennheiser 441, (3) 421, Shure (4) SM57, SM56; Sony ECM 22 stereo mike.
Instruments Available: Ludwig Octopus Drum kit, Steinway B grand piano, Fender Rhodes PNO, Fender & Marshall amps; Yamaha CS80, DX7; LinnDrum machine; Roland Super Jupiter-MPG80 & MKS 80; Kurzweil 250; AMPEG B-15 bass amp.
Rates: On request.

•••• **MICKEY RAT RESEARCH/EARTHBASE 1**
Cheezbox 1332, Silver Springs Pyramid, MD 20902
(301) 649-4153
Owner: Cheeztone Records & Tapes Products Group
Studio Manager: Mickey/Michael Rat, Minnie Marie Rat

•••• **RAWLSTON RECORDING**
1271 Fulton St., Brooklyn, NY 11216
(718) 622-0010, 622-0216, 622-0375
Owner: Rawlston Charles
Studio Manager: Claude Achille
Engineers: Claude Achille, Philip Robinson, Akli Walker, Tom Weber.
Dimensions of Studios: 35 x 16.
Dimensions of Control Rooms: 27 x 14
Tape Recorders: Studer A-80 MKIII 24 track, Studer A-80 1/2" & 1/4" 2 track; Studer AB10 1/4" 2 track, Technics 1506 stereo 1/4 track; (2) Tascam 122 cassette.
Mixing Consoles: Neve 8068, 64 in x 32 out
Monitor Amplifiers: Crown PSA-2s, Crown DC-150As.
Monitor Speakers: UREI 813B, Yamaha NS-10, JBL 4311, Auratones.
Echo, Reverb, and Delay Systems: EMT 140 stereo plate, 2 live chambers, Eventide 2016 digital processor, Lexicon Prime Time II, Eventide 949 Harmonizer, AMS phaser, 2 Roland SDE 3000 delay.
Other Outboard Equipment: (2) API 550-A EQ, (2) Orban 622B parametric EQs, UREI stereo graphic 532 EQ, Pultec Tube EQ, (4) Neve Compressors, A + DR Easy Rider compressor, Dolby 361 noise reduction, 2 track Dynaflex noise reduction, (2) UREI 1176 limiters, (4) Kepex II, (4) Valley People Dyna-Mites, (2) dbx 160X limiters.
Microphones: Neumann tube U47, M49, U87s; Shure 57s; Sennheiser 421s, 441s; AKG 414s, D12s, 451s; Electro-Voice RE20s, RE55; PZMs; Countryman direct boxes.
Instruments Available: Yamaha C7 grand piano, Yamaha PF15 electric piano, Yamaha DX7, Oberheim OBB & OBI, Yamaha Recording Drums, Linn & DMX drum machines, SVT bass amp, Roland Jazz Chorus, Roland MSQ 700.

•••• **RCA RECORDING STUDIOS**
also REMOTE RECORDING
1133 Ave. of the Americas, New York, NY 10036
(212) 930-4062
Owner: RCA
Studio Manager: Director of Recording Operations, Larry Schnapf; Studio Manager: Gene Cattani; Dir. of Studio Sales: Len Lawson.
Engineers: Dick Baxter, Ed Begley, Tom Brown, Jim Crotty, Al Fait, Dennis Ferrante, Mike Getlin, Paul Goodman, Ray Hall, Joe Lopes, Pat Martin, Mike Moran, Tony Salvatore, Bob Simpson
Mastering: Jack Adelman, Jay Koopman, George Drobot, Rick Rowe
Dimensions of Studios: A: 60 x 100 x 30; B: 50 x 75 x 28; C: 50 x 75 x 25; D: 30 x 40 x 15; E: 15 x 25 x 10; F: 15 x 25 x 10.
Dimensions of Control Rooms: A,B,C: 30 x 40 x 25. Nine mastering rooms, 6 lacquer mastering cutting channels.
Tape Recorders: MCI, Studer, Ampex, Presto; 24 track: MCI Ampex; 16 and 8 track: 3M, MCI, Ampex; 2 track: Ampex, 3M, MCI; digital systems: Soundstream - 2, 4 & 8 track recording & editing, IVC - 2 track recording & editing, Sony - 2 track & 24 track recording & editing.
Mixing Consoles: (5) Neve consoles; (2) APIs; MCI, 64 in x 24 out.
Monitor Amplifiers: McIntosh 2100.
Monitor Speakers: 604s, Utahs, Mastering Lab crossovers.
Echo, Reverb & Delay Systems: 36 plates, 6 AKGs, 6 live rooms; (4) Lexicon 224 digital delays.
Other Outboard Equipment: All brands, full complement.
Microphones: Complete line, 600 microphones.
Instruments Available: 6 Steinway grands, 3 over 100 yrs. old 8 organs, Extensive. What we don't have we'll rent.
Extras: Mobile van.
Rates: On request. Call Len Lawson.
Direction: Donny Hathaway, Roberta Flack, Kansas, Elvis Presley, George Benson, Waylon Jennings, Jefferson Starship, Lou Reed, David Bowie, Marshall Tucker Band, The Band, Hot Tuna, Frank Zappa, Oscar Peterson, Ella Fitzgerald, Buddy Rich, Lionel Hampton, ABC-TV, AT&T, Avco Embassy, BBC, Capitol Records, Dick Clark Prod., Met Opera, MGM Films, Motown Records, Frank Sinatra, Cher, Peaches & Herb, Judy Collins, Michelle Le Grande, Zoot Sims, Joe Pass. Film scoring for "Reds," "Lovesick."



RECORD PLANT STUDIOS
New York, NY

•••• **RECORD PLANT STUDIOS**
also REMOTE RECORDING
321 W. 44th St., New York, NY 10036
(212) 581-6505
Owner: Roy Cicola
Studio Manager: Mitch Plotkin, Traffic Mgr. Patti Joblon
Engineers: Jay Messina, Chief engr., David Hewitt, Dir. of remote recording; Sam Ginsberg, David Thoener, Thom Panuzio, Rod O'Brien, Steve Marcantonio, Gray Russell, William Wittman, Tim Bomba
Dimensions of Studios: A: 39 1/2 x 24 1/2 x 11; B: 35 x 26 x 11; C: 15 1/2 x 29 1/2 x 9 1/2, Mix room: 16 1/2 x 10 x 8
Dimensions of Control Rooms: 16 x 19 x 9; B: 14 x 17 x 8, C: 17 x 16 x 8. Mix room: 21 1/2 x 20 1/2 x 9
Tape Recorders: Ampex MM-1200 24 track, Ampex ATR-104 4 track, Ampex ATR-102 2 track
Mixing Consoles: A: Spectrasonics Custom 30 x 16 x 24; B: API Custom 40 x 16 x 24, C: API Custom 32 x 16 x 24; Mix room: Taldent Custom TSM 56 in x 24 out.

Monitor Amplifiers: Bryston amps, Crown amps, Massenburg computer system.
Monitor Speakers: Westlake monitors, JBL 4311s, Yamaha NS10M's, RCRs E-3, Auratones, Burhoes.
Echo, Reverb & Delay Systems: (8) EMT Echo Plates, Space Stations, Publisons, Eventide DDLs, Audio Development Delay, Harmonizers.
Other Outboard Equipment: Extensive Outboard inventory including vintage and newer equipment. Most requested limiters, equalizers, effects, and noise reduction.
Microphones: Large selection of Beyer, Shure, AKG, Neumann, Electro-Voice, PML, Sennheiser, RCA, Sony, various models.
Instruments Available: Steinway grand pianos in Studios A, B & C, Hammond organs, percussion kit, large selection of guitar amplifiers including Marshall, Fender & Gibson and Ampeg bass amplifiers.
Video Equipment & Services: 3/4" video playback only: IVC CR 6600, RM 70U Controller.
Rates: Available upon request.

•••• **REEL PLATINUM STUDIOS**
Lodi, NJ 07644
(201) 471-3464
Owner: Bob Allecca
Studio Manager: Bob Allecca, Julian Hernandez
Engineers: Bob Allecca, Julian Hernandez
Tape Recorders: MCI JH 24 w/Auto Locator III 24 track w/16 track head stack; TEAC 80-8 8 track w/DX8 N.R.; TEAC A3440 4 track w/RX9 N.R.; Technics 1500 2 track; (2) TEAC 122 cassettes, Sony PCM-F1 2 track digital.
Mixing Consoles: Trident Series 80 (automated) 32 x 24 x 24.
Monitor Amplifiers: Yamaha 2200s, 2050s.
Monitor Speakers: JBL 4411s, JBL 4312s, Yamaha NS-10Ms, Auratones
Echo, Reverb, and Delay Systems: Ecoplate III, Orban IIIB, (2) Lexicon Prime Time w/MEO, Lexicon PCM 42/MEO, Eventide Harmonizer H949, Eventide Instant Flanger.
Other Outboard Equipment: 26 channels dbx noise reduction, Kepex IIs, dbx 900 signal processing rack, gates, compressors de-essers, (2) dbx 160 compressor/limiter, Orban 622B parametric EQ, TEAC GE-20 graphic EQ, Symetrix noise gates, White 1/2 room EQ.
Microphones: Neumann U87; AKG 414s; Sennheiser 441s, MD 421s; E-V RE-20, RE-15s, 635As; Beyer 201N; Shure SM 57.

—LISTING CONTINUED ON PAGE 182

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ROOMS • LEXICON PRIMETIME II •
EVENTIDE DIGITAL PROCESSOR • DBX,
NEVE, UREI COMPRESSORS • API, UREI,
PULTEC EQUALIZERS • NEUMAN TUBES
ELECTRO VOICE, AKG, SENNHEISER, SHURE
MICROPHONES • YAMAHA C7 GRAND •
PF15 ELECTRIC PIANO • FENDER RHODES •
YAMAHA CUSTOM RECORDING DRUMS •
DX7, MINI MOOG, OB8 SYNTHESIZER •
LINN, DMX DRUM MACHINES • SVT BASS
AMP • ROLAND JAZZ CHORUS GUITAR
AMP • SIMMONS SDS7 • YAMAHA NS 10 •
AURATONES • MSQ 900 • EMULATOR II

1271 FULTON STREET, BROOKLYN
N.Y. 11216 (212) 622-0010, 622-0216

Circle #165 on Reader Service Card



—LISTING CONTINUED FROM PAGE 181

Instruments Available: Yamaha acoustic piano, Fender Rhodes,
Korg PolySix, Yamaha DX7, Pro-one, Yamaha IX50B amp, full set
of Tama drums, percussion, congas, wood blocks, cowbells, etc
Commodore 64, MIDI interface, Roland SBX-80, DMX digital
drum machine, Yamaha RX11 digital drum machine, Roland
MSQ 700

Rates: Call (Block rates available).

Extras: We offer in house production, arranging, lead sheets, full
keyboard and drum machine programming



REEL PLATINUM STUDIOS
Lodi, NJ

•••• REGENT SOUND STUDIOS, INC.
1619 Broadway, New York, NY 10019
(212) 245-2630

Owner: Robert Liftin

Studio Manager: Gen Mgr. - Sandi Morrof; Trafficing Mgr.
-Scott Schumer

Engineers: Chief Engineer Jeffrey Peterson; Bob Liftin, John
Alberts, David Browning, Al Buonanno, Bob Donlan, Barbara
Flyntz, Jimmy Liftin, Richard Fairbanks, Ralph Kelsey, Mark Par-
tis, Danny Lawrence, Fred Shehadi, Maintenance: Lew Whittier,
Peter Fine

Dimensions of Studios: Studio A: 50 x 24; Studio B: 28 x 30,
Studio C: 23 x 14, Studio D: 17 x 19

Dimensions of Control Rooms: Studio A: 21 x 19; Studio B: 19 x
16, Studio C: 20 x 21, Studio D: 13 x 15

Tape Recorders: Ampex ATR 124 (2), ATR 116, MM 1200 (5)
w/P.U.R.C. and Rehearse functions, ATR 104 (3), ATR 102 (6),
ATR 700 (4), 440 modified Mono Nagra, TEAC 40-4, Magna-
Tech 16/35mm mag dubber, Aiwa cassette decks, Nakamichi 500
cassette deck

Echo, Reverb & Delay Systems: Audicon Plate, Lexicon 224 (2),
AKG BX 20, MICMIX Master-Room

Other Outboard Equipment: Lexicon DLLs, Prime Time, Tele-
tronix LA2A, Pultec EQH2, 360 Programmable EQ, UREI LA4,
Aengus EQ, Kepex 2, Eventide Harmonizer, Audio Designs
Selective limiter, Orban parametric, UREI LA3A limiter, UREI Lit-
tle Dipper, programmable Autolafe, etc.

Microphones: Neumann U87s, U89s, U49s, KM84s, ATM21;
RCA 77DXs, Sennheiser 421s, 441s; Shure SM7s, SM57s, D-12,
AKG 414s, KM86; E-V RE15, RE16s, RE20s, RE55s, CS15s;
AKG 451, Sony ECM50s, etc

Instruments Available: Fender Rhodes, Steinway & Yamaha
grand pianos, Hammond B-3, drums (2 sets), tympani, xylophone,
vibes, celeste, congas, bongos, orchestra bells, misc. percussion

Video Equipment & Services: EECO MQS 103A w/UART (3);
Convergence 104; BTX Shadow (3), Ampex VPR 2 w/Dolby (2),
VPR 80, JVC 8250 (3), 8200 (2); Sony BVU-800 DB, 2860 (2),
Sony Digital PCM 1610, PCM 10, F1, EECO Time code
generator; Time code reader; Data metrics & ESSE character
generators, Conrac & Sony video monitors; Ampex Sync lock (2).

Rates: A/V computer controlled recording, mixing & sweetening
\$225/hr; 8/16/24 track recording \$200/hr, 8/16/24 track mixing
\$180/hr; 16/35mm mag \$65/hr; sound effects preparation and
copy room \$50 ADR Looping \$150/hr. Call for other rates



REGENT SOUND STUDIOS, INC.
New York, NY

•••• RIGHT TRACK RECORDING

168 West 48th St., New York, NY 10036
(212) 944-5770

Owner: Simon Andrews

Studio Manager: Mark Harvey

Engineers: Chief recording engr. Frank Filippetti, Chief technical
enr. Bob Schwall

Dimensions of Studios: A: 40 x 40 x 15, Isolation rooms A: 12 x
10 x 10, B: 20 x 12 x 13, Studio B: 32 x 28 x 15 approx

Dimensions of Control Rooms: A: 24 x 23, B: 18 x 16

Tape Recorders: (2) Studer 800 MK III 24 track, MCI JH24 24
track, MCI 114 24 track; (2) Studer A80 VV 1/2" 2 track, Studer
A80 RC 2 tra-k, Ampex ATR 2 & 4 track, MCI 110B 1/2" 2
track, digital upon request

Mixing Consoles: Studio B: SSL 4000 E 48/32, Studio B: SSL
6000 E 56/32

Monitor Amplifiers: Crown PSA 2, Yamaha 2200, BGW 750,
BGW 250

Monitor Speakers: UREI 813A, Westlake HR-1, Yamaha NS
10 M

Echo, Reverb & Delay Systems: (4) EMT 140 T S, AKG BX20,
AKG BX10, Lexicon 224, Lexicon 224X w/LARC, Eventide
949/910/1745 M, DeltaLab DL2, Publison, Lexicon Delta T,
Prime Time II, AMS, EMT 252, Quantec, etc

Other Outboard Equipment: Too numerous to mention.

Microphones: Neumann U47, U67, M269, U87, KM84, AKG
414, D12, C12, C24, 451, RCA 77DX; Electro-Voice; Shure;
Sennheiser; Beyer, etc

Instruments Available: Yamaha 9' concert grand 6'3" conserva-
tory grand, Hammond B 3, Prophet 5, Mini Moog, ARP, clavinet,
Yamaha DX7, etc

Video Equipment & Services: 3/4" cassette playback & dubbing,
SMPTE interlock, both video & audio

Rates: Upon request

•••• ROADWAY RECORDERS INC.

also REMOTE RECORDING

104 N. Ashby Ave., Livingston, NJ 07039
(201) 944-9695

Owner: Richard Dior

•••• ROCKIN' REEL RECORDING

636 Larkfield Rd., East Northport, NY 11731
(516) 368-5689

Owner: David Greenberg

Studio Manager: Esther Aurenemma

Engineers: David Greenberg, Bob Lessick, Thomas Schizzano

Dimensions of Studios: 24 x 27, 3 isolation rooms; enclosed
drum booth

Dimensions of Control Rooms: 22 x 19

Tape Recorders: Otari MTR-90, Ampex ATR 102 2 track,
Technics 1500 2 track, Nakamichi 600 cassette decks, Tascam
122B cassette decks

Mixing Consoles: Tangent modified 3216 32 in x 24 out

Monitor Amplifiers: BGW 750, BGW 600, BGW 50, Dynaco
400, UREI 6500

Monitor Speakers: UREI 813B Time Aligned, JBL 4311, 4312,
Auratones, Yamaha NS10Ms, Pyramids

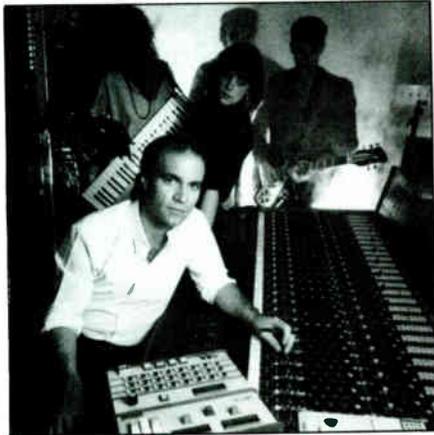
Echo, Reverb & Delay Systems: Lexicon 224 digital reverb,
Echoplate, Sound Workshop 242 spring, Lexicon Prime Time,
MXR digital delay, Eventide 910 Harmonizer, Effectron II, tape
echo

Other Outboard Equipment: 24 track dbx noise reduction,
Kepex, Gain Brain, UREI 1176LN peak limiters, dbx compres-
sors, B&B audio CX1 compressor/noise gates, UREI digital metro-
nome, B&B parametric EQ, UREI 565 EQ, graphic EQ, dbx

160X. Ashly parametric notch filter; UREI 1178 stereo peak limiter.

Microphones: Neumann U47 FET, U87, U89 KM84, KM88, AKG 414, 451; Sennheiser 421, 441; Beyer M160; RCA 77DX; Sony C37; Shure SM57, SM58; E.V. RE20, RE15, RE55, RE10.
Instruments Available: Steinway baby grand, Hammond B3 w/ #10 Leslie, DymoMy Piano, Rhodes 88, ARP String Ensemble, arps acoustic amps, Mesa Boogie amp, Hohner Clavinet DC, Roland amp JC120, Yamaha DX7, LinnDrum.
Rates: Rates available upon request.

**** **RPM SOUND STUDIOS, INC.**
12 East 12th St., New York, NY 10003
(212) 242-2100
Owner: Robert Paul Mason
Studio Manager: Sandra Deckert



SABELLA STUDIOS
Roslyn Heights, NY

**** **SABELLA STUDIOS**
49 Oakdale Rd., Roslyn Hts, L.I., NY 11577
(516) 484-0862
Owner: James Sabella
Studio Manager: James Sabella
Engineers: Jim Sabella, Jon King, Robert Stancot, Bob Bellis.
Dimensions of Studios: 17 x 22, design by Frank Comentale.
Dimensions of Control Rooms: 14 x 16, design by Frank Comentale.
Tape Recorders: MCI JH114 24 track; Ampex AG 350 2/4 track; Technics M65 cassette 2 track.
Mixing Consoles: Tangent 3216, 32 in x 24 out, with modified EQ and solo.
Monitor Amplifiers: David Haller 500, Altec amps, Spectro Acoustics 202C.
Monitor Speakers: Big Reds w/special construction, design and Master Lab crossovers; Auratone 5C; JBL 4311s, KEF.
Echo, Reverb & Delay Systems: Lexicon 200 w/new programs, Bel-Delay, EMT 140 modified by G. Hanks, DeltaLab DDL I, Prime Time model M93, Da/Dad stereo tapped delay, DeltaLab Super Time Line ADM 2048.
Other Outboard Equipment: Universal Audio 1176s, Universal Audio 175Bs, tube limiting amplifiers, Pultec EQ 1Ps, Pultec EQ H2s, dbx 155s, dbx 160s, Roger Mayer noise gates, Eventide flanger, Systems Design vocal pitch changer, EXR Exciter.
Microphones: Neumann U67 tube, U87s, U47 tube, KM84s, IM86, Beyer M88s, M160s; Beyer Sound Star; AKG D12, 452s, 474s; Sony C37As tube, Sennheiser 421s, Shure SM57s, 58s, E.V. RE20s.
Instruments Available: Drums, keyboards, Micro Moog Pro I, CBXA, guitar amps, Fender, Hiwatt, Marshall, Fender Strat, Gibson Les Paul, Fender bass, Rickenbacker guitar, DX7, OB-8, Poly 800, programming for all keyboards, LinnDrum, DX drums.
Video Equipment & Services: JVC 1/2"

**** **HOWARD SCHWARTZ RECORDING INC.**
420 Lexington Ave., New York, NY 10170
(212) 687-4180
Owner: Howard Schwartz
Studio Manager: Michael Laskow
Video Equipment & Services: (4) JVC 8250 3/4" video cassette machines, (2) NEC TT 8000 1" video machines

**** **SECRET SOUND STUDIO, INC.**
also **REMOTE RECORDING**
147 West 24th St., New York, NY 10011
(212) 691-7674
Owner: Jack Malken
Studio Manager: Debra Rebhun

**** **SELECT SOUND STUDIO**
also **REMOTE RECORDING**
2315 Elmwood Ave., Kenmore, NY 14217
(716) 873-2717
Owners: William A. Kothen, Peggy K. Kothen.
Studio Manager: Chuck Mandrell, Gen. Mgr.: Richard G. Bauerle, Musical Dir.

**** **SERV SOUND**
35 W. 45th St., New York, NY 10036
(212) 921-C555
Owners: Michael Shapiro, Christopher Nelson, Diane Ehrlichman
Studio Manager: David Teig
Engineers: Stewart Small, Chuck McDaniel, Ralph Jones, Bob Fava, Kim Stanley.
Tape Recorders: Otari MTR-90 24/16 track, (2) Otari 7800 B track, Otari MX 5050 4 track; Otari MX 5050 B track.
Mixing Consoles: MCI 618, 18 in x 8 out; Syncon, 28 in x 28 out; Audiotronics, 24 in x 8 out.
Monitor Amplifiers: Crown, McIntosh.
Monitor Speakers: JBL 4311s, JBL 4401s.
Echo, Reverb, and Delay Systems: Ursa Major Star Gates/Space Station, Eventide Harmonizer.
Other Outboard Equipment: dbx compressors 160/160X, Orban de-essers, dbx noise reduction, Kepex, Sony PCM-501ES.
Microphones: Neumann U47s, U67s; AKG 414s, 140Es, C451s; Sennheiser 441s, 421s.
Instruments Available: Yamaha DX7, Roland JP3/Jupiter 8, CMI Fairlight, LinnDrum, Emulator Drum, Steinway grand piano, Korg Poly-600.
Video Equipment & Services: 4 BTC video interlocks, 4 JVC CR-8250U machines, JVC/Sony monitors, 4 video sweetening rooms and voice to picture, 8/16/24 track to video.
Direction: ServSound is a one-stop post production recording facility featuring video-sync scoring and mixing, original composition, including a fully equipped digital composition studio with Fairlight CMI and Yamaha DX7 synthesizers, performance and dubbing to picture, with a full complement of 24, 16, and 8 track mixing studios for the production of slide, multimedia, A/V, film and video soundtracks. ServSound also has the latest and one of the most complete music and sound effects libraries available, as well as the award winning talents of film and video score composer Michael J. Shapiro. ServSound handles all post production sound requirements, from narration and editing, to scoring, mixing and duplication in the final medium.



SHAKE DOWN SOUND
New York, NY

**** **SHAKE DOWN SOUND**
222 W. 37th St., New York, NY 10018
(212) 947-9170
Owner: Arthur Baker
Studio Manager: Rhonda Gebel
Engineers: Andy Wallace, Alan Meyerson, Jay Burnett, Dave Ogren.
Tape Recorders: MCI 24 track; (2) Ampex ATR 1/2" 2 track, MCI 1/2" 2 track.
Mixing Consoles: Trident Series 80, 32 input.
Monitor Amplifiers: All Crown.
Monitor Speakers: UREI 813s, Electro-Voice Sentry 400s, Yamaha NS-10s.
Echo, Reverb, and Delay Systems: EMT 240 plate; MXR digital reverb; "The Room of Doom", Eventide Harmonizer, Lexicon, MXR and AMS digital delays.
Other Outboard Equipment: (8) channels of Neve EQ, Kepex Gain Brain, Dyna-Mites, (2) Pultec EQs, dbx 160s, dbx 165s.

--LISTING CONTINUED ON PAGE 184

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

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

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



So call or
write us at:

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

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

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

Circle #166 on Reader Service Card

—LISTING CONTINUED FROM PAGE 183

MXR 1/2 octave EQs, White 1/2 octave EQs, (2) LA2As, Orban 627s, Dimension D.

Microphones: Neumann, AKG, Shure.

Instruments Available: Yamaha 6 1/2 grand piano, Fairlight, Emulator w/full disk library, Emulator II, Prophet-TB, Oberheim OB-8, Yamaha CD 35, Roland Juno-60, Yamaha DX7s, Electro Harmonix Super Relay, Dr. Click, Oberheim DSX sequencer, Roland TR 808 drums, DMX drums, Emulator drum machine.

Rates: Studio: \$150/hr, Editing: \$65/hr.

Extras: Superb edits done by the Latin Rascals. All keyboards are MIDI-ready.

Direction: Please feel free to call for further information.

**** SHEFFIELD AUDIO VIDEO PRODUCTIONS
also REMOTE RECORDING

13816 Sunnybrook Rd., Phoenix, MD 21131
(301) 628-7260

Owner: John Anosa

Studio Manager: Richard Van Horn

Engineers: Bill Mueller, chief engineer; Victor Giordano, Besty Harmatz.

Tape Recorders: (2) Studer A-80 IV 24 track, 3M 79 24 track; Studer A-80R 2 track, (6) Studer B67 2 track, Studer A-810 2 track.

Mixing Consoles: Solid State Logic 4000E 40 input; Neotek IIIC, 36 input; Audiotronics 501, 26 input.

Monitor Amplifiers: Crown, BGW and UREI.

Monitor Speakers: UREI Time Aligned Monitors 813 and 813B, Yamaha NS-10.

Echo, Reverb, and Delay Systems: EMT 140A stereo echo chamber, Lexicon 224XL with LARC controller, DeltaLab delay lines, AMS DMX-80s, Yamaha D-1500, Lexicon Prime Time II.

Other Outboard Equipment: 24 channels of Dolby A noise reduction, dbx limiters, UREI 1176 and LA3A limiters, Eventide Harmonizer, Valley People Dyna-Mites, Sontec limiter/comp.

Microphones: Shure, Neumann, AKG, Sony, Sennheiser and Crown PZMs.

Instruments Available: Sonor drums, Hammond B-3 organ with Leslie cabinet, Yamaha 74" concert grand, Fender Rhodes 88 key piano, additional keyboards available on rental basis.

Video Equipment & Services: (3) 1" Ampex VTRs, Ampex 4100L Switcher with 2 MFs, Ampex Digital Optics, Ampex Ace editor, Amp VPR5 portable 1" machine.

Rates: Call for information.

**** SHELTON LEIGH PALMER & CO.

360 E. 57th St., New York, NY 10022
(212) 980-3445

Owner: Shelton Leigh Palmer

Studio Manager: Tom Greenwald

**** SIGMA SOUND STUDIOS, INC.

also REMOTE RECORDING

212 No. 12th St., Philadelphia, PA 19107
(215) 561-3660

Owner: Joseph D. Tarsa

Studio Manager: Margie Dixon

Direction: Full service audio recording, up to 46 track. Music video audio production with 1" video capability. Remote recording. Please call or write for information.

**** SIGMA SOUND STUDIOS OF NEW YORK, INC.

1697 Broadway, New York, NY 10019
(212) 582-5055

Owner: Joe Tarsa

Studio Manager: Hank Meyer

Engineers: Mike Hutchinson, Jim Dougherty, John Convertino, Glenn Rosenstein, Melanie West, Nick Del Re, Don Peterkofsky, Jimmy Santis.

Direction: Now Solid State Logic, Neve, & Studers. Please call for complete information and rates.

**** SIGNAL SOUND STUDIOS

P.O. Box 854, Quakertown, PA 18951
(215) 867-6779

Owner: Logicom Automation Systems

Studio Manager: Peter Davis

Engineers: David C. Vaughn, Sterling Wooden, Peter Davis.

Dimensions of Studio: Main Room 25 x 30; Booth #1: 10 x 20, Booth #2: 8 x 20.

Dimensions of Control Rooms: 15 x 18.

Tape Recorders: Logicom T-28 24 digital/4 analog; Logicom T-16 16 analog; TEAC 80-8 8 analog, TEAC 52 2 analog; other recorders also available.

Mixing Consoles: Logicom M-32 32 in x 24 out; Wave 2480 mod., 28 in x 16 out.

Monitor Amplifiers: AMI 441.

Monitor Speakers: JBL.

Echo, Reverb, and Delay Systems: Logicom, AKG, Yamaha, MXR, DeltaLab, etc.



Other Outboard Equipment: various gates, para-EQs, comps, expands, etc.

Microphones: AKG, Crown, Sennheiser, Shure, etc.

Instruments Available: CP80, DX7, OB Xa, DMX, various synthesizers, Tama drums.

Rates: Recording by invitation only through August 1985.



SKYELABS INC.
Dover, DE

**** SKYELABS, INC., "The Mobile Recording Unit"
only REMOTE RECORDING

58 W. Tidbury Dr., Dover, DE 19901
(302) 697-6226

Owner: Skyelabs, Inc.

Studio Manager: Bob Skye

Engineers: Bob Skye, independents or your choice.

Dimensions of Control Rooms: 18 x 8 plus lounge housed in a GM PD-4106 diesel coach.

Tape Recorders: (2) Otari MTR-90 II 24 track, (2) Otari MK III-2 2 track; Technics RS-1500 2 track; (2) Tascam 122-B cassette decks.

Mixing Consoles: Sound Workshop Series 30 32 in x 24 out; Sound Workshop 1280-B 12 in x 8 out.

Monitor Amplifiers: Phase Linear, Crown.

Monitor Speakers: UREI 811A, Auratone.

Echo, Reverb & Delay Systems: Lexicon PCM-60 digital reverb, MICMIX XL-305 reverb, DeltaLab DL-4 delay.

Other Outboard Equipment: LA-3s, Gain Brain IIs, Dyna-Mites, Delta-graph EQ, UREI EQ, Advent tuner for "off air" monitoring, headphone amp in lounge for over-dubs.

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

Interface Equipment: 500' of 40 x 4 audio snake with two Jensen Transformer isolated splits. 400' of main power cable. RTS communications system. AC Requirements: 50A single phase 220V.

The Mobile Recording Unit is equipped with high grade power regulation, filters, suppression, and isolation equipment to insure that the faults of the outside world never become part of your project.

Video Equipment & Services: Color monitor and camera for CCTV or video-lead interface.

Rates: Please call or write for details on rates.

Extras: Skyelabs is a certified LEDE control room. It features a room EQ response that surpasses most in-house studios. Please call or write for more information on room specs. We're glad to share them with you.

Direction: The key philosophy in The Mobile Recording Unit's design was to create a mobile acoustical environment that was easily understood by its users. Not only do we feel that you will no longer have to ask yourself the old question, "What am I listening to," we believe you will be very comfortable with the accuracy and versatility in recording and mixing with Skyelabs.

**** SKYLINE STUDIOS, INC.

36 West 37th St., New York, NY 10018
(212) 594-7484

Owners: Paul R. Wickliffe III (Pres.), Lloyd P. Donnelly (V.P.)

Studio Manager: Lloyd P. Donnelly

Engineers: Paul Wickliffe III (chief eng.), Roger Moutenot, Scott Ansell, Mano Rodriguez, Knut Bohn, Francis Manzella, Mark Genlan.

Dimensions of Studio: 30 x 30 x 13 plus 2 isolation booths.

Dimensions of Control Rooms: 25 x 20 x 10.

Tape Recorders: Studer A80 MK III 24 track; Studer A80 MK III 1/4" & 1/2" 2 track; Studer B-67 2 & full track mono; Ampex ATR-102 1/4" 2 track; Ampex 440-B 1/2" 4 track; Technics 1500 1/4" 2 track; (4) TEAC CC-3RX cassette recorders.

Mixing Consoles: Solid State Logic SL 4000 E, 56 ch. main frame w/40 ch. total recall.

Monitor Amplifiers: (2) Yamaha 2200, McIntosh 2100.

Monitor Speakers: UREI 813 (2000 enclosures), Yamaha NS-10s, Celestion 100s, E-V Sentry 100s, AR 18s, Auratones, ROR cubes.

Echo, Reverb & Delay Systems: (2) EMT 140 plates, Lexicon 224x digital reverb; Delays: Lexicon Prime Time II, Lexicon PCM 41, Marshall Time Modulator, Marshall Tape Eliminator, Electron II, Cooper Time Cube, Roland RE-501, (2) Eventide 949 Harmonizers, Eventide Instant Flanger, Compu-Electron.

Other Outboard Equipment: 28 channels Dolby A, (5) Neve 3-bands EQ, (2) Pultec EQ-P1s, Pultec MEQ-5, Lang PEQ-2, (2) API 550As, (4) API 560s, UREI 546 4-band 2 ch. parametric, (2) Neve compressors/limiters, LA-2, (2) UREI 1176s, (2) dbx 160Xs 2 ch. A/D Gemini Easy-Rider, (4) Kepelex IIs, (2) Drawmer noise gates, (2) Valley People Trans-amps, UREI digital metronome. **Microphones:** Neumann: (2) U67s, (2) U47 tubes, (2) U47 FETs, M49, (2) KM84s, (4) U87s; AKG: (4) 451s, (4) 414s, (2) D12s, (2) 202s; Sennheiser: (4) 421s, 441, 815 shotgun; Shure: SM81, (3) SM57s, (3) SM58s, SM54s; Sony: ECM 22P, ECM 33, C37P, 37A tube; E-V: RE-20, RE-15, (2) 666s; Beyer: (2) M88s, (2) M160s; RCA: (2) 77 DXs, 44; Altec: 688B, (2) "salt-shakers".

Instruments Available: Steinway B grand piano C, 1896 (rebuild), Fender Rhodes suitcase 73, Hammond C-3 w/Leslie speaker, Oberheim OB-8, Yamaha recording series drum kit w/(3) snares & five toms plus K. Zildjian cymbals, LinnDrum; Fender, Marshall & Ampeg guitar and bass amps, Roland JC-120 amp, Synclavier II, Emulator II.

Video Equipment & Services: JVC 3/4" VTR w/26" monitor.

Rates: Available upon request.

Extras: Our 5000 sq. ft. facility includes a large comfortable lounge, producer's office, and a Synclavier Production Workshop. The Synclavier system is offered to our clients with an experienced operator.

Direction: Our clients include: Lou Reed, Grandmaster Flash, Laurie Anderson, Bonnie Tyler, Michael Franks, The Spinners, Shannon, Barry Manilow, Bronski Beat, Judy Collins, Steve Forbert, Air Supply, John Cale, The Bongo's, Burning Spear, Steps Ahead, The Manhattan's, Special FX, Dizzy Gillespie, Lillo Thomas, Mark Egan, Joe Piscopo, The Nails, Richard Thompson, Robert DuVall, Ray Goodman and Brown.



SONIC SOUND RECORDING STUDIOS INC.
Long Island, NY

**** SONIC SOUND RECORDING STUDIOS INC.

292 Locust Ave., Freeport, L.I., NY 11520
(516) 223-2788

Owner: Al Falcon, Gerry Comito

Studio Manager: Pamela Mathieson

Engineers: Artie Ware, Al Falcon, Denny McNerny, Gerry Comito, and freelance engineers.

Dimensions of Studio: Studio A: 25 x 14; Studio B: 28 x 20; Live room: 22 x 14.

Dimensions of Control Rooms: Studio A: 18x14; Studio B: 12x9.

Tape Recorders: (2) MCI JH-16 16/24 track; TEAC/Tascam 80-8 8 track; Ampex ATR 102 1/4" & 1/2" 2 track; Technics RS-1500 US 2 track; Otari DP 40-50 OCF hi-speed duplicator.

Mixing Consoles: Studio A: Trident Series 80 32x24; Studio B: Sound Workshop Series 30 24x24x8.

Monitor Amplifiers: Studio A: UREI 6500, (2) Carver PM 1.5s w/JBL 5234 crossover; (2) Crown 300; Studio B: McIntosh 2200, Crown 300.

Monitor Speakers: Studio A: JBL 4430, Yamaha NS10, AR13, JBL 4301, Auratones; Studio B: JBL 4333B, Yamaha NS-10, Auratones, Fostex RN 780s.

Echo, Reverb & Delay Systems: Lexicon Prime Time, Lexicon Delta 92, DeltaLab DL4, DL1, (4) Loft 440s, (2) Ecoplates, MasterRoom, Super C reverb, 8x32 Ursa Major digital reverb, Lexicon 224X.

Other Outboard Equipment: (2 racks) dbx 900 series—compressor limiters, parametric EQs, noise gates, de-essers, flangers, dbx 165s, Orban 418A stereo limiter, Orban de-esser 526A, MXR pitch transposer, EXR Exciter.

Microphones: 70 different mikes including Neumann, AKG, Electro-Voice, Sennheiser, Audio-Technica, Shure.

Instruments Available: Oberheim, Moog, Kawai, Linn, Marshall HH, Mesa Boogie, Gallien Krueger, Fender, Rhodes, Hammond, Ludwig, Simmons drums.

Rates: On request.

•••• **SORCERER SOUND**
also **REMOTE RECORDING**

19 Mercer St., New York, NY 10013
(212) 226-0480

Owner: Acoustilog, Inc.

Studio Manager: Vera Beren

Engineers: Dave Avidor, Mano Salvat

Dimensions of Studios: A: 17 x 27 w/13' ceiling, B: 24 x 52 w/25' ceiling.

Dimensions of Control Rooms: A: 15 x 22, B: 18 x 22.

Tape Recorders: Studer

Mixing Consoles: Acoustilog GB-1 w/Allison automation, Neve w/Necam automation.

Monitor Amplifiers: Phase Linear, BGW, SAE.

Monitor Speakers: UREI.

Echo, Reverb & Delay Systems: EMT 251, EMT plate, Lexicon 224, Lexicon 224X, Lexicon PCM-60, Prime Time, Prime Time II, Lexicon PCM-42, Eventide H949 Harmonizers, Publison stereo delays, Lexicon Delta T, DeltaLab DL-1s, Publison Keyboard.

Other Outboard Equipment: Dolby and dbx on all machines, ROR parametric EQs, UREI graphic EQs, Pultecs, Kexep IIs, Gain Brain IIs, Teletronix LA2A, dbx 162 & 164, UREI digital metronome, Acoustilog Phaser 5, IE-100 Image Enhancers, Dynaflex, Panscan, API EQs, and more.

Microphones: AKG 414, 451, 224, D160, D12, D310, D320, D330, C545, C33, C34, 422, AKG stereo mikes; Sony C22, C37; Neumann U87, U47, KM84, KM86; Beyers 160; Sennheiser 421, 441; Shure SM57, 58, 545; RCA 77DX; E-V RE15, RE16, RE20, DS35, 664; Crown P2Ms.

Instruments Available: Steinway B, Yamaha DX7, Yamaha CX-5 music computer, Roland Super Jupiter, Sequential Circuits Prophet 5, Fender Rhodes, Hammond organ w/Leslies, LinnDrum, Yamaha RX-11 drum machine, Dr. Click, Mesa Boogie amp, Fender Pro Reverb amps, Fender Super Reverb amp, Fender Champ, Ampeg B15, Tama & Slingerland drums, Hohner Clavinet.

Rates: Call for rates.

•••• **SOUND DESIGN RECORDING**

80 Rear Cambridge St., Burlington, MA 01803
(617) 273-1548

Owner: Bruce Mancinelli

Studio Manager: Bruce Mancinelli

•••• **SOUND HEIGHTS RECORDING STUDIOS**

124 Montague St., Brooklyn, NY 11201
(718) 237-0250

Owner: Sounds Heights Recording Studio, Ltd.

Studio Manager: Louis Lofredo

Engineers: Vince Traina, Chief Engineer; Questar Welsh, Tim Benedict, Bruce Shankin.

Dimensions of Studios: 25 x 30.

Dimensions of Control Rooms: 9 x 15.

Tape Recorders: MCI JH114 24/16/8 track; Scully 280 4 track, Scully 280 2 track.

Mixing Consoles: MCI 416, 24 in x 24 out w/transformerless inputs (trans-amps).

Monitor Amplifiers: Phase Linear 700B, CR; 400, studio; Crown DC300A, cue.

Monitor Speakers: UREI Time Align 811, Big Reds with Mastering Lab crossovers.

Echo, Reverb & Delay Systems: EMT plate, Lexicon Prime Time DDL, Eventide.

Other Outboard Equipment: Eventide Harmonizer, UREI parametric EQ, Pultec EQ, UREI graphic EQ, UREI 1176 limiter/compressors, UREI LA4A, UREI LA3As, UREI LA2, Allison Kexep, Roger Mayer gate. All tape recorders variable speed. Pultec filters, UREI digital metronome, MXR doubler/flanger.

Microphones: Neumann U67s, U47s, KM84s, U64; Sennheiser 441s; Synchron S10s; AKG 224E, D170E; Sony ECM 377, ECM23, ECM22P; E-V RE11, RE20, 666; Beyers 713, 201s; Altec M5 Birdcage.

Instruments Available: Steinway Model A (1914) 7' grand piano, Rogers drums, Hammond B3 organ w/Leslie, Fender Rhodes 73 (stereo), drums, percussion devices. All at no extra charge.

Rates: 24 track \$95/hr; 16 track \$75/hr; 8 track \$50/hr; 4 and 2

track \$40/hr.

Extras: Instrument amplifiers, Fender, Ampeg. All at no extra charge. Separate copy and editing room. High quality video, cassette duplication, record pressings.

Direction: Keeping our rates low and our quality high. credits: Harry Tom & Steve Chapin, B.T. Express, Teddy Randazzo, Pete Fornatale, Elektra-Asylum Records, Dawnbreaker Music, Fantasy Records, Roadshow Records, Ron Halkins-Bob Heller, Wright & Forrest, WKTU-FM Radio, Brook Benton/Polydor Records, Bruce Kapler/Mercury Records, Bob Gallo/CBS, Jayne County/Atac Records, Baby Records, Mike Nock, Johnny Lytle, John Stubblefield, World Saxophone Quartet, Marty Cann, Muse Records, Julius Hemphill, Leroy Jenkins, Select Records, Atlantic Records, Dolphin Records, Mighty Sparrow, Explainer, Penguin B's Records, Straker Records, Mandala Records, Steve Gilmore, Tension Music, Dancer, Fitzgerald, Sample.

•••• **SOUND HOUND INC.**

45 West 45th, Suite 405, New York, NY 10036
(212) 573-8664

Owner: Jeff Berman

Studio Manager: Jeff Berman

•••• **SCUND LAB STUDIOS LTD.**

2687 East 14th St., Brooklyn, NY 11235
(718) 934-8585

Owner: Peter C. Diorio

Studio Manager: Michael Potash

Engineers: Peter Drono, Michael Potash, Mario Salvat, Joe Celala.

Dimensions of Studios: 30 x 20 x 10.

Dimensions of Control Rooms: 20 x 14 x 10.

Tape Recorders: MCI JH-24 24 track; MCI JH-110B 2 track (1/4" or 1/2" format).

Mixing Consoles: Harrison 4832 (full computerization), 48 in x 48 out.

Monitor Amplifiers: (3) Crown DC 300As, Crown D75, Crown D60, QSC-31.

Monitor Speakers: Big Reds (with new Gauss 3588 speakers), Yamaha NS-10M, RORs.

Echo, Reverb, and Delay Systems: Lexicon 224-X, 200 digital reverb, Prime Time, DDL-2 digital delays, Super Prime Time, tape delays.

Other Outboard Equipment: (10) Kexep, (6) Gain Brains, (2)

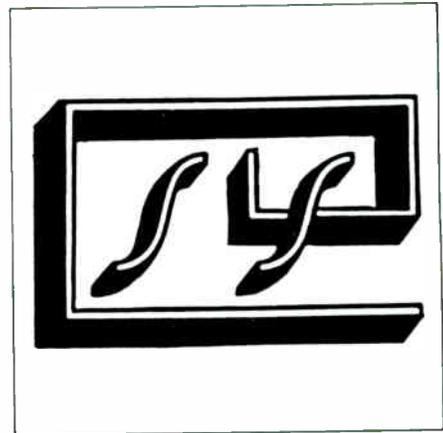
Orban parametric EQs, UREI 1176 limiters, dbx 161 comp/lim., Eventide H949 Harmonizer, MXR doubler/flanger.

Microphones: Neumann U89, U87, U46, KM84; AKG 414, 451EBs, D244, Tube; Sennheiser 441s, (5) 421s, E-V RE20; Shure SM57s and 58s.

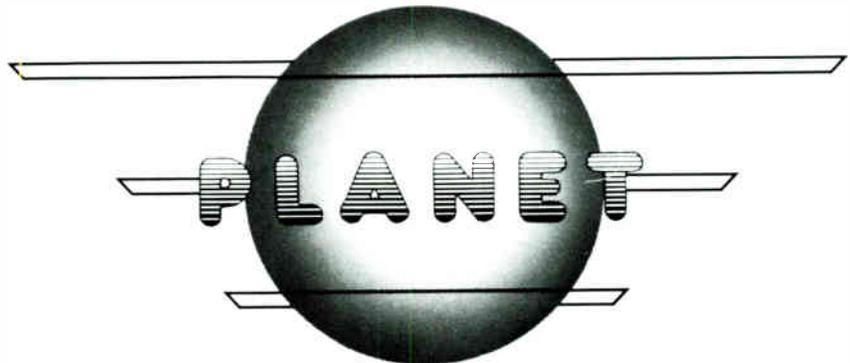
Instruments Available: LinnDrum, DMX drum machines, Yamaha grand piano, Prophet 5, Korg CX3, D6 Clavinet, Fender Dyno My Rhodes, Ludwig drums, Fender Twin, Music Man, Marshall amplifiers, Yamaha DX7, Kurzweil 250.

Extras: Probably the most unique feature of Sound Lab Studios is their service of custom recording and duplication of digital drum machine sound chips. Unlike Linn, for example, who requires sounds for chips on analog tape that has already suffered analog degeneration, Sound Lab permits you to record your favorite drum or dog bark direct from mike to chip. Every producer's dream come true.

Direction: Sound Lab will be upgrading their track capability to 48 tracks in the near future. We will also be purchasing: (2) Studer 24 tracks, (2) Studer 2 tracks.



SOUND LAB STUDIOS LTD.
Brooklyn, NY



AUDIO • VIDEO RECORDING STUDIOS
251 W 30th St., NYC 594-7554

New Music Masters John Cale - Kid Creole and the Coconuts - Davitt Sigerson - **Serious Funk and R&B Stars** Chaka Khan - Manhattans - Kool and the Gang - **Rap and Beat Artists** Whodini - Jean Michel Basquiat - **Techno Disco Acts** Jocelyn Brown - Mike Theodore - Victor Willis - **Jazz Greats** Peter Erskine - Michael Brecker - Galo Barbieri - Barry Finnerly - Mike Maneri - **Exercise Jane Fonda "Prime Time"** - **National Commercials** Nabisco - Colt 45 - plus the ever **Hard-Rockin'** Ramones have all found the technology, experience and attention to personal style they needed to get the job done at a reasonable price.

PLANET operates two recording studios with up to 48 track capability (64 for mix) It is owned by gold record producers and Grammy award winning engineers

Recording Consoles include a computerized MCI 500 Series and a Trident Series 80 with 40 input modules. **Tape Machines** are Studer 24 track and MCI 24 track. **Mix Machines** are Studer A80 and Ampex ATR both self for 1/2" mixdown.

A partial list of **Outboard Equipment** includes Lexicon 224X Digital Reverb, EMT Stereo Plate, Valley People Dynamics and DBX Gates, DBX 165 & 160, Urei 1776 Limiters, Marshall Time Modulators, Pan Scan, Lexicon PCM 42's, Eventide Harmonizers, Chorus, Flanging and Phasing Effects... and much more

Any additional **Exotic Units** such as AMS Delay, Reverbs and Emulators are available with reasonable notice.

Synthesizers (Midi equipped) include Yamaha DX7 Digital, O88, Moogs. **Drum Machines** include Linn and DMX with DSX Sequencer and Dr. Click

Monitor Systems in both studios are Urei 813's Time Aligned, Hafler and Crown powered.

Recording Areas are both live and dead end in design, featuring an incredible live drum environment

PLANET SOUND IS PROUD TO HAVE WORKED WITH CHAKA KHAN ON HER NEW HIT LP-I FEEL FOR YOU.

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**** SOUND SHOP
304 East 44th St., New York, NY 10017
(212) 573-6777
President: Robert McDowell
V.P. Operations: Willy Willumstad

**** SOUNDSPACE PRODUCTIONS, INC.
also REMOTE RECORDING
Navy Lane, Marlton, c/o Atco, NJ 08004
(609) 768-1199
Owner: William J. Walton
Studio Manager: Giuseppe Altano

**** SOUND TECHNIQUES RECORDING STUDIO
3 Laurel St., Watertown, MA 02172
(617) 923-4040

Owner: Jim Anderson, Leon Janikian
Studio Manager: Lance Duncan
Engineers: Jim Anderson, Leon Janikian (1st eng.), Lance Duncan (assoc.), Curt Lachowin (intern)
Dimensions of Studio: 22 x 35
Dimensions of Control Rooms: 16 x 14
Tape Recorders: Otari MTR-90 24 track, Tascam 85-16 w/dbx 16 track; Studer A-810 2 track, Technics 1500 w/dbx 2 track; (2) Nakamichi BX-100 cassette.
Mixing Consoles: Sound Workshop Series 30, 16 in x 16 out; Neotek ILLC, 30 in x 24 out.
Monitor Amplifiers: Bryston 3B, 2B, Hafler 220, AB 103.
Monitor Speakers: ADS 1230, ADS 300; Auratone 5C; EAW MS-50; AKG 140, 141, & 240 phones; Beyer DT-100, DT-220 phone; Koss Pro-4A phones.
Echo, Reverb, and Delay Systems: Lexicon 224 (4 4), (2) DeltaLab DL-4, DeltaLab "Ellectron", MICMIX "Dynamalanger"
Other Outboard Equipment: UREI LA-4s, Gate noise gates, dbx N.R., Ashly parametric, Dynaherb "Dydnedge" Exciter.
Microphones: AKG C-33, C-414EB, Neumann KM-84; Shure SM-57, SM-81, E-V RE-20, 635A, Beyer M-160, M-500; AKG D-12E, Sennheiser MD-421, UREI Active DI, custom DI, Jensen custom DI.
Instruments Available: 7 Young-Chang grand piano (G-213), Rhodes 73, Roland IX-3P, Moog "Source", Drumulator, Fender "Pro" & "Princeton", "Champ" amps
Video Equipment & Services: Cassettes, pressing/jackets, EPs stereo digital + 24 track in 1985
Rates: \$85/hr (24 track), \$50/hr - \$45/hr (10+ hrs), \$40/hr (over 30 hrs) Please call for more information.

**** SOUNDTRACK RECORDING STUDIOS
77 North Washington St., Boston, MA 02114
(617) 367-0510
25 E. 21st, New York, NY 10010
(212) 420-6010

Owner: Robert S. Cavicchio
Studio Manager: Jean McGrail
Engineers: John Kiehl, Tony Volante, Steve Liquori, Sonny DuFault, Andy Lerner, Cnt Harmon, Tim Reppert, Jake Raymond. Sales Department: Cnt Harmon, Mark Cuddy, Stacy Lion
Dimensions of Studio: A: 700 sq ft., B: 300 sq ft., C: 200 sq ft., D: 200 sq ft., E: 50 sq ft.
Dimensions of Control Rooms: A: 350 sq ft., B: 350 sq ft., C: 250 sq ft., D: 200 sq ft., E: 200 sq ft.
Tape Recorders: Studer A-800 24 track, (2) Otari MTR 90-II 24 track, (3) MCI JH-110 8 track, Otari 5050 4 track, (4) Studer 2 track, (4) Otari MTR-10 2 track, one 1/2"; Sony BVH 1100A 1" video recorder, (3) Otari 5050 2 track, (2) Ampex 440, (4) ATR-700 Mono, Revox B 77 1/4 track, many cassette machines
Cassette duplication Otari DP-80 with King automatic loader and labeler
Mixing Consoles: Neve 8108, Harrison MR-4 (with Arms automation), Audiotronics, Soundcraft, (2) Audioarts 8X
Monitor Speakers: Tannoy, UREI 815s, JBL 4311, Altec 604s, Yamaha, Auratone
Echo, Reverb & Delay Systems: EMT Gold Foil, Lexicon 224X, AKG BX-20, AKG BX-10, Lexicon Prime Time, Eventide Harmonizer, Lexicon PCM-41.
Other Outboard Equipment: Dolby, Scamp racks, EXR, UREI 1176 limiters, UREI LA4As, Ashly Parametric EQs, dbx 165 compressor/limiters, Allison Kepex's and Gain Brains, Orban deessers, Eventide Omnipressor, UREI digital metronome, ADR vocal stressor, Pullec EQ, Production Music Library: "Aircraft"
Microphones: U87s, U89s, Neumann Shotgun, KM84s, ECM-50, MS-57, AKG D190, Sony C-37, E-V RE16, Sennheiser MD441, Sennheiser MD421, E-V RE20, AKG 414s, PZMs and many others
Instruments Available: Yamaha grand, Pearl drums, Baldwin Tack piano, harp, assorted instrument amps & synthesizers.
Video Equipment & Services: 3/4" Offline Editing Suite with Convergence ECS-90 editor; Sony BVH 1100A 1" video recorder with BVH 2000 time base corrector or Sony 2860 3/4" VCR w/simultaneous SMPTE interlock to MTR-90 24 track, MTR 10 2 track and Magnatech 16mm/35mm mag dubber; Studer A 800 master/IVC 3/4" video slave SMPTE interlock.
Extras: Dubbing room, listening room w/enormous SFX library, client lounge w/large screen TV and wet bar, kitchen facilities (lunch served daily)
Direction: Soundtrack primarily serves the advertising community doing both audio sweetening and/or music for radio and TV. Single clients include McDonald's, Burger King and Oldsmobile.



SMPTE work is a specialty. We are also involved in record production and can provide arranging and copying services
Rates: Call Jean McGrail



SOUNDWORKS DIGITAL AUDIO/VIDEO STUDIOS, LTD.
New York, NY

**** SOUNDWORKS DIGITAL AUDIO/VIDEO STUDIOS, LTD.

254 W. 54th St. New York, NY 10019
(212) 247-3690
Owner: Charles Benanty
Studio Manager: Gerald Solomon (gen mgr)
Engineers: Roger Nichols, Wayne Yurgin, Eddie Osoro, Gerald Solomon, Phil Burnett, Gerry Garszwa, Daniel Lazarus, Eric Thomgren, Steve Stahley, Jack Number, Eric Stark (chief tech)
Dimensions of Studio: 25 x 32 (stage A), 60 x 60 x 40 (stage B)
Dimensions of Control Rooms: 20 x 20
Tape Recorders: (2) Sony F-1, Sony 24-track digital; Mitsubishi 2-track digital X80, Mitsubishi 32-track digital X800, 3-M 32-track digital, 3-M 4-track digital; (2) Studer A-80, Otari MTR-90 Mark II 24 track, Otari MTR-12 2 track, Sony 1610
Mixing Consoles: SSL 6000E total recall, 48 in x 48 out
Monitor Amplifiers: McIntosh, Crown.
Monitor Speakers: UREI, 813s, Yamahas, Visoniks, JBLs.
Echo, Reverb & Delay Systems: EMT plates, Lexicons, AKGs, Eventides, live chambers, AMS RMS 16, AMS DMS 15
Other Outboard Equipment: NEVE EQ rack, API EQ rack plus new equipment weekly
Microphones: Shure, AKG, Sennheiser, Neumann, E-V, and others.
Instruments Available: Wendel, DX7, Linn, Roland, B-3, Yamaha grand, drums, ARP, OB-Xa, Synergy, assorted keyboards
Video Equipment & Services: off-line/on-line 1/2", 3/4", 1" Complete camera and sound stage package. Shooting Stage A (insert) 25 x 25 x 12, Stage B 60 x 60 x 40. Complete digital audio for video in-studio or location. Pre-production & post.
Rates: 1/2 day, full day, week month or year. On request according to project requirement
Direction: Clients include: Steely Dan, Stevie Wonder, John Denver, Donald Fagen, Diana Ross, Robert Palmer, Joan Jet, Joe Cocker, Kiss, Christie McVie, Willie Colon, Rubin Blades, Steel Pulse, English Beat, Channel, Harry Belafonte, Chaka Khan, Aerosmith, Scorpions, Lene Lovich, Lou Reed, Talking Heads, Kashif, Eddie Murphy, Nina Hagen, Cameo, Krokus, Motohara Sano, Tarumasa Hino, MTV, ABC-TV, HBO and others

**** SOUNTEC STUDIOS
25 Van Zant St., E. Norwalk, CT 06855
(203) 853-3433
Owner: Richard Hodgson
Studio Manager: Doug McLennan

Engineers: Peter Hodgson, Mark Carbone
Dimensions of Studio: 48 x 44, 23 x 22 Iso booth: 12 x 8.
Drum Booth: 11 x 11
Dimensions of Control Rooms: 26 x 22
Tape Recorders: Otari MTR-90 MKII 24 track, Otari MTR-10 MKII 2 track, Otari MX-5050B MKII 2 track, Otari MX-5050BQ 4 track; Ampex AG-440 4 track, Tascam 122B cassette
Mixing Consoles: Neve 8058, 28 in x 24 out
Monitor Amplifiers: UREI, Yamaha, Haller
Monitor Speakers: JBL 4435, JBL 4333A, Yamaha NS-10M, Auratone 5C, Altec A-7
Echo, Reverb, and Delay Systems: EMT 140 Stereo, AMS RMX-16, Lexicon 200, Ursa Major Space Station, Lexicon Prime Time, Eventide Harmonizer, Instant Flanger, Loft 440, Roland Stereo Chorus
Other Outboard Equipment: Limiters: UREI LA-3A, LA-2A, 1176, dbx 160, 160X, 118, 117, Neve 32264A, Gain Brain I & II, ADR Vocal Stressor Gates Kepex I & II Aphex B, Dolby
Microphones: Neumann M-49, U-67, U-87, TLM-170, KM-84, AKG, C-24, C-414, C-451, D-12, D 202E, Sennheiser: MD-421; E-V: RE-20; Shure: SM-57, SM 81, Crown: PZM 31S; Altec: 21-B
Instruments Available: Fairlight CMI Series 2X, Simmons SDS5, Yamaha RX-11, Roland Juno-106, Fender Rhodes, Kawai grand piano, Ludwig drum kit.
Rates: Available upon request.

**** SPECTRUM RECORDERS
also REMOTE RECORDING
151 S. Main St., Lanesboro, MA 01237
(413) 499-1818
Owner: Spectrum Recorders, Inc
Studio Manager: Peter Sepiwo

**** STAFFORD SOUND
11 W. 17th St., New York, NY 10011
(212) 929-1441
Owner: Lee Stafford

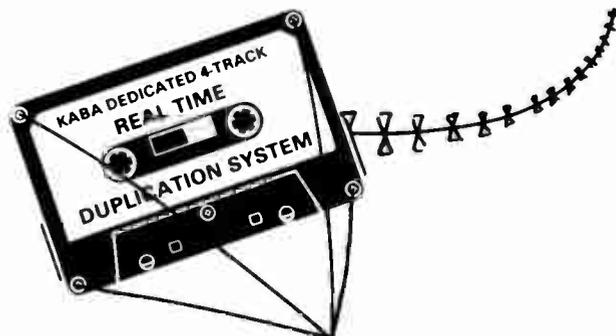
**** STARR RECORDING
201 St. James Pl., Soc. Hill Plaza, Philadelphia, PA 19117
(215) 925-5265
Owner: David Starobin
Studio Manager: Rose Payne

**** STARTEC
1737 DeSales St. NW, Ste 400, Washington, D.C., 20036
(202) 347-8864
Studio Manager: Nick Koumoutseas

**** STUDIO 4 RECORDING
also REMOTE RECORDING
444 N. 3rd St., Philadelphia, PA 19123
(215) 923-4443
Owners: David Johnson, Phil Nicolo, Joe Nicolo
Studio Manager: David Johnson
Engineers: Phil Nicolo, Joe Nicolo, Gary King, Eric Powell
Dimensions of Studio: Main Room 40 x 20; 3 Booths: 16 x 12, 12 x 8, 7 x 7
Dimensions of Control Rooms: 20 x 20, designed by Tony Bongion
Tape Recorders: Studer A80 Mark III 24 track, Studer A80 Mark III 2 track; various 1/4 tracks & cassette machines available
Mixing Consoles: Custom Neve 8048 w/4 band EQ modified by Console Electronics, Wood Green, London. 32 in x 24 out, Custom solo & group switching
Monitor Amplifiers: Bryston 4B, Yamaha 2200, Crown DI50, etc
Monitor Speakers: Masterlab monitors w/604 E2s, Yamaha NS-10s, UREI 813s, ROR "G"s, ROR cubes, KEF 105s, I.M.F. TLS 50 Mark IIs
Echo, Reverb, and Delay Systems: Lexicon digital reverb, EMT 140 tube plate stereo reverb, Lexicon Prime Time II & Prime Time, Eventide Harmonizers, (6) Neve 2254E limiters, UREI LA-3A limiters, UREI 1176 limiters
Other Outboard Equipment: Noise gates, outboard EQs
Microphones: Neumann Tube 47, 87s, 86s, 84s, AKG 414s; Sennheiser 421s, 441s; Sony C55s, C500s, C37P; Shure 57s, 58s
Instruments Available: Yamaha grand piano, Fender Rhodes, any and all types of keyboards, Mesa Boogie amp, Fender Twin amp, Roland Jazz Chorus amp
Video Equipment & Services: 3/4" computerized editing w/EDL and time code; JVC 3 tube color camera w/image enhancement; JVC CR4700U 3/4" portable VCR w/confidence heads, JVC KM2000 switcher w/chromakey, Sony VPH722Q high resolution video projector w/quad sound
Rates: \$100/hr. Special packages on request.

**** SUSQUEHANNA SOUND
also REMOTE RECORDING
48 A Street, Northumberland, PA 17857
(717) 473-9733
Owner: Robert W. Spangler
Studio Manager: Robert W. Spangler, David Ranck

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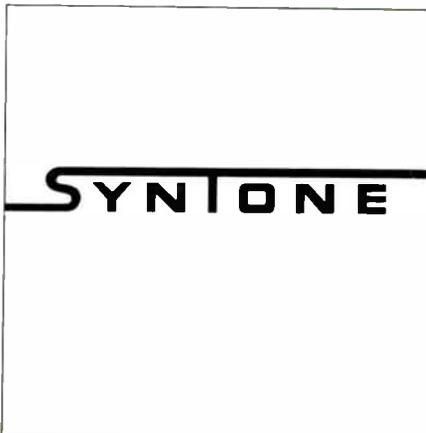
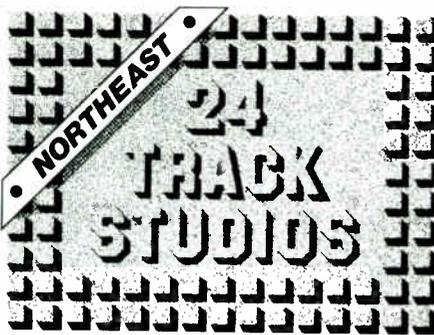
Owner: Studio 81, Inc
Studio Manager: Gene Amoroso
Engineer: Thom Moore.
Dimensions of Studios: Main: 32 x 20, iso booth: 20 x 32
Dimensions of Control Rooms: 15 x 17
Tape Recorders: MCI JH636 24 track, (2) Ampex ATR-102 2 track, Studer B67 2 track, Tascam 80-8 8 track, (2) Tascam 122 cassette decks
Mixing Consoles: MCI JH636, 36 in x 36 out, with 8 wild faders
Monitor Amplifiers: Yamaha P2200, BGW 750, Crown DC300, Crown 150, BGW 100
Monitor Speakers: Control room UREI 813 Time Aligned; Yamaha NS-10M, JBL 4311, Auratones, Studio JBL 4311
Echo, Reverb & Delay Systems: Lexicon 224X, EMT plate, AMS DMX 15-80 S (stereo), Lexicon Prime Time II, Eventide H910 and 1745M Harmonizer/delay
Other Outboard Equipment: Eventide Flanger, Eventide Phaser, Marshall Time Modulator, dbx Over-Easy, dbx 900 rack w/noise gates, flanger, Over-Easy & parametric, (4) Orban 622B EQ, Aphex 602, (3) Lang PEQA, (3) 529, (2) LA2A, ADR F769X/R Vocal Stressor, Eventide Harmonizer H910 & H949, (4) UREI 1176N limiters, (8) API 550 graphics, (3) Allison Gain Brains, (3) Allison Noise Gates, (2) Aphex B&B compressor/expander, Lexicon Prime Time, UREI Major Space Station.
Microphones: (4) Neumann KM84s, (7) U87s, (2) U47s, (2) AKG 414s, (4) Sony C37P, AKG C12, D12, (8) Sennheiser 421s, (2) UREI 20s, Shure 57, 58s
Instruments Available: Synclavier II, LinnDrum machine, Roland 808, all types of polyphonic synthesizers, GTR amplifiers, Yamaha grand piano, Hammond C3 w/Leslie 122, Syndrums, Simmons drums, vintage Fender and Ampeg amplifiers
Video Equipment & Services: Video access to all rooms with monitors and cameras and playback facilities (all formats).



SYNCRO SOUND STUDIOS
Boston, MA

•••• SYNC SOUND, INC.
450 West 56th St., New York, NY 10019
(212) 246-5580

Owners: William Marino, Kenneth Hahn
Studio Manager: Elissa Kline
Engineers: Ken Hahn, Bill Marino, Grant Maxwell, Tom Fritze, Julie Grower, Chief Engineer Allen Hale
Dimensions of Studios: Studio B 10 x 14, Studio C 10 x 16
Dimensions of Control Rooms: CR B: 23 x 22; CR C 16 x 14
Tape Recorders: (3) Otari MTR-90, 8/16/24 track, (6) Otari MTR-12 2/mono & stereo nagra heads, Otari MTR-12 4 track; Sony F1 2 track, (2) Aiwa F770 cassette, Digital machines available: (2) Sony 3324 24 track, Sony PCM 1610 2 track
Mixing Consoles: Solid State Logic 6000 32 in x 32 out, Soundcraft 2400 12 in x 24 out
Monitor Amplifiers: Ashly FET 500s, Ashly FET 200s, Crown D150, Crown D75, Symetrix A220s
Monitor Speakers: Studio B UREI 813s, Auratones Studio C JBL 4411s, Auratones Equipment rooms: JBL 4411s
Echo, Reverb, and Delay Systems: Lexicon 224X w/LARC, Lexicon PCM 60, Lexicon PCM 42, Lexicon Prime Time II.
Other Outboard Equipment: Aphex Aural Exciter, Dynaflex DX-1, DX-2, Dolby SP-24, (6) TTM NR Frames w/Dolby Cat 22 cards, UREI 1176, Clearcom communication system connecting all production rooms
Microphones: Neumann U89s, U87s, E-V RE20s
Video Equipment & Services: Otari EC-401 Universal Resolver w/mono & stereo Nagra and time code boards, Sony BVH-2000, (3) JVC 8250s, Adams-Smith character inserter, proprietary custom edit system (allowing for full lock up & editing on any number of analog, digital & video tape machines), (3) video monitor switchers, (2) Adams-Smith time code generators, Sony 25", 19" & 17" video monitors
Rates: Please call for information



SYNTONE
Boston, MA

•••• SYNTONE
1108 Boylston St., #302, Boston, MA 02115
(617) 267-4137

Owner: Syntone, Inc
Studio Manager: Rob Ames
Engineers: Chrs Noyes, Dan Mockensturm, Jim Merkin
Extras: Synclavier Digital Music System. Our system is complete and includes all the latest options: 32-track digital memory recorder, 16-bit 50k digital sampling, new keyboard, Pedulla guitar controller, automated music printing, and SMPTE. Working in conjunction with our 1" 8-track and digital sound processing, a project can be produced quickly and cost effectively with superior results.
Direction: Syntone is located conveniently in the heart of Boston's music section, near Berkeley. As the New England dealer for the Synclavier, Syntone can provide expert production assistance and advice for your next project.

•••• TALLYSIN STUDIOS, INC.
also REMOTE RECORDING
70 Union Avenue, Ronkonkoma, NY 11779
(516) 467-2838

Owner: Walter J Mahoney
Studio Manager: Walter J. Mahoney

•••• 39TH STREET MUSIC
260 W. 39th St., 17th floor, New York, NY 10018
(212) 840-3285

Owner: Michael Karp
Studio Manager: Rod Funston

•••• TIKI RECORDING STUDIOS, INC.
186 Glen Cove Ave., Glen Cove, NY 11542
(516) 671-4555

Owner: Fred Guanno Sr., Fred Guarino, Jr
Studio Manager: Lia DiMana
Engineers: Mark Gaide, Bob Spencer, Fred Guanno
Dimensions of Studios: A 40 x 20, B (Production Room) 15 x 15
Dimensions of Control Rooms: A 21 x 16
Tape Recorders: Studio A: Studer A80 MKIII 24 track; Studer A80 MKII 1/2" 2 track, Studer A80 MKII 1/4" 2 track; Otari MTR-10 1/2" 2 track, TEAC 80-8 8 track; TEAC 2 track & 1/4 track copy decks, (4) Onkyo cassette decks. Production Room: 3M Ampex, TEAC 2 & 4 track machines.
Mixing Consoles: Trident TSM, 40 in x 32 out.
Monitor Amplifiers: UREI 6300; Yamaha 2100, 2050; Crown D-150A, (4) McMartin MS 752
Monitor Speakers: UREI 813A, Yamaha NS-10M, Auratone SC, JBL 4311.
Echo, Reverb & Delay Systems: Lexicon 200 digital reverb,

Ecoplate, Lexicon Prime Time II DDL, (2) Lexicon PCM-42 DDLs, (3) DeltaLab Efectron 1024 DDLs, (2) Eventide 910 Harmonizers, Eventide 201 flanger
Other Outboard Equipment: (2) Aphex Aural Exciters, (4) Kepex IIs, (7) Kepex Is, (2) Gain Brain IIs, (2) UREI 1176 limiters, (2) UREI LA3A comps, (2) dbx 160 comps, Trident stereo limiter, (2) Ashly comps, Orban 516 EC de-esser, Orban 622 EQ, Ashly 66-A EQ, Roland 830 phase shifter, Isoxim (HP-4) 4-way head-phone system
Microphones: Neumann U87s, U47 (tube), KM-84s; AKG 414s; Sennheiser 421s, 441; Beyer 260s; E-V RE-20s, RE-10; Shure SM-57s; Milab DC-63, 73, 96, LC-25, VM-41, CL-4; MP-30 PZM; Sony ECM-56, Audio-Technica 21s, 31
Instruments Available: Yamaha C-5 6'6" grand piano, Hammond P-B w/Leslie 122, Korg Poly-Six, Rhodes, Slingerland wood drum set, Oberheim DX drum machine, Marshall, Fender, Roland, Ampeg amps.
Rates: Please call Lia DiMana or Fred Guanno for information.

•••• TRACKMASTER AUDIO, INC.
1 Franklin Park North, Buffalo, NY 14202
(716) 886-6300

Owner: Alan C. Baumgardner
Studio Manager: Michael E. Sak
Engineers: David M. Bellanca (chief eng.), Alan Baumgardner, Kim Ferullo, Mike Sak, Thomas Streich, Chuch Cavanaugh, Im Albert, Ross Wullenweber (studio tech.), Rose Grucela (secretary).
Dimensions of Studios: A: 28 x 32 w/25' ceiling; Isolation: 8 x 14 w/12' ceiling; B: 15 x 8 w/10' ceiling; C: 8 x 7 w/10' ceiling.
Dimensions of Control Rooms: A: 23 x 18 w/12' ceiling; B: 14 x 12 w/10' ceiling; C: 18 x 10 w/10' ceiling.
Tape Recorders: Studio A: MCI JH-114 w/ALII 24-16 track, MCI JH-110B 1/4" & 1/2" 2 track; Technics RS 1500 US 2 track. Studio B: MCI JH-110A 1/4" & 1/2" 2 or 4 track; Scully 280-14 2 track Studio C: Otari MX 5050 MKIII-8 8 track; Otari MX 5050 MKIII-2 2 track; TEAC 25-2 2 track, Scully 280-12 2 track; TEAC 3340 4 track. Also: Aiwa M700 cassette; Nakamichi BX1 cassette; (3) Technics RS 234X cassette; TEAC 2300 1/4 track, TEAC 124V cassette; (3) Wollensak sync cassettes and reel to reel; Otari DP4050 cassette duplication, Akai GX4000D 1/4 track; and ICM cart machines.
Mixing Consoles: A: Audiotronics 532, 32 in x 32 out; B: MCI (customized) JH416, 18 in x 16 out; C: Audio-Technica 1220, 12 in x 8 out
Monitor Amplifiers: Crest, Crown, Yamaha
Monitor Speakers: Custom 4-way UREI/JBL, JBL 4311, JBL 4401, JBL 4301, Yamaha NS-10, ADS 470, Auratone 5C
Echo, Reverb, and Delay Systems: Lexicon M200 reverb, EMT 140 tube, WBI stereo plate, (3) Yamaha R1000, AKG BX20E, Lexicon PCM 42, (3) Lexicon PCM 41, Lexicon M-93, Eventide 949 Harmonizer, MXR pitch transposer w/display, Orban 105 reverb
Other Outboard Equipment: Ashly SC33 gates, ADR complex limiter-gates, Ashly parametrics, Audioarts parametrics, dbx 160X compressors, Teletronix LA2A limiters, Aphex exciter, Technics SP10 (w/SME) turntables
Microphones: Neumann: U87, U47, KM-84; AKG: 414, 451, 224, C12; Beyer: M160, M500; Sennheiser: 421; Shure: SM81, SM57, SM58, SM53, 545; E-V: RE-20, Sony C-500; AHEC: M-49, Crown PZM, Countryman, Westlake, & Jensen D.I.s.
Instruments Available: Baldwin 9' concert grand piano; Hammond B-3; Yamaha DX9, DX7, Memory Moog Plus, Minimoog; Roland Juno 60, SH101; Korg Lambda, EX 800; PPG 2.3, PRK, Waveterm; Fibes + Ludwig drum kits; Drumulator, MXR, Oberheim, Roland, Yamaha drum computers, Simmons; many amplifiers (pre-CBS Fender, etc.) too numerous to list.
Video Equipment & Services: 25" Fisher Monitor, 3/4" JVC 6650, 1/2" Beta & VHS, BTX Shadow synchronization, dubbing and layback.
Rates: A: \$60/hr, \$70/hr w/automation (2 hr min.); B: \$60/hr (1/2 hr min.); C: same as B studio
Extras: Designed by Sugarloaf View/John Storyk, Robert Wolsh; 6 independent production companies and musicians, vocalists, composers, arrangers, orchestrators, producers, kitchen, shower Packages w/Air Service, limousines, hotels, car rental, catering and chef prepared meals. 5 complete music and EFX libraries.
Direction: Clients include: Rick James, Yes, Bobby Militello & RPM, Melanie, Elvin Bishop, Charlie Byrd, Robert Klein, John Sebastian, Gabe Kaplan, Rite Aid Hoover, Dads' Pet Food, Agway, Philo TV, Kodak, Dunlop, Rich Products, Sylvania, Film scoring for The Vamping, etc.
Our goal is the ultimate in services at prices below national industry average. Artist and group recordings, records, re-issues, multi media presentation, film scoring, TV & radio spot production, custom jingles, music beds, narrations, tape duplication, music law.

•••• TULLEN SOUND RECORDING
also REMOTE RECORDING
26 Altamont Court, Morristown, NJ 07960
(201) 539-8120

Owner: Skipp Tullen
Studio Manager: Chris Ogden
Engineers: Skipp Tullen, Ted Clancy, Glona Blake, Jeff Green.
Dimensions of Studios: 16 x 17, main, 8 x 13, drum booth; 3 x 4, vocal booth.
Dimensions of Control Rooms: 13 x 20 completely isolated—CCTV communication with studio.

Tape Recorders: MCI JH-24 24 track, MCI JH-110B 2 track; Otari MX-5050 2 track, Otari MX-5050QXD 4 track; Nakamichi LX-5 (3) cassettes; Sony PCM-F1 w/SLO-383 editing system 2 track, Ampex 4.

Mixing Consoles: Audioarts Engineers R-24 28/8/24; Tullen Sound Recording TSR-PC1 8/2.

Monitor Amplifiers: Crown D-150, Hafler DH-200 (2), Crown D-60.

Monitor Speakers: JBL 4430, Auratone 5C, Boston Acoustics A40.

Echo, Reverb & Delay Systems: AKG BX-20, DeltaLab DL-2 Acousticcomputer w/memory module, Ursula Major 8x32 digital reverb, (2) DeltaLab ADM-2048s.

Other Outboard Equipment: Audioarts Engineering 1200A Comp/limiter (2), dbx 160 comp/limiter (2), WMS 990 flanger (2), Orban 516EC Dynamic Sibilance Controller, dbx and Dolby A noise reduction.

Microphones: Neumann (including U67s), AKG, Shure, Electro-Voice, Sony, RCA.

Instruments Available: Steinway Model O, 88-key Rhodes, Yamaha and Ampeg instrument amplifiers, Ludwig Classic drum set.

Video Equipment & Services: Closed-circuit television for studio communications purposes only.

Rates: 24 track: \$60/hr; other services from \$35/hr.

Extras: Limited real-time cassette duplication, record jacket design and record pressing, audio-visual production; narrations; SFX; music library

Direction: While striving to stay abreast of technological improvements, Tullen Sound Recording maintains the highest standards of quality control and client accommodation. Stated quite simply: All of us at Tullen Sound Recording love what we do!



● 24 track recording
● Digital mastering

201-539-8120 Morristown, N.J.

TULLEN SOUND RECORDING
Morristown, NJ

Dimensions of Studios: 17 x 35 x 9.

Dimensions of Control Rooms: 13 x 15 x 9.

Tape Recorders: 3M M79 24 track; Ampex 440B 2 track; Sony PCM 701 digital 24 track.

Mixing Consoles: Amek Angela 24 in x 24 out.

Monitor Amplifiers: Crown, David Hafler.

Monitor Speakers: Altec 19, Auratones.

Echo, Reverb, and Delay Systems: EMT, Master-Room, Lexicon 200, Lexicon Prime Time, ADA, Roland, DeltaLab 2048 delay, Lexicon: 224 XL w/LARC.

Other Outboard Equipment: (4) Kepex II; (2) Dyna-Mite limiters; (2) UREI 1176LN; UREI LA3; (2) 31 band biamp equalizers; Evenhde H910 Harmonizer; (2) 1176 LN UREI, LA 4 UREI; Orban 674 A, 622B; parametric EQs.

Microphones: Neumann U47 FET; (2) AKG 451, (2) AKG 414; E-V RE-20, PL80, 666A, (2) 635A; (2) Altec M49; (2) Sennheiser 421, 441; (6) Shure SM57.

Instruments Available: Steinway B, Fender Rhodes, Yamaha DX7, DMX drum machine, full drum set, Prophet 5, ARP Omu. Rates: Block rates available.

Extras: Six room furnished apartment for out of town clients.



UNIQUE RECORDING STUDIO
New York, NY

**** UNIQUE RECORDING STUDIO

701 Seventh Ave. 8th floor, New York, NY 10036
(212) 921-1711

Owners: Robby Nathan, Joenne Georgio Nathan

Studio Manager: Joenne Georgio Nathan

Engineers: Michael Finlayson, Chns Lord Alge, Frank Heller, Peter Robbins, Bob Rosa, Tom Lord Alge, Steve Pecorella, Roey Shamir.

Dimensions of Studios: Studio A: 30 x 15. Studio B: 40 x 20.

Tape Recorders: Studio A: Otari MTR 90 MKII 24 track w/2 channels Dolby or dbx in Gotham TTM frame, BTX Softouch SMPTE (48 track and video syncing), Studer A80 1/2" 2 track, Studer B67 1/4" w/Dolby 361s, Otari MTR-12 4 track w/SMPTE, Onkyo TA-2090 cassette deck. Studio B: (2) Otari MTR 90 MKII 24 track, BTX Softouch SMPTE (48 track and video), Ampex ATR 102 1/2" 2 track, Studer B67 1/4" 2 track, Onkyo TA-2090 cassette deck. (Sony BVU-800D w/PCM ADR (digital 2 track), Beta and VHS Hi-Fi. Edit Room: (2) Otari MTR 12 1/2", (2) MCI JH110 1/4", (10) Onkyo TA-2070 cassette.

Mixing Consoles: Studio A: MCI JH366, 36 in x 24 out, 8 VCAs, 9 echo returns, automated, transformerless, (16) Neve 1077 mic pre & EQ, (8) API 550a and (8) API 560a. Studio B: Solid State Logic 4000E 48 channel w/total recall, (16) Neve 1077 mic pre & EQ, (6) API 550a and (8) API 560a.

Monitor Amplifiers: Crown DC300s, DC150s, DC60s. **Monitor Speakers:** Studio A: UREI 813s, Yamaha NS10Ms, E-V Sentry 100s, Auratones. Studio B: Big Reds w/Mastering Lab crossovers, Yamaha NS10Ms, E-V Sentry 100s, Auratones.

Echo, Reverb, and Delay Systems: Studio A: Sony DRE 2000A, Yamaha Rev-1, Yamaha YDM-2600, Lexicon 224XL, Quantec QRS, Ursula Space Station, Ecoplate, AMS DMX 1580s, Publison Infernal 90, (3) Lexicon PCM 41s, (2) PCM 42s, Eventide 949 & 910, MXR 01a, Cooper Time Cube. Studio B: Sony DRE 2000A, Yamaha Rev-1, Yamaha YDM-2600, Lexicon 224X, Quantec QRS, Ursula Space Station, AMS DMX 1580s, Publison Infernal 90, (2) PCM 41s, (2) PCM 42s, Prime Time, Eventide 910, MXR 01a.

Other Outboard Equipment: Studio A: Roland SBX-80, SRC, Dr. Click, ADR PanScan, J.L.C. Cooper MIDI patch bay, Sony KX1901a video monitor, UREI LA-4As, LA-2As, dbx 165As, 160s 160Xs, (7) Kepex II, (3) Gain Brain II, (6) Dyna-Mites, (4) dbx 904 gates, (2) dbx 902 de-essers, Pultec EQH-2s, EQP-1As, MEQ-5, (2) MXR 15 stereo bands, MXR flanger/doubler, MXR instant flanger & phaser, Dyno-My-Piano CS-5 and Quad panner, Roland SVC-350 Vocoder. Studio B: Roland SBX-80, SRC, Dr. Click, ADR PanScan, J.L.C. MIDI patch bay, Sony KX1901a, UREI LA-2As, LA-3As, LA-4s, dbx 165s, 160s, 160Xs, (8) Dyna-Mites, (4) Kepex II, (4) Gain Brain II, Pultec EQH-2s, EQP-1As, MEQ-5, (2) MXR 15 stereo bands, Dyno-My-Piano CS-5 and Quad panner, Moog Vocoder.

Microphones: Neumann M-49s, U47s, U48s, U67s, U87s, KM-84s, KM-64, KM-54; AKG C-12, C-12As, C-28s, 414s, 414EBs, 451s, D-12; Telefunken 251; Sennheiser MD421s, MD441s, 406; E-V RE-20; Shure SM57, SM81; RCA 77DX, BK-5; Sony C-500 and C-37As.

Instruments Available: Studio A: Yamaha C-3 6' grand piano w/MIDI, Fender Rhodes 73 Suitcase, Roland Jazz Chorus, (2) Mesa/Boogie, Fender Twin, Tweed Bassman, Marshall JMC 50 watt, 5 piece Slingerland drums w/Yamaha hardware, percussion kit. Studio B: Yamaha C-3 6' grand piano w/MIDI, Fender Rhodes 73 Suitcase, Marshall SVT 4x12, Fender Twin, Pro reverb, Galen-Krueger, Ampeg SVT w/8 10", 10 piece Yamaha Pro recording drums, percussion kit.

Other Equipment: Yamaha DX1, DX5, (2) TX816 racks, TX-7, QX-1, QX-7, (2) RX-11, (2) DX-7, KX-88, KX-1, KX-5, CX-5M computer and accs. (2) Emulator IIs, Emulator w/500 sample library, PPG Wave 2.3 w/Waveterm, Commodore 64 w/Music Data, Mr. T., Passport and 5CI MIDI sequencers and Polywriter software, Apple IIe w/Pro DX (over 1800 sounds) and Eventide Real Time Analyzer, IBM PCXT 640K w/Roland MPU-401 MIDI interface & software, Voyetra editor and sequencer, personal composer, MPS, Texture, Rev-1 editor, Linn 9000, LinnDrum, DMX, DSX, Polysequencer, Microcomposer, Roland TR-707, TR-808, TR-909, Super Jupiter, JP-8, Juno 60 & 106, IX-3p, Prophet 5, T-8, OBXa, OB-8, Oberheim Expander, Voyetra 8, Casio CZ-101s, Poly 800, Memorymoog Plus, Minimoog, 7 piece SDS-7 Simmons drums, Roland GS-700 MIDI guitar/controller synthesizer, Fairlight and Synclavier available.

Rates: Please call for rates.

Direction: 48 and 24 track recording/mix/dub/edit and audio for video mixing/sweetening, no extra charge for weekend and after midnight hours. 10% discount for cash in advance. Full production services available. All engineers and assistants capable of synthesizer, sequencer, and drum machine programming. Total MIDI interface of all our synthesizers, complete real time and step sequencer control. Music scoring, arranging, and printing via IBM PC, interface, and software.

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(212) 247-5678

**** UNITED MASTERWORKS RECORDING CO. LTD.

44 Canaan Place, Allendale, NJ 07401

(201) 848-0468

Owner: Bob Chapman

Studio Manager: Ed Chapman, Jr.

**** UTOPIA SOUND STUDIO

also REMOTE RECORDING

1 Artist Road, Saugerties, NY 12477

(914) 679-8848

Owner: Todd Rundgren

Studio Manager: Chris Andersen

**** VARIETY RECORDING STUDIO

130 West 42nd St., Room 551, New York, NY 10036

(212) 221-6625

Owner: Warren Allen Smith

Studio Manager: David Lescoe

**** VIRTUE RECORDING

1618 N. Broad St., Philadelphia, PA 19121

(215) 763-2825

Owner: Parr-X Corp.

Studio Manager: Frank Virtue, pres.

**** WIZARD RECORDING STUDIOS

also REMOTE RECORDING

P.O. Box 25, Briarcliff, NY 10510

(914) 762-3015

Owner: Wizard Sound, Inc., Mike Scott, Pres.

Studio Manager: Mike Scott

Engineers: Mike Scott, Randy Adler, Dave Marsac

Dimensions of Studios: Main Room: 13 x 22 x 18 1/2 x 12 3/4 x 14; Live room: 15 1/2 x 15 1/2 x 13 x 9 x 6; Isolation room: 10 1/2 x 12 1/2 x 7 1/2 x 15 1/2.

Dimensions of Control Rooms: 20'10" x 13 1/2 x 14 x 14 x 7 1/4.

Tape Recorders: Lyrec TR 532 24 track; Studer A80 2 track; Studer B67 2 track; Akai GX2-760-D cassette, Sansui 5100 cassette; Studer A80 VU MKIII 24 and 16 track; (2) Hitachi DE95 cassette; Aiwa 3500 cassette.

Mixing Consoles: Harrison MR2, 32 in x 32 out.

Monitor Amplifiers: All BGW.

Monitor Speakers: UREI 813A, Altec Big Reds, Visconk David 7000, Auratones, Yamaha NS10M, Electro-Voice Sentry 100, Realistic Minimus II.

Echo, Reverb & Delay Systems: EMT 240 Gold Foil reverb, AKG BX20 reverb, Eventide 949 Harmonizer (w/DE-Glitch Mod.), (2) DeltaLab DLI delay, MXR digital delay, Sony DRE2000 digital reverberation, DeltaLab 1024 Effectron, 2 live chambers,

**** UCA RECORDING
1310 Lenox Ave., Utica, NY 13502
(315) 733-7237

Owner: Bob Yauger

Studio Manager: Bob Yauger

Engineers: Bob Yauger, Tom Bush, Bill Scranton.

NORTHEAST 24 TRACK, cont.

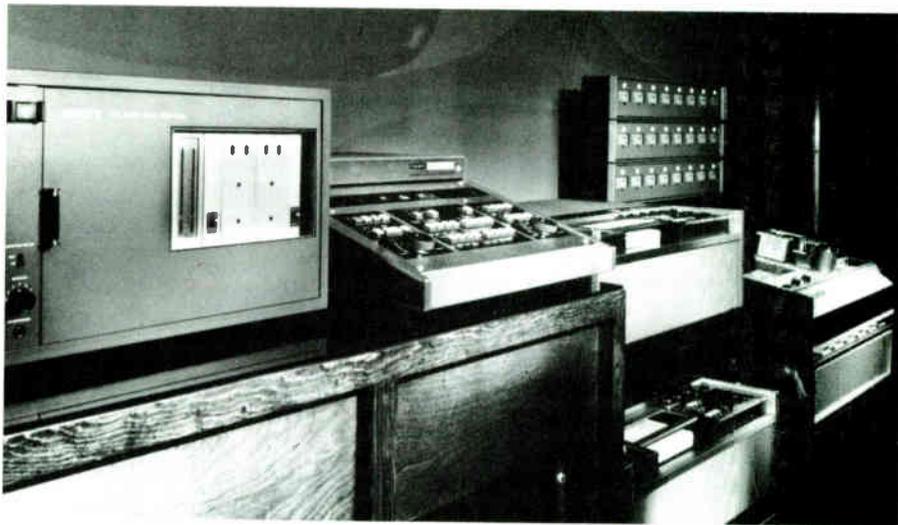
Ecoplate 7' reverberation plate, Ursa Major Space Station
Other Outboard Equipment: (2) dbx 160, Eventide Flanger, Eventide Phaser, Eventide Omnipressor, (2) Pultec EQs, (2) Symetrix signal gates, Ashly SC66 parametric EQ, (2) Universal Audio LA 175 limiters, (2) Universal Audio 5000A EQs, stereo Trident limiters, UREI LA 2A, (2) UREI 1176 LN, UREI 535, Dual-10 band EQ, Acoushlog Image Enhancer, Biamp Dual 10-band EQ, Lanq PIQ2 EQ, (4) Aphex CX1 gates, Roland Dimension D, & 2? Dolby 361 noise reduction, BTX Shadow 4700, BTX Cypher code generator, Systech Flanger, Dyna Mite Stereo limiter, (3) DeltaLab Effectrons

Microphones: E V 664, Neumann U87s, 259, E V RE20; AKG 414s, 502Es, 451, D1000Es, D12, Sennheiser 421, Beyer M201, 160, Sony ECM 22Ps, PML, Shure SM57s, SM58s, SM59, SM60, SM81, SM7, (2) Crown PZM.

Instruments Available: Steinway grand piano, Baldwin harpsichord, Hammond B-3 organ w/Leslie, Steinway upright grand piano, Fender Rhodes, ARP String Ensemble, Fender, Marshall and Lab amps, Ashly instrument pre-amp, Mini-Korg synthesizer, Ludwig drums, Tama drums, Roto-Toms, SVT cabinet, Roland JC120 amp, Roland JC60 amp, MiniMoog, JBL 2x15 cabinet, Phase Linear 700B, Hohner Clavinet. Also available for rental Oberheim DMX, Sequential Circuits Prophet 5.

Video Equipment & Services: ¼ & ½ inch playback capabilities, sync to music

Rates: Available on request



Digital Sound Recording's Sony PCM 1600/1610 digital audio recording/editing system.



*THE WORKSHOPPE RECORDING STUDIOS
 Douglaston, NY*

◆◆◆ THE WORKSHOPPE RECORDING STUDIOS also REMOTE RECORDING

40-35 235th St., Douglaston, NY 11363
 (212) 631-1547

Owner: Kevin Kelly

Studio Manager: Kevin Kelly

Engineers: Rob Bengston, Kevin Kelly, Lee Pomcrantz, Rob Alexander

Dimensions of Studios: A 31 x 19; B (overdub booth)

Dimensions of Control Rooms: A 21 x 19, B 15 x 12

Tape Recorders: Otari MTR90 MkII 24/16/8 track, MCI JH1 10 1/2" track, Scully 280 2 track, Otari 5050BII 2 track, Otari 5050BII 1/2 track

Mixing Consoles: Sound Workshop Series 40/Automated 36/24, Sound Workshop 1280B 12/8

Monitor Amplifiers: Bryston, Phase Linear, Crown

Monitor Speakers: UREI 813s, Altec 604Es, Auratones

Echo, Reverb & Delay Systems: Live chamber, 2 plates, Lexicon, Eventide, DeltaLab DDLs

Other Outboard Equipment: Eventide Harmonizer, Flanger, phaser, UREI 1176LNs, LA 3As, Spectra & dbx limiters, Kexepes, De-esser, many Pultecs, Vocoder, outboard EQ (various)

Microphones: Neumann U47s (tube), U67s, E-Vs, Sennheisers, AKGs, Shures, RCA, etc

Instruments Available: Oberheim DMX, OB-8, Yamaha C7 grand, B-3, Rhodes, Clavinet, assorted synths, Ludwig drums, rongsas, Rotos, percussion kit, vintage Fender & Ampeg tube guitar amps

Video Equipment & Services: Shadow system, JVC CR6650, JVC color monitors

Rates: On request

Extras: 20 minutes from Manhattan's Penn Station—at the Douglaston LIRR Station on the North Shore of Long Island. Additional outboard gear/musical instruments on request. Good food and accommodations nearby. Block time, 24 hour availability. **Direction:** Experience, well maintained equipment, flexibility and a comfortable working atmosphere that's affordable

—FROM PAGE 20, DIGITAL FORUM

1610) two track digital processor in 1979. Owner Webster says the processor has held up well over the years, although they have since gone through several video recorders. Besides digital mixes from analog 24 track and direct-to two track dates, a lot of the studio's time is spent preparing CD masters.

What are some of the factors that led to your decision to go digital?

"At the time, I convinced myself that there would be a vast acceptance of digital, and by purchasing the 1600 early in the market I would be able to hire my equipment out and make a profit. That turned out *not* to be the case: I was at least four or five years ahead of the market. Customers were not interested in using digital audio, particularly pop music customers who had the money to pay for it. Progressive record companies, jazz and classical labels were interested, but their projects were too small to pay those kind of bills. The introduction of the Compact Disc made a big difference to us.

"Large-scale acceptance of digital recording won't happen until the price comes down. The [Sony PCM-] F1 has been an incredibly productive tool—it's clearly obvious that if the price is right and the sound is there, people will use it. The F1 is cumbersome to work with because it doesn't have a lot of professional features, but a lot of recording is being done on it. It sounds every bit as good, and to some ears better, than the Sony pro machines. The only problem is it's difficult to do edits because of the structure of the F1 datacode."

What do you see ahead for the future of digital recording?

"The direction is still very muddy: I'm convinced that no existing digital

audio system is really going to be the final system. The practical final system will be some kind of recordable optical disk. All of the digital audio recording systems—no matter who makes them—are media limited.

"Reel-to-reel tapes are very fragile, and while the error correction systems are admittedly formidable in reel to reel systems, you're still taking great risks with your medium. With optical disks, you're in a situation where you have enough durability to handle the kinds of needs associated with digital recording, and the cost will come down. Ed Rothchild is predicting, and reasonably so, that within three years—five max—there will be a two channel audio optical disk recording system suitable for professional use with a price under \$5,000 [see interview October 1984, *Mix*]. Now when a product like that comes out, we'll start seeing some serious digital recording; and lots of it.

"Product will continue to be produced in analog for a long time, because economics will dictate it. Having an analog 24 track and mixing to digital two rack is marvelous, absolutely spectacular, but will a customer pay an extra \$25 an hour to do it? The answer is 'no,' which is terribly sad, but I understand it too, because the record labels have abandoned the R&D responsibility they used to take on. In the old days, if a label was interested in a group, they'd give them \$5,000 and go out to a studio to get a tune recorded right. Now they say 'bring us the finished master tape and we'll consider buying it.' The people fronting the money are the management companies and the artists themselves. This puts a great pressure on keeping the costs down, and that puts pressure on *not* using new and advanced technology." ■

Business Opportunities

Retiring: Small complete record manufacturing plant for sale: label and jacket printing, pressing, matrix and mastering. Write to Mix Classified, PO Box 2526, Berkeley, CA 94703.

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DO-2000, like new, 2 @ \$2,350; BGW 750B & C, 17 @ \$700 and \$650; EAW KF-800 3-way speaker, 3 @ \$1,100; JBL 4663 w/case, 4 @ \$800; 15" horn-loaded mid-bass 16 @ \$200; DUAL 18" JBL sub bass, 6 @ \$700; JBL 4550, w/2220, epoxy & wheels, 12 @ \$500; COMMUNITY PBL, loaded, \$250; COMMUNITY MB60 12" horn @ \$250; 15" JBL and horn slant monitor, with case, 3 pr. @ \$600/pr.; JBL 2360 horn, 4 @ \$275; with JBL 2482 driver @ \$575; WHITE 4220 9-band EQ, 3 @ \$180; UREI 530 Dual Octave EQ, \$325; ALTEC 2x5 multi-cell with 291 driver, 2 @ \$225; CLEAR-COM belt pack and headset, 12 @ \$200; EDI Scrimmer 6K 6 pack in birch rack with 62PE's per dimmer, camlock power and case, really nice, 2 @ \$2,500; EDI Scrimmer 36x2 console, \$900; EDI Scrimmer 24x2 console, \$700; LEPRICON 24x2x12 preset console, w/case, \$2,000; STRONG TROUPER w/o base, works, good for parts, \$250; CM 1 ton Model L chain motor with 65' chain, 8 @ \$1,200; GENIE Super Tower, black, 24' with outriggers and safety brake, 4 @ \$1,300; GENIE Super Lift, black, 24' with outriggers and safety brake, like new, 4 @ \$1,200. Note: GENIE lifts sold in pairs only, for 4 deduct 5%. Office hours 9:00 a.m. to 5:30 p.m., EST, Monday thru Friday, 919-274-4682 or 1-800-821-7640 outside N.C.

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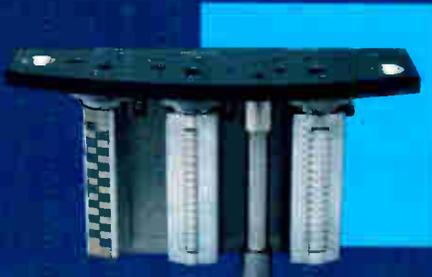
one recorder that's second to none. The new Mark III Series from Soundcraft.

Heavy Duty Value.

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The headblock is a precision milled, flat wired, self contained unit which simply plugs into place. Therefore, upgrading from 16 to 24 track recording can be accomplished without disturbing any head alignments, saving expensive time.



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