

NOVEMBER 1984
U.S. \$3.00
CANADA \$3.75
Bipad No. 71613

THE RECORDING INDUSTRY MAGAZINE

Mix

Interview: Fee Waybill



**SMPTE Conference:
Video Supplement**

**Studio Listings:
North Central U.S.**

**Canadian Spotlight
Carson Goes
Stereo**

**Jimmy Buffett
Software for Video
Sheila E.**



Worth Its Wait In Gold.

For Harrison Reliability

Sure, Harrison has waited to enter the U.S. broadcast market. When you're a stickler for precise engineering and a perfectionist when it comes to quality performance – you've got to take your time to get it right. *Get it just right for you.*

No Compromises

It can be tough getting the right console to match your specifications. About as easy as fitting a square peg in a round hole, right? Harrison Systems has anticipated your need for versatility. A good deal of time and research goes into our consoles in order to bring you the smartest, most efficient technology and service. We've got the system that fits the size and scope of your needs, whether it be:

- Teleproduction
- Video Sweetening and Post-Production
- Video Edit Suite
- Film Sound Post-Production
- On-Air Broadcasting
- Broadcast Production
- Live Sound Reinforcement
- Music Recording and Scoring

At Harrison Systems, we give you choices – not excuses or unnecessary fluff. Our systems are designed to bring you long-lasting, clean performance and reliability.

Harrison Puts You In Good Company

Organizations like Swiss Broadcasting and Belgian Radio and Television have believed in the superior quality of Harrison Stereo Broadcast Audio Consoles for years and have chosen Harrison for multiple broadcast installations. Swedish Television has selected 8 TV-3 consoles and has committed to several more. This year's Winter Olympics in Yugoslavia received the main audio feed from a TV-3.

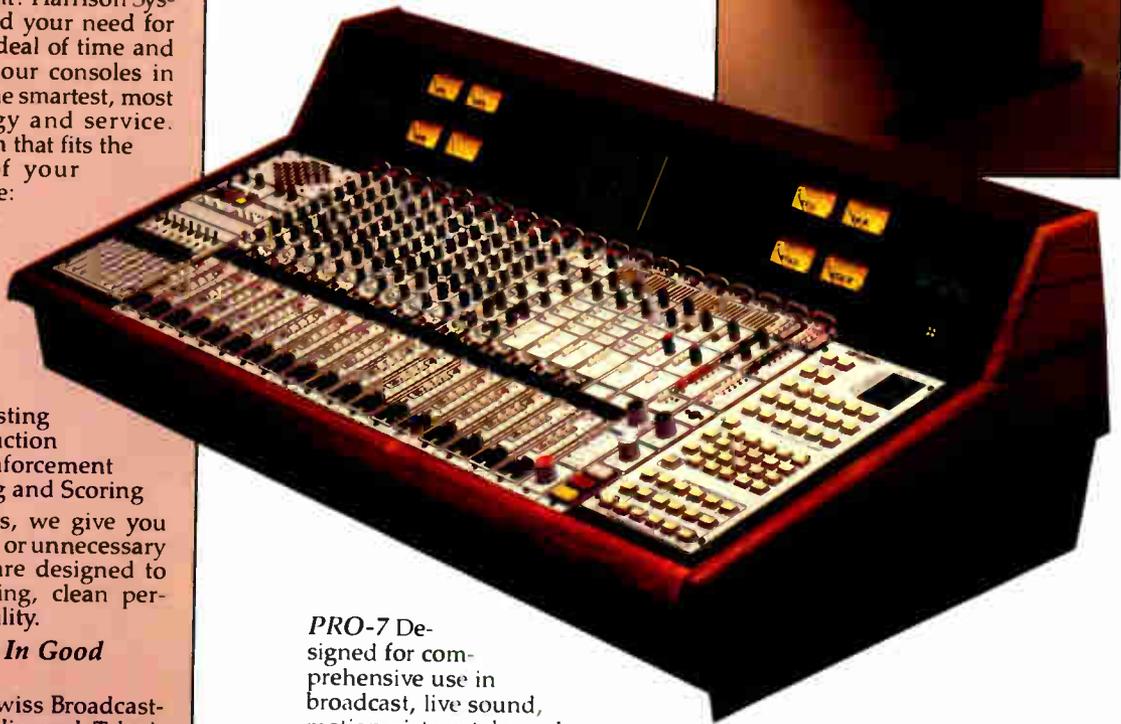
At Last

At Harrison, we take the time to listen to your needs. We design our consoles with the flexibility to fit your operation. And although our standards may be high for our consoles – our prices are very, very reasonable. We think you'll find it's been worth the wait – in golden, Harrison-true performance. Call us for a demonstration and see for yourself.

For Harrison Innovation

Introducing Harrison's TV-3, PRO-7 and TV-4, the broadcast consoles you've been waiting for:

TV-3 For large scale TV audio, remote production, studio production, post-production and sweetening ■ Adapts to wide range of tasks ■ Available in a variety of configurations for customization ■ Plus many options.



PRO-7 Designed for comprehensive use in broadcast, live sound, motion picture teleproduction ■ Two major configurations ■ Simple to operate ■ Cost-effective ■ Independent mix decision capability ■ Long-term performance achieved through thick-film laser-trimmed resistor networks ■ Plus many options.

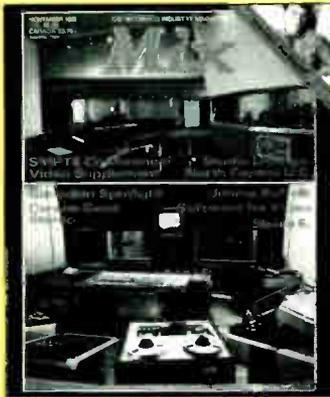
TV-4 For medium scale on-air production, remote production, studio production, sweetening and post-production ■ Three major, simplified configurations ■ Easy to install ■ High-speed, low noise, low distortion amplifiers allow for best possible electronic performance ■ Plus many options.



Harrison's new VSI Fader Section, which allows for simultaneous interface with automation and video editor/switcher, is available for TV-4 and PRO-7 consoles.

Why wait any longer? Call or write Harrison Systems, Inc., P.O. Box 22964, Nashville, TN 37202; (615) 834-1184, Telex 555133.

**Harrison**



Cover:
Top: Providing for a variety of media—music recording, video sweetening, film mixing/scoring, jingle production—Studio 1 of Sounds Interchange in Toronto features a Chips Davis LEDE™ design.
Photo: Christopher Dew

Bottom: The new Studio V at Soundtrek, in Overland Park, Kansas went on line earlier this year. Steve Durr's design for the facility incorporates a spacious control room to comfortably accommodate large groups of persons during sessions.
Photo: Jim Goss
Corner Photo of Fee Waybill by: Ron Slenzak



Mix is pleased to put the spotlight this issue on our neighbors to the north, as we delve into various aspects of the Canadian music scene. We offer comprehensive listings of Canadian studios, and Elizabeth Rollins looks at some of Canada's up-and-coming bands, the MuchMusic video music network and more, starting on page 28.

DEPARTMENTS

- 5 FEEDBACK
- 6 CURRENT
- 8 SESSIONS
- 68 LUNCHING WITH BONZAI: FEE WAYBILL by Mr. Bonzai
- 74 PREVIEW
- 166 CLASSIFIEDS
- 167 BOOKSHELF
- 170 ADVERTISERS' INDEX

LISTINGS

- NORTH CENTRAL STUDIOS
- 36 LOCATION INDEX
- 38 4&8 TRACK
- 46 16 TRACK
- 54 24+ TRACK
- CANADIAN STUDIOS
- 156 4&8 TRACK
- 157 16 TRACK
- 159 24+ TRACK

MUSIC

- 86 SESSION PLAYER by Carol Kaye
- 88 MUSIC NOTES
- 105 PLAYBACK

AUDIO

- 14 AUDIO STUMBLING BLOCKS by Don Davis
- 18 CHICAGO STUDIOS by Bob Wallick
- 28 CANADIAN STUDIO REPORT by Elizabeth Rollins
- 30 NORTH CENTRAL STUDIO UPDATE by Blair Jackson
- 78 SOUND ON STAGE
- 100 FIELD TEST: RAMSA WR-8616 CONSOLE by Joe Van Witsen

VIDEO

- 107 MIX VIDEO SUPPLEMENT
 - Video News
 - Stereo Television
 - Audio for Video
 - Interactive Video
 - SMPTE Preview
 - New Products

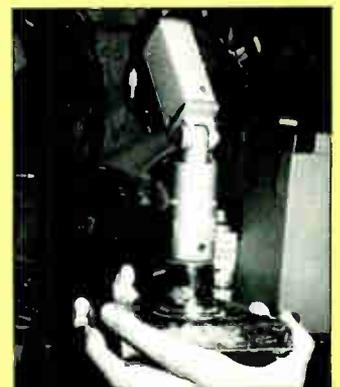
Our second set of listings this issue focus on the studios of the North Central region. In addition to those listings, we offer an update of studio activity in the region and a peek at some of Chicago's shakers and movers. The listing index appears on page 36.



Were this a San Fernando Valley magazine, we might say that Mr. Bonzai's article on Fee Waybill is "totally tubular." In a wide ranging interview, the leader of San Francisco's Tubes talks about recording his first solo LP, toy dinosaurs and dozens of things in between! Page 68.

Left speaker: "Heeeeere's . . ." Right speaker: "Johnny!!" Yes, *The Tonight Show* is now being broadcast in stereo.

Tony Thomas takes us behind the scenes for a look at the technical side of this major development in just one part of a special video section. That story is found on page 112.



OUR NEW BABY

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.

The MX-70, specifically designed for multitrack recording, derives its features from our experience with MTR-90 customers and their applications. For example, the "70's" microprocessor controlled constant tension transport is ideal for use with SMPTE time code-based video editing systems, machine controllers, and synchronizers. Its "3-way" design (1 inch 16 track; 1 inch 8 track, and 1/2 inch 8 track) allows conversion right in the studio, so if need be, each session could be done on a different format. And as your needs change, this machine will stay with you all the way up to 16 tracks—you won't be left behind as your business grows.



The new MX-70 for Recording Studio, Audio Post Production, and Broadcast Production. You can see why we're so proud of our new baby. We know you will be too. From Otari: The Technology You Can Trust. Otari Corporation/recording, 2 Davis Drive, Belmont, CA 94002, 415/592-8311, Telex: 910-376-4890.

OTARI®



© Otari 1984

World Radio History

Circle #002 on Reader Service Card

Mix

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

EDITORIAL ASSISTANT
Elizabeth Rollins

CONTRIBUTING EDITORS
Mia Amato
Lou CasaBianca
Bruce Pilato
James Riordan
Neal Weinstock

ADVERTISING DEPARTMENT
ACCOUNT EXECUTIVES
Jeffrey Turner
Kathy Arnold

DIRECTORIES/CLASSIFIED MANAGER
Lauri Newman

ART DIRECTOR
Tim Gleason

ASSISTANT ART DIRECTOR
Bonnie Blair Ofshe

DESIGN & PRODUCTION
Dave Marrs

TYPESETTING
Linda Dierking

PRODUCTION MANAGER
Anne Letsch

CIRCULATION MANAGER
Mary Holland

CIRCULATION ASSISTANT
Allison Hershey

ACCOUNTING DEPARTMENT
Mark Elsberg
Linda Simpson
Cathy Boyum

TRAFFIC MANAGER
Neil McKamey

PROJECTS DIRECTOR
Craig Wingate

OFFICE MANAGER
Patsy Messerer

OFFICE ASSISTANT
Athena Craig

Mix Magazine is published at 2608 9th St., Berkeley, CA 94710 and is © 1984, by Mix Publications, Inc. This is Volume Eight, Number Eleven, November, 1984. Mix (ISSN 0164-9957) is published monthly. Subscriptions are available for \$24.00 per year. Single or back issue price is \$3.50. Subscriptions outside U.S.A. are \$44.00. Please address all correspondence and changes of address to Mix Magazine, 2608 Ninth St., Berkeley, CA 94710. (415) 843-7901. Second Class postage paid at Berkeley, CA and additional mailing offices. Mix Magazine is distributed in recording studios, pro-audio stores, music stores and other related businesses. If you have a recording or music related business and would like to distribute Mix, please give us a call. Display advertising rates, specs and closing dates are available upon request. This publication may not be reproduced or quoted in whole or in part by mimeograph or any other printed means, without written permission of the publishers.



Dear *Mix*:

I enjoyed the recent articles on studio construction, sound isolation, and acoustic design. As a consultant and engineer in a 16 track commercial studio I have heard more than my share of comb-filtered vocal and drum tracks from poorly treated budget eight track rooms. Sixteen track is still costly enough that studio owners *usually* manage to have acceptable rooms to go with.

As a degreed electronic music composer, though, I have to point out that Mr. Everest is making a major assumption about his garage studio that dramatically affects control room size, total cost, and the potential disruption of the neighborhood!

Two alternatives exist to any sort of drum-booth area: drum machines, and cutting drum tracks at a commercial studio. I have many years' acquaintance with analog and digital drum machines. At this point in time, economical units like the Drumulator and Yamaha's new RX-15 (under \$500 list) are more and more popular with the sort of players who might either build or frequent a garage facility. The beat boxes run direct and thence into the cans or a pair of hardy studio foldback speakers if the client is recording direct.

We have encouraged musicians we know to exploit the fact that cheap-or-free eight track is becoming more and more prevalent. We can't fight that trend here, but we point out several facts: Acme's room [Chicago] has an excellent reputation for quality drum sound, and we have over 40 rare and common mikes that a home studio couldn't possibly afford (tube Neumanns and AKGs right on down to Radio Shack PZMs and a "Mr. Microphone" for special effects); we have a supertweaked Neotek console; and acoustic sources like drums and voice are both the hardest to record well and the easiest for ANYONE to locate 'unnatural', poorly engineered sound in. Any engineer who has tried to mix a nicely comb-filtered voice understands.

Consequently we encourage our clients who are planning to hit a cheap eight track to record drums, bass and/or vocal overdubs at Acme.

Anyone planning a garage studio might just save time, money, headaches by planning on a drum-box-based facility with the idea that cutting drums at

a reputable studio is an economy in the long run. A larger control room means that the "Boddicker" trend to overdubbing direct in the control room is accommodated, too.

Sincerely,
Craig O'Donnell
Technical/Consulting
Engineer

Dear *Mix*:

I have a technical question and a few observations for you. I operate a small studio in a rural area. I use both "semi-pro" and "pro" equipment and considering my investment, I get a pretty good sound. I read your magazine thoroughly and often encounter references to studio techniques with which you assume the reader is cognizant. Is there a book you could recommend that deals with up-to-date techniques and "secrets" of studio recording? An example of something I'd like to know more about is the use of gates in combination with drum reverb or reverb in general. Could you explain the objective of this and the position of a gate in the signal path?

Now for the observations: in your August issue you brought up the question of competition from "hobby," "garage," or "non-licensed" studios. Here in Vermont there are quite a few of these and I suppose, from the viewpoint of some larger studios, I could be considered one of them. My feeling is, let any studio be judged by the quality and cost of the final product. I know I fill a need for the many musicians in my area and at a reasonable price. If I can come up with an end product that rivals larger operations but at a lower cost, then the musician or client is the benefactor. Competition is healthy in any industry. If a "garage" studio produces a "junky" sound, then there really isn't any competition for those "legitimate" operations unless they also produce a junky sound.

The affordability and quality of modern "semi-pro" gear has allowed more musicians to express themselves than ever before. Isn't music the driving force behind all of us? I can't wait for "semi-pro" digital multitrack recording technology to find its way into the marketplace.

Sincerely,
Michael Kinnicutt
Woodstock, Vermont

Dear Michael:

Our *Mix* Bookshelf catalog carries a good selection of titles on recording studio basics and techniques. Drop us a line if you would like a copy. Also, our November 1983 *Mix* features a special report on compressors and limiters and includes information on the use and applications of noise gates.

CURRENT

California Gets Tough on Bootlegging

The California Legislature recently approved a bill that would impose criminal penalties for unauthorized recordings of live concerts and knowing possession for sale of such reproductions, as well as other provisions dealing with pirated and "bootleg" records and tapes. The new law will become effective on January 1, 1985.

Authorized by assemblyman Mike Roos (D-Los Angeles), bill AB 3619 was supported by the Recording Industry Association of America (RIAA), which represents more than 35 United States record manufacturers who account for over 85 percent of all pre-recorded sound recordings manufactured and sold in the U.S. each year. The bill passed both the Assembly and Senate without a dissenting vote.

"We in the recording industry are immensely pleased that the California Legislature has seen fit to eliminate the glaring loopholes in current law which prevent local law enforcement

agencies from aggressively pursuing the manufacturers of illegal records and cassette tapes," said Joel Schoenfeld, director of RIAA's Anti-Piracy Division.

Specifically, AB 3619 makes the following changes:

- makes the possession of pirated records and tapes—with the intent to sell or use for commercial or profitable gain—a new crime and punishable by six months in jail and/or a \$5,000 fine;
- makes the recording or reproduction of unauthorized recordings of live concerts—again, with the same intent—a new crime and punishable by one year in jail and/or a \$25,000 fine;
- makes the knowing possession for sale of pirated or bootlegged recordings of live concerts a new crime and punishable by one year in jail and/or a \$5,000 fine;
- mandates the confiscation and disposition of all equipment used in manufacturing in the event of certain criminal convictions under the statute;

- makes illegal the omission of the true name of the record company and artist on the package of a record or tape and punishable by six months in jail and/or a \$5,000 fine.

CompuSonics Receives Patents

The United States Patent Office has issued Patent No. 4,472,747 for the CompuSonics "Audio Digital Recording and Playback System," according to CompuSonics Corporation president David Schwartz. Schwartz also announced that a new patent application had been filed for their magnetic storage system.

The patent issued covers all 17 claims filed by the company for the floppy disk-based, digital audio recording and playback system on April 19, 1983. Patent applications covering a total of 27 countries are still pending according to Schwartz.

Copies of the CompuSonics patent filing can be obtained from the United States Patent Office in Washington, D.C. by referring to the patent number and to its title, "Audio Digital Recording and Playback System."

notes

The recently chartered *Audio Engineering Society Educational Foundation* has named *James M. Mastracco*, *N. Charles Podaras* and *Anthony J. Romano* as the first recipients of grants for graduate studies in audio engineering and related fields. . . . *Aaron R. Berg* has been appointed professional audio specialist for the Los Angeles area by *3M's* magnetic audio/video products. . . . *Barry Lee Bindell* has been appointed technical sales representative of the Pacific region for the magnetic tape division of *Agfa-Gevaert, Inc.* . . . *Ampex Corporation* has received its seventh Emmy award from the *National Academy of Recording Arts and Sciences* for its role in developing the VPR-5, a broadcast quality, portable videotape recorder. . . . *Robert A. Bushnell* has been appointed director of market development and *Ted Uzzle* has been promoted to director, marketing development for *Altec Corporation*. . . . *Crown International*

has announced the addition of *Bill Raventos* as microphone product director. . . . *Tim Prouty* has been promoted to the position of national product manager at *Dolby Laboratories*. . . . *James S. Lucas* has joined *Barcus Berry Electronics Inc.* as national sales manager. . . . *BASF Systems* has named *Gay F.S. Spiegel* its new product manager for audio magnetic products. . . . At *Otari*, *Steve Krampf* has been appointed to the position of general manager, marketing and sales; *Phil Sun* has been appointed manager, technical services group; and *Tom Sharples* has assumed the responsibility of engineering manager of R&D. . . . *Valley People, Inc.* has awarded their outstanding dealer award for highest domestic sales volume to *Martin Audio* of New York City. . . . *Crest Audio* has announced the appointment of *Future Sales*, of Redmond, WA; *Gary Harrison Co.*, Long Beach, CA; *Pro New England Marketing*, Simsbury, CT; and

Jack Nead & Associates, Shawnee Mission, KS, as manufacturing sales representatives. . . . *Edward L. Morris* is the new chairperson of *Columbia College of Chicago's* television department. . . . *Master Digital* has completed construction of their new audio and video mastering facility located at 1749 14th Street in Santa Monica, CA 90404, phone (213) 452-1511. . . . *Cecil Smith*, P.E. has joined the firm of *Joiner-Pelton-Rose* to be responsible for their telecommunications and video design efforts. . . . *Kenneth F. Holland* has joined *International Video Conversions* in Hollywood, as vice president and director of engineering. . . . *Buzz Delano* has been appointed assistant national sales manager for *Scientific Audio Electronics (SAE)*. . . . *Victory Communications International* has named *Gary F. Gunn* vice president of operations. . . . *J.W. Davis & Company* has elected *J.E. Mitchell* as vice president of engineering. . . .

TAKE A CLOSER LOOK AT APPROPRIATE TECHNOLOGY



With the launch of the new TS24 studio console, Soundcraft have revolutionised the concept of in-line technology to produce a console that is a simple pleasure to create with.

- * Clear, concise signal paths – no other in-line console is laid out as clearly.
- * Global control from the central command panel for 5 different configurations, including record, mix, and broadcast modes.
- * Individual control of every switchable parameter at module level.
- * Up to 30 auxiliary sends in mixdown.
- * Fully parametric equalisation.
- * Instant in-place sub-grouping.
- * Instant in-place bounce down, retaining the stereo image and current fader settings.
- * Optional automation.
- * Electronically balanced inputs and outputs – of course.

Take a closer look at the TS24 and discover the meaning of appropriate technology for yourself.

Soundcraft
APPROPRIATE TECHNOLOGY

5-8 Great Sutton Street, London, EC1V 0BX, England.
Tel: 01-253 6988 . Telex: 21198.
1517 20th. Street, Santa Monica, California 90404.
Tel: (213) 453 4591. Telex: 664923.
1444 Hymus Blvd. Dorval, Quebec Canada H9P 1J6.
Tel: (514) 685 1610 Telex: 05 822582.

NORTHEAST

Joe Bankowski, has announced that his **Audio-Tech Recording** studio in New York City went on line September 1. The new 24 track facility, designed by **Drew Thompson** of Harvey Electronics features an APSI 36x32 console, Soundcraft 24 track recorder, Otari and Ampex 1/2-inch two track machines, and a large selection of outboard gear—two Lexicon 224x reverbs with LARC, Eventide 949s, ten Kepex IIs, a complete Oberheim system and much more. Some of the first sessions were **Mood Elevators** and **John Are**, with **Bart Adams** engineering; and **David Plattner** of the Keith Group Company, with **Kash Monet** and Joe Bankowski producing. . . . Recent activity at **Spectrum Recorders** in Lanesborough, MA included the **James Montgomery Band** with Barbara Holliday, who started tracks for seven of their new tunes, and the **Williams Trio**, with violinist Julius Hegyi, conductor of The Albany Symphony, cellist Douglas Moore and pianist, Paula Ennis Dwyer, who completed an album soon to be out on Grand Prix Records, with Moore producing. All engineering was by **Peter Seplow**. . . . Violinist and former Dylan protege **Scarlet Rivera** worked on new material with **Jeff Taylor** and **John Belliveau** producing, **Wayne Vican** at the board at **Songshop Recording** in NYC. . . . Activity at **Skyline Studio** included **Burning Spear** mixing their latest LP, co-produced by **Winston Rodney** and **Nelson Miller**. **Jack Nuber** engineered with assistance from **David Young**. Also at Skyline, **Grandmaster Flash** was recording an album for Elektra/Asylum with co-producer **Gavin Christopher**. Engineers were **David Ogrin**, **Hugo Dwyer** and assistant **Roger Moutenot**. . . . Recent projects at **Sorcerer Sound** in NYC included **Craig Bishop** engineering a new **T.S. Monk & Eric Mercury** project, **Susie McCosker** co-producing; **Reggie Lucas** producing **Patty Oltremare** with **Joe Ferla** engineering; and **David Frank & Michael Murphy** producing cuts for **Angela Bofill** with engineer **Mario Salvati**. . . . At **Celebration Recording Studios** in NYC, **Kevin Reynolds** was producing and engineering projects with **Mino Cinelu**, percussionist with **Weather Report**, recording tracks for European release. Also **Michael Paul** was re-mixing "Reggae Music" (Keep on Dancing) for re-release. . . . The reggae band **Third World** flew in to East Orange, NJ, studio **EARS** from Jamaica to record and mix their new record for CBS. **David Dachinger** engineered with **Tom Vercillo** assisting. The album was mixed to Mitsubishi X-80 digital system. . . . **David Johansen** was in at Park South Studios in NYC working on tracks for his upcoming album on Jem Records. **Davitt Sigerson** and **Michael Zilkha** produced, **Alec Head** engineered and **Craig Johnson** assisted. . . . At **Power Play Studios** in Long Island City, NY **Leon**

Bryant was in producing **The Intruders** new release called "Who Do You Love," **Tony Arfi** engineer; and **BT Express** mixed their new tune "You're All I Need" with engineer **Elai Tubo**. . . . Recent happenings at **Quadrasonic Recording Studio** in NYC included **The Rebels** finishing the final tracks for their new 12-inch for Celluloid Records called "You Can Make It," produced by **Bernard Fowler** and **Steven Brown** and engineered by **David Ogrin**. Also at Quadrasonic **Kurtis Blow** finished a 12-inch for Mercury Records called "8 Million Stories" off of his album called **Ego Trip**, produced by **J.B. Moore** and **Robert Ford**. . . . TNA Records a subsidiary of **Trod Nossel Studios** in Wallingford, CT mixed songs by **Christine Ohlman** and **Bob Mel** for upcoming LP releases, produced by **Thomas 'Doc' Cavalier**. Independent artists utilizing Trod Nossel included **Plan 9**, from Providence and **Actual Size** from Pittsburgh. . . . Projects recently completed at **Sear Sound** in NYC included **The Vipers** first album, **Outta the Nest**, for Passport Records, produced by **Bob Chich** and **Nadroj Wolrat**; and **Carol Lian's** second solo piano album of Chopin, produced by Lian and **Bill Titus**. . . . Things were really rockin' at **Platinum Factory** in Brooklyn with **The Duncan Brothers** recording their ninth album. **Cecilio Leacock** and **Alex Duncan** produced, with **Cirland Noel** engineering. . . . At **Greene Street Recording**, NYC, **John Robie** produced **Annabella**, ex of **Bow Wow Wow** for RCA records, **Rod Hui** engineered, **Erika Klein** assisted. Also, **Paul Hardcastle** produced himself for Chrysalis England, Hui engineered, **Andrew Speigelman** assisted. . . . At New York City's **Unique Recording** producer/artist **John Cale** was mixing his upcoming release for ZE records with **Jay Burnett** engineering with **Jeff Neiblum** and **Kennan Keating** assisting. **Evelyn King** recorded and mixed her next album for RCA records, **Carl Sturken** and **Evan Rogers** produced, **Bob Rosa**, **Frank Heller**, **Chris** and **Tom Lord** engineered. . . . **Normandy Sound** in Warren, RI saw producer and veteran bassist **Tim Landers** recording and mixing a new album for singer **John Warren** with engineer **Phil Greene** and assistant **Fletcher**. Notable musicians on the album include Journey drummer Steve Smith, guitarist Dean Brown and ex-Santana keyboardist Tom Coster. . . . **Le Mobile** completed a month of recording with **Deep Purple**. The album, recorded in conjunction with a facility in Stowe, Vermont, will be released early next year and will mark a reunion of the group's original members. . . .

SOUTHEAST

Sam Wilhoyt recently finished producing an album with **Mary Wilder** at **Songbird Studio** in Atlanta; and **Rich Head**, owner of Songbird, pro-

grammed overdubs on **Blackfoot's** new album with his Synclavier II. . . . At **New River Studios**, Fort Lauderdale, FL RCA's latin division "U.S. Superstar" **Rudy** was in mixing down his first LP for the label with **Eric Shilling** engineering, assisted by **John Sliwka**. Also, the **Miami Sound Machine** was in working on their **Eyes of Innocence** English LP for CBS. Engineering work was shared by **Eric Schilling** and **Barry Moraz**, assisted by **Ted Stein**. . . . **Ernie Earnest Productions** of Smyrna, GA handled a complete music package for CNN's "Election Watch" for the upcoming election coverage. David Chestnut developed the concept and Ernie produced the music. The coverage has already started on CNN. . . . Recent postproduction activity at **Morrisound Recording** in Tampa, FL included a remix of a video tape concert of late country singer **Marty Robbins** for HMC Productions. **Lincoln Carle** and **Mike Force** produced. **Jim** and **Tom Morris** engineered. . . . Recent activities at **JBS Studio** in Atlanta included Wonder Records' recording artist **Track IV** recording and mixing their latest album. Also, **Clayton Cages** recording demo work for a future record deal. . . . **Hidden Meaning Studios** in Warner Robins, GA had several vinyl projects in the works; including **Rayze** doing an EP, **Didi Stephenson** working on a new single for Toll-free Records, and **EC the MC's** new single. . . . **Emmylou Harris** has finished recording her first all digital album with help from Dolly Parton, Gail Davies, Linda Ronstadt and Vince Gill at Nashville's **Treasure Isle**. The project was produced by Emmylou and **Paul Kennerly**; engineered by **Donivan Cowart** and assisted by **Tom Harding**. Also there, **Jason and the Scorchers** recorded their follow-up LP to **Fervor**, with **Terry Manning** handling both production and engineering with Tom Harding assisting. Manning also did final overdubs on **Molly Hatchet's** new Epic LP. . . . At **Soundshine Studios** in Ft. Lauderdale, **Frank Swiech & The Handfull** cut tracks with **Paul Avakian** engineering. . . . **Thomas Dolby** was in **Criteria Studios** with Capitol artist **George Clinton** laying synthesizer tracks on Clinton's newest funk album. Behind the board engineers were **Richard Anchor**, and **Stan Lambert**. Also at Criteria, **The Company**, a Miami-based group, recorded a single under the direction of producer **Eric White**. Criteria engineer Stan Lambert supervised the project, with **Steve Johnston** acting as assistant engineer. . . . Recent sounds from A.M.I. Studio in Hendersonville, TN included **Backwater** cutting tracks with producer **Bernie Vaughn** for new single; producer **Michael Radford** and engineer **Randy Best** working on a project for A.M.I. Records with **The Baxters**; and **The Boys From Indiana** working on a bluegrass album project with **Steve Chandler** controlling the board. . . . At **Grand Central Studios** in Nashville, **Pat Patrick** produced **Marilyn McCoo** and **Amy Grant** on tracks for a Christmas television special with

CLINTON IS DIGITAL REALITY IN NEW YORK.



New York's Finest

Clinton Recording Studios is making big waves in New York City. This beautiful studio complex is New York's first new facility in years planned from the ground up. Featuring the latest in acoustic design technology and the best analog consoles and recorders that money can buy. Clinton is attracting top artists, producers and engineers. With the installation of the Mitsubishi 32-Track and 2-Track recorders, Clinton is without a doubt becoming the Big Apple's leading studio facility, and perhaps its finest. Digital Entertainment Corporation and Mitsubishi are proud to be a part of this exciting new complex. For further information on Clinton, contact Bruce Merley at (212) 246-2444.

Clinton and Digital

For owners Ed Rak and Bruce Merley the planning and development of Clinton Recording Studios was a challenging process, the goal of which was to achieve a critical balance in addressing several key issues. Included were state-of-the-art technology, exacting room acoustics, thoughtful ergonomics, sensitivity to producers' and artists' needs, efficiency and service. Rak and Merley invested three years in design and construction to build a facility that would successfully address each of those issues and integrate them into an ideal whole.

Mitsubishi Met All Demands

Digital recording was seen early on as integral to the scheme that ultimately became Clinton Recording Studios. Market analysis, consumer trends and the like were examined along with the various professional digital recording systems available. Each system was considered throughout the studio's development against each of the issues cited above. For Clinton the ultimate was clear: the Mitsubishi system met each demand and passed every test. It was clearly the best choice for Clinton's ongoing quest for studio excellence.

The Ideal System

"We address ourselves to three markets," says Merley, "jingles, film scoring and records. With jingles our first order of business, digital recording will allow our clients to make a big leap forward with the impact of their product. The record industry has long since made a commitment to digital recording, and the film industry has already decided that the Mitsubishi system is ideal for its needs. It's ideal for ours as well!" "The ease of operation, lock-up capability, X-80 razor edits, and advanced X-800 autolocator are all important, meaningful features to have on top of the inherent advantages of digital recording," says Rak. "We are thrilled to be able to offer the power of this system to our clients."



DIGITAL ENTERTAINMENT CORPORATION • A SUBSIDIARY OF MITSUBISHI ELECTRIC SALES AMERICA INC.

Headquarters: 69 North Street, Danbury, Connecticut 06810, Tel. (203) 743-9000. Telex: 703547 • New York City: Suite 1530, 555 W. 57th Street, New York, NY 10019, Tel. (212) 581-6100 • Nashville: 2200 Hillsboro Road, Nashville, TN 37212, Tel. (615) 298-6613 • Los Angeles: 8255 Beverly Blvd., Hollywood, CA 90048, Tel. (213) 658-6881



Circle #003 on Reader Service Card

Kent Madison engineering . . . In New Orleans, *Neil Sedaka* overdubbed Christmas tracks at *Sea Saint Studios* with Pat Patrick producing and *Nick Palladino* of Scene III Productions at the console. . . *Clara* "Where's the beef?" *Pel-lar* was recently in Nashville's *Music City Music Hall* debuting her Wendy's-sanctioned single with deejay Coyote McCloud. *Doug Crider* was engineer. Singer/songwriter *Ed Bruce* completed an album project at MCMH for his new label, RCA Records. *Blake Mevis* produced and *Bill Harris* engineered. . .

NORTHWEST

At *The Plant Studios*, Sausalito, CA, ex-Creedence leader *John Fogerty* was in cutting and mixing tracks for an upcoming album. *Jeffry Norman* engineered and *Mark Stagle* assisted. Also at The Plant, *ConFunkShun* cut and mixed tracks for an upcoming album with *Maurice Starr* and *Skip Scarborough* producing, *Jim Gaines* engineered, *Robert Missbach* assisted. *Santana* was in cutting live tracks for his new album, *Richard Bosworth* engineered, *Wayne Lewis* assisted, *Val Garay* produced. . . Recently completed projects at *Madman Studios* in Berkeley, CA have included a four-song EP for *Terminal Man*, produced by *Robert Keller*, and a 12-inch dance release by the East Bay techno-dance band, *Boi*. Both projects have employed the use of computer

controlled sequencing to return as many as 28 tracks direct to mix from the Otari eight track. . . Action at *Starlight Sound* in Richmond, CA included a debut album from NYC singer/songwriter *Deidre McCalla* produced by Rhythmus 21's *Teresa Trull*. The album features such local luminaries as Andy Narrell, Ray Obiedo, Barbara Higbie, Mary Watkins, Linda Tillery and the Van Wageningen Brothers. . . *Ram*, a Santa Cruz based rock-raggae band finished up a music video for Zebra/Overground Records at *Fane Productions* in Santa Cruz. The film was shot in and around scenic Santa Cruz this summer by Panda Film & Video. . . After many months of extensive remodeling and rewiring and rehearsing two bands, *Forte Studios* in Tigard, OR has been busy with *The Visual Obsenitys* working demo sessions and *Balance* tracked a seven-song demo tape for club work in the Oregon and Washington markets. . . At *The Music Annex* in Menlo Park, CA an album project by *Nancy Vogl* was produced by *Suzanne Shanbaum* and engineered by *Russell Bond*; *Ronnie Montrose* and *Steven Halpern* did sessions with chief engineer *Roger Wiersema*. . . At *Montage Recording Company*, Newark, CA, recent projects included a demo by *Ed Schilling*, with *David Hartzheim* engineering; and *Carolyn Traub* in working on her new project with *Jamie Bridges* engineering. . . A duo album featuring *Mel Martin* on reeds and *Randy Vincent* on guitar called *Other Side Up* was just released on Catero Records. The album was recorded at Martin's *Big Ear*

Studio in Novato, CA, with Martin producing and engineering. . . *Bob Huckaby* finished overdubs with lead guitar player *Gary Wasson* on his demo album at *Audio Recording Studio* in Spokane, WA. . . At *Triad Studios* in Redmond, WA, *Queensryche* completed tracking for a live interview recorded for nationally syndicated Metalshop; and producer *Chris Lobdell* completed an LP project for solo artist *Leslie Ringhand*. . . *Conjunto Cespedes* recorded their recent project in San Francisco's *Hyde Street Studios* with *Mike Martinez* producing and *Sammy Vasquez* engineering, assisted by *Ricky Lee Lynd*. Also, *Batachanga* was in Studio A recording their farewell album with *Richard Van Dorn* at the controls, assisted by *Leslie Stuck*. . .

SOUTHWEST

At *Rivendell Recorders*, Pasadena, TX *Harvest* cut tracks for a new LP for Milk n' Honey Records. Local artist *Wayne Watson* produced the project with *Brian Tankersley* engineering. . . *Dallas Sound Lab*, Irving, TX recently played host to *Zebra* on a recording session for the movie soundtrack *No Small Affair*. DSL handled recording for vocals, guitar overdubs, keyboards, bass and final mixdown for the song "Hard Living Without You." *Ron Cote*, engineer for the Dallas Sound Lab, formerly worked with Zebra on their first album at Kingdom Sound in New York before moving to Dallas. . . Austin's *Cautious Dreams* had British guitarist and producer *Huw Gower* fly in from New York recently to work at *Cedar Creek Studios* on the band's latest cache of songs. . . Final mixes of the audio capped four months of production work by Dallas-based composer/engineer *Bob Singleton* on two video-cassette releases by Concordia Publishing at *Edenwood Studios* in Dallas. Computer automated mixes were accomplished using SMPTE audio/video interlock. The complex programs sometimes contained nearly 40 channels of dialogue, music and effects. . .

wireworks by design make your system design a reality: specify wireworks.

Wireworks shines in the most demanding applications: On Broadway in 42nd Street and A Chorus Line; on the road with ESPN...

And simplifies the most complex installations: Multimillion dollar broadcast systems like the PTL Barn in North Carolina and Radio City Music Hall in New York.

Wireworks' reputation for excellence is based on utilizing only the finest materials and the most technologically advanced production and testing techniques.

In addition, our range of nearly 1,000 standard items provides our clients with rapid delivery and an unparalleled selection of audio, video, and audio/video equipment.

Wireworks: The system you never thought could be built might very well be in our inventory — right now — just the way you designed it.

For further information write or call Wireworks Professional Audio Products.

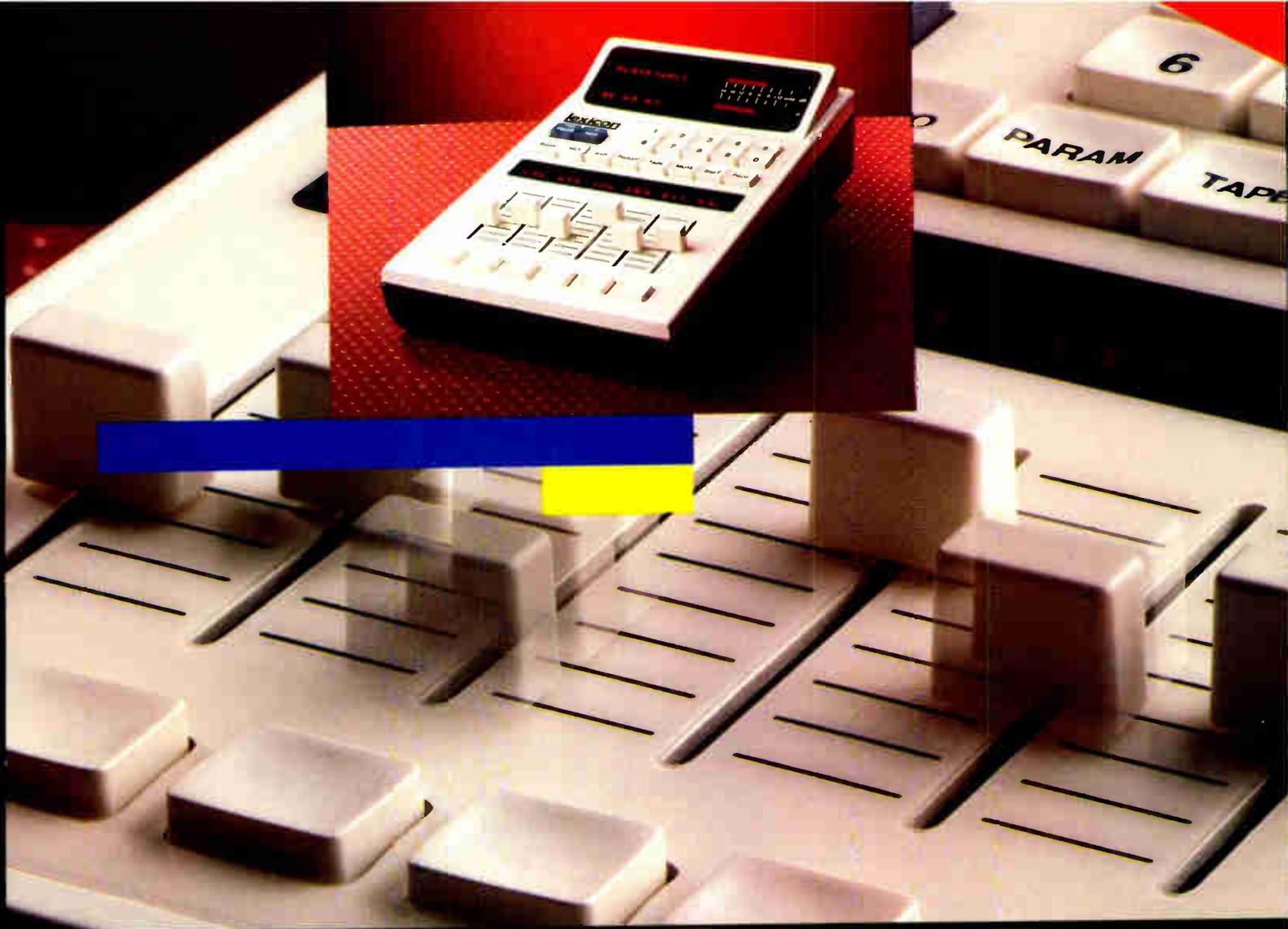
wireworks.

Wireworks Corporation
380 Hillside Avenue
Hillside, NJ 07205
Telephone: (201) 686-7400
Twx: 710-985-4675

SOUTHERN CALIFORNIA

At *Group IV Recording* in Hollywood engineer *Dennis Sands*, assisted by *Andy D'Addario*, was behind the board for composer *Larry Cansler* mixing the "Kenny Rogers & Dolly Parton Christmas Special" with producer *Bob Giraldi* of Bob Giraldi Productions. RCA artist *Kenny Rogers* was in at *Sunset Sound* in Hollywood mixing his new LP. *David Foster* and Rogers produced. *Humberto Gatica* engineered with *Stuart Furusho* and *Bill Jackson* assisting. Also at Sunset, *Kenny Loggins* was in doing vocal overdubs for his upcoming LP, Loggins producing with *Terry Christian* engineering. . . Sessions at *Monterey Sound* in Glendale included the gospel group *The Winans* in recording for Lexicon Music, produced by *Bill Maxwell*. Engineering was *Dennis Dagher*. And *Patrice Rush-*

—PAGE 41



Inverse reverb
Lexicon's latest hook –
it's indescribable

Gated reverb
provides a unique
time-dependent gating
action

Infinite reverb
simulates reverberation
that never decays

Improved splits
the two independent
1-in/2-out reverbs now
offer a greater variety of
sounds and enhanced
imaging

Controllable room size
the size of the environment
is now continuously variable

Additional rich programs
more programs are now
available with greater
density and smoother
decay

F L E X I B L E

Now with Version 8.20 software

The Lexicon 224XL Reverberation/Effects Processor

In the world of reverb/
effects processors, the
Lexicon 224XL is the
standard.

Its virtually unlimited
sonic variations allow the
creative freedom you
deserve.

The LARC (Lexicon
Alphanumeric Remote
Console) puts the control
of all essential reverb and
effects parameters at your
fingertips, providing
unparalleled ease of
operation.

And with our continuing
program of free software
upgrades, your 224XL will
never be out of date. Our
latest software package,
version 8.20, gives you the
newest and best sounds
on the market today.

The Lexicon 224XL Digital
Reverberation/Effects
Processor.

In a word – FLEXIBLE.

Lexicon Inc. 60 Turner Street, Waltham, MA 02154 USA (617) 891-6790 Telex 923468 Export: Gotham Export Corporation New York, NY 10014

Circle #005 on Reader Service Card

lexicon



Our consoles have always been quiet. Have we been too quiet about our consoles?

Perhaps we have. Thanks to the success of Studer recorders, we're often thought of as strictly a tape recorder company. But, Studer has also been making audio consoles for over 16 years, and dozens of our 169/269 compact mixers are now at work in broadcast and video production facilities all across America. Recently, with the introduction of the Series 900, Studer has become a major supplier of studio production consoles.

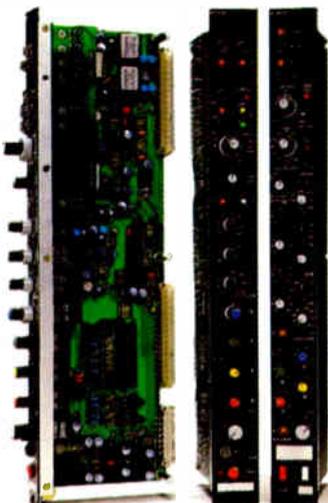
So we're not keeping quiet about this any longer.

Name your frame. Series 900 frame sizes from 12 to 50-plus inputs are available for any application, from remote recording and OB vans to sophisticated broadcast production and multi-track recording. Within these frame sizes, we configure the console to fit your requirements. The secret is our wide array of module options.

Mix and Match Your Modules. The 900 is a true system console offering custom configurability at standard



prices. Choose from 10 different metering modules, 3 multi-track monitor options (including separate monitor EQ), mono or stereo faders, audio subgroups, automation compatible VCA groups, video switcher interfaces, subgroup reassignment modules, up to 3 solo systems, multi-function test generator, input selectors, limiters, compressors, patchbays with bantam or 1/4" systems, and up to 10 auxiliary busses.



Basic input modules feature 3 or 4 band EQ, microphone/line inputs, 5 pre/post-fade auxiliary sends, and channel overload indicators. Options include transformerless mic preamps on a subcard, separate transformerless TAPE input for remix, stereo input modules, stereo EQ, internal stereo X-Y/MS active matrix, stereo blend control, dual line inputs, variable HP and LP filters, user defined panel switches, and the list goes on.

Listen to the quiet. The

entire 900 console frame design is consistent with the advanced module design. A completely independent signal reference ground system assures preservation of individual circuit CMRR figures. The result is overall noise performance compatible with digital recording.

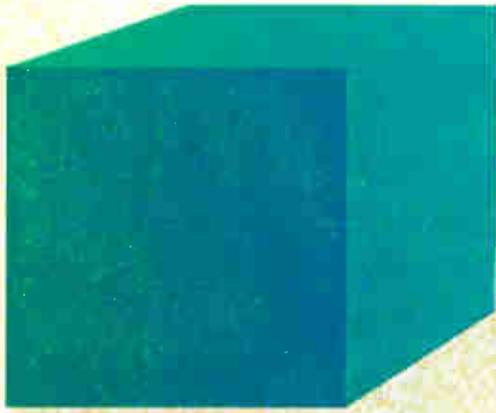
As time goes by. All 900 consoles adhere to strict Studer standards for precision and reliability. The frame is built on a rigid channel and brace structure, and each module uses pin-and-socket Eurocard connectors. Frame connectors are mounted on longitudinal master boards with solid support from horizontal and vertical frame members. All components, switches and pots are commercial/industrial grade from the best U.S. and European manufacturers. In sum, a 900 is built to last as long as a Studer recorder.

The Swiss alternative. If you have been considering a high quality mixing console from any American or English manufacturer, you should also look closely at the Swiss-made Studer 900. For quality, flexibility, and reliability, it ranks among the world's finest. Also, you may find the pricing surprisingly competitive.

For more information on Studer consoles, call or write: Studer Revox America, Inc., 1425 Elm Hill Pike, Nashville, TN 37210; (615) 254-5651.

STUDER REVOX

Circle #006 on Reader Service Card



AUDIO STUMBLING BLOCKS

Part Two

The Volume Unit (Vu)

by Don Davis

There seems to be a widespread misuse of the following terms among engineers in the recording industry. These terms are:

1) The volume unit (Vu); 2) the signal level (dBm); 3) gain and loss; 4) amplitude; 5) frequency response; 6) phase and polarity. Let's examine the first two:

The Vu

First of all, and this is fundamental, the Vu is a measure of signal level and level is always power level. Therefore, Vu is never a voltage amplitude. Here's what the developers of the Vu had to say on this subject:

"The question may very well be raised why the reference volume has been related to a calibrating power rather than to a calibrating voltage, inasmuch as a volume indicator is generally a high-impedance, voltage-responsive device. . . . Volume measurements are a part of the general field of transmission measurements, and the same reasons apply here for basing them on power: considerations as in the case of ordinary transmission measurements using sine waves. If the fundamental concept was voltage, apparent gains or losses would appear wherever impedance-transforming devices, such as transformers, occur in a circuit. This difficulty is avoided by adopting the power concept, making suitable corrections in the readings when the impedance is other than the reference impedance."

The calibrating power mentioned is one milliwatt or 0.001 watt. Powers are turned into **power levels** by conversion from watts to decibels by:

$$L_{pwr} = 10 \text{ Log} \left[\frac{\text{measured pwr}}{\text{reference pwr}} \right]$$

$$10 \text{ Log} \left[\frac{0.001}{0.001} \right] = 0 \text{ dBm}$$

Note further that transmission level measurements are made with sine waves. Program level measurements are made with complex waves.

How to Read a VI Meter

Let's take a commonly available mixer such as the Shure M267. If the indicator points at -4 on the instrument scale with a 1000 Hz sine wave input to the mixer, what is the mixer's output level? The first thing to consider is that level is never read from the instrument's scale, i.e., meter—an incorrect but commonly used term for the VI instrument.

Once again, let's quote from the developers of the Vu concept:

"There should be no confusion because certain instruments deflect to a scale marking of 0 when a level of +4 Vu is applied to them. . . . The 0 Vu point on the Vu scale is merely an arbitrary point at which it is intended nominally to read the instrument, and the rest of the Vu scale represent deviations from the 0 Vu point. The volume level is read, not from the scale, but from the indications on the associated sensitivity control."

The indicator pointing at -4 Vu on the scale of the instrument in the Shure mixer is properly called the instrument indication. The apparent level is the instrument indication plus the attenuator setting on the rear of the mixer (either +4 or +8).

The true level is dependent on

the load attached, and in the case of the Shure mixer, its internal source voltage remains remarkably stable through a wide variety of loads (usually inputs to subsequent devices). When the load on the mixer is the final load, we have a different situation than when it is the source for a subsequent device. The internal instrument in the Shure is reading the available input power level, L_{AIP} , to a subsequent device. When the load attached to the mixer output is the final load (power is to be developed in it), the true level then becomes an output power level ($L_{pwr\ out}$).

$$L_{pwr\ out} = 10 \text{ Log} \left[\frac{(E_{out})^2}{0.001 R_L} \right]$$

In this type of situation, we take the apparent level—the instrument indication plus the attenuator setting, followed by the addition of an impedance correction.

$$L_{true} = L_{app} + 10 \text{ Log} \left[\frac{R_{ref}}{R_{meas}} \right]$$

L_{AIP}

The available input power level is found by:

$$L_{AIP} = 10 \text{ Log} \left[\frac{(E_s)^2}{0.001 R_s} \right] - 6.02 \text{ dB}$$

and is the level indicated by the instrument in the Shure M167 (see derivation in Appendix).

VI Instrument Ballistics

A correctly designed Volume Indicating instrument has its ballistic response set so as to imitate the integration time of human hearing for mid-frequency range sounds. The consequence of this carefully specified ballistic response is what is called "instrument lag." This is a desirable characteristic but needs to be clearly understood as to its effect on levels.

If we have a steady state 1000 Hz sine wave signal with a level of 0 dBm, a properly calibrated VI instrument will read a true level of 0 Vu (scale indication plus attenuator value). If, on the other hand, we have a complex wave form (speech or music) and we read a true level of +8 Vu, our power level is +18 dBm. This 10 dB difference is due to instrument lag.

Headroom

If the operator of a system wants to have a minimum of "headroom" (6 dB being the most commonly accepted value), then for a +8 Vu reading, which is a +18 dBm power level, we add +6 dB for headroom or a total of +24 dBm

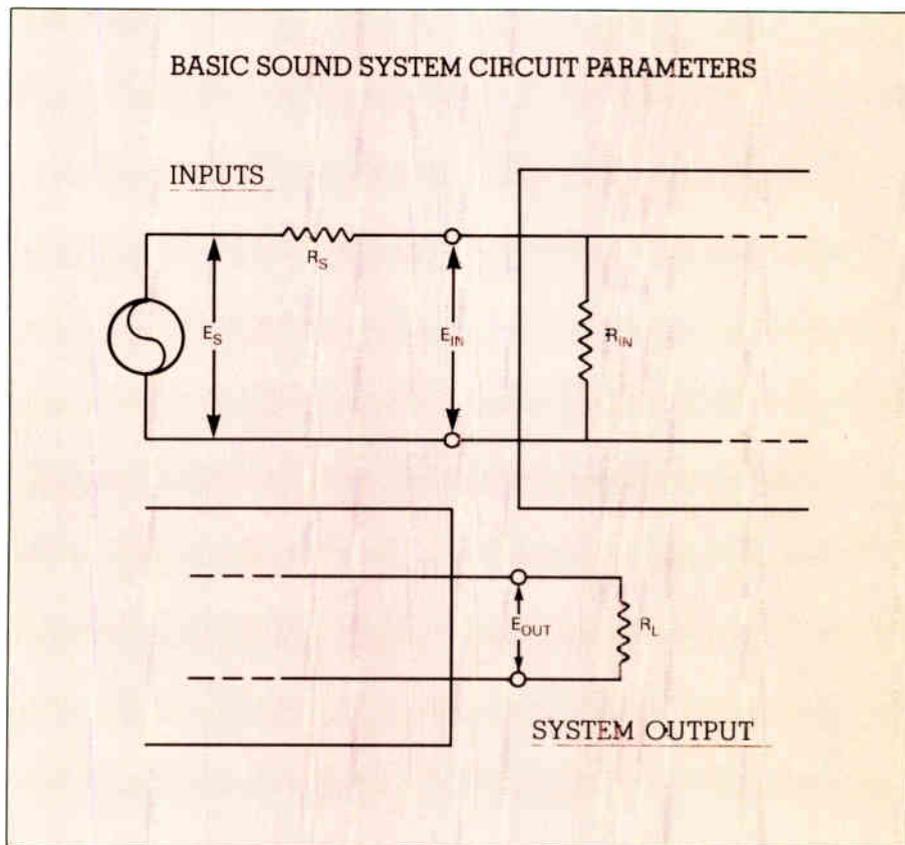
of L_{AIP} is required from a mixer reading +8 Vu on program material.

If, as some broadcasters do, you have an impedance stabilizing pad on the output of your mixer, then an additional 6 dB has to be added. +8 Vu + 10 dB instrument lag + 6 dB headroom + 6 dB pad = + 30 dBm (i.e., one watt) out of the mixer.

Summary

The Vu and dBm can be correctly read across any impedance, balanced or unbalanced circuits, matched or unmatched circuit junctions, and is an absolute level value. There is only one 0 Vu level and it is not a voltage. The reference resistance (Z_{cos0}) can be any value. 0 dBm can be any voltage and resistance combination that results in 0.001 watt. The dBm level has nothing whatsoever to do with 600 ohms. Some voltmeters may have scales dependent upon some stated impedance but that is a problem the voltmeter has, not one inherent in the dBm concept.

You'll be pleasantly surprised at what happens when system levels are set correctly.



cheese.

BIAMP 24 / 28 - THE FIRST STATE-OF-THE-ART STUDIO AND LIVE PERFORMANCE MIXER AT A PRICE EVEN YOU CAN SMILE AT!

Biamp Systems new 24 and 28 Series Mixing Consoles with 4 and 8 outputs are the first mixers to feature newly developed state-of-the-art design and construction that achieve the performance levels of fine studio consoles, but in a roadworthy compact size and price.

Incorporating many of the new Biamp technological innovations, the 24 and 28 are the first mixers engineered for both multi-track and live submaster applications. Their low noise, high slew rate, and ultra low distortion characteristics make them the perfect choice for just about every musical style and use.

Prices smilingly begin at just \$1499.

FEATURES

- 4/8 Tracks - Stereo & Mono Bal. Outputs
- 3 Band EQ (sweepable mid range)
- Stereo Monitors (live or recording)
- L.E.D. Input Indicators
- Fluorescent Metering
- 100MM Faders and Channel Solo Switch
- Mic In-Line-In-Tape In-Direct Out
- 48V Phantom Power - All Inputs



For further information inquire to BIAMP, P.O. Box 728, Beaverton, Oregon 97075, or phone (503) 641-6767

Circle #007 on Reader Service Card

KEY EQUATIONS FOR SOUND SYSTEM CIRCUITS

$$AIP = \frac{(E_s)^2}{4 R_s}$$

$$L_{AIP} = 10 \text{ Log} \left[\frac{(E_s)^2}{0.001 R_s} \right] - 6.02 \text{ dB}$$

$$P_{out} = \frac{(E_{out})^2}{R_l}$$

$$L_{Pout} = 10 \text{ Log} \left[\frac{(E_{out})^2}{0.001 R_l} \right]$$

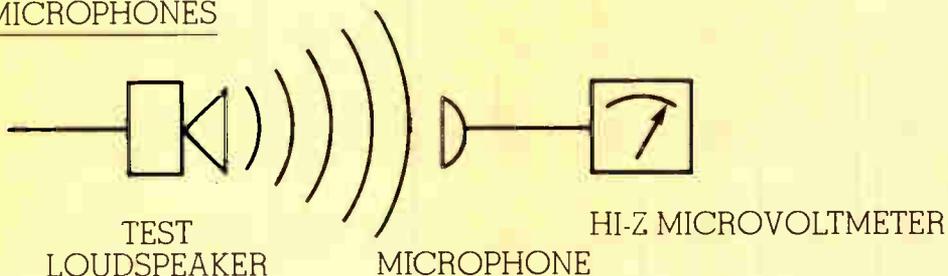
$$E_s = \sqrt{(0.001 R_s)} \left[10 \left[\frac{L_{AIP} + 6.02 \text{ dB}}{10} \right] \right]$$

$$E_{IN} = \frac{E_s R_{IN}}{R_s + R_{IN}}$$

$$E_{out} = \sqrt{(0.001 R_l)} \left[10 \left[\frac{L_{Pout}}{10} \right] \right]$$

INTERFACING ACOUSTICAL AND ELECTRICAL LEVELS

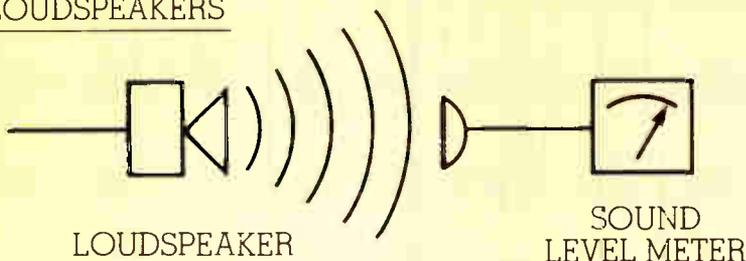
MICROPHONES



$$\text{Mike } E_c = E_s$$

$$\text{EIA rating in dBm} = 10 \text{ Log} \left[\frac{(E_s)^2}{0.001 R_s} \right] - 6.02 \text{ dB} - (\text{test } L_p)$$

LOUDSPEAKERS



$$\text{EIA rating in dBm} = (L_p \text{ measured}) + 20 \text{ Log} \left[\frac{D_m}{30'} \right] + 10 \text{ Log} \left[\frac{0.001 w}{W_m} \right]$$

Example:

100 dB at 1w for a distance of 1m (1m = 3.28')

$$100 + 20 \text{ Log} \left[\frac{3.28}{30} \right] + 10 \text{ Log} \left[\frac{0.001 w}{1 w} \right] = 50.78 \text{ dB}$$

The video revolution is making a dramatic impact on the way the music industry looks at its own product. Careers come to life overnight in the eye of a camera. Artists who've tried to get their tapes heard for years, are suddenly gaining long-deserved visibility.

If locking into video is your next step, TASCAM advanced audio systems can move your music right into the picture. Our recorder/reproducers give you the solid quality and innovative functions you demand as a professional, syncing you to the limitless possibilities of video. Our mixers put you in total control of the creative process, with engineering depth and operational ease.

For mixing, our M-520 places a full range of artistic choices at your command, with 20 balanced input channels, 8 print busses and 16 tape returns, effects busses, an independent 16-input monitoring section, and much more.

For recording/reproducing, our 58 is the industry's first 1/2" 8-track with all the technological sophistication of a 1" machine, but at far less cost. Its unique "Omega Drive" assures exacting tape to head contact and smooth tape handling - entirely eliminating tape stretch or bounce. And microprocessor 3-motor servo control significantly speeds up your recording and editing, taking you quickly and accurately to your mark without stalking and stuttering through time code. And if your budget is a bit more restrictive, take a close look at our hard-working 48, boasting most of the 58's comprehensive features.

When it's time to master your mix into mono plus code, our 42 delivers exceptional precision. And our 44B is the perfect stereo plus code post production tool.

In an industry where seeing has become believing, TASCAM lets you put your music's best image forward. See your TASCAM dealer for full details or write TASCAM, TEAC Professional Division, 7733 Telegraph Road, Montebello, CA 90640, (213)726-0303.

Copyright 1984-TEAC Corporation of America

Put your music in the video scene, with TASCAM's full line of SMPTE-compatible audio equipment.

In an Industry Where Out of Sight Can Put You Out of Mind, Tascam Gives Your Music Video Visibility.

Circle #008 on Reader Service Card



SWEET HOME

CHICAGO

A JOURNEY TO THE HEART OF THE WINDY CITY MUSIC SCENE

by Bob Wallick

P.S. STUDIOS

With just a lantern, notepad and pencil in hand I stumbled through the darkness. "Are you the police?" asked a curious bag lady. "No ma'am," I answered. "I'm a writer. My assignment is to define the current state of Chicago's recording in-

dustry for Mix magazine."

"Go see Paul Serrano. He'll tell you a few tales," she said, slightly wild-eyed.

I thanked her and wandered instinctively toward P.S. Studios. I finally reached Paul's front door the next morning. I had traveled through the night.

Almost secretly localized on Chicago's southeast side, just off the city's famous Record Row of the 1950s and '60s, Paul Serrano's P.S. Studios

continue to play an important role in Chicago's music history.

Running a 24 track state-of-the-art room upstairs and building an eight track demo/rehearsal studio downstairs today, Paul entered the recording business in 1968. He experienced one of his most triumphant moments in 1975 when he bought all of Chess Records' studio equipment. And he still uses some of the priceless devices that captured legendary classics by Chuck Berry, Howlin' Wolf, Muddy Waters, Ramsey Lewis, and even John Klemmer.

Long before all this, though, Paul held his own among "living legends" as a musician. "In the beginning, I supported my two track Wollensak studio by playing my trumpet," says Paul. "I was in the local clique." Scores of album-liners note the presence of Paul and his trumpet during this era. He played on hits like Ramsey Lewis' "Wade In The Water," on sessions for Curtis Mayfield and Duke Ellington, and on countless jams with the personalities of Chess Records' blues roster.

"I made a lot more money with the trumpet than I did with the Wollensak," says Paul of the early days. "Finally I realized that I couldn't just set up a recorder, turn on some mikes and become another Motown. I needed something else—so I bought a patchbay.

"I'm just a button-pusher," he says, downgrading his set of fine-tuned ears. The reception area of P.S. Studios is, in fact, lined with gold records that give testimony to Paul's engineering prowess. The names of Peabo Bryson, Natalie Cole, The Emotions, Ramsey Lewis, and The Ingredients are all framed with precious metal in this East 23rd Street gallery of sound.

Paul has a reputation for hiring interesting personnel. Ron White, a brother of Earth Wind & Fire's Maurice White, has engineered thousands of sessions as a P.S. staff member. And during

PHOTO: PHIL MOLCHITS



Hank Neuberger, studio manager of Chicago Recording Company.

the Iranian hostage crisis of 1979 P.S. engineer Denby Allen made national headlines when his Christmas card and good wishes were answered by a hostage. The State Department felt that the Iranians allowed Denby to receive an answer because he had mentioned a belief in God.

On the other hand, Paul has hired some pretty wild people. "We had a maintenance man, Dr. Quack, who was an electronics genius," says Paul. "He could fix anything but he had a strange lifestyle. One day some of the other staff members told me that Quack had given shelter to a woman who was wanted by the FBI. She was living somewhere in my studio!"

Did Paul find her? "I told Quack that in 24 hours I would hold a thorough studio inspection and that I'd better not find anybody living here that I didn't know." According to Paul, Quack stayed out of trouble after that but relished opportunities to outdo punk rock groups with his own weirdness. "He wildly burst in on a Skafish take one time," remembers Paul. "It was funny. Quack was running in circles around the keyboard player and he didn't have any clothes on. Nobody in the band noticed, though. It was a perfect take."

PHOTO: PHIL MOLOTIS



"I don't even know where Quack is today," says Paul. "Denby? He's managing a Popeye's Fried Chicken outlet."

When all is said and done, however, Paul sees himself as an innovator. "P.S. was the first studio in Chicago to use Ampex 456 tape," he says. "Other

THE POWER of *Zetka*



SEE HOW OUR AMPS STACK UP AGAINST THE REST

- FREQUENCY RESPONSE: +0, -0.1db 20HZ TO 20 KHZ
- THD: LESS THAN 0.015% UP TO RATED OUTPUT
- NOISE: BETTER THAN -110db BELOW RATED OUTPUT
- CROSSTALK: 75db @ 1KHZ
- SLEW RATE: 75v PER MICROSECOND
- WARRANTY: 3 YEARS PARTS AND LABOR

POWER OUTPUTS RMS 20HZ -20KHZ	ZPE-1000	ZPE-600	ZPE-500
-BOTH CH. DRIVEN-8 OHMS	500w/CH.	300w/CH.	250w/CH.
-BOTH CH. DRIVEN-4 OHMS	800w/CH.	450w/CH.	350w/CH.
-BOTH CH. DRIVEN-2 OHMS	900w/CH.	700w/CH.	400w/CH.
-BRIDGE MODE INTO 8 OHMS		900w/CH.	
-DAMPING FACTOR @ 50HZ	250	200	200
-INPUT SENSITIVITY FOR RATED OUTPUT 8 OHMS	1v	.8v	.7v
PRICE:	\$1,449	\$1,299	\$879

DEALER INQUIRIES INVITED:

Zetka NORTH AMERICA
P.O. Box 6493
Thousand Oaks, CA 91359

AUTHORIZED DEALER:



99 East Magnolia, Suite 215
Burbank, CA 91502
(818) 843-6320

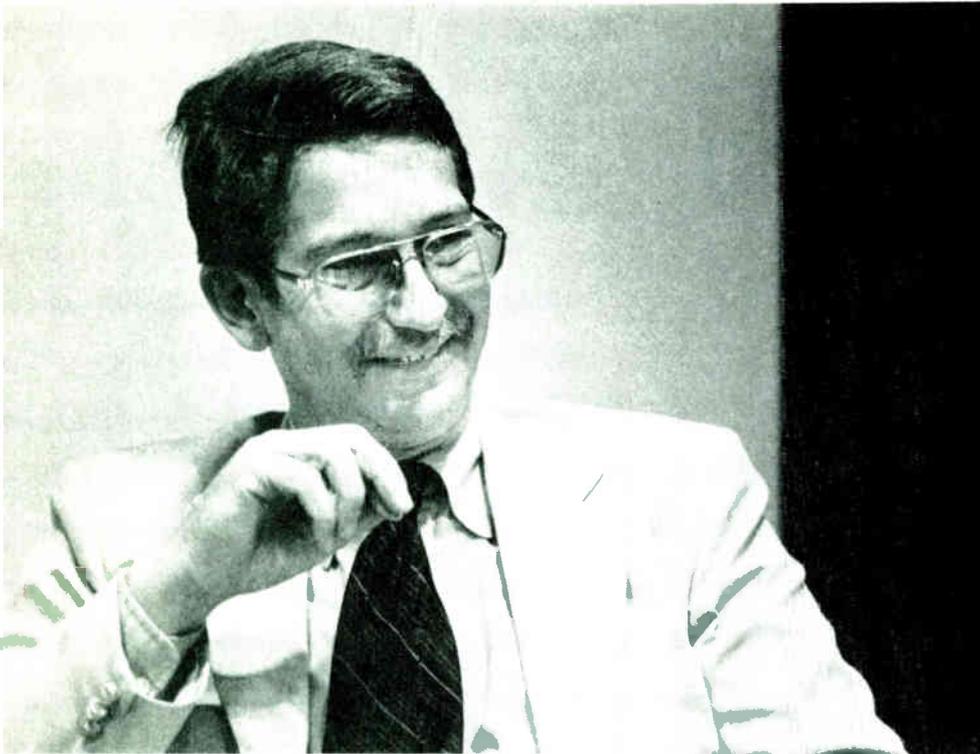


PHOTO: PHIL MOLOTTIS

Robin McBride, president of the Chicago chapter of NARAS.

Before I could finish, Hank Neuberger, CRC's studio manager, entered the room and introduced himself. "Is it raining?" he asked. The people at CRC are serious. Back in the early 16th century Machiavelli wrote: "Nothing makes a prince more esteemed than great undertakings and examples of his unusual talents." Studio owner Alan Kubicka must have had those words in mind when he dreamt up the very modern CRC of today.

Nine studios are in operation as of this writing. Six more will be completed by December in a massive \$2.8 million expansion of Chicago's leading jingle house. "Alan has always bought the best," says Hank. "In 1975, CRC was the first Westlake 24 track operation in the area. Today our expansion is probably the largest audio investment in the history of this market."

According to Hank, Alan Kubicka started out with a mono Ampex recorder in a bedroom of his parents house, soon moved to the basement, eventually built a semi-pro operation in the attic, and finally bought the house. Today he rules Michigan Avenue with a staff of 25 people and clients like McDonald's, United Air Lines and Sears.

While 60 percent of CRC's sessions involve the recording of jingles and ten percent involve industrial presentations, 30 percent are booked by record producers and bands. Hank gets a little defensive when I ask if they've recorded any hits.

"Are you kidding?" he says. "We recorded Survivor's 'Eye Of The Tiger.' The single sold about six million copies!" He shows me a wall covered with album jackets that depict personalities like the Ohio Players, Smokey Robinson, Jerry Butler, Shoes, Corky Siegel, and Sonny Stitt. "We either recorded the entire albums here or did at least a few cuts," he says. At this point I'm convinced—CRC's product is in the record stores alright.

"We feel bullish about the potential of recording sound for picture," offers Hank. "Our rooms are wired with BTX Softouch synchronizers to link audio with visual. We have an immense investment in this." Hank, who has a degree in film from nearby Northwestern University, points out that the TV networks expect to broadcast in stereo by the end of 1985. "This will be good for studios that are prepared."

Cleon Wells, CRC's chief engineer and acoustic designer, supervises construction of the six new studios. "He's making use of live end/dead end and time emergy frequency analysis theories," says Hank. "This theoretical approach enables us to design with confidence."

With regard to CRC's relationship with other studios Hank, who is on the NARAS board of national trustees, says "We refer groups who aren't quite

studios bad-rapped it. One studio owner didn't want to re-bias his recording heads for 456 because they would get too hot. I needle the guy about this every time I see him now," Paul laughs.

Paul describes the Chicago studio scene as highly competitive but does admit to throwing sessions to other studios now and then if he is overbooked. To keep up with the latest trends he is adding video capability and uses drum machines "extensively." According to Paul almost all of his clients use drum machines instead of live drummers. "I keep telling the percussionists to buy those things and learn to program them for the studio but they won't listen," he says. "Usually the programming is done by a keyboard man or anyone but a drummer!"

Given Paul's expertise on the trumpet, one would think he'd be tempted to talk himself onto quite a few sessions, but he doesn't like to get "overly involved." On the other hand, Paul's staff is totally involved in the running of the studio. Pert studio manager, Ricki Zee, for example, enthusiastically spends a few hours each day in the role of apprentice engineer. She'll have to step aside for a few weeks, though, while Japanese superstar, Meiko Nakahara, completes an American/Japanese hybrid album.

After an hour or so of our discussion, Paul is eager to introduce "Tom Tom '84," a local record producer who will run video services at P.S. Unfortunately Tom Tom is not around. "He's at the beach making videos of some girls he met," says staff member Tony Williams.

Paul then hints that he has to attend to some important business so I say my goodbyes. Pressing business indeed! When I get about a block away I look back and see Paul exit through his front door wearing sunglasses and carrying what appears to be a large beach towel.

CHICAGO RECORDING CO.

It was a hot day. Indian Summer. I decided to hike a few miles out to Lake Michigan, not to find Paul or Tom Tom, but to collect my thoughts. The sun was unmerciful, so about halfway to the beach I stopped in a department store and bought a snow-white bedsheet. Arabs who live under the blinding desert sun often wear robes to protect themselves from heatstroke and dangerous sunburn, I reasoned. Somehow I found another store that had a plentiful stock of red bandannas so I purchased one to fasten part of the bedsheet around my head. I knew I was sufficiently protected from the blazing Chicago sun but I was sweating a lot more now. It was a frightening experience.

Nevertheless, I continued and almost reached the lakefront when I suddenly remembered an appointment I had made with Hank Neuberger at Chicago Recording Company. I only had 20 minutes to spare so I cast off the bedsheet, threw away my lantern, and ran three miles to CRC, I was drenched.

"Are you the plumber?" asked Barb Tokarski, the receptionist.

"No ma'am," I said. "I'm . . ."

thank you ...

UNITED PRESS INTERNATIONAL

UPI

For contracting **MILAM AUDIO** to design
and equip your new World Headquarters
in Washington, DC

We are proud that we have been able to help you
to remain, "ONE UP ON THE WORLD"

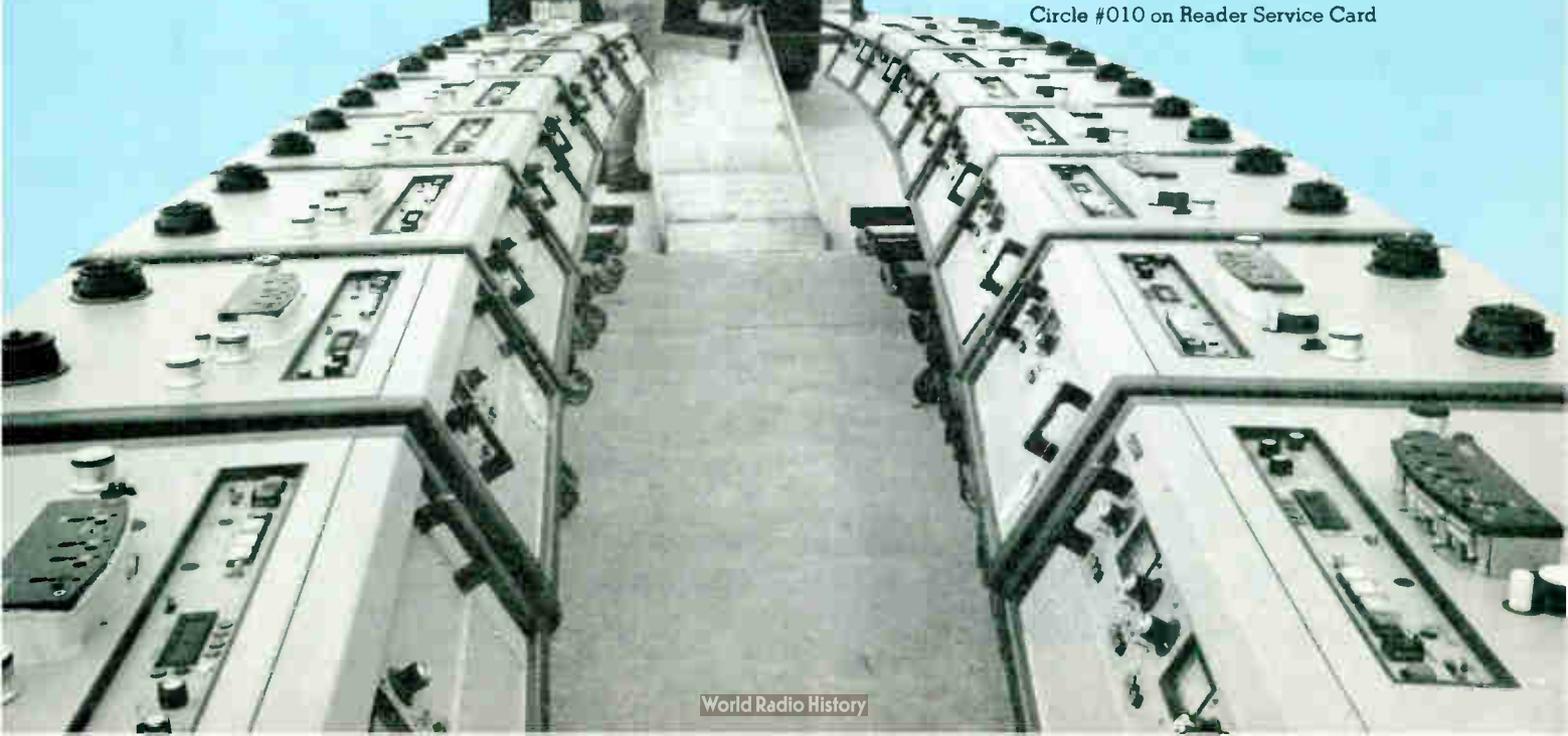
MCI
JH 110's
arriving
at .. UPI



**MILAM
AUDIO**

1470 Valle Vista Blvd.
Pekin, IL 61554
309 / 346-3161

Circle #010 on Reader Service Card



ready for 24 tracks to demo studios and we've had occasion to share our equipment . . ." But he is quick to point out that "Competitiveness has kept Chicago studios on a par with those in New York, Los Angeles and Nashville."

Surprisingly, CRC has no in-house production aspirations for records or commercials. "We don't dabble in speculative ventures," says Hank. "We're service oriented."

Hank Neuberger, equipped with excellent academic credentials and a solid reputation as a studio manager, also doubles as an engineer. Since most engineers have "war stories" about all-day and night sessions, I asked Hank if he had ever experienced any "live-ins" at CRC.

"I did a 38-hour non-stop ses-

sion for the Ohio Players one time," he says. What was the name of the record? "I don't even remember," he says, like a true veteran.

Does Alan Kubicka still engineer sessions? "No," says Hank. "Alan just concentrates on . . ." The words are left unspoken as Hank looks up at the sky.

PUMPKIN STUDIOS

I directed my utmost attention upon a cluster of happy schoolchildren who were chasing a southbound wild goose. It flew only about 30 feet off the ground and some of the children jumped into the air as they ran reaching for the popular creature. I decided to join in the fun.

We ran and ran all afternoon and attracted more children as we traversed the city. So enraptured was I in this transcendental experience that I lost my bearings.

I decided to orient myself. "Goodbye children!" I called. But so intense was their chasing of the wild goose, they had never been aware of my presence.

Suddenly I heard backwards voices and knew where I was: Pumpkin Recording Studios, home base for the rock group, Styx.

"We plugged into the sun," says Gary Loizzo. He is referring to the use of Styx' solar power truck during the recording of "Cold War" on their *Kilroy Was Here* album. Skeptically, he helped the band break in their never-before-used equipment but eventually he developed a new appreciation of the sun.

Gary Loizzo had a lot of breaks even before he built Pumpkin Recording Studio in his garage back in 1971. He had previously sung lead for The American Breed—a popular Chicago group that, in 1968, landed a gold record for its still-popular cut off "Bend Me, Shape Me."

More recently—through the genesis of Pumpkin—he has earned three platinum albums for his engineering artistry on the *Cornerstone*, *Paradise Theatre*, and *Kilroy Was Here* albums by Chicago-based Styx. A Grammy nomination for best engineer in 1979 also followed *Cornerstone* and, in 1983, he shared the nomination with Bob Kingsland and Bill Rascatti for *Kilroy*. This summer he co-produced an as yet unnamed Peter Brown album for Columbia Records and engineered *Desert Moon*, the new solo effort by Styx' Dennis DeYoung.

Although in the beginning Pumpkin was just a tiny four track operation, Loizzo booked quite a number of demo sessions. Because of his status as former lead singer for the world-famous *Breed*, he already had an association with high-quality musicians.

"One of my early demos was good enough to get Heartfield a deal with Mercury Records," remembers Loizzo. "So I was hired to engineer Styx' fourth album, *Man of Miracles*."

Although the two albums mentioned above were engineered by Loizzo, they were not recorded at Pumpkin. Still, Loizzo's studio proceeded to expand from all the demo work. The word was out that he knew his stuff.

By 1976, the garage was no longer an adequate location for his expanding studio. Gary moved Pumpkin to its present location in a former pizza parlor in Oak Lawn, Illinois.

But then, even with 24 tracks and an investment in six figures, Loizzo didn't attract any album sessions to his new installation for two years. "The ma-

There are many ways to split a mic, but only one way is best

Jensen MB-series Mic Splitter Transformers

When you need to split a mic, you should use a transformer because it provides a balanced, isolated signal to the input of each mixer; none of the mixers' grounds need be connected to each other (via the mic cable) so ground-loop induced noise is easily avoided. There must be a Faraday shield on each winding so that the transformer will not provide a path for capacitive coupling of common mode noise.

JENSEN TRANSFORMERS are best because, in addition to meeting these requirements, they minimize degradation of the mic signal's frequency response, phase response, and distortion characteristics. To prevent common mode noise from being converted to a differential signal, each end of every winding in a JENSEN TRANSFORMER has its capacitance precision-matched to that winding's Faraday shield. These are just a few of the reasons why most engineers end up using JENSEN splitter transformers.

The JENSEN JE-MB-C, JE-MB-D and JE-MB-E microphone bridging transformers will split a mic signal to 2, 3 or 4 mixers.

Insist on the best... insist on a JENSEN.

jensen transformers
By REICHENBACH ENGINEERING

10735 BURBANK BLVD. / N. HOLLYWOOD, CA 91601
(213) 876-0059

Visitors by appointment only.
Closed Fridays.

dbx

**We listened to you—
now we'd like you
to listen to us**

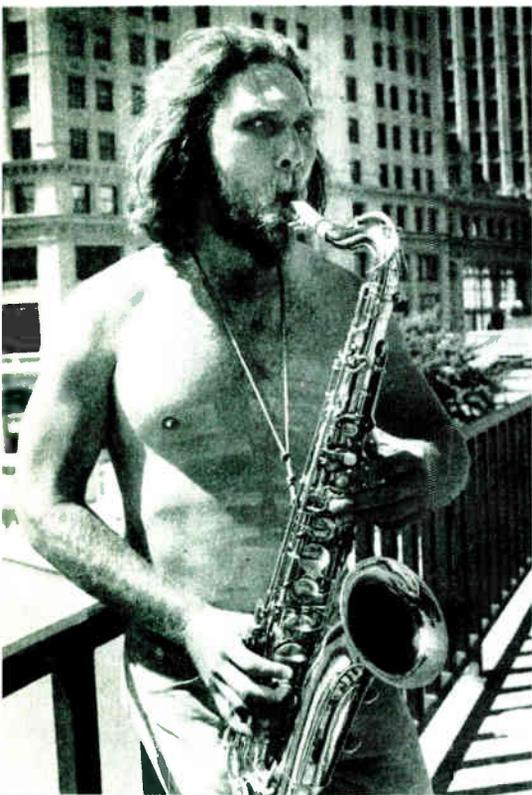
The dbx 160 was one of
the world's best-selling compressors,
but there were still a few areas
you wanted improved:
stereo linking, easy rack-mounting,
clearer metering, selectable compression.

We listened. The result is the 160X.

**Visit your authorized
dbx professional products dealer
and listen for yourself.**



dbx Inc. Professional Products Division 71 Chapel Street, Newton, Mass. 02195 U.S.A.
Telephone (617) 964-3210 Telex: 92-2522



Saxophone James ("Little Howlin' Wolf) on the Michigan Avenue Bridge.

major groups were skeptical of an unproven studio," Loizzo relates. He calls this a "cooling-off" period during which he tried his hand at talent management.

In the meantime, Styx became more interested in Loizzo and Pumpkin. They had been recording rough demo versions of their albums in Loizzo's 95th Street hideaway while they recorded the real albums, for release to the public, at another studio downtown. They decided to give Loizzo a shot at the real thing in 1978.

The nearly triple-platinum *Cornerstone* album that resulted from this wise decision was engineered by Loizzo and recorded at Pumpkin in about six months. Needless to say, Loizzo, with the help of engineers Rob Kingsland and William Rascatti, records all of Styx' albums at Pumpkin now.

"I don't record any jingles here at all" says Gary. "Most of my studio time is bought up in large blocks way in advance. The advertising agencies like to work with studios that can squeeze in a session with just a one day notice. I just can't do it."

Most of the sessions recorded at Pumpkin are also mixed there. "Except for dance club music," says Gary. "There's a man in New York, Jelly Bean, who does most of the dance mixes for the whole country. Peter Brown is using him."

However, like most of the major studios in Chicago, Pumpkin is adding

video capability. "Right now we're just set up for half-inch VCRs," says Gary. "We let the cameras run on their own during sessions but the groups get ideas for bigger video productions when they see the playbacks."

Like most of the big studios in town, Pumpkin shares its overflow with what could be considered competitors. "I was president of NARAS for a while and got to know most of the other owners," says Loizzo.

How can he afford to turn down jingles and give sessions away? "Think of it this way," he says. "Styx uses my 48 track setup which goes for \$150 an hour. And they're in here for six months every year!"

Surprisingly, Loizzo reveals that most of his other sessions still come from local bands. "The big groups are locked into their own lifestyles in New York and California or whatever," he says. "I can't see Paul McCartney flying into Chicago to record on 95th Street."

But, then, you never know.

ROBIN MCBRIDE

Later that week I was walking along the Illinois Central Railroad's tracks deep in thought. "Have I defined the current state of the Chicago recording industry yet?" I wanted to show my notes to others for outside opinions but no one else was walking along the tracks.

Something loomed on the horizon. No, it wasn't a train. This might sound silly now but it looked like—The White Buffalo!

Indian folklore says that whoever sees the White Buffalo will become a leader of his people. I'll be like a prince, I thought.

Originally I had set out to see Robin McBride, record producer/stockbroker and current president of the Chicago chapter of NARAS but, at the time, the W.B. seemed more important. I wasn't sure how close I was supposed to get for the magic to work so I was going to touch it to be sure.

It looked a little less like a buffalo as I got closer, though, and when I finally reached the thing I was really disappointed. It was just an array of foliage someone had spray painted. But Robin McBride was real.

"A record is an emotional experience not an intellectual exercise," says Robin McBride, president of the Chicago chapter of The National Academy of The National Academy of Recording Arts and Sciences (NARAS). He used that guideline from 1970 to 1981 when he scouted groups for Mercury/Phonogram Records. As international director of A&R Robin brought in groups like Uriah Heep, Rush, and Kraftwerk, produced the legendary hit, "Them Changes," by Buddy Miles, and played a role in the packaging of David Bowie.

"Today, in New York and Los Angeles record companies, there is an incredible amount of arrogance toward outsiders," he says. "When I was at Mercury I felt a responsibility to listen to everything, although I admit I might have hurt a few feelings."

Robin explains that Mercury/Phonogram moved out of Chicago in 1981 for administrative reasons. "The locus of their operation is in New York," he says. "But Irwin Steinberg [former president of Mercury/Phonogram] still flies out here once a week to run a graduate program at Columbia College."

Although Robin feels that local bands' chances for survival were devastated when the Illinois raised the drinking age from 19 to 21, he still feels there is a lot of talent here. "The major companies need to keep in touch with people like Linda Mensch [local entertainment attorney] and Ron Kaplan [producer of Big Twist & the Mellow Fellows]." However Robin says, "The record and club market for black music is healthy in Chicago. It always was."

Overall, he notes that video and mail-order have changed the buying and selling patterns of the worldwide recording industry. "Video creates its own market," he says.

McBride, with a degree in Theater from Amherst College, has been president of the 500 member NARAS Chicago chapter for four years. A couple of phone calls reveal that New York's chapter has 1,500 members and Los Angeles has 2,650. Since only NARAS members can vote for the annual Grammy Awards, it is encouraging to note that Chicago-produced records receive nominations almost every year.

Can NARAS help a local group's career? "No," says Robin. "What NARAS can do is put a focus on the city itself." He wants to hold three or four seminars a year that would spotlight first-rate recording industry personnel from around the world. "It's expensive to fly these people in, though," he says.

McBride also works as a stockbroker for Bacon & Whipple. He is reluctant to recommend any record-related stocks but says, "It's interesting to see the positive effect of just one artist, Michael Jackson, on CBS stock." But Robin recommends short-term government securities.

Then the man who discovered Kraftwerk and Uriah Heep, wearing the suit and tie of an investment broker, starts up his Yamaha RD400 and cycles away through Chicago's pre-rush hour traffic.

CRAIG CONNELLY, NEOTEK

A policeman in a freshly-pressed blue uniform directed the flow of traffic on LaSalle Street. I was fascinated. The locus of his power was a

WE PUT EVERYTHING IN BUT THE COMPROMISES.

The new EMX integrated mixers.

Now there's a line of integrated mixers that leaves compromise out of the mix. The EMX Series from Yamaha. Three mixers that combine convenience with performance.

The EMX150 has six input channels with 75 watts/channel stereo output into 8 ohms, 150 watts/channel stereo output into 4 ohms.

The EMX200 has eight input channels with 125 watts/channel stereo output into 8 ohms, 250 watts/channel stereo output into 4 ohms.

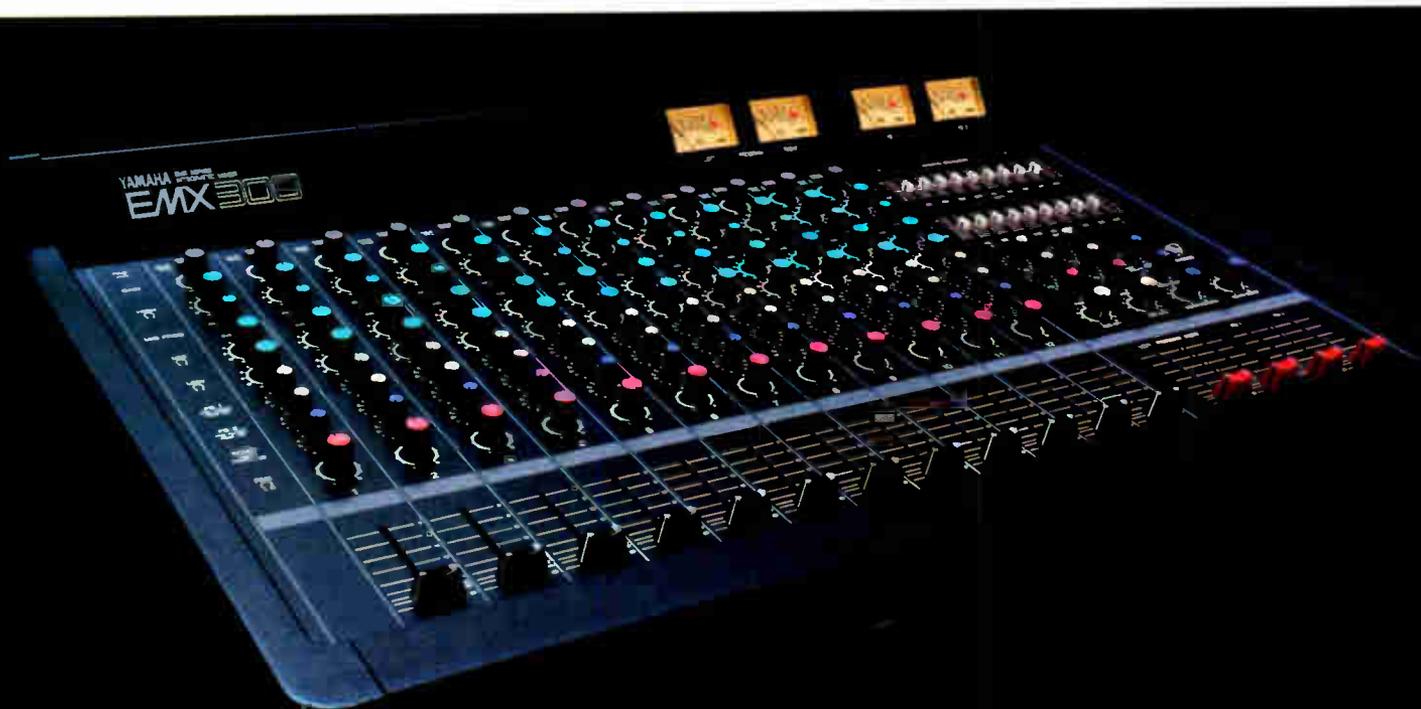
The EMX300 has twelve input channels with 125 watts/channel stereo output into 8 ohms, 250 watts/channel stereo output into 4 ohms.

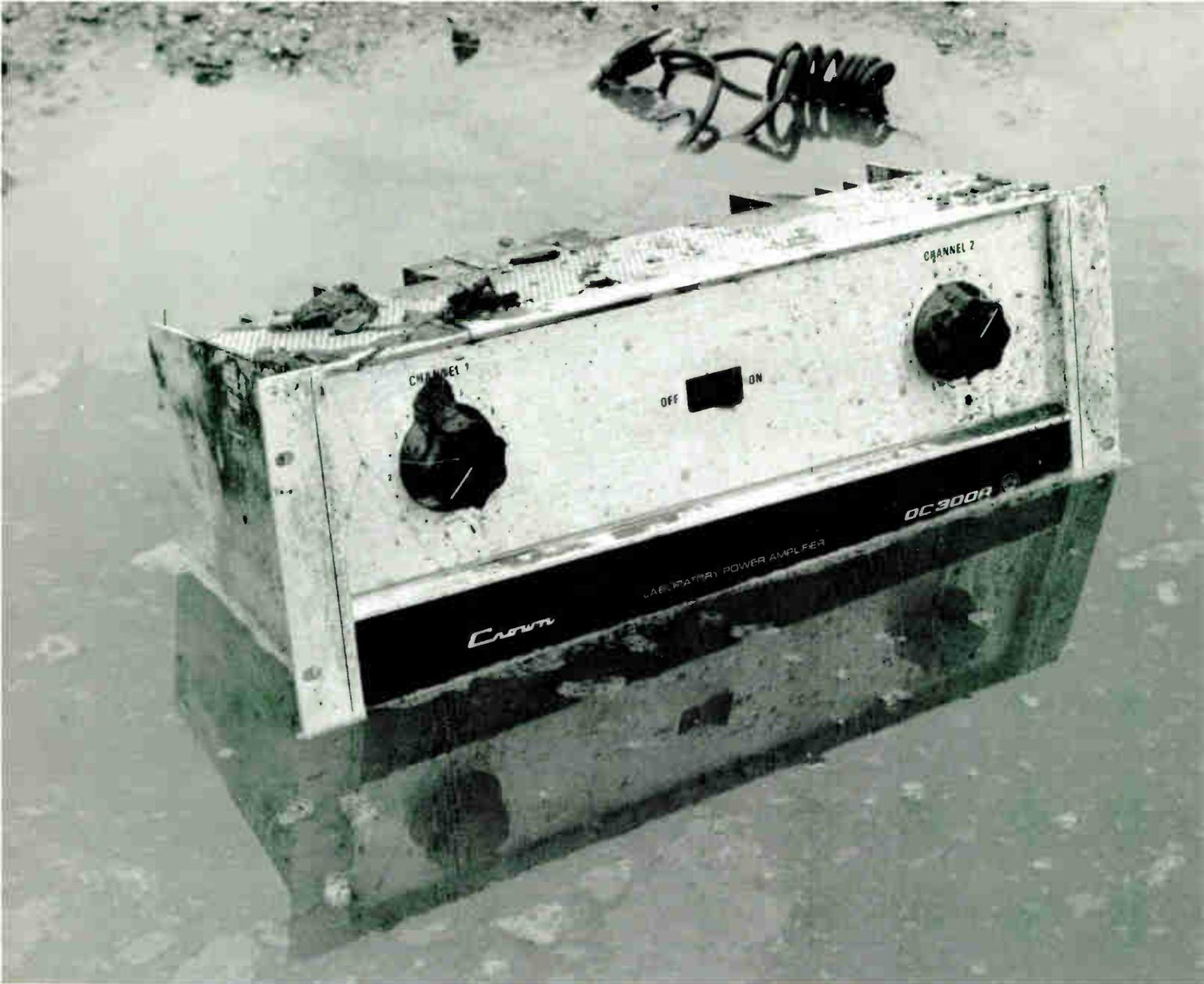
And every EMX mixer has integral power amplifiers more advanced than the legendary P-Series Yamaha amps. Extensive signal patching capabilities. Lower noise and more useable gain than ever before. Electronically balanced low-Z XLR inputs and phone jacks. Switchable pads and gain trim controls. Three-band equalizer with sweepable mid-frequency section on every channel. Two pre-faders, pre-EQ foldback sends on every channel. One echo send per channel and internal analog delay. Dual 9-band graphic equalizers. And legendary Yamaha quality and reliability.

So don't compromise on your next mixer. We didn't.

Circle #012 on Reader Service Card

Combo Products Division, Yamaha International Corporation, P.O. Box 6600, Buena Park, CA 90622.
In Canada, Yamaha Canada Music Ltd., 135 Milner Ave., Scarborough, Ont. M1S 3R1.





In the early evening of Sept. 17, 1973, Jay Barth was at the wheel of a 22 ft. utility truck that was loaded with sound equipment. Just south of Benton Harbor, MI an oncoming car crossed the center-line; fortunately Jay steered clear of the impending head-on collision. Unfortunately, a soft shoulder caused the truck to roll two and one half times. Exit several Crown DC-300A's through the metal roof of the truck's cargo area.

The airborne 300A's finally came to rest — scattered about in a muddy field, where they remained partially submerged for four and a half hours.

Jay miraculously escaped injury; the amplifiers apparently had not.

Unbelievably, after a short time under a blow-dryer all the amps worked perfectly and are still going strong.

The rest — and the truck, is history.



CROWN

1718 W. Mishawaka Road, Elkhart, IN 46517
(219) 294-5571

bright silver whistle. Whenever he sounded it I imagined thousands of sound waves striking hundreds of thousands of air molecules that, in turn, caused the ears of the populace to vibrate. The vibrating sensation then brought about their preconditioned response. The populace would either stop or go depending on what the policeman's non-verbal language commanded them to do.

When I told the policeman that I was in awe of the power of his silver whistle he said, "If you wish to learn the secret of sound control observe Craig Connelly at Neotek!"

"We've never come out second in an A/B sound comparison with another manufacturer's mixing console," boasts Craig Connelly, founder of Neotek.

Connelly, armed with a masters degree in physical chemistry from the University of Illinois, entered the electronics industry out of necessity. He was experimenting with molecular beam kinetics about 12 years ago when he discovered that test equipment for this field was almost non-existent. So he built his own.

After a stint as a contract engineer, Connelly founded Neotek in 1974 in an old storefront. He soon began shooting electrons through the sound mixers he built for musicians. Unexpectedly, recording studio owners noticed that their clients' Neotek mixers, with a few modifications, could be well adapted to their control rooms. Radio broadcasters followed suit.

"Our consoles have a cult following," says Craig. "One studio owner who had installed one in his 'B' room called me after a few months and said, 'I don't know what you put in that thing but all my customers want to record in Studio B now!'"

Who uses Neotek mixers? "The Chicago, Philadelphia, Cleveland, and St. Louis Symphony Orchestras, the Rome Opera, the Olympic Stadium in Athens, Chinese television, Ted Nugent, Tod Rundgren, Jackson Browne, Steve Miller, Mick Fleetwood, Lindsey Buckingham, WFMT in Chicago, and a lot of people I don't even know about," says Craig.

Most Neoteks are custom made to order. "Our customers pretty much design their own boards," says Craig. "Although, of course, we have certain elements that repeat themselves, we always leave room for customer options. We can even cut our frames to desired lengths."

Neotek, with a staff of about 15 people, completes almost all work in-house. Connelly's unobtrusive, ancient white building houses circuit assembly, circuit design, artwork, and silkscreen departments along with a metal shop and a wood shop. It takes about four weeks to build a mixer but work doesn't begin until an order is placed.

Even more significant—all Neoteks are transformerless. "No modern engineer in his right mind would put transformers in a recording or broadcast console," says Connelly. "They add noise and distortion. The only reason they're used is tradition, but we've been transformerless for ten years."

SAXOPHONE JAMES

I left Neotek and saw the bag lady again. This time she was under the Belmont el tracks near a punk rock club. "Have you defined the current state of Chicago's recording industry?" she asked.

"I'm not sure," I said. "Take a look at my notes."

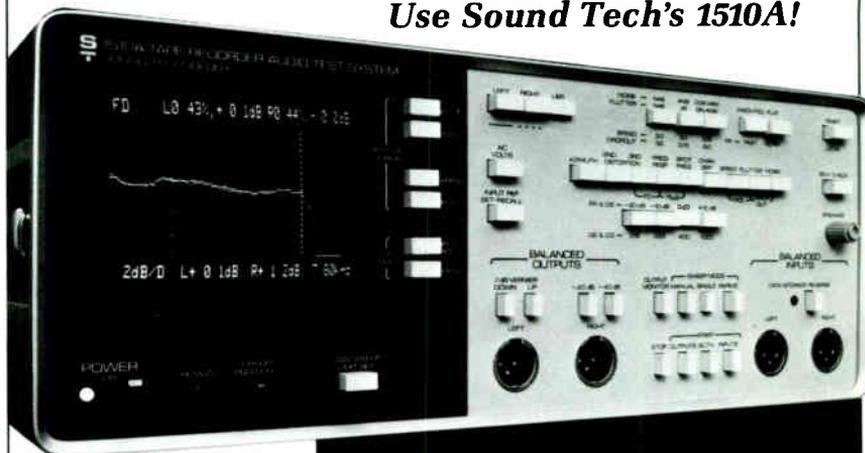
She carefully set down her bags and studiously examined each page in my notebook. "Of course you have," she said. "All of these people currently experience a degree of growth due to their toughness, talent, perseverance, and willingness to work together. But if you want to see the Chicago recording industry from my point of view then go see Saxophone James."

She picked up her precious bags and gave me a little smile. I walked to the corner and turned back to ask her another question but she had disappeared.

"I'm a descendent of Beowulf,"

—PAGE 146

Insure Your Studio's Reputation for Great Sound Quality—Use Sound Tech's 1510A!



WHY?

Because the 1510A is:

- an in-house maintenance department
- a fast and accurate problem-solver, complete with hardcopy documentation
- a complete test and measurement system for your entire audio chain: ATRs, VTRs, film recorders, signal processing, and room response

Leaders in Test and Measurement for over a Decade

**S SOUND
T TECHNOLOGY**

1400 Dell Avenue
Campbell, CA 95008
(408) 378-6540
Telex: 357445

©Sound Technology, 1984

GIVES YOU THE COMPLETE PICTURE

The 1510A is the only two-channel audio test system available today. As a result, it's the only instrument able to perform phasing, channel separation, and many more two-channel comparison tests.

The 1510A's intelligent I/O operation also allows for analysis of test data *regardless* of source (its own internal generator, test records, test tapes, external oscillators). PLUS—all tests are displayed in "real time" on the integral CRT!

THE ULTIMATE INSURANCE POLICY

Got just five minutes in between clients? With the 1510A, you can take that time to increase your confidence factor in solving these on-going problems: verifying tape drop-outs, rebiasing for different tape types, last-minute monitor changes, and unexpected electronic failures.

DESIGNED WITH THE AUDIO PRO IN MIND

Microprocessor control, 14 different on-board tests, differential inputs, electronically-balanced outputs with a clean, low-distortion signal source (typically .005%) from +30 to -70 dBm/600 ohms . . . all contribute to the 1510A's ability to precisely fulfill ALL your audio requirements.

PROTECT YOUR INVESTMENT

Why pay expensive maintenance fees for routine check-ups—why wait for a session-ending electronic failure before you call for *help*—when the 1510A can protect your investment *and* your reputation? Call Sound Technology today to find out more about the 1510A!

CANADIAN RECORDING

1984 • A YEAR OF EXPANSION



*Sounds Interchange
Toronto*

The New Media, 1984

MuchMusic, Canada's new 24 hour music video network, adds one more asset to the developing industry by sponsoring The New Media 1984, a three day symposium November 2 through 4 at Ontario Place, Toronto.

The purpose is to offer the most current collection of exhibits, screenings and workshops concerning music video, interactive video (including Videotex), computer graphics, and video interface. An international video competition is one of the main events; this should present the best Canadian and international material.

The New Media Library rounds up video tapes and films from television producers, educational institutions and independents of the commercial and artistic variety. Private screening booths seating from 4 to 8 people will be available. Call (416) 446-6996 for more information.

—E.R.

by Elizabeth Rollins

Nineteen eighty-four ushered in some new developments in the Canadian music industry—a music video network called MuchMusic, more emphasis on audio and video interlocking at the larger studios, and for the start-up studios, a significant break on equipment import duties.

Although Pinewood Productions is hardly a newcomer to the Vancouver market, owner Geoff Turner takes an active interest in any legislation which affects the studio community in

Canada. He explains that certain types of equipment will cost the studio owner 20 percent less: "Early this year there was what amounts to a modification of the customs and excise tax, which means relief from a tariff on anything with a microprocessor," says Turner. That 20 percent tax applied to most European countries, including Germany. Turner adds that the exceptions to that rule had been Great Britain and the United States, with preferred rates of 15 percent. Although certainly there are many pieces of equipment a studio must acquire which have no microprocessor, this new law will surely lighten the financial load for the up-and-coming owner who wants to keep pace in the state-of-the-art race.

VIDEO ENTERS THE WORLD OF AUDIO

There are a healthy number of Canadian studios with audio-video interlocking facilities which we'll take a look at later, but few audio studios which have expanded to include video production and postproduction under one roof.

In 1984, Le Studio in Morin Heights, Quebec, upgraded and reorganized their combined audio/video facilities. Yael Brandeis, co-owner and studio manager, is proud of their newest acquisition: a Bosch FGS-4000 computer graphics system to be used in conjunction with their Ampex Digital Optics and NEC E-Flex effects systems. Brandeis says the addition of an Ampex AVC-33 switcher in December for their ISC controlled on-line suite tops off a two million dollar investment for 1984.

Since Le Studio has been primarily an audio recording facility, Brandeis says it's time now to rearrange the studios to more comfortably accommodate the video postproduction. "We're

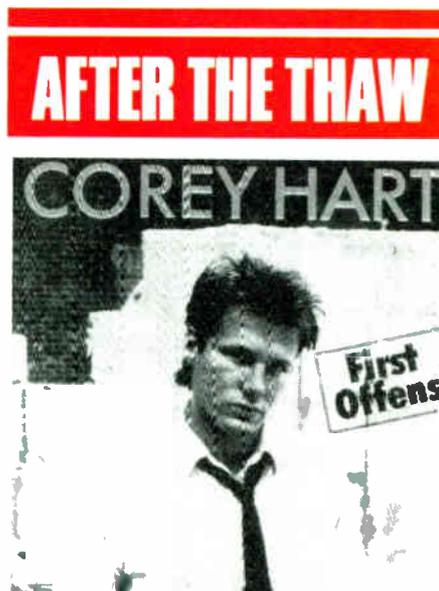
—PAGE 148

by Elizabeth Rollins

Until a couple of years ago, many of the major record labels seemed as frosty as a Laurentian winter to signing Canadian talent. Loverboy on CBS came plowing through like an icebreaker three years ago, and other Vancouver bands seemed to follow in their wake. Bryan Adams sold one-and-a-half million units of the *Cuts Like a Knife* album and managed to rack up seven Juno award nominations this year. A&M picked up the Payolas and got some American airplay. Soon disk jockeys in places such as Philadelphia, Los Angeles and Atlanta had to learn the proper pronunciation of "Chilliwack" (if only for a fleeting moment in medium rotation.)

Craig Horton of the Vancouver PRO Canada branch (Performing Rights Organization) says, "Loverboy did a lot

—PAGE 148



Corey Hart



Flanner's Pro Audio Presents

A TOUCH OF CLASS

SOUNDTREK STUDIO V

Overland Park, KS (913) 541-0302

If it's worth doing, it's worth doing right!

Soundtrek has done it! The success of Soundtrek continues with the addition of STUDIO V in Overland Park, KS. STUDIO V, a 24-track post production and video sweetening studio, is equipped with MCI 24 track, NEOTEK console, MCI Layback, Adam-Smith synchronizer, and other equipment from Otari, DBX, Crown, Lexicon, Ampex, and many others. Flanner's Pro Audio is proud to be working with Mr. Ron Ubel and the staff of Soundtrek.

This, their fourth studio in three years, makes SOUNDTREK one of the most complete studio complexes in the Midwest! The efforts of contractor Dan Petersen, designer Steve Durr and the staff of Flanner's Pro Audio will continue to support the growth of Soundtrek in the years to come.

Thank you Soundtrek for helping Flanner's Pro Audio become one of the Midwest's finest pro audio houses.

Flanner's Pro Audio specializes in Sales, Service, Installations, and Design. We represent **MCI/SONY, NEOTEK, AMEK, OTARI** and over 120 other manufacturers in the Midwest.

Call Flanner's Pro Audio today, Toll-Free, 800-558-0880. Let us design a success for you!

FLANNER'S PRO AUDIO, INC.

Serving The Recording & Broadcast Industries

2323C Bluemound Road • Waukesha, Wisconsin 53186
(414) 785-9166 (Outside WI, call) 800-558-0880

NORTH CENTRAL STUDIOS:

FEELING BULLISH ABOUT THE FUTURE

If concert grosses are not what they were a few years ago, there is every indication that there is still plenty of work for studios in the region. One sign of owners' confidence is the number of rooms currently under construction or being renovated.

by Blair Jackson

The nationwide economic recovery has been slightly slower in coming to the North Central region of the country than other areas, in part because the big localized industries—automobile, rubber and a few others—are still comparatively sluggish. But people are feeling bullish about the prospects for prolonged growth and hey, if the Chicago Cubs can win a division title, anything is possible!

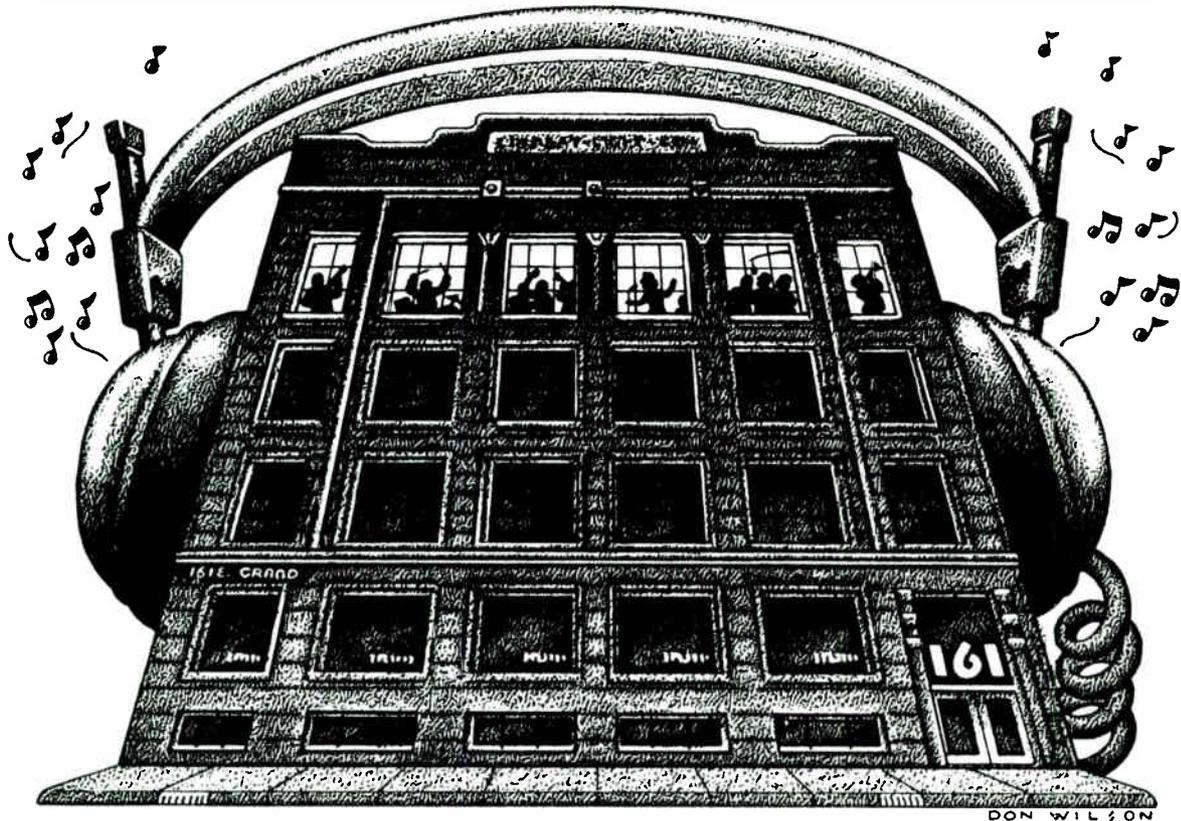
Most of the recording studios we spoke with for this article said their business is up over last year, with increases in business on most fronts—major album projects, independent label work, jingles, and audio for video. If concert grosses are not what they were a few

—PAGE 32

Control room of GHL Remote.



CHICAGO NEVER SOUNDED SO GOOD!



5 STUDIOS

NEVE NECAM HARRISON AUTO SET
Q-LOCK AND BTX SYNCHRONIZER
LEXICON 224X W/LARC
48 TRACK RECORDING
VIDEO SWEETENING AND MIXING
SONY MCI 1" LAYBACK
NATIONWIDE SATELLITE RECORDING SERVICE
(UPLINK & DOWNLINK)
COMPLETE SUPPORT SERVICES

STREETERVILLE

THE SOURCE OF SOUND IN CHICAGO.



Streeterville Recording Studios • 161 E. Grand Avenue • Chicago, IL 60611 • (312) 644-1666

NORTH CENTRAL STUDIOS:

years ago—everyone except the Springsteens of the world are having some difficulty selling out Midwest shows—there is every indication that there is still plenty of work for studios in the region. At least one sign of owners' confidence in the recovery is the number of rooms currently under construction or being renovated.

At Chicago Trax, Reid Hymans tells us that the studio is going to build a new 24 track room in the Lincoln Park area of Chicago. "We're talking to designers and we're just about ready," he says, noting that they're looking to build about a 1,500 square foot facility. Business at Chicago Trax has been quite good, Hymans says: "There seems to be growing record company interest in the region. We're doing more and more work for major labels, mainly for R&B and blues artists." Among the acts to use Chicago Trax in the last few months are Suzanne Palmer, Ssence (both CBS acts), Ministry, and Grandmaster Flash. In addition, Chicago Trax continues to generate a lot of commercial work from McDonald's and other top corporations.

In nearby Gurnee, Illinois, Opus Studios is also in the process of expanding. Started by Tony Pettinato just five years ago as a four track, Opus jumped first to eight, then to 24 tracks, and now will boast a pair of 24 track control rooms featuring AMEK consoles and an MCI JH-24 recorder. In addition, Opus has installed two more isolation booths, a 4,000 cubic foot vocal chamber and a 5,000 cubic foot drum booth. Pettinato tells us that he did the design work over a period of several months working out the specs on his Kaypro computer, designing programs to work with reverberation, standing patterns and more. The completion of all the new work (hopefully in early November) "should help us compete even more with the downtown studios," he says. In the meantime, Opus' other studio is open and continuing to attract a broad cross-section of clients, from Christian musicians to rockers doing demo work.

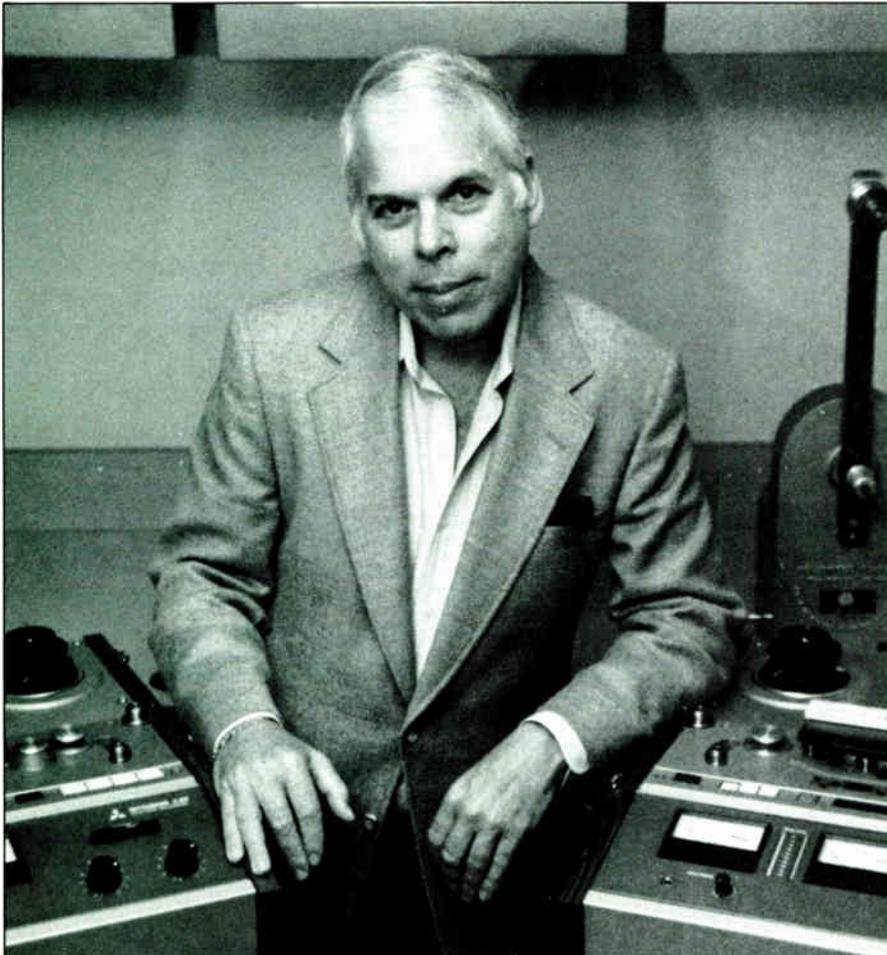
There's excitement at Chicago's Streeterville Studios over the increasing use of their new satellite link-up capabil-

ity. Recently, for example, Streeterville did a commercial for Sears (who are locally based) that required a voice-over by actress Sally Kellerman, who was in Los Angeles. Her schedule didn't permit her to fly to Chicago, so instead Kellerman popped into Newjack Studios in LA, put down her part, and then it was beamed through a combination of Class A telephone lines (to a local public radio station in LA) and satellite (Westar-4) to Chicago, where it was again picked up by public radio and sent to Streeterville, all with just about a second-and-a-half delay. According to Streeterville's Bob Dolan, the studio is also experimenting with sending music by satellite. Dolan says Streeterville is one of a network of studios nationwide that is involved with satellite transmission in recording, and that "in the future, as the technology becomes perfected, you'll be seeing a lot more of it everywhere." Currently, the signal sent is analog, but Dolan says that within a few years digitally-based signals will likely become the norm, and increasingly studios will get their own small dishes, eliminating the need to use radio bands as carriers to and from the satellites.

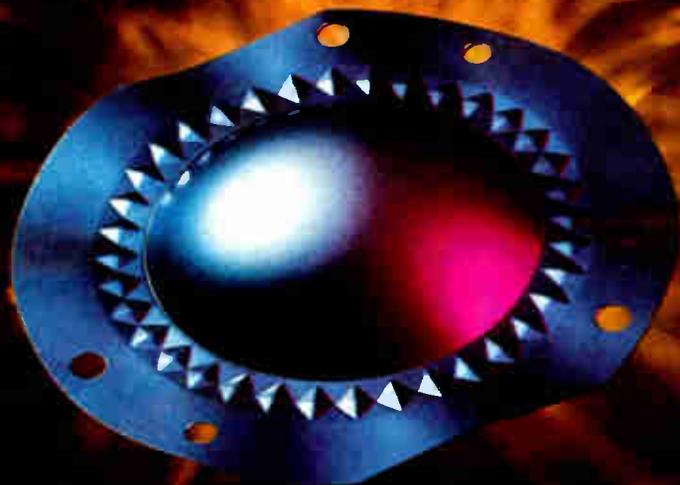
Streeterville has been busy with projects other than those utilizing the new satellite capability, of course. Two big projects for the Alligator blues label were completed here—albums by greats James Cotton and Son Seals. Also, Streeterville has continued to draw commercial clients like bees to honey. Says Dolan, "The thin years for other studios were still good years for us because everyone still made commercials."

At Universal Recording in Chicago, Murray Allen and his crew *should* be taking a break following all the work they did on commercial spots preceding the Olympics—Allen estimates that 65 percent of the spots aired nationally during the Olympiad were mixed at Universal, including such clients as Budweiser, McDonald's, Sears and United Air Lines. But there's no rest for the weary and when you're hot you're hot, so Universal is still busy night and day. This is shaping up as their best year ever, and this after 1983 was a record setting year for the studio. Among the music artists at Universal recently was Peter Brown, who completed an album for CBS there.

In Wichita, Kansas, James Stratton reports that a lot of High Fidelity Recording's recent growth has been in the video area. "People are becoming a lot more quality-conscious in video," he says. "Once you see things that have been produced entirely on one-inch, you realize there's a tremendous difference. I think that over the next few years, the people who aren't in one-inch are go-



Universal Recording Corporation's president, Murray Allen, displays his latest digital audio recording equipment acquisition—two Mitsubishi X-80 digital stereo master recorders.



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

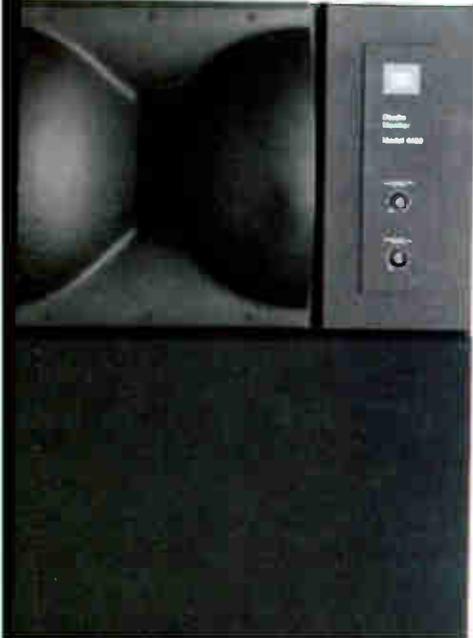
IT TOOK JBL SCIENCE, A NITROGEN EXPLOSION, AND PURE TITANIUM TO GIVE YOU PERFECTED HIGH FREQUENCY SOUND.

High frequency sound has always fought with the technology that brings it to the ear. The driver diaphragm has been most vulnerable, pushed to the breaking point, unable to hold uniform frequency response.

JBL scientists decided to fight back. They exploded nitrogen into a remarkable metal, pure titanium, encircling their unique diaphragm with a vibration-absorbing "Diamond Surround," so revolutionary it warranted its own patent.

The result? A diaphragm that delivers and sustains a power and purity to high frequency response never before approached in the industry.

Perfecting titanium technology is just one of innumerable ways in which JBL science is re-shaping the quality of sound. From ultimate accuracy in laying down your initial tracks, to capturing the full power and subtlety of your final mix, JBL audio systems are focused on the most exacting demands of the recording studio professional. To find out which system is designed to meet your specific requirements, contact your authorized JBL professional products dealer today.



JBL Incorporated,
8500 Balboa Boulevard
P.O. Box 2200,
Northridge, CA 91329
U.S.A.



JBL Harman International JBL INCORPORATED 1984

Circle #016 on Reader Service Card
World Radio History

NORTH CENTRAL STUDIOS:

ing to have a difficult time of it." High Fidelity now has a pair of one-inch machines (including a portable unit) and they've been putting them to good use with industrial films and the like, mainly for Kansas-based corporations. The local economy has been "up and down" according to Stratten. "So much of it is tied to the aircraft industry—particularly business aircraft—and it's been uneven. During the peak of the recession, that particular industry didn't seem too affected, but now it's a little shakier. A lot of people's jobs are dependent on that industry."

Doug Monson of Audio Graph Productions in Okemos, Michigan agrees that "everything is a little behind in the Midwest in terms of the recovery," but adds that, "from what I can see, the music scene has really picked up in the last year-and-a-half or so. I don't mean major record deals—although there is some of that happening—but independent projects and people putting out records on their own labels. That's usually a pretty good indication that the economy is pretty good." Audio Graph is less than two years old at this point, yet they've managed to draw a wide variety of projects, from commercials for Dow Chemical,

the Republican National Committee and various more local political concerns, to demo work and film scoring, primarily for industrial programs. "We do a lot of music writing," Monson says. "We're composers and we can then record what we write with good players, so we can offer our clients an attractive package. I find that more and more people are looking for high quality work in this business, so it's harder than ever to stay on top of things. But if you make the effort, you'll probably do OK." That has certainly been true at Audio Graph.

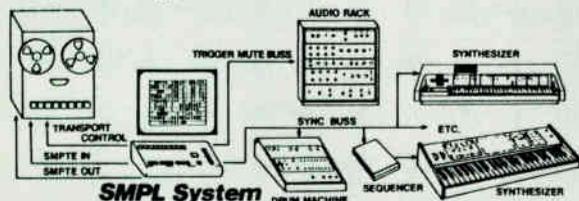
A real Midwest success story is the growth of Ben Grosse's Pearl Sound Studios in Canton, Michigan, near Detroit. "We've been running seven days a week for some time," Grosse says, crediting much of his success to their recently completed new room, a Sierra Audio design, with Hidley monitors (which are "just wonderful," according to Grosse), a trap ceiling, live floor, "a little like Atlantic's new one in New York," Grosse says. Despite the Detroit area's moderately depressed economy, "the recording scene is fairly healthy here," says Grosse. "I didn't put up the new room until I knew we could support it, but even so, it's ex-

ceeded my expectations." Among the performers who have worked at Pearl recently are Marshall Crenshaw, Martha Reeves and a New York band called Figures on a Beach. In addition, Pearl has its own independent record label and distributorship, Metro-America. "We like to keep ourselves busy," Grosse jokes. Pearl is equipped with Studer recorders, a custom Neotek board, Lexicon digital reverb, a slew of electronic instruments and a good selection of tube mikes.

At Sound Summit in Lake Geneva, Wisconsin, about 60 miles north of Chicago, Phil Bonanno and his crew have had their Studer and Neve equipment working on a number of projects, primarily album sessions for the likes of Cheap Trick, Ruby Starr, and Hunter, who finished a record for Private Eye Records there recently. The new facility is in the site of the former Shade Tree studio, but was completely changed when Lakeside Associates of Mission Viejo, California came in and constructed the 48 track facility. It's location in Wisconsin's resort country makes it an attractive place for artists who want to get away from it all, yet its proximity to Chicago, Milwaukee and Madison, means it

COMPUTERIZE YOUR STUDIO WITH SMPTE TIME CODE FOR UNDER \$1,000!

Whether four track cassette or forty track reel to reel, the SMPL System™ can computerize your studio for greater ease, productivity, and SMPlicity.



SMPL interfaces with your recorder's remote control jack and provides:

- * Automatic punch in, punch out and search to cue accurate to 1/30th of a second. Never miss a punch again!
- * Autolocation. Finds solo, cue, verses — up to 8 programmable points to a song.
- * SMPTE Time code generator/reader. By recording SMPTE code on one tape track, small studio operators may then slave their machines to a prolevel multi track at any studio with SMPTE machine-to-machine sync. or sync audio tracks to video.
- * Remote transport control.
- * Musical instrument synchronizer with programmable tempo, sync most drum machines/sequencers to the SMPTE track; even save tape tracks by syncing instruments to SMPTE during mix down and recording them directly into the two track master!

SMPL displays system data on any B & W or color TV or monitor (not included) so you always know exactly what's happening with the system.

Almost any recorder can be SMPLified — no tach out or speed control required.

SMPL is unprecedented. Nothing else provides all these features at this remarkably low price. More information? Send for our brochure. Can't wait? call (405) 842-0680 for the name of the dealer nearest you.



No representation that SMPL is a product of Commodore Business Machines, Inc. or an affiliated or related company is intended; nor is there any representation that there is any source of origin of Commodore Computers other than Commodore Business Machines, Inc. or its affiliated or related companies.

SYNCHRONOUS TECHNOLOGIES

P.O. Box 14467 • 1020 West Wilshire Boulevard • Oklahoma City, Oklahoma 73113 • (405) 842-0680

NORTH CENTRAL STUDIOS:

can easily draw bigger groups, which is precisely what it has been doing.

"Columbus is probably the fastest growing area in Ohio," Jeff Gastineau says, explaining in part why he moved his Apple Studios from Dayton to Columbus recently, and underwent a name change to 3001 Recording Studios. Currently, 3001 is using the Apple gear, but Gastineau says he is in the process of completely overhauling the new facility to give it 46 track capability, hopefully by year's end. While some of the details of the construction and equipment have yet to be worked out, Gastineau says that he has gotten a lot of input from people at Recording Workshop and that, "We're probably going to get away from LEDE. I just don't care for it that much for rock and roll, and I've found it's fairly difficult for new clients to listen to. This room is more consistent all the way around." 3001, too, has been keeping its work varied, with demo sessions, dance-oriented music, rock and Christian bands keeping the studio hopping. "Dayton sort of seemed to be dwindling," Gastineau says, "but Columbus is clearly on the way up. It has the feeling of a city that is really coming alive."

"The music scene has really picked up in the last year and a half or so. I don't mean major record deals, but independent projects and people putting out records on their own labels. That's an indication that the economy is pretty good."

Beachwood Studios in Beachwood, Ohio (near Cleveland) has attracted a lot of work from artists signed to major labels recently. The Cleveland-based band Beau Coup just recorded their first album for CBS/Scotti Brothers. Color Me Gone is about to cut their se-

cond LP for A&M with producer Barry Moraz (Styx, Pat Travers) at the helm. The Michael Stanley Band, though currently label-less, have done recording both at the studio and with Beachwood's mobile unit in hopes of shopping some completed masters. Also working at Beachwood were Donny Iris & the Cruisers, who have put out a couple of solid efforts on MCA, and the pride of Cleveland—Eric Carmen—returning to recording with an album for Geffen Records. "We had a period of about five months where this place was going seven days a week, 24 hours a day," says Keith Voigt, "In fact, we were so busy that I even had to turn away Billy Idol. He wanted to do some overdubs here for a special that D.I.R. had recorded, but we simply couldn't squeeze him in. I would've given my right arm to have him work here, but it just didn't work out." The Beachwood mobile unit has also been busy, traveling hither and yon to capture bands like Golden Earring, 38 Special, and R.E.M., the latter recorded in Seattle for a forthcoming live album.

And speaking of mobile trucks, the folks at GHL Audio, based in Hilliard,

—PAGE 66



REACHING THE PEAK OF AUDIO PERFECTION



Featuring: NEVE with NECAM automation, Dual STUDER A800 24 Track, MITSUBISHI X-80A Digital 2 Track, and a Complete Assortment of Outboard Gear.

SOUND SUMMIT Recording Studio, located only 60 miles north of Chicago in scenic Lake Geneva, at the Americana Resort Complex, provides a creative working environment as well as excellent recreational facilities.

SOUND SUMMIT c/o Americana Lake Geneva Resort
Highway 50 Lake Geneva, WI 53147 (414) 248-7666

Circle #018 on Reader Service Card

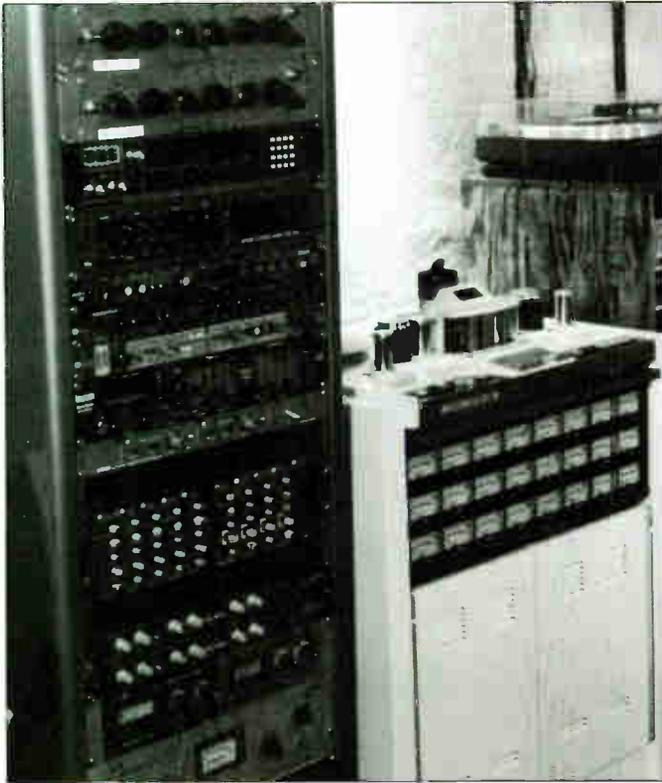
NORTH CENTRAL STUDIO LOCATION INDEX

<p>ILLINOIS Aisip 16 ARS Recording Studio 46 Berwyn 8 Solar Sound 43 Broadview 8 Ken Earl Productions 39 Brookfield 24 Tanglewood Recording 62 Carol Stream 8 Domain Communications 39 Centralia 8 Off Broadway Studio 42 Champaign 8 Miracle Works 42 Chicago 16 Acme Recording 46 8 Audio Mixers 38 4 Barwig Recording 38 8 BMA Recorders 39 16 B.M. Recording Studio 48 24 Chicago Recording Company 55 24 Chicago Trax Recording 55 24 Echel Chicago 55 8 Fabusound 39 24 Hubbard Street Studios 56 4 Lakeside Media 41 16 Media International 49 16 Metro Mobile 49 24 Paragon Recording 58 24 P.S. Recording Studio 58 24 Rising Star 59 8 R.P.M. Recording 59 4 Soundvisions 44 24 Streeterville 60 8 Studio E 44 8 Tousana 44 24 Universal Recording 63 24 Zenith/dB Studios 64 Cicero 24 ZEM Recording 64 Chillicothe 8 Sundance Studios 44 Decatur 8 Lewis Sound 41 16 Ringger Ranch 50 Deerfield 8 Starbeat 44 Des Plaines 24 Sound Impressions 59 Downey's Grove 4 Arthur Merwether 42 16 Spirit Studios 51 Dunlap 8 Wooden Nickel Studio 44 Elmwood Park 8 Rock Service 43 Evanston 8 Gemini Recording 40 8 J.E.M. Recording 40 16 Q & R Recording 49 16 Soto Sound 50 Freeport 16 Radex Recording 50 Garden Prairie 8 Real Recording Studio 43 Geneva 4 Mainstream Sounds 42 8 HJ Recording 43 Glen Ellyn 24 RCL Recording 58 Gridley 16 Ringger Ranch 50 Gurnee 24 Opus 56 Harvey 24 Prism Recording 58 Hawthorn Woods 8 Kniepkamp Productions 40 Highland Park 8 Electrax 39 Hinsdale 8 Musician's Workshop 42 Libertyville 16 Rainbow Bridge 50 Lombard 24 Alpha Recording 54 Maywood 24 Lake Recording 56 Moline 16 White Horse Recording 51 Naperville 8 Old Plank Studios 42 Oak Lawn 24 Pumpkin Recording 58 Oak Park 4 Boulevard Recording 39 Orland 24 Star Trax 60</p>	<p>Park Ridge 8 BGD Recording 39 Port Byron 8 Soundmaster Recording 43 Prospect 8 Master Tracks 42 Robinson 24 Worldwide Sound 64 Salem 8 Quality Media 43 Schaumburg 24 Remington Road Studios 58 Skokie 8 Component Stereo 39 24 S.Y. Recording 62 South Holland 24 Pyramit Audio 58 Urbana 16 Appetite Recording 46 24 Creative Audio 55 Wheaton 24 Jor Dan 59 Wheeling 24 PostScript Productions 58 Wilmette 16 Media Services 49 8 Starnorth Studio 44 Winnetka 24 Red Label Recording 58</p> <p>INDIANA Alexandria 24 The Barn 54 24 Pinebrook Studios 58 Bloomington 24 Audio Village 54 Brazil 16 Creative Sound Recording 48 Fort Wayne 8 Ajax 38 24 Omnisound 56 16 Sweetwater Sound 51 Gary 8 Bud Pressner Recording 43 Goshen 16 New Light Sound 49 Highland 4 Lab Recording Studios 41 Hobart 8 Sparrow Tree Recording 44 Indianapolis 4 Broadcast Productions 39 8 Ear Mark 39 8 Gnome Park 40 16 Metro Sound 49 24 TRC Recording 62 Mishawaka 16 Audio Services Studio 46 Nuncie 16 Little Nashville Studios 49 South Bend 16 Howler Studio 48 4 Impact 40</p> <p>IOWA Ames 8 Media Arts Workshop 42 Ainsworth 4 Dott Influences 39 Cedar Rapids 16 Rosewood Sound Studios 50 Des Moines 24 Triad Studios 62 Otho 24 West Minister Sound 64 Sioux City 16 Sound Ideas 51 West Union 8 Bird on Fire Studio 39</p> <p>KANSAS Americus 16 L.M. Recording 49 Fairway 8 Pegasus 42 Hays 16 Sunset Studio 51 8 West End Recording 44 Kansas City 24 United Entertainment 63 Mayette 8 Newwave Sound 42 Newton 8 Stucky Audio 44 Overland Park 8 Raven Recorders 43 Pittsburg 4 River Road Recording 43</p>	<p>Wellington 8 Countryside Recording 39 Wichita 24 High Fidelity Recording 56</p> <p>MICHIGAN Ann Arbor 8 Custom Blend 39 24 Soliel Sound 59 Bloomfield 16 Studio De Lux 51 Bloomfield Hills 16 Pioneer Recording 49 Clarkston 8 Nick Beat's Place 39 Easton 16 Elekton 48 Dearborn 8 Faith Recording 39 24 Pac Three Recording 58 Dearborn Heights 24 Plum Recording 58 24 Studio A 62 Detroit 8 Eden Productions 39 24 Gnome Sound 55 16 Masterpiece Sound 49 24 Pearl Sound 58 24 RMJ Recording 59 24 United Sound 63 East Detroit 16 Elephant Recording 48 24 The Disc 55 East Lansing 8 Mixed Modes 42 Farmington Hills 24 Ambience Recording 54 Ferndale 8 Atom Smashers 38 Flint 8 DB Recording 39 Grosse Point 8 Styx and Lyles 44 Holt 16 Harvest Productions 48 Inkster 8 Hidden City 40 Kalamazoo 24 Crosstown Recording 55 Kawawlin 8 Wieland Studios 44 Lincoln Park 8 L.P. Sound Studios 41 Livonia 16 Livonia Sound 44 Manistique 4 Kino Sound 40 Mecosta 16 Northern Star 49 Monroe 8 Artists Sweatshop 38 8 Studio Production Futures 44 Okemos 24 Audiograph Productions 54 Pleasant Ridge 8 Infinity Studios 40 Pontiac 8 A&F Music 38 Portage 8 Brown & Brown Recording 39 Pottsville 8 Audio Tape Productions 48 Redford 24 Multi Trac Recording 56 Royal Oak 8 Audio Graphics 38 8 Huntington Sound 40 St. Joseph 4 KP Recording 40 Southfield 24 K&R Studio 56 24 Ron Rose Productions 59 Sterling Heights 16 Sterling Sound 51 Warren 24 Seller Sound 59 Whitmore Lake 24 The Alliance 54</p> <p>MINNESOTA Andover 8 Andover Audio 38 16 Pax Recording Systems 49 Bemidji 8 Audio Camera Cedarvale 38 Bloomington 24 Creation Audio 55 8 Hunt Productions 40 Brooklyn Center 4 Still Voice Recording 44</p>	<p>Burnsville 16 Track Record Studios 51 Fergus Falls 8 Valley Acoustics 44 Mahtomedi 8 Morninestar Recording 42 Maple Plain 24 Westwood Sound 64 Minneapolis 24 American Artists 54 4 Ark Recording 48 8 Creative Recording 39 8 Custom Recording Studio 49 16 Edity Productions 48 8 Fire in the Lakes 39 16 Creatapes 48 8 Lakeside Recording 41 8 Mark Lee Productions 41 8 Precision Tapes 42 4 Solium Sound 43 8 Sound 80 43 16 Toby's Tunes 51 Minnetonka 8 Maxwell Records 42 St. Cloud 8 Sun Cloud 44 St. Paul 8 Channel 10 Media 39 8 Danger Recording 39 4 EMC Productions 39 8 Euphonia Studios 39 24 Studio M 62 Virginia 16 Advanced Audio Recording 46 Wilmar 16 Sound House 51 Wright 4 Lake Center Studio 41</p> <p>MISSOURI Belton 4 Cypress Studios 39 Fenton 16 Maritz Communications 49 Columbia 8 Land Recording 41 Kansas City 4 Audio Visual Association 38 24 Chapman Recording Studios 55 8 Laundry-Land Studios 41 24 Sound Recorders 59 24 Soundtrek Inc 60 24 Technosonic 62 24 T.G.'s Recording 62 Kennett 8 Kennett Sound Studios 40 Kirkwood 16 L.H. Productions 49 Mack's Creek 16 Audio Loft Studios 46 Raytown 4 Cypress Studios 39 Springfield 8 Aard Vark Recording 38 St. Louis 24 Gateway Recording 55 8 GSI Studios 40 8 Music Masters 42 8 Penguin Productions 42 16 Premier Film & Recording 49 8 Studio G 44 Webster Grove 4 Deer Creek Audio Illusions 39</p> <p>NEBRASKA Grand Island 4 Quality Audio 43 Lincoln 4 Real Gone Productions 43 16 Spectrum Productions 51 Omaha 24 Rainbow Rec'g Studios 58</p> <p>OHIO Akron 8 Freedom Recording 40 Beachwood 24 Beachwood Studios 54 Braatenahl 8 Down the Road Studio 39 Carlisle 16 Klavier Audio Arts 49 Cincinnati 24 Artist Recording Company 54 24 Audiocraft Recording Co 54 24 Charles Brown Music 54 24 5th Floor Recording Studios 55 8 Gynewood Recording 40 24 Jewel Recording Studios 56 4 Mobile Artists 42 24 OCA Recording Studios 58 24 Rite Record Productions 59</p>	<p>Cleveland 16 Ansel Recording 46 24 Audio Recording Studios 54 8 M.Y. Recording Studio 42 24 On Sound Productions 56 16 Peters Sound 49 16 The Reel Thing 50 24 Suna Recording Studio 62 24 Take One Studios 61</p> <p>Columbus 8 Alpha Recording 38 16 Apple Recording 46 16 Cracewood Studios 48 8 Group II Audio 40 8 Maaneth Studios 41 24 Musicol, Inc 56 16 Home Recording Company 50 24 4001 Recording Studios 62</p> <p>Dayton 24 Cyberteknic 55 24 Hefaze Recording 58</p> <p>Elyria 16 Yogi Recording 51</p> <p>Galena 8 Rockingham Recording 43</p> <p>Gibsonburg 16 Brownwood Studios 48</p> <p>Gilead 16 A.J. Productions 46</p> <p>Guysville 8 Lost Nation 41</p> <p>Holland 16 Scharren Studios 50</p> <p>Hudson 24 Stokes Sound Service 60</p> <p>Kettering 8 Sottman Productions 44</p> <p>Lorain 8 Astronote Recording 38</p> <p>Maumee 8 Thin Air Recording 44</p> <p>Mentor 8 Forteca Recording Studio 40</p> <p>Miamisburg 8 D.L. Corbel Audio 39</p> <p>Newark 8 Lesco Concert Sound 41</p> <p>Newton Falls 24 TSI Recording 63</p> <p>Northfield 16 Trade Secret 51</p> <p>Rocky River 16 Clockwerk Sound Studio 48</p> <p>Sheffield Lake 4 Sound Systems Productions 43</p> <p>Strongsville 8 Moonliner Rec'g Studio 42</p> <p>Toledo 8 Hanf Recording Studio 40</p> <p>Washington Court House 8 Jaraugh Studios Ltd 40</p> <p>Youngstown 24 Peppermint Productions 58 4 Proday Productions 43</p> <p>SOUTH DAKOTA Hermosa 8 Fiddle-Strina Productions 39</p> <p>WISCONSIN Appleton 16 Irish Saxe Sound Productions 49 Eu Claire 16 Hartwood Recording 48 Franksville 8 H.G. Studio 40 Green Bay 4 Tourge Recording 44 Lake Geneva 24 Sound Summit 59 Madison 4 Concept Productions 39 16 Philo Buck 48 Mequon 24 Trax 32 Recording Studio 62 Milwaukee 8 Kagan Broadcast, Inc. 40 8 Brian Lee & Co 41 24 Midwest Recorders 36 8 The Orange Production House 42 Pewaukee 8 Centerstage Recording Studio 39 Pittsville 24 Badger Recording Co 54 Sheboygan Falls 16 GHG Recording 48 Superior 16 Inland Sea Recording 49 Waukesha 24 Breezeway Recording Studio 54 8 One 5 Productions 42</p>
--	---	--	---	---

Midwest Success Story

Warren, Michigan • Gary Spaniola Artist/Owner

Endorsed by Charvel Guitars



**SELLER
SOUND
STUDIO**

Neotek Series II 32x24
Otari MTR-90/24
Otari MTR-10/2G
Lexicon 224X w/LARC
Lexicon Prime Time II
Lexicon PCM-42
DeltaLab DL-2
DeltaLab DL-4
Valley People Gain Brain II
Valley People Kepex II

Symetrix 501
Echoplate II
Aphex II
Orban 536A
JBL 4411
Oberheim DMX



For the Ultimate in Professional Audio and Audio Post-Production Equipment and Consultation, CONTACT

HY JAMES *The Audio Professionals*

24166 Haggerty Road, Farmington Hills, Michigan 48018 U.S.A.
(313) 471-0027 - from Ann Arbor 994-0934

NORTH Central

4 & 8 TRACK

(313) 533-7074

Owner: John Annesser

Studio Manager: Barb L. Rohr

Engineers: John Annesser full time, Barb L. Rohr part time

Dimensions of Studio: 32 x 23 x 15 and 20 x 15 x 10

Dimensions of Control Rooms: 14 x 10 x 10

Tape Recorders: TEAC/Tascam 80-8 8 track; TEAC 3340S 4 track; Ampex 800 2 track; Sony TC630 2 track; Dokoder 7050 2 track; Concord 776D 2 track.

Mixing Consoles: Biamp 16/21, 16 + aux in x 5 out; TEAC/Tascam 5, 8 in x 8,4,2 out; two TEAC/Tascam 2, 6 in x 6,4,2 out. Monitor Amplifiers: Peavey CS800, Kustom XXSPA 600w; Bogen Challenger 100w; Lalayette LA2525 quad. 25w/ch.; Acoustic 200 slaves; Dynaco 60w stereo.

Monitor Speakers: Jensen, JBL, Presage, Electro-Voice, Utah; w/ full range.

Echo, Reverb, and Delay Systems: 30' x 20' x 15' echo room, H/H Electronics echo; Maestro Echoplex; Univox reverb; ARB 800 8 channel reverb; some other echo or reverb units available; newest addition: Korg analog delay and doubling unit.

Other Outboard Equipment: Four Soundcraftsmen stereo 10-band equalizers; 2 stereo TEAC AN60 Dolby units; Phase Linear Autocorrelator model 1000; Electro-Harmonix clone theory and chorus effect; complete headphone and monitoring systems; patch bays; Whirlwind 16 channel 100' make; custom 6 and 12 input snakes; flanger, overdrive units, distortion units, and many other special effects available.

Microphones: Shure, Audio-Technica, Electro-Voice, Sony, and others available.

Instruments Available: Mason Hamlin studio upright acoustic piano; Hohner electric pianette; Yamaha YC-10 electric organ w/ Leslie; Farfisa combo-compact w/flanger; Univox Multi-Man string synthesizer w/special effects; Univox Minikorg K-1 & K-2 synthesizers; Korg guitar synthesizer; 1964 Fender jazz bass guitar; Holner Beatele bass guitar; 6-string bass guitar; 4 flutes; saxophone; clarinet; Ludwig drum set; congas; tambourines; and other instruments available.

Video Equipment & Services: not in house.

Rates: 2 & 4 track - \$15/hr., 8 track - \$25/hr. We offer an 8 track special which costs \$175, and includes 8 hrs. of recording time, mix downs, and complete use of elec. instruments and studio facilities. We don't charge for set-up and first soundcheck, either.

Extras: 1/2" tape provided at 50% below retail cost; we offer complete personnel, musicians, composers, lyric writers, producers, and director, upon request. Food, stores, and lodging facilities within one mile radius; right on bus lines. Custom guitar repairs upon request; concert sound system and equipment rentals available w/ soundmen provided.

Direction: We specialize in producing only high quality recordings, and also provide recording fidelity recovery services. Atom Smashers Unlimited Studio has the reasonable rates and casual atmosphere that every musician or producer needs to get the best airable or pressable sound for the lowest price. We independently produce T.V. and audio-video shows, which are not in house facilities. Special recognition goes to our management, Silver Stone Aero Productions, and The Earthmen band.

•• AUDIO CAMERA CEDARSIDE

also REMOTE RECORDING

Rt. 6 Bx. 231 Bemidji, MN 56601

(218) 586-2501

Owner: Gary Burger

Studio Manager: Gary Burger

•• AUDIO GRAPHICS

also REMOTE RECORDING

1516 Ferris Ave., Royal Oak, MI 48067

(313) 544-1793

Owner: Edward J. Wolfrum

Studio Manager: Susan G. Wolfrum

•• AUDIO MIXERS RECORDING CO., INC.

20 E. Huron St., Suite #200, Chicago, IL 60611

(312) 943-4274

Owner: Steven Schwartz

Studio Manager: Steven Schwartz

•• AUDIO TAPE PRODUCTIONS

also REMOTE RECORDING

P.O. Box 428, 413 W. Cherry St., Potterville, MI 48876

(517) 645-7561

Owner: H.D. Bredwell

Studio Manager: Pat Bredwell

•• AUDIO VISUAL ASSOCIATES

334 East 31st St., Kansas City, MO 64108

(816) 931-4102

Owner: Carl James

Studio Manager: Don James

•• BARWIG RECORDING CO.

5254 W. Agatite Ave., Chicago, IL 60630

(312) 283-2820

Owner: Roy E. Barwig

Studio Manager: Roy E. Barwig

•• A&F MUSIC SERVICES

2834 Olsego, Pontiac, MI 48054

(313) 682-9025

Owner: Frank and Ado Merwin

Studio Manager: Frank Merwin

•• AARD-VARK RECORDING, INC

335 South Jefferson, Springfield, MO 65806

(417) 866-4104

Owner: H.W. Jacobsen

Studio Manager: H.W. Jacobsen

**Ajax
Recording
Team**

AJAX RECORDING TEAM
Fort Wayne, IN

•• AJAX RECORDING TEAM

902 West Wayne Street, Fort Wayne, IN 46804

(219) 423-3479

Owner: Craig Harding

Studio Manager: Colleen Watson

Engineers: Craig Harding, independents

Dimensions of Studio: Studio A 9 x 19 Isolation Booth

9 x 11

Dimensions of Control Rooms: Control Room 9 x 19

Tape Recorders: Ampex 440C 8 track, (2) Otari 5050B 2 track,

Nakamichi 580 cassette deck 2 track

Mixing Consoles: Sound Workshop Logex 8, 12 x 8 x 2

Monitor Amplifiers: Yamaha P2201 (Control Room), Sescom (headphones)

Monitor Speakers: JBL 4311s, Auratones

Echo, Reverb, and Delay Systems: AKG BX10 reverb, DeltaLab

DL2, tape delay

Other Outboard Equipment: Eventide Instant Flanger, (2) UREI

LA4 compressors, MXR dual 15 band EQ, (2) MXH 31 band EQ,

Valley People Stereo Dyna-mite, EXR-1 Exciter, (2) dbx 155, Rock

mini amp, Sescom parametric EQ, Countryman & Associates direct

boxes, (2) Acoustic 150 guitar amps, Dwarf amp, the usual assortment of foot actuated effects

Microphones: AKG 414 EB, 200s, D-1000s; Shure SM-7, SM-57s, SM-58s, Electro Voice RE-20, Audio-Technica condensers

Instruments Available: Steinway upright piano, Fender Telecaster, Fender Precision bass, Kramer Stagelaster bass, Guild Starfire, tambourines, claves, cowbell, maracas.

Video Equipment & Services: Offered in conjunction with Custom Video of Fort Wayne Equipment - (3) Sony cameras, (2) 3/4" U-Matic recorders, Time base corrector, Quanta Font Q-7A Character Generator, Lowell lights Services - A/B roll capability, on location special effects, creative script/storyboard service available. One of our recent rock productions was selected by HBO for airplay on "Video Jukebox." Rates - \$800/8 hr day on location. Includes: director, cameraman, light crew, sound engineer, key gaffer & grip

Rates: \$25/hr recording, \$15/hr mixing, free set up, block rates available

•• ALPHA RECORDING STUDIOS

620 D'Lyne Street, Columbus, OH 43228

(614) 870-6661

Owner: Timothy Sheppard

Studio Manager: Timothy Sheppard

•• ANDOVER AUDIO

also REMOTE RECORDING

2387 S. Coon Creek Drive, Anoka, MN 55303

(612) 757-6589

Owner: Don G. Erickson

Studio Manager: Don G. Erickson

•• ARK RECORDING COMPANY

4428 Zane Avenue, N., Minneapolis, MN 55422

(612) 533-4266

Owner: Robert W. Fulton

Studio Manager: Robert W. Fulton

•• ARTIST'S SWEATSHOP

8771 Ida-Maybee Road, Monroe, MI 48161

(313) 587-3457

Owner: W. John B.

Studio Manager: Walt Banas

•• ASTRONOTE RECORDING

103 Arkansas Avenue, Lorain, OH 44502

(216) 288-4468

Owner: Chris Steagall

Studio Manager: Renae Steagall

•• ATOM SMASHERS UNLIMITED STUDIO

also REMOTE RECORDING (2 & 4 track)

Ferdale, MI

All mail to: Silver-Stone Aero Productions, Inc.

P.O. Box 21054, Detroit, MI 48221

•• NICK BEATS' PLACE

Clarkston, MI 48016
(313) 625-3191
Owner: Dave Mielke
Studio Manager: Dave Mielke

•• BGD RECORDING

1601 Oakton, Park Ridge, IL 60068
(312) 698-3644
Owner: Bill G. Dennis
Studio Manager: Bill G. Dennis

•• BIRD-ON-FIRE RECORDING STUDIO

also REMOTE RECORDING
103 Lincoln Dr., West Union, IA 52175
(319) 422-5677
Owner: Doug Koempel
Studio Manager: Robert Traeger, Jr.

•• B.M.A. RECORDERS

also REMOTE RECORDING
2640 W. Huron, Chicago, IL 60612
(312) 772-8362
Owner: Bob Krutiak
Studio Manager: Mary Krutiak

•• B.M. RECORDING STUDIO

also REMOTE RECORDING
6936 S. Peoria, Chicago, IL 60638
(312) 698-3644
Owner: Bill G. Dennis

•• BOULEVARD RECORDING STUDIOS, INC.

641 Madison St., Oak Park, IL 60302
(312) 386-5388
Owner: Hal Kaitchuck & Eleanor Kaitchuck
Studio Manager: Hal Kaitchuck

•• BROADCAST PRODUCTIONS OF AMERICA, INC.

also REMOTE RECORDING
804 East 38th Street, Indianapolis, IN 46205
(317) 925-7371
Owner: Bill Baker
Studio Manager: Art Baker

•• BROWN & BROWN RECORDING AND MUSIC PRODUCTIONS

also REMOTE RECORDING
P.O. Box 224, Portage, MI 49081
(616) 327-8352
Owner: Kevin and Deborah Brown
Studio Manager: Deborah Brown, Tim Brown

•• CENTERSTAGE RECORDING STUDIO

324 Evergreen Lane, Pewaukee, WI 53072
(414) 691-3605
Owner: John Lechner, Brad Olson
Studio Manager: John Lechner

•• CHANNEL 10 MEDIA

2032 Prosperity Ave., St. Paul, MN 55109
(612) 770-7732
Owner: Michael McKern

•• COMPONENT STEREO

4527 Oakton, Skokie, IL 60076
(312) 673-0430
Owner: Russell Lowe
Studio Manager: Russell Lowe

•• CONCEPT PRODUCTIONS, INC.

also REMOTE RECORDING
2984 Triverton Pike, Madison, WI 53711
(608) 271-2606
Owner: corporation
Studio Manager: C. Dan Geocans

•• D.L. CORBET AUDIO

P.O. Box 372, Miamiburg, OH 45342
(513) 859-0809
Owner: Donald Corbet
Studio Manager: Donald L. Corbet

•• COUNTRYSIDE RECORDING

also REMOTE RECORDING
Box 13, Wellington, KS 67152
(316) 326-8164
Owner: Gary L. Terry
Studio Manager: Gary L. Terry

•• CREATIVE RECORDING

4648 Lyndale Ave., So., Minneapolis, MN 55409
(612) 825-5661
Owner: Wes Bry
Studio Manager: Wes Bry

•• CUSTOM BLEND ENTERPRISES

P.O. Box 2581 Ann Arbor, MI 48106
(313) 662-3598
Owner: Bonnie Billups, JR and Tammy Billups
Studio Manager: Bonnie Billups, Jr.

•• CUSTOM RECORDING STUDIOS

also REMOTE RECORDING
3829 Scott Ave., No., Minneapolis, MN 55422
(612) 535-2587
Owner: Jim & LaVern Reynolds
Studio Manager: Jim Reynolds

•• CYPRESS STUDIOS

8313 Spring Valley Rd., Raytown, MO 64138
(816) 356-6817
Owner: Anthony Haney
Studio Manager: Anthony Haney

•• DANGER RECORDING

366 N. Prior Ave., St. Paul, MN 55104
(612) 645-8650
Owner: C. David Erbele
Studio Manager: C. David Erbele

•• D.B. RECORDING STUDIO

1806 Maplewood, Flint, MI 48506
(313) 232-4041
Owner: Daniel J. Bernstein, M.D.
Studio Manager: Daniel J. Bernstein, M.D.

•• DEER CREEK AUDIO ILLUSIONS

also REMOTE RECORDING
865 Clark Ave., Webster Groves, MO 63119
(314) 962-7635
Owner: Susan Harwood
Studio Manager: Christopher Harwood

•• DOMAIN COMMUNICATIONS/TELEMEDIA

also REMOTE RECORDING
289 Main Place, Wheaton, Carol Stream, IL 60188
(312) 668-5300
Owner: Edward Elliott
Studio Manager: Pete Tumas
Engineers: Pete Tumas, Dan Anderson, Barb Tenneyson, Roger House, Dave Lors, Ion Gauger, Larry Shackey
Dimensions of Studios: A-27 x 25 x 12½ (irregular); B-12 x 10½ x 8½ (irregular)
Dimensions of Control Rooms: A-23 x 15 x 9½ (irregular)
B-16½ x 11½ x 8; C-14 x 12 x 8½
Tape Recorders: MCI JH 110 B 2 track; Scully 280 B 2 track; Tascam 32-2B and Model 32 2 track; Sony TC-854-4 4 track; Otari MX 505OB 4 track; Tascam 80-8 B track
Mixing Consoles: Neotek Series 1E 16/8/2; Quantum QM 12B 12/4; NADI Custom 8/2
Monitor Amplifiers: Crown D-150s
Monitor Speakers: EV Sentry Vs; EV Sentry 100s; EV Sentry 1As; Auratone 5cs
Echo, Reverb, and Delay Systems: AKG BX-10; MXR; DeltaLab; Ibanez HD 1000 Harmonic/Delay
Other Outboard Equipment: Orban 516 EC DeEsser; dbx 160x limiter; GainBrain; Kepex; Orban 245 E Stereo Synth; dbx Type 1 noise reduction (12 channels); Dolby A (361) Noise reduction (2 channels); Dolby B (Encoding for highspeed cassette duplicating master tapes); ElectroSound 8000 bin-loop; music quality cassette duplicator; highly-modified KING 760 MKII cassette loaders; Formaster series II floppy-disk duplicator
Microphones: Neumann; AKG; Beyer; Shure
Instruments Available: Oberheim OB-8 synthesizer; Oberheim DMX Drum Machine; DSX Sequencer; Yamaha PF-10 electric piano
Video Equipment & Services: Sony Betacam; BVH 2000 (1" decks); BVW 10 (Betacam deck); BVU 800s; Grass-Valley 1600 switcher; CMX editing (on line); BVE 800 Editor (off-line); Video duplication
Rates: \$35/hr. (2-4 track) \$40/hr (8 track); Call for CDM rates. Call for floppy diskette duplication rates (cassette duplicating master); Call for video pre-prod & part production prices.

• DOTT INFLUENCES

also REMOTE RECORDING
530 Railroad Dr., Ainsworth, Iowa 52201
(319) 657-4159
Owner: Richard D. Dorothy
Studio Manager: Dick Dott

•• DOWN THE ROAD STUDIO

also REMOTE RECORDING
13401 Lake Shore Blvd. #7, Bratenahl, OH 44110
(216) 249-2533
Owner: Terry L. Bell
Studio Manager: Terry L. Bell

• DuWAYNE KLOOS RECORDING

also REMOTE RECORDING
8345 Duluth Street, Golden Valley, MN 55427
(612) 544-3050
Owner: DuWayne Kloos
Studio Manager: DuWayne Kloos

•• KEN EARL PRODUCTIONS, INC.

P.O. Box 6323, Broadview, IL 60153
(312) 935-6381
Owner: Ken Earl
Studio Manager: Ken Earl

•• EARMARK, INC.

7172 Graham Road, Indianapolis, IN 46250
(317) 842-4223
Owner: Pete Schmutte, Jim Hansen, Doug Bengel
Studio Manager: Lucy Comer

•• EDEN PRODUCTIONS

9610 Vaughan, Detroit, MI 48228
(313) 836-0756
Owner: David & Elaine Sanders
Studio Manager: David Sanders

•• ELECTRAX RECORDING

Division of Midwest Sound Co.
also REMOTE RECORDING
904 Ridgewood Pl., Highland Park, IL 60035
(312) 432-3464
Owner: Mark Dooley
Studio Manager: Tom Morgan

•• EMC PRODUCTIONS

300 York Avenue, St. Paul, MN 55101
(612) 771-1555
Owner: EMC CORPORATION
Studio Manager: Dick Stevens, V.P., Bruce Kennedy, Chief Engineer

•• EUPHORIA STUDIOS

807 Parkview Ave., St. Paul, MN 55117
(612) 487-2200
Owner: Chris James Houle
Studio Manager: Michael McKern

•• FABUSOUND

3822 N. Lincoln Ave., Chicago, IL 60613
(312) 477-2088
Owner: Mic Fabus
Studio Manager: Mic Fabus

•• FAITH RECORDING STUDIO

also REMOTE RECORDING
4252 Bingham, Dearborn, MI 48126
(313) 581-7400
Owner: Anthony Amore
Studio Manager: Anthony Amore

•• FIDDLE-STRING PRODUCTIONS

also REMOTE RECORDING
Rt-1 Box 19, Hermosa, S.D. 57744
(605) 255-4235
Owner: Whiskey River
Studio Manager: "Strngbean" Svenson

•• FIRE IN THE LAKES ASSOCIATION

2301 E. Hennepin, Minneapolis, MN 55413
(612) 331-4650
Owner: Fire in the Lakes Association
Studio Manager: Thomas McCloskey
Engineers: Thomas McCloskey
Dimensions of Studios: 18 x 20, 8 x 12

—LISTING CONTINUED ON NEXT PAGE

Dimensions of Control Rooms: 12 x 18
 Tape Recorders: Otari MX7800 1" 8 track, Otari MX5050B 2 track, Eumig FL1000 cassette 2 track, Revox A77 2 track
 Mixing Consoles: Neotek Series I, 16 x 8 x 2 x 1
 Monitor Amplifiers: Phase Linear 700B, (3) Phase Linear 400s
 Monitor Speakers: Altec 604 8G, IBL 4401, Bose
 Echo, Reverb & Delay Systems: AKG BX10, Roland SDE2000
 Other Outboard Equipment: (2) UREI 1176 LN, (2) Spectra Sonics 610, (3) Kepex 500, UREI 545
 Microphones: AKG 414EBs, Shure, Beyer, Altec, EV
 Instruments Available: Hammond M3, Gibson EB3, Fender Precision
 Video Equipment & Services: Sony VO 5600 ¾" with RM580 remote; JVC CR6000U ¾", 30" w x 50" d x 18" h video production space with lighting. Audio for video post production services
 Rates: \$25 - \$50 per hour



Dimensions of Control Rooms: 14 x 14; lounge/rehearsal area Area 10 x 20
 Tape Recorders: Otari (2) MX 5050 MK III-8 8 track, Teac A-6100 2 track, Teac A-2340 4 track
 Mixing Consoles: Kelsey Pro Tour 8-3 16 x 8 x 4 x 2 x 1, Teac Model 1 8 x 2
 Monitor Amplifiers: Crown DC 300A, SAE P50, BIAMP TC-60
 Monitor Speakers: IBL 4311, Auratones
 Echo, Reverb & Delay Systems: URSA Major "Space Station" Digital Reverb, Delta Lab (ADM 1024), IBANEZ AD 220
 Other Outboard Equipment: dbx noise reduction on all tracks; MXR pitch transposer, dbx limiter, Ashly SC-66 parametric eq. two cassettes, phase shifter; Morley power fuzz/wah; Oberheim ring modulator, computer assisted mixdown, computer track sheet printout-word processing, etc., Sansui Stereo Synthesizer, Technics SL-D2 Turntable
 Microphones: Neumann U-87; PZM, (3) EV CS-15, (2) Shure SM-57, (2) Shure SM 62, (2) Sony ECM 65, AKG C451 E, (2) AKG D1000E, Shure SM 58; Audio-Technica ATM 11, EV RE-15; EV RE-16; Shure SM-53, Shure SM 54, AKG D 160 E1
 Instruments Available: Mini-Moog, Prophet 5, Yamaha DX-7; LinnDrum; All acoustic instruments. Note: All of the above on a rental per use basis
 Video Equipment & Services: Sakata SC 100 Video Monitor
 Rates: \$22/hr—package discounts available. Location work by contract

•• HUBBARD STREET STUDIOS
 11 East Hubbard Street, Chicago, Illinois 60611
 (312) 670-0110
 Owner: Fred Reynolds / Jim Poulosom
 Studio Manager: Fred Reynolds / Jim Poulosom

•• HUNTINGTON SOUND DESIGN
 also REMOTE RECORDING
 131 Oak Street, Royal Oak, MI 48067
 (313) 543-7975
 Owner: Burr S Huntington
 Studio Manager: Burr S Huntington

•• HUNT PRODUCTIONS, INC.
 also REMOTE RECORDING
 1500 E. 79th St., Bloomington, MN 55420
 (612) 854-5044
 Owner: John F Hunt
 Studio Manager: Roger Hunt

•• IMPACT PRODUCTIONS
 220 S. William St., South Bend, IN 46601
 (219) 233-8369
 Owner: James A Greulich
 Studio Manager: James A Greulich

•• INFINITY STUDIO
 Pleasant Ridge, MI 48069
 (313) 548-0769
 Owner: Bill Swaze
 Studio Manager: Mark Zuzanek

•• JARAUGHN STUDIOS LTD.
 also REMOTE RECORDING
 3147 Snowhill Road, Washington Court House, OH 43160
 (614) 335-6519
 Owner: Bob West
 Studio Manager: Bob West

•• J.E.M. RECORDING
 1428 Noyse St., Evanston, IL 60201
 (312) 328-8801
 Studio Manager: Scott Exum
 Owner: Scott Exum

•• KAGAN BROADCAST, INC.
 also REMOTE RECORDING
 1845 N. Farwell Ave., Milwaukee, WI 53202
 (414) 291-9666
 Owner: James Kagan, Daryle Albert
 Studio Manager: Daryle Albert

•• KENNETT SOUND STUDIOS, INC.
 also REMOTE RECORDING
 P.O. Box 602, Kennett, MO 63857
 (314) 888-2995
 Owner: Kennett Sound Studios, Inc
 Studio Manager: Joe Keene

•• KEYLINE STUDIO
 1943 N.E. 148th St., N Miami Beach, FL 33181
 (305) 945-2647
 Owner: Larry Reitmayer
 Studio Manager: Bobby Bird

•• KING SOUND
 532 Michigan Ave., Manistique, MI 49854
 (906) 341-6533
 Owner: Keith Polkinghorne
 Studio Manager: Keith Polkinghorne

•• KNIPEKAMP PRODUCTIONS
 2 Bruce Circle N. Hawthorn Woods, IL 60047
 Owner: Alberto Kniepkamp
 Studio Manager: Alberto Kniepkamp

•• K.P. RECORDING
 also REMOTE RECORDING
 3221 Lake Shore Dr., St. Joseph, MI 49085
 (616) 983-3733
 Owner: Ken Parr
 Studio Manager: Karen Parr



FIRE IN THE LAKES ASSOCIATION
 Minneapolis, MN

•• FORTEGA RECORDING STUDIO
 Mentor, OH 44060
 (216) 942-7861
 Owner: Chris Butcher
 Studio Manager: Chris Butcher

•• FREEDOM RECORDING STUDIO
 2523 Mogadore Road, Akron, OH 44312
 (216) 733-3140
 Owner: Fred E. Norris
 Studio Manager: Fred E. Norris

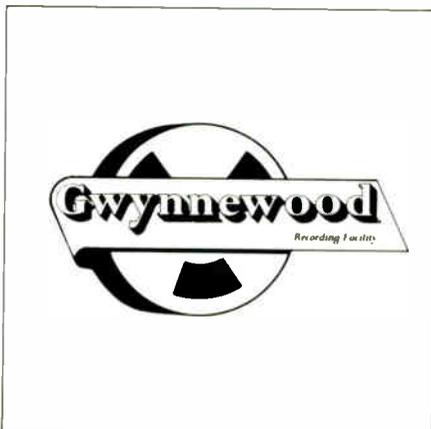
•• GEMINI RECORDING
 909 Elmwood, Evanston, IL 60202
 (312) 328-1699
 Owner: Greg Scott Cnsenberg
 Studio Manager: Tim Hong

•• GNOME PARK STUDIO
 also REMOTE RECORDING
 6460 Breamore Rd., Indianapolis, IN 46220
 (317) 259-8075
 Owner: Mike Moser
 Studio Manager: Mike Moser

•• GROUP II AUDIO
 1480 Dublin Rd., Columbus, OH 43215
 (614) 488-0621
 Owner: The Media Group
 Studio Manager: Mark E. Snyder

•• GSI STUDIOS
 also REMOTE RECORDING
 9431 Engel, St. Louis, MO 63132
 (314) 993-5713
 Owner: G. Sudin
 Studio Manager: Peter Herbig

•• GWYNEWOOD RECORDING
 also REMOTE RECORDING
 8130 Daly Rd., Cincinnati, OH 45224
 (513) 521-4755
 Owner: Bill Gwynne
 Studio Manager: Bill Gwynne
 Engineers: Bill Gwynne
 Dimensions of Studios: Drum Room 12 x 14; Main Studio 12x18



GWYNEWOOD RECORDING
 Cincinnati, OH

•• HANF RECORDING STUDIO
 also REMOTE RECORDING
 1825 Sylvania Avenue, Toledo, OH 43613
 (419) 474-5793
 Owner: Jim Thomson

•• HG STUDIO
 21324 7 Mile Rd., Franksville, WI 53126
 (414) 425-5211
 Owner: Don Hunjadi and Blaine Gellings
 Studio Manager: Don Hunjadi

•• HIDDEN CITY RECORDERS
 26769 West Hills Drive, Inkster, MI 48141
 (313) 563-9350
 Owner: Jim Pashkot
 Studio Manager: Rae Pashkot

—FROM PAGE 10, SESSIONS

en was in preparing tapes for her tour with engineer *Peter Chakin*. . . *Golden Goose Recording Studio*, Costa Mesa, CA was busy with *Charles Khaliq* working on his upcoming EP for K/T Productions. . . *Herb Pedersen* was in LA's *Skip Saylor Recording* working on a soundtrack for Blue Ridge Productions' film *Heart's Desire*. *Skip Saylor* was the engineer. . . *Bad Art* with Lauren Wood (ex-Chunky, Novi & Ernie) was at *Evergreen Recording Studios* in Burbank laying down new material. *Kathy Kurasch* and Wood produced. Engineering the sessions were *Jim Behrendt* and *Kathy Kurasch*. *Richard Carpenter* was in at *Evergreen* producing the new *Carpenters* Christmas Album. Engineer on the sessions was *John Richards*, assisted by *David Marquet*. . . *Linda Ronstadt* recently tracked her latest Elektra album at *The Complex* in Los Angeles. A follow-up to *What's New*, her immensely successful standards LP, the latest effort was also recorded live to Nelson Riddle's 50-piece orchestra on the facility's Stage 1. . .

na-Barbera of Hollywood, California. The mixing console that Hanna Barbera has chosen is a custom built, automated, 32 input "Westar". . . *Woodland Sound Studios* (Nashville) has just taken delivery on a new Baldwin SD 10 concert grand piano for use in their studio A. . . Meanwhile *Beggar's Banquet Studios* of Santa Rosa, CA purchased a Yamaha nine-foot grand. . . *Unique Recording* of NYC has finally received their Emulator II from EMU Systems. The unit is a prototype and will undergo beta testing as Unique. Also just in, Yamaha's REV-1 studio reverb. . . *Select Sound Recording Studio*, Kenmore, NY, has made an equipment upgrade. The Lakeside designed studio and control room is now equipped with a fully automated MCI 636 series recording console. In addition to the console, Select Sound has also added a Lexicon digital reverb, Valley People gain brains, an Aphex Compellor, an MXR pitch transposer, ADA delay lines, Roland chorus/flanger and scamp de-essers, dynamic noise filter gates, expander gates an automatic panner and an automatic double tracker. . . *Northeastern Digital Recording* of Shrewsbury, MA, is set to become the first fully professional two track digital recording and editing facility in New England. In October 1984 the company began offering a variety of services: digital two track mixdown; editing and mastering for phonograph record, Compact Disc, or cassette; digital recording for video postproduction, and digital two track live and remote recording. The facility uses the Sony PCM-1610 digital processor and the Sony DAE-1100 digital editor. . .

• **LAB RECORDING STUDIO**
also REMOTE RECORDING
3115 97th Place, Suite 8, Highland, IN 46322
(219) 924-5208
Owner: Larry A. Brechner
Studio Manager: Larry A. Brechner

• **LAKE CENTER STUDIO**
also REMOTE RECORDING
Rt. 1 Box 16, Wright MN 55798
(218) 644-3948
Owner: Randy Wydra

• **LAKESIDE MEDIA ASSOCIATES**
also REMOTE RECORDING
1437 W. Howard St., Chicago, IL 60626
(312) 274-8999
Owner: William Landow
Studio Manager: Charles Johnson

• **LAKESITY RECORDING**
2554 Boone Ave. S., Minneapolis, MN 55426
(612) 546-8331
Owner: L. A. Walstein
Studio Manager: I. A. Walstein, Larry Leiendecker

• **LAND RECORDING STUDIO**
2100 I-70 Dr., SW Office 14, Columbia, MO 65203
(314) 445-2535 (Bookings)
(314) 474-8141 (Studio)
Owner: Avenue Artists, Inc.
Studio Manager: Bob Pruitt
Engineers: Bob Pruitt, Peter Szkolka

• **LAUNDRI-LAND STUDIO**
14 W. 36th, Kansas City, MO 64111
(816) 931-9490
Owner: Farley Compton, Terry Salang
Studio Manager: Steven Dillman

• **BRIEN LEE AND COMPANY**
2025 N. Summit Ave., Milwaukee, WI 53202
(414) 277-7600
Owner: Brien Lee
Studio Manager: Paul Setser

• **MARK LEE PRODUCTIONS**
also REMOTE RECORDING
730 Hennepin Ave., Ste 800, Minneapolis, MN 55403
(612) 333-2241
Owner: Michael S. Peterson, President
Studio Manager: Jeff Schiller, Chief Engineer

• **LESCO CONCERT SOUND CO.**
also REMOTE RECORDING
317 W. Church St., P.O. Box 741, Newark, OH 43055
(614) 345-7669
Owner: Frank L. Edwards II
Studio Manager: Frank L. Edwards II

• **LEWIS SOUND PRODUCTIONS**
also REMOTE RECORDING
78 North Country Club Rd., Decatur, IL 62521
(217) 422-8614
Owner: Richard K. Lewis
Studio Manager: Richard K. Lewis

• **LOST NATION SOUND RECORDING STUDIO**
State Route 329, Guysville, (Athens) OH 45735
(614) 662-5701
Owner: Dave Aiken
Studio Manager: Nancy Aiken

• **L.P. SOUND STUDIOS**
also REMOTE RECORDING
1627 Gregory, Lincoln Park, MI 48146
(313) 386-5368
Owner: Shawn Munday
Studio Manager: Daniel Frescura, Managing Engineer

• **MAGNETIC STUDIOS, INC.**
4784 N. High St., Columbus, OH 43214
(614) 262-8607
Owner: John Fippin
Studio Manager: John Fippin

STUDIO NEWS

Normandy Sound in Warren, RI purchased a new MCI JH-24 track recorder and a new Studer A-80 ½-inch two track recorder. . . *Quad Eight/Westrex* of North Hollywood has sold a comprehensive, advanced re-recording system to *Han-*

TAPING'S YOUR BUSINESS TAPE'S ONE OF OURS.....

Call us last for the best prices anywhere



DISCOUNTS on 150 PRO PRODUCT LINES



6729 SEYBOLD RD., MADISON, WI 53719

**TOLL FREE IN ALL
50 STATES
1 (800) 356-5844
IN WISCONSIN
1 (800) 362-5445
LOCAL (608) 271-1100**

Circle #020 on Reader Service Card

• **MAINSTREAM SOUNDS**
also REMOTE RECORDING
 Box 564 - 921 So. Batavia Ave., Geneva, IL 60134
 (312) 232-1322

• **MASTER TRACKS**
 518 N. Main, Mt. Prospect, IL 60056
 (312) 253-5680
 Owner: Alan & Paul Shively
 Studio Manager: Alan & Paul Shively

• **MAXWELL RECORDS**
 5509 Dickson Rd., Minnetonka, MN 55345
 (612) 933-6211
 Owner: John Keen / Gregg Giswold
 Studio Manager: Gregg Giswold

• **MEDIA ARTS WORKSHOP**
also REMOTE RECORDING
 232½ Main Street, Ames, IA 50010
 (515) 232-4331
 Owner: Youth and Shelter Services, Inc
 Studio Manager: Kent D. Newman, Director

• **ARTHUR MERIWETHER INC.**
 1529 Brook Dr., Downers Grove, IL 60515
 (312) 495-0600
 Studio Manager: Renee Schroeder

• **MIRACLE WORKS RECORDING**
also REMOTE RECORDING
 1205 Williamsburg Dr., Champaign, IL 61821
 (217) 359-2948
 Owner: Lee Powell
 Studio Manager: Lee Powell

• **MIXED MODES PRODUCTIONS**
 254 Durand St., East Lansing, MI 48823
 (517) 351-3340
 Owner: Dennis G. Jablonski
 Studio Manager: Dennis G. Jablonski

• **MIX MASTER RECORDING STUDIO**
also REMOTE RECORDING
 16006 Hight Ave., Belton, MO 64012
 (816) 331-1652
 Owner: Larry Bradford
 Studio Manager: Larry Bradford

• **MOBILE ARTISTS RECDG. STU. (MARS)**
also REMOTE RECORDING
 P.O. Box 399128, Cincinnati, OH 45239
 (513) 742-0371
 Owner: Steve Ferguson

• **MOONLINER RECORDING STUDIO**
also REMOTE RECORDING
 9761 Hazelwood Dr., Strongsville, OH 44136
 (216) 238-0148
 Owner: Scott Hall
 Studio Manager: Judith Hall

• **MORNING STAR RECORDING**
 151 Kale St., Mahtomedi, MN 55115
 (612) 429-2018
 Owner: Timothy Moeller
 Studio Manager: Timothy Moeller

• **MUSICIANS WORKSHOP**
also REMOTE RECORDING
 717 S. Stough, Hinsdale, ILL 60521
 (312) 986-8120
 Owner: Ralph M. Ostrom
 Studio Manager: Ralph M. Ostrom

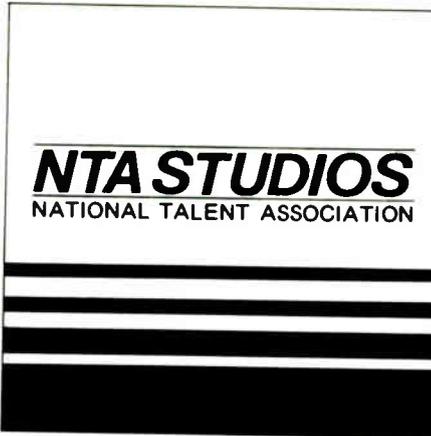
• **MUSIC MASTERS, INC.**
 Seventeen Ponca Trail, St. Louis, MO 63122
 (314) 821-2741
 Owner: Greg Trampe and Rick Furquerson
 Studio Manager: Greg Trampe

• **M.Y. RECORDING STUDIO**
also REMOTE RECORDING
 4519 South Hills, Cleveland OH 44109
 (216) 741-6453
 Owner: Dennis Yurch and Tom Melter
 Studio Manager: Dennis Yurch



• **NIGHTINGALE-CONANT CORPORATION**
also REMOTE RECORDING
 7300 North Lehigh Ave., Chicago, ILL 60648
 (312) 647-0300

Owner: Nightingale-Conant Corporation; James E. Reising,
 Audio Operations Manager
 Studio Manager: Douglas D. Durham



NTA STUDIOS, NATIONAL TALENT ASSOCIATION
 Evansville, IN

• **NTA STUDIOS, NATIONAL TALENT ASSOCIATION**
also REMOTE RECORDING
 605 S.E. 7th Street, P.O. Box 5722, Evansville, IN 47715
 (812) 425-0682
 Owner: David R. Wood
 Studio Manager: David R. Wood

• **NUWAVE SOUND PRODUCTIONS**
also REMOTE RECORDING
 Rt. 1, Box 136, Mayette, KS 66509
 (913) 966-2682
 Owner: Les Roediger
 Studio Manager: Les Roediger

• **OFF BROADWAY RECORDING STUDIO**
 106 S. Chestnut St., Centralia ILL 62801
 (618) 532-5327
 Owner: Charles Lee Roethemeyer, Bruce Wesley Alexander
 Studio Manager: Wes Alexander, Chuck Roethemeyer

• **OLD PLANK STUDIOS**
 26 W. 135 Plank Rd., Naperville, IL 60540
 (312) 420-0743
 Owner: Steve Jacula
 Studio Manager: Phil Bonnet
 Engineer: Steve Jacula, Phil Bonnet
 Dimensions of Studios: "The Green Room" 10 x 21 x 8; "Studio K" 12 x 24 x 8
 Dimensions of Control Rooms: 12 x 30 x 9
 Tape Recorders: Teac 80-8 track, Teac 32-2B 2 track, Sony TC-K65 2 (cassette) track, Onkyo TA-2080 2 (cassette) track
 Mixing Consoles: Teac Model 3, 8 in x 8 out x 2 out; Tapco 7424 24 x 4 x 2 x 1; Senn SPL-3416 16 x 8 x 2 x 1
 Monitor Amplifiers: Biamp stereo, tri-amped system with biamp X-overs & ½ octaves
 Monitor Speakers: Customized 3-way system with JBL components, Auratones
 Echo, Reverb & Delay Systems: MXR DDL, Roland 501 & 301 Space Echoes, Roland DC 30 analog, misc. extra units
 Other Outboard Equipment: Omnicore noise gates, Ashly compressor/limiters, Tapco & MXR ½ & ¼ octave graphic EQ, Teac DX-2B, dbx unit
 Microphones: Sennheiser 441 & 421, AKG 451, 330, 320, 310s, Shure SM-57, 58, EV PL 80

Instruments Available: Kawai EL grand piano, Roland IX 3P and Korg Polysix poly synths, Moog Taurus pedals & Micromoons, Simmons SDS-B 5 piece kit & Clap Trap, MXR Digital & Roland TR 808 analog drum computers, misc. guitar & bass amps, misc. acoustic and electric 6 & 12 string guitars, bass guitars, mandolins

Video Equipment & Services: Hitachi 14" VHS recorder with Panasonic video camera for in studio or on location recording
Rates: \$20/hr — Block time rates available on request

Extras: Additional equipment (MIDI interface, additional synthesizers, amps, outboard effects, etc.) available by arrangement. Also, special packages can be designed to continue your project at some of Chicago's finest 24 track studios. Rates available upon request. Excellent hotel facilities nearby for out of towners
Directions: Specializing in demos and album pre-production, our "Musician's House" setting creates a relaxed, creative and professional atmosphere. Our demos have played a role in the success of some of the Chicago area's most successful acts, most recently "Jinx" and "The Kind"



OLD PLANK STUDIOS
 Naperville, IL

• **ONE 5 PRODUCTIONS**
also REMOTE RECORDING
 P.O. Box 783, Waukesha, WI 53187
 (414) 542-9691
 Owner: Steve Conway
 Studio Manager: Steve Conway

• **THE ORANGE PRODUCTION HOUSE**
also REMOTE RECORDING
 6055 W. Fond du Lac, Milwaukee, WI 53218
 (414) 461-3600
 Owner: Larry Lee Hansen
 Studio Manager: Linda Radtke

• **PEGASUS PRODUCTIONS**
also REMOTE RECORDING
 5551 Fairway Rd., Fairway, KS 66205
 (913) 432-1390
 Owner: Claudia Branham
 Studio Manager: Richard Robinson

• **PENGUIN PRODUCTIONS**
 1026 Carole Lane, Ellisville, MI (W. St. Louis) 63011
 (314) 391-8770
 Owner: Richard A. Byron
 Studio Manager: Richard A. Byron

• **PINEBROOK RECORDING STUDIOS, INC.**
also REMOTE RECORDING
 P.O. Box #146, St. Rd. #9 South, Alexandria, IN 46001
 (317) 724-7721
 Studio Manager: Randy Hammel

• **PRECISION TAPES**
also REMOTE RECORDING
 2301 E. Hennepin, Minneapolis, MN 55413
 (612) 379-7554
 Owner: Daniel Prapho
 Studio Manager: Daniel Prapho

•• BUD PRESSNER RECORDING SERVICE
4839 S. Bdwy., Gary, IN 46409
(219) 884-5214
Owner: Bud Pressner
Studio Manager: Bud Pressner

• PRODIGY PRODUCTIONS
also REMOTE RECORDING
P.O. Box 4656, Youngstown, OH 44515
(216) 792-3454
Owner: James J. Gumina
Studio Manager: Paul J. Pompura

• QUALITY AUDIO
also REMOTE RECORDING
315 E. 20th St. Grand Island, Nebraska 68801
(308) 384-0851
Owner: Brett Van Vuren
Studio Manager: Brett Van Vuren

•• QUALITY MEDIA PRODUCTIONS
also REMOTE RECORDING
1425 West Whittaker, Salem, IL 62881
(618) 548-2031
Owner: J Douglas Cosby
Studio Manager: J. Douglas Cosby

•• RAVEN RECORDERS
8000 W. 110th St., Overland Park, KS 66210
(913) 451-8139
Owner: Mike Elrod
Studio Manager: Mike Elrod

• REAL GONE RECORDERS
also REMOTE RECORDING
1813 Euclid Ave., Lincoln, Nebraska 68502
(402) 475-6945
Owner: Bart Becker / Terrill Clements
Studio Manager: Terrill Clements

•• REAL RECORDING STUDIO
7055 Garden Prairie Rd., Garden Prairie, ILL 61038
(815) 597-1181
Owner: Mark Sears
Studio Manager: Mark Sears

• RIVER ROAD RECORDING STUDIO
also REMOTE RECORDING
409 Ohio, Pittsburg, KN 66762
(316) 232-9554
Owner: James Wilson
Studio Manager: David "Bird" Wilson

•• R/J RECORDING
also REMOTE RECORDING
P.O. Box 302, Geneva, IL 60134
(312) 584-4657
Owner: Richard J. Peck
Studio Manager: Richard J. Peck

•• ROCKINGHAM RECORDING STUDIOS
also REMOTE RECORDING
7240 Big Walnut Rd., Galena, OH 43021
(614) 965-2340
Owner: Michael R. Smith
Studio Manager: Michael R. Smith

•• ROCK SERVICE STUDIOS
2500 N. 77th Ct., Elmwood Park, IL 60635
(312) 452-5594
Owner: Chris Kirby
Studio Manager: Chns Kirby

•• RPM RECORDING & SOUND
also REMOTE RECORDING
6730 S. Pulaski, Chicago, Illinois 60629
(312) 735-9476
Owner: Jude Olson
Studio Manager: Jude Olson, Rich Morford

•• S&S STUDIOS
200 Timbercreek Apts. Ste. 105, Richwood, TX
(Houston Area)
(317) 265-1127
Owner: Chas Balczio and Cory Heckler
Studio Manager: Cory Heckler

•• SOLAR SOUND SERVICES
also REMOTE RECORDING
2630 So. Harvey Ave., Berwyn, ILL 60402
(312) 484-4876
Owner: Bill Daly
Studio Manager: Bill Daly

• THE SOLUM SOUND LABORATORY
2428 Dupont Avenue South, Minneapolis, MN 55405
(612) 377-5040
Owner: Steve Solum
Studio Manager: Steve Solum

•• SOUND 80
4027 IDS Center, Minneapolis, MN 55404
(612) 559-9502
Owner: Jan Erickson
Studio Manager: Bill Lubanski

•• SOUNDMASTER RECORDING STUDIO
P.O. Box 276, Port Byron, IL 61275
(309) 523-3262
Owner: Wade A. Calvert
Studio Manager: Wade A. Calvert

• SOUND MIND PRODUCTIONS
Box 344, Riverside, IL 60546
(312) 442-8660
Owner: Tom Marks, Inc
Studio Manager: Tom Marks

• SOUND SYSTEMS PRODUCTIONS
also REMOTE RECORDING
420 Irving Park Blvd., Sheffield Lake, OH 44054
(216) 949-6269
Owner: Steve M. Savanyu
Studio Manager: Mark Reno

• PRODUCT DIVERSITY
• NO COMPROMISE QUALITY
• PRICE

audio digital
INC.

1000 S. BERTELSEN ROAD • SUITE 4
EUGENE, OR 97402 • (503) 687-8412

QCA only makes one type of record... QUALITY

**SUPERIOR 7" & 12"
RECORD PRESSING**

+ PLUS +

- + Neuman Sal 74 Disc Mastering
- + New Ultra Clean White Room Matrix/Plating Department
- + In House Graphics & Color Separations
- + Jacket, Sleeve & Label Printing



2832 Spring Grove Avenue
Cincinnati, Ohio 45225
513-681-8400

Circle #022 on Reader Service Card

**Specializing in
Magnetic
Audio Head
Services**

**Complete Precision Head
Relapping; Recontouring
and Optical Alignment**

Free Evaluation

24 Hour Turnaround

**New Replacement Heads
Available**

**AUTERI
Associates Inc.
(516) 331-5022**

AUTERI ASSOCIATES, INC.
9 HENEARLY DRIVE,
MILLER PLACE, NEW YORK 11764

Circle #023 on Reader Service Card



• **SOUNDVISIONS**
also REMOTE RECORDING
2025 N. Sedgwick, Chicago, IL 60614
(312) 477-2723
Owner: Bruno Strapko
Studio Manager: Bruno Strapko

• **SPARROW TREE RECORDING**
also REMOTE RECORDING
514 W. 8th St., Hobart, IN 46342
(219) 942-1831
Owner: Sam F. Miller
Studio Manager: Sam F. Miller

• **SPECTRUM SOUND RECORDING, INC.**
914 L St., Lincoln, NE 68508
(402) 474-3111
Studio Manager: Steve Rall

• **STARBEAT RECORDING STUDIOS**
also REMOTE RECORDING
9 East Larkdale Drive, Deerfield, IL 60015-5055
(312) 945-3555
Owner: Steve Cronen
Studio Manager: Tom Graham

• **STARNORTH STUDIO**
1137 Lake Ave., Wilmette, IL 60091
(312) 256-8091
Owner: Mark Holtman
Studio Manager: Mark Holtman

• **STILL VOICE RECORDS**
also REMOTE RECORDING
6730 Orchard Lane N., Brooklyn Cntr, MN 55429
(612) 560-5234
Owner: Alan A. Goldberg
Studio Manager: Alan A. Goldberg

• **STIX & LYC'S INC.**
1010 Yorkshire, Grosse Pointe, MI 48230
(313) 882-6018
Owner: Beau Williams
Studio Manager: Beau Williams

• **STUCKY AUDIO SERVICE**
also REMOTE RECORDING
1412 W. 5th St., Newton, KN 67114
(316) 283-7597
Owner: Homer Stucky
Studio Manager: Homer Stucky

• **STUDIO "E"**
100 E. Walton, Chicago, IL 60611
(312) 664-6057
Owner: Ted Kay, Sheldon Elias
Studio Manager: Joe Ott

• **STUDIO G RECORDING**
also REMOTE RECORDING
214 S. Bemiston Ave., St. Louis, MO 63105
(314) 727-0770
Owner: Greg Glazier
Studio Manager: Greg Glazier

• **STUDIO PRODUCTION FUTURES**
also REMOTE RECORDING
3360 Lakeshore, Monroe, MI 48161
(313) 289-1397
Owner: George Milkovich
Studio Manager: Dennis "Machine Gun" Thompson

• **SUNDANCE STUDIO**
RR No. 3 Box 250, Chillicothe, IL 61523
(309) 579-2142
Owner: Steve Meister, Phil Borland, Fred Sammet, Hon Holing
Studio Manager: Steve Meister

• **SUN SOUND STUDIO**
also REMOTE RECORDING
540 N. 32nd Ave., St. Cloud, MN 56301
(612) 253-8652
Owner: Mitch and Craig Groethe
Studio Manager: Mitch Groethe

• **SUTTMAN PRODUCTIONS**
also REMOTE RECORDING
1437 Old Lane #3, Kettering, OH 45409
(513) 299-4578
Owner: Eric Suttman
Studio Manager: Eric Suttman

• **THIN AIR RECORDING**
also REMOTE RECORDING
410 Allen St., Maumee, OH 43537
(419) 893-0337
Owner: Ben Solomon
Studio Manager: Marian R. Overberg

• **TOURQUE RECORDING STUDIOS**
1703 Cypress La. Green Bay, WI 54302
(414) 468-9534
Owner: William E. Lund
Studio Manager: William F. Lund

• **TOUSANA RECORDING STUDIO**
also REMOTE RECORDING
8825 So. Oglesby Ave., Chicago, IL 60617
(312) 731-6297
Owner: Louis Tousana Jr.
Studio Manager: Louis Tousana Jr.

• **TRUSTY TUNESHOP RECORDING STUDIO**
also REMOTE RECORDING
Rt. 1, Box 100, Nebo, KY 42441
(502) 249-3194
Owner: Elsie T. Childers
Studio Manager: Elsie T. Childers

• **VALLEY ACOUSTICS & MULTITRACK SYSTEMS**
also REMOTE RECORDING
930 N. Park, Fergus Falls, MN 56537
(218) 736-2210 739-2670
Owner: Maurice A. Skogen
Studio Manager: Maurice A. Skogen

• **WEST END STUDIOS**
303 W. 16th, Hays, KS 67601
(913) 628-2157
Owner: Mike Miller
Studio Manager: Mike Miller

• **WIELAND STUDIOS**
P.O. Box 573, 211 Frasier St., Kawkawlin, MI 48631
(517) 684-5370
Owner: Brad Wieland
Studio Manager: Brad Wieland

• **WOODEN NICKEL SOUND STUDIO**
6844 Dickson Cemetery Rd., Dunlap, IL 61525
(309) 243-5807
Owner: Don Rosser
Studio Manager: Mike Small

• **ZEPHYR AUDIO PRODUCTIONS**
also REMOTE RECORDING
1109 W. 73rd, Merrillville, IN 46410
(219) 736-0064
Owner: Edward R. Salka
Studio Manager: Edward Salka

**What are you going to do
for those special clients
this Holiday Season?
See page 71.**

Everything you've heard about the Beyer M 69 is true.

Except the price.

You've undoubtedly seen the curiously distinctive "flat-top" shape of the Beyer M 69 being used by leading artists in a variety of contemporary musical styles and situations. And since the M 69 is a German precision microphone, you might assume that it is priced well beyond your means.

We happily acknowledge the "professional" consensus about the M 69's superior sound and performance, but we must also point out that it is definitely *not* expensive—\$165* to be precise. Competitive mics at this price point are hard-pressed to match the integrity of design and construction offered by the M 69, not to mention its extraordinary dollar-for-dollar value—a critical factor in these cost-conscious times.

The M 69 has an exceedingly high output and its full, balanced sound is characterized by a strong, smooth

midrange. A clean hypercardioid pattern insures excellent suppression of feedback and the ability to handle excessive sound pressure levels in heavily amplified applications. And because the M 69 was designed to perform without susceptibility to off-axis "coloration" or changes in frequency, it produces a smooth, consistent sound that can be used for miking vocals, acoustic and electric guitars and drums with uniformly excellent results.

The elegant and articulate sonic profile, ruggedness and supreme versatility of the Beyer M 69 is achieved *without any* compromises in quality through design. Beyer firmly believes that the highest standards of performance are not necessarily a function of the highest price and we will gladly match the M 69 against *any* competitively-priced microphone to prove our point.



The Dynamic Decision

beyerdynamic))))

*Manufacturers suggested list price U.S. Beyer Dynamic, Inc. 5-05 Burns Avenue, Hicksville, New York 11801 (516) 935-8000.

Circle #024 on Reader Service Card

NORTH Central 16 TRACK



AUDIO MEDIA
Fargo, ND

••• ACME RECORDING STUDIO

also REMOTE RECORDING
3821 N. Southport, Chicago, IL 60613
(312) 477-7333

Owner: Michael Rasfeld
Studio Manager: Les McReynolds
Directions: Acme proudly adds "The Curly Shuffle" single and I.P. to its growing list of over 120 commercial radio credits. Clients include Jump 'n the Saddle, Louie Bellson, The Scientific Americans, Suso, Claudia Schmidt, Mama Yancey, Jack Bruce, Nessa, Flying Fish, MoPro, Blind Pig, Atlantic, and Columbia Records. We offer fast turnaround time with expert attention to detail. Our real-time cassette division (25 at once) means you have no good reason to be a high-speed dupe! We do everything in house—duplicating, printing, artwork, shrink-wrap, and recording for any size record or cassette project. "We Only Sound Expensive."

••• ADVANCED AUDIO RECORDING

also REMOTE RECORDING
902 11th Ave So., Virginia, MN
Owner: Robert Cap
Studio Manager: Robert Cap

••• A.J. PRODUCTION

7004 US Rt. 42, Mt. Gilead, OH 43338
(419) 362-4591
Owner: Anton J. Gerich
Studio Manager: Anton J. Gerich

••• ANGEL RECORDING STUDIO

4435 Mayfield Road, Ste. #6, Cleveland, OH 44121
(216) 382-6036
Owner: Mark Luthardt
Studio Manager: Mark Luthardt

••• APPETITE RECORDING STUDIO (A.R.S.)

506 W. High, Urbana, IL 61801
(217) 328-5299
Owner: Adam Berkson
Studio Manager: Adam Berkson

••• APPLE RECORDING STUDIOS

3001 Indianola Ave, Columbus, OH 43202
(614) 262-3001
Owner: Jeff Gastneau
Studio Manager: Richard I. Bradburn
Engineers: Rich Bradburn, Jeff Gastneau, Jeff Arnold, Mike Noll
Dimensions of Studios: 16 x 15 plus drum and vocal booth
Dimensions of Control Rooms: 16 x 13
Tape Recorders: 85-16B 16 track, Tascam 35-2B 2 track, Teac 3300S 2 track, IVC KDD55 2 track cassette, Technics M222 2 track cassette, Sansui PC-X1 PCM Digital 2 track.
Mixing Consoles: Tascam M16, 17 in x 8 out, TEAC M2, 6 in x 4 out.

Monitor Amplifiers: SAE, BGW, Yamaha

Monitor Speakers: UREI 813, JBL 4411, EAW MS50
Echo, Reverb & Delay Systems: (2) Brick Audio Plates, ADA STD-1, ADA D1280, ADA D 640, (2) MXR 01 Digital Reverb, Deltalab DL-5, (2) MXR Pitch Transposer, Sequential Circuits Pro-FX rack w/Digital Delay

Other Outboard Equipment: EXR SP-1 Exciter, EXR SP2 Exciter, EXR SP3 Exciter, Symetrix SE400 parametric EQ, Symetrix CL100 comp/limiters, Symetrix SG200 noise gates, Loft 400 noise gates, comp/limiters, Rane HC6 headphone amps, Rane RE27 EQs, MicMix Dynaflex noise reduction

Microphones: Shure, Sennheiser, Crown, AKG, Sony
Instruments Available: (2) SCI Prophet 10 w/MIDI, EMU Emulator w/MIDI, Yamaha DX7, Oberheim OB-Xa w/MIDI, (2) EMU Drumulator w/3 sound sets, Korg PS61 w/MIDI, Korg Poly 800, Moog Taurus Pedals w/MIDI, Korg Mono/Poly w/MIDI, Apple II+ w/MIDI software, Simmons Drums, large variety of electric and acoustic guitars and amps

Video Equipment & Services: ¼" & ½" VHS video taping, editing and sweetening.

Rates: Block Rates and Special Packages available.

••• A.R.S. RECORDING STUDIO

also REMOTE RECORDING
11628 S. Pulaski, Alsip, IL 60658
(312) 371-8424

Owner: AHS Enterprises, Inc
Studio Manager: Gary Cobb
Engineer: Gary Cobb, Barry Luz, Jerry Muzika, Bob Sheffield, Jellery Cobb, Steve McCarthy
Dimensions of Studios: 20 x 35 x 10 and 8 x 10 x 10 isolation booth

Dimensions of Control Rooms: 16 x 20 x 10
Tape Recorders: 3M M56 2" 16 track; Otari MX 7800 1" 8 track; Studer A810 ¼" 2 track; Otari 5050 III ¼" 2 track; Studer A710 cassette; 5 Technics HSM 85 cassette

Mixing Consoles: Trident Series 70 24 & 16 track
Monitor Amplifiers: Crown PSA IIs & DC 150

Monitor Speakers: UREI 811Bs, JBL 4430s, Auratone 5Cs
Echo, Reverb & Delay Systems: Ursa Major 8x32 digital reverb; Lexicon Super Prime Time and PCM 42 digital delays, Master Room chamber and 210 spring reverb

Other Outboard Equipment: dbx 165 and 163 compressors, Omnicraft noise gates, MXR flangers & phasers; UREI 527 EQs

Microphones: Neumann, Crown, Sennheiser, B&K, EV, Audio-Technica, Nakamichi, Shure
Instruments Available: Ludwig and Gretsch drums; Bluthner 7' grand piano, LinnDrums, Drumulator, Emulator

Rates: \$45/hr

••• AUDIO LOFT STUDIOS

P.O. Box 7-11, Old Hwy. 54, Macks Creek, MO 65786
(314) 363-5432

Owner: B.J. Carnahan
Studio Manager: B.J. Carnahan, General Manager; Brad Edward, Studio Manager

••• AUDIO MEDIA

also REMOTE RECORDING
112 N. University, Manchester Building, Fargo, ND 58102
(701) 237-6863

Owner: Lee Massey, President
Studio Manager: Lee Massey
Engineers: Dave Hanson, chief engineer; Tony Rheault
Dimensions of Studios: Studio A: 12¼ x 17½; Studio B: 23½ x 33½

Dimensions of Control Rooms: Studio A: 10'10" x 11'6"; Studio B: 13'10" x 15'11"

Tape Recorders: Scully 100 16 track; Scully 280B ½ track; (2) Otari 5050-B ½ track; Ampex 440 ½ track; Tascam 80-8 B track; IVC cassette, Revox A77 full track; TEAC A-7300 full track.

Mixing Consoles: Tangent 3216, 20 in x 20 out; Oakwood Audio, 12 in x 4 out; Quantum, 20 in x 20 out.

Monitor Amplifiers: Crown D-160, D-60

Monitor Speakers: (4) JBL 4311s, JBL 4310, Auratones, DLKs.
Echo, Reverb, and Delay Systems: MICMIX MasterRoom Super C, (3) MXR digital delays, live chamber.

Other Outboard Equipment: Orban parametric EQ, dbx 160 (2), Spectrasonics comp/limiters (2), UREI LA-4 (2), UREI 1176 (2), Orban stereo synthesizer, dbx noise reduction, Aphex Exciter, Kepex (5).

Microphones: (2) Neumann U87, (2) U67, (2) U64, (3) U47, (4) KM84; AKG 414 (4), C451 (6); (2) Electro-Voice RE-20; (3) Shure SM56, SM-7; (4) Crown PZM; HME 22-EF wireless; AKG CE-10.

Instruments Available: Five piece drum set, Mini Moog, acoustic guitars, Howard grand piano, tympani, Fender Rhodes, various percussion.

Video Equipment & Services: RCA TK 86 camera, Sony BVU 110 recorder, Lowell & Colortran lighting, ITE tripod with dolly, all location extras.

Rates: Please call

••• AUDIO SERVICES RECORDING STUDIO

also REMOTE RECORDING
3016 N. Home St., Mishawaka, IN 46545
(219) 255-5198

Owner: Audio Services Company Inc. President: Phillip L. Ostrander

Studio Manager: Philip L. Ostrander
Engineers: Jeff Richards, Andy Hensler, Chris Thornton, Ken Kuespert

Dimensions of Studios: Studio A: 25 x 35, Studio B: 11 x 14; Isolation booth: 10 x 10

Dimensions of Control Rooms: A: 15 x 15. Editing control: 11 x 12

Tape Recorders: Scully 100 16 track, (2) Otari Mk II 2 track, Crown 800-2 2 track, Telex Magnavord 1022 2 track, Ampex 440 1 track (full)

Mixing Consoles: MCI studio JH 416, 24 in x 24 out; Tapco field C-12 Series II, 28 in x 4 out, (2) Tascam field and studio Model 3, 8 in x 4 out

Monitor Amplifiers: Tapco CP-120, Tapco CP-500M, Crown 300, Harmon Kardon Citation 16
Monitor Speakers: Electro-Voice PL-15-3, Sentry V, Sentry 100 A

Echo, Reverb, and Delay Systems: Lexicon Prime Time, Tapco 4400, Tapco PVR 1

Other Outboard Equipment: dbx Professional Series noise reduction, all tape equipment, dbx Model 160 and 162, 163, 164 compressor/limiter equipment, Technics, Sony cassette decks, Telex high speed duplicator, Tapco 2200, 2201, 2202, 2300 graphic EQ, dbx 502 monitor expander, 3 speed turntables, AV 50 and 1,000 Hertz pulse generator

Microphones: Top of the line Electro-Voice (RE-20s, condenser series, various cardioid dynamics), RCA, BK-5B (3) RCA 74B (1)

Instruments Available: 6' Kawai grand piano, Ludwig drum set,

SYSTEMS OF THE 80'S

Where do you go for all your
audio and video needs?

Consider the advantages of coming to
Professional Audio Services:

- ▶ We specialize in Recording and Sound Reinforcement system design
- ▶ Our staff ensures professional service on all equipment we sell
- ▶ We offer new state of the art equipment to service you better

Otari ■ ITAM ■ Lexicon ■ Audioarts
dbx ■ BGW ■ AKG
and many other fine products

Whether you're building a whole studio or buying piece by piece, at Professional Audio Services we'll give you master quality recording systems at competitive prices. A free "hands-on" demonstration from our qualified sales staff is also available.

For all your audio and video needs,
come to Professional Audio Services for the
Systems of the 80's.



99 East Magnolia / Suite 215 / Burbank, California 91502 / 213-843-6320

Circle #025 on Reader Service Card
World Radio History

Prophet 600, Pro 1, Yamaha CP 30 electronic piano
Video Equipment & Services: VHS Duplication (one to one)
 Rates: 16 track \$45/hr, 8 track \$40/hr, 2 track and broadcast commercial production \$35/hr

••• **B.M. RECORDING STUDIO**
 also **REMOTE RECORDING**
 6936 S. Peoria, Chicago, IL 60621
 (312) 846-9543
 Owner: Bob Murphy
 Studio Manager: Bob Murphy



BROWNWOOD STUDIOS
 Gibonsburg, OH

••• **BROWNWOOD STUDIOS**
 1512 C.R. 90, Gibonsburg, OH 43431
 (419) 665-2112
 Owner: Robert Brown
 Studio Manager: Robert Brown

••• **PHILO BUCK**
 also **REMOTE RECORDING**
 821 University Avenue, Madison WI 53706
 (608) 263-7928
 Owner: University of Wisconsin (WHA) Radio
 Studio Manager: Don Sieb

••• **CLOCKWERKE SOUND STUDIO, INC.**
 also **REMOTE RECORDING**
 1328 Linda St., Rocky River (Cleveland), OH 44116
 (216) 331-2210
 Owner: Greg James, Tom Gagen

••• **CREATIVE SOUND RECORDING STUDIO**
 also **REMOTE RECORDING**
 1 1/2 W. National Ave., P.O. Box 175, Brazil, IN 47834
 (812) 448-3013, 446-2864
 Owner: Joe Anderson
 Studio Manager: Loretta Pierce and Steve Brown

••• **C.R.O.**
 Suite 440 Merchants Natl. Bank Bldg., Muncie, IN 47305
 (317) 286-1999
 Owner: Sound Influence
 Studio Manager: D.N. Howell

••• **DSD RECORDING STUDIO**
 11652 S. Elizabeth St., 60643
 (312) 995-1469
 Owner: Darryl S. Duncan
 Studio Manager: Darryl Duncan

••• **EDIFY PRODUCTIONS, INC.**
 6900 Knox Avenue South, Minneapolis, MN 55423
 (612) 861-2050
 Owner: Craig Hunter & Steven Gamble
 Studio Manager: Craig Hunter & Steven Gamble

••• **ELEPHANT RECORDING STUDIOS**
 also **REMOTE RECORDING**
 21206 Gratiot Ave., East Detroit, MI 48021
 (313) 773-9386
 Owner: Allen Abood, John Giaier
 Studio Manager: John Giaier



••• **ELTEKON**
 also **REMOTE RECORDING**
 Bus. Off: 11424 N. Saginaw, Clio MI 48420
 (313) 686-2470
 Owner: Bill Voorheis
 Studio Manager: Mark Ziemba

••• **GRACEWOOD STUDIOS**
 also **REMOTE RECORDING**
 3360 Tremont Rd., Columbus, OH 43221
 (614) 459-1500
 Owner: Morninastar Video Productions
 Manager: Peter A. Stock

••• **GRAPTREE RECORDING STUDIO**
 34574 Lakeshore Blvd., Eastlake, OH 44094
 (216) 942-8351
 Owner: Sheldon Greenberg
 Studio Manager: Sheldon Greenberg

••• **GREATAPES™**
 1523 Nicollet Ave., Minneapolis, MN 55403
 (612) 872-8284
 Owner: Jim Woelm, Inc.
 Studio Manager: Jim Maloney
 Engineers: Jim Woelm, Jim Maloney
 Tape Recorders: Tascam 85 16 16 track, Scully 240b 2 track, Otari MX 5050 2 track
 Mixing Consoles: Soundcraft 2400 20in x 16 out, Quantum QM 8 & QM8A 8/4
 Monitor Amplifiers: BGW 750, BGW 100
 Monitor Speakers: JBL 4311, Auratone
 Echo, Reverb & Delay Systems: AKG BX10 Orban Digital Reverb
 Other Outboard Equipment: Orban Parametric EQ, UREI Parametric EQ, Orban Sibilance Controller, DeltaLab Electron, UREI LA4s
 Microphones: Neumann, AKG, Shure
 Video Equipment & Services: Specialize in Audio for Video
 BTX Synchronizer, Sony BVH 1100 & BVH 2000 1", Sony 5850 & 5800 1/4", 1/2 VHS & Beta, Harris DVE (HDF 150)
 Rates: \$50/hr audio, \$90/hr audio video

••• **GRG RECORDING**
 also **REMOTE RECORDING**
 R.Rt. 3 Box 3660, Sheboygan Falls, WI 53085
 (414) 467-4756
 Owner: Greg Rakun, Rick Gustafson
 Studio Manager: Greg Rakun

••• **GROUP EFFORT SOUND STUDIO**
 2656 Crescent Springs Rd., Crescent Springs, KY 41017
 (606) 331-TAPE
 Owner: Dan Murphy, Wayne Hartman, Jeffrey Seeman
 Studio Manager: all of the above
 Engineers: Dan Murphy, Wayne Hartman, Jerry Lane
 Dimensions of Studios: Main room 43 x 28
 Dimensions of Control Rooms: 23 x 19
 Tape Recorders: Tascam 85-16B w/Autolocator 16 track, Otari MX5050 Mk III, (1) TEAC A 3440 4 track, Ampex AG 440B 2 track, (6) Sony cassette decks
 Mixing Consoles: Modified Allen & Heath System 8 24xRxB16
 Monitor Amplifiers: Carver PM 15, Modified Phase Linear 40X, JDM headphone system
 Monitor Speakers: JBL 4430 hi radials, Eastern Acoustic Works MS 50, Auratone 5Cs
 Echo, Reverb, and Delay Systems: Ursa Major Stargate 225, Ibanez DM 2000, Audicon Plate, Orban 111B, DeltaLab DL4 (2) DL 2, one DL-5, Lexicon PCM-41 DL 5 Harmonic Computer, DeltaLab full complement memory module
 Other Outboard Equipment: ADR Panascan, EXR SP 2 Exciter, Lotief TS 1 Test set, Modified MV Tron hi phase, System 8 Ilanger, MXR auto flanger, Intersound IVP, Alembic preamp, UREI 565, (2) UREI 550s, Fairchild de esser Model 600 (2) Orban 245Es,

(2) Technics SH 9010, (2) Valley People DynaMites, Spectronics comp/limiter 610 (2) Technics SH 9010 parametrics Sanau SE9 Comp/qualizer dbx 163, (2) Masterless MC 201 (2) MXR 1/3 octave EQs (4) Linear digital systems PS 1s, JDM & UREI direct boxes dbx noise reduction on all machines, Beyer and Pioneer headphones, JDM guitar processors
Microphones: AKG, Beyer, Electro Voice, Neumann, Crown PZM, Sennheiser, Shure, Sony
Instruments Available: Bakiwin grand piano Ludwig drums, Zildjian cymbals, Hammond B 3 w 122 Leslie Rhodes ARP Odyssey Kora Crumar Orchestrator, Fender and Traynor amps, Guild F 412 1/2 string Fender Mustang, Gibson Les Paul Recording guitar, Washburn acoustic, Fender Jazz Bass
 Rates: \$45 16 track \$40 6 hr block, \$40 hr 8 track, \$25 6 hr block Record packages

••• **HARTWOOD RECORDING**
 4607 Jeffers Rd., Eau Claire, WI 54703
 (715) 834-5122
 Owner: John and Ruth Hartzell
 Studio Manager: Ruth Hartzell

••• **HARVEST PRODUCTIONS**
 2026 N. Cedar St., Holt MI 48842
 (517) 694-1974
 Owner: Mark Miller, Steven Curran
 Studio Manager: Steve Curran
 Engineers: Mark Miller, Steve Curran (voice engineers are welcome)
 Dimensions of Studios: 30 x 20 w 2 iso booths
 Dimensions of Control Rooms: 18 x 9
 Tape Recorders: Tascam 85 16B 16 track, Otari MTR 10 2 1/4" or 1/2" 2 track, Tascam 3/2 & 2 1/2 2 track, Tascam 70 8 8 track, JVC KD A6 cassette
 Mixing Consoles: Trident Series 70 28x16x24
 Monitor Amplifiers: BGW 250E and (2) Symmetrix headphone amps
 Monitor Speakers: JBL 4411s and Auratones
 Echo, Reverb & Delay Systems: Proximity technologies echoplate, Ursa Major Space Station MXR 01a digital reverb, tape slap, room echo etc
 Other Outboard Equipment: Valley People Kerpex II, Valley People Gain Brain II, dbx 161 compressor Aphex Type B Aural Exciter Symmetrix CL 100 compressor EXR exciter MXR flanger doubler Symmetrix stereo parametric equalizer Ashly SC 63 parametric equalizer, Eventide H 910 Harmonizer Symmetrix headphone amps
Microphones: AKG 414 451 D 12, Shure SM 81 & SM 57, Sony C 38 ECM 24F, Sennheiser 441 & 421, E.V. Audio Technica, etc
Instruments Available: Yamaha DX 7 digital synthesizer, Sequential Circuits digital drum machine 2 Hammond organs (C & M 3) Leslie Fender Strat & Telecaster 2 pianos
 Rates: Please call for rates
 Extras: Harvest Productions specializes in custom jingles commercial production, band demos, 45s and album projects For record pressings Harvest has established solid relationships with mastering, pressing, and printing facilities to ensure the best quality possible. We offer in house creative writing and music composition. We work extensively with Michigan advertising agencies and offer a full sound effects library voice talent and freelance musicians
 Direction: In addition to our extensive audio production we write, storyboard, produce and direct music videos and television commercials. All equipment and technical services are contracted out. (Our in house IBM computer & word processor assists individual musicians and bands in putting them in touch with specific record companies, producers, managers, and booking agents.) Harvest is 100% involved in each project we take on.

••• **HOWLER STUDIO**
 19160 Summers Dr., South Bend, IN 46637
 (219) 272-0761
 Owner: Howler Publishing Co.
 Studio Manager: Stephen Foster
 Engineers: Stephen Foster, and John Nunn
 Dimensions of Studios: 14 x 18 x 11 10 x 10 x 14 5 x 9 vocal booth
 Dimensions of Control Rooms: Live Desk 11 x 18 (HP) RIAA Feedback
 Tape Recorders: MCI JH10 16 track, Otari 5050/BI 2 track, Fostex RT 1050 2 track Tandberg cassette, Fostex A 8 8 track
 Mixing Consoles: Neotek Series II 16 8 track, Fostex 350 8/4 track
 Monitor Amplifiers: UREI 6300 SAE II, Pioneer Quad (Head phones)
 Monitor Speakers: UREI 811B, Canon TLS, Cerwin Vega, Auratones, Pioneer
 Echo, Reverb & Delay Systems: Lexicon Super Prime Time II, Eventide Harmonizer 910, (2) Live echo chambers (2) Effectron Jr.
 Other Outboard Equipment: (2) UREI 31 band room graphics (Control Room EQ), Biamp Comp Lim, Orban De-Essers (2)
Microphones: Neumann U47 FET, KM 84s, KM 88s, AKG 414, SM 57s, SM 81s, SM7, 330 ribbon, Sennheiser 421, 441, PZMs, Beyer MK II, EVRE20, RE 55

Instruments Available: Synthesizers: Yamaha DX7; Prophet 600; Sequential Circuits T-8; Korg Poly 6; Chickering grand; Yamaha elec. grand; Wurliator 200 elec & all 6 & 12 string guitars, bass, amps, cabinets and Leslie. Computer sequencer w/overdub capability Drumulator Extensive percussion collection

Video Equipment & Services: Contracted on request. Complete facilities available Mitsubishi control monitor in-house, video cameras for drum & vocal booths

Rates: Call for rates. Primarily a publishing company, but we sell time

••• **INLAND SEA RECORDING**
also **REMOTE RECORDING**
2117 East 5th St., Superior, WI 54880
(715) 398-3627
Owner: Dave Hill
Studio Manager: Dave Hill

••• **IRISH SAXE SOUND PRODUCTIONS**
1719 W. Washington St., Appleton, WI 54914
(414) 735-0800
Owner: Keith Insh, Mitch Insh, Ed Saxe
Studio Manager: Connie Trok

••• **KLAVIER AUDIO ARTS**
1039 Marty Lee Lane, Carlisle, OH 45005
(513) 746-4748
Owner: Ron Crosby
Studio Manager: Bill Eisele

••• **LH PRODUCTIONS**
223 Smith, Kirkwood, MO 63122
(314) 822-8915
Owner: Eric Lindstrom and Ronald Hitschler
Studio Manager: Ronald Hitschler

••• **LITTLE NASHVILLE RECORDING STUDIOS**
Route 3, Box 212, Whippoorwill Lane, Nashville, IN 47448
(812) 988-2000
Owner: Don D and Marti Mae Sheets
Studio Manager: Don D. Sheets

••• **LIVONIA SOUND RECORDING**
15018 Beatrice, Livonia, MI 48154
(313) 522-7274
Owner: Henry J Vartanian
Studio Manager: Ed Moon

••• **L-M RECORDING ENTERPRISES**
also **REMOTE RECORDING**
206 Locust #1, Americus, KS 66835
(316) 443-5181
Owner: Lee C. Muller
Studio Manager: Lee C. Muller

••• **MARITZ COMMUNICATIONS CO.**
also **REMOTE RECORDING**
1325 N. Highway Dr., Fenton, MO 63026
(314) 225-2768
Owner: Maritz Communications Co
Studio Manager: David B. Dister

••• **MASTERPIECE SOUND STUDIOS**
1611 Webb Street, Detroit, MI 48206
(313) 867-7874
Owner: Sylvia Moy Productions, Inc.
Studio Manager: Sylvia Moy

••• **MEDIA INTERNATIONAL INCORPORATED**
also **REMOTE RECORDING**
247 E. Ontario, Chicago, IL 60611
(312) 467-5430
Owner: Duane C. Lundeen
Studio Manager: Duane C. Lundeen
Engineers: Richard Mastela, Jacqueline Babicz
Dimensions of Studios: Studio A: 18 x 24; Studio B: 18 x 24
Dimensions of Control Rooms: Studio A: 17 x 15; Studio B: 17 x 15
Tape Recorders: MCI JH110 16 track; Ampex MM1000 8 track; Ampex 440C 4 track, 3M 64 4 track, Ampex AG-300 4 track; Studer B-67 2 track; (1) Ampex 440 4 track and 2 track.
Mixing Consoles: MCI 400 Series, 16 in x 6 out; Northwest Audio custom, 10 in x 8 out; Tascam 10, 8 in x 4 out.
Monitor Amplifiers: Crown and API.
Monitor Speakers: JBL 4333 and 4310.
Echo, Reverb & Delay Systems: Northwest Audio Plate, MIC-MIX springs.
Other Outboard Equipment: UREI, Lang, Pultec, Lexicon.

MXR, MICMIX, N.W. Audio.

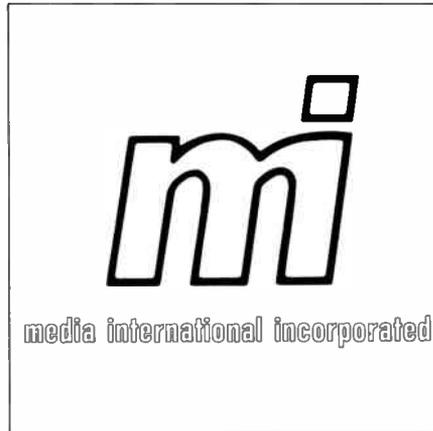
Microphones: Neumann, AKG, Beyer, Shure, RCA, and E.V
Instruments Available: Steinway baby grand, Kimball rehearsal upright, synthesizer available

Video Equipment & Services: ¾" and ½" VHS and Beta transfer available along with track sweetening

Rates: Upon request.

Extras: Complete recording and duplicating services under one roof. Total audio concept provides clients with cassette, 8 track, disk duplication, audio-visual pulsing mastering, duplicating, loading and finishing for every format: reel-to-reel duplication; labeling, packaging, shrink wrapping, drop shipping Blank cassettes available in bulk. Equipment division handles custom tailoring, modification and installation for customers in several countries. Sales and service for Telex, Labelle, Shure and other new and pre-owned equipment.

Direction: Our total audio concept requires an ever broader base. This means that we'll be looking towards studio increase to 24 track capability, a video sweetening studio, and expanded services to assist the audio-visual producer. We feel that our greatest strength lies in the extent and sophistication of our facility which is located in the most accessible location in Chicago, just east of Michigan Avenue and just minutes from the heart of the Loop. P.S. - We have expanded to 50,000 units per day



MEDIA INTERNATIONAL INCORPORATED
Ontario, Chicago

••• **MEDIA SERVICES**
also **REMOTE RECORDING**
Bahai National Center, Wilmette, IL 60091
(312) 869-9039
Owner: Bahai National Center
Studio Manager: Charles Nolley



METRO MOBILE LOCATION RECORDING
Chicago, IL

••• **METRO MOBILE LOCATION RECORDING**
only **REMOTE RECORDING**
1316 W. Addison, Chicago, IL 60613
(312) 883-1393
Owner: Timothy R. Powell
Studio Manager: Laura Naughton
Engineers: Timothy R. Powell, John J. Groppi, Jr
Dimensions of Studios: The midwest and beyond
Dimensions of Control Rooms: 13 x 7½ x 6½ - remote truck
Tape Recorders: Tascam 85-16B 16 track; Tascam M-38 8 track, Tascam 40-4 4 track; Technics 1500US 2 track; Aiwa 3500 cas-

ette, Revox A-700 2 track; Revox B-77 2 track, Scully 280MS 2 track

Mixing Consoles: Neotek Series I, 24x24x8x2; Tascam Model 3, 8x4x2

Monitor Amplifiers: Crown D150, Sony TAN 5550

Monitor Speakers: JBL 4313, Auratones, Electro-Voice, Sentry 100.

Echo, Reverb & Delay Systems: Sound Workshop reverb, Delta-Lab Effectron 256, MICMIX XL-305.

Other Outboard Equipment: MXR dual limiters, Tascam Model I line mixers, Technics tuner, 24 pair snake system with splitters, Panasonic B&W CCTV, Talkman wireless intercom, dbx noise reduction on all tape decks, cables, stands, and more.

Microphones: Neumann KM84; Sony C-500, ECM377, ECM150; AKG D202E, C451, Shure SM57, SM58, SM33; Sennheiser 421, Beyer 260; Nakamichi 300; E.V. PL77, Audio Technica ATM31, ATM11.

Video Equipment & Services: We offer top quality audio for a wide range of location video projects including live concerts, live broadcast, and storyboard type video

Rates: Upon request.

Direction: Metro Mobile is fully experienced in location music recording, live broadcast, video, industrial AV, conferences, and demo projects. Since 1979, we've taped WXRT-FM's "Local Sunday Night Unconcern" featuring The Clash, Albert King, Squeeze, Lene Lovich, Dexy's Midnight Runners, and many others. In addition, we've mixed a live broadcast of Todd Rundgren and Utopia for WLUP FM and Pee Wee Herman for Eye and Ear Tele-Productions. From diverse places like Chicagofest, Cook County jail, and artists' practice lofts, Metro Mobile provides economic, top-quality audio. Post-production mixing and record pressing are also available

••• **METRO SOUND**
5143 Brouse, Indianapolis, IN 46205
(317) 251-1638
Owner: Chris Rich

••• **NEW LIFE SOUND**
506 Colorado, Goschen, IN 46526
(219) 533-8793
Owner: Marv Beachy
Studio Manager: Marv Beachy / Jon Beachy

••• **NORTHERN STAR**
6635 80th Ave., Mecosta, MI 49332
(616) 972-7911
Owner: Dan D. Chapin
Studio Manager: Tim Galloway

••• **NUMARK, INC.**
51308 Peach Tree, Utica, MI 48087
(313) 739-6940
Owner: John Antos & Mark Antos
Studio Manager: Mark Antos

••• **PAX RECORDING SYSTEMS**
also **REMOTE RECORDING**
1041 Baldwin Dr., Apple Valley, MN 55124
(612) 432-5841
Owner: Jeff LaBelle, Paul Tatge
Studio Manager: Jeff LaBelle

••• **PETERS SOUND RECORDING SERVICE**
also **REMOTE RECORDING**
240 East 242nd Street, Euclid (Cleveland) OH 44123
(216) 731-4171
Owner: Michael G. Peters
Studio Manager: Luke 16 1-12

••• **PIONEER RECORDING STUDIO, INC.**
also **REMOTE RECORDING**
4238 Ramagate, Bloomfield Hills, MI 48013
(313) 855-1466
Owner: Gary Rubin
Studio Manager: Harvey Glassman

••• **PREMIER FILM AND RECORDING**
also **REMOTE RECORDING**
3033 Locust St., St. Louis, MO 63103
(314) 531-3555
Owner: Wilson Dalzell, President
Studio Manager: Grace Dalzell, Sec'y/Treas

••• **Q & R RECORDING STUDIOS**
1307 Ridge Avenue, Evanston, IL 60201
(312) 864-6655
Owner: Q Brown
Studio Manager: Steve Rashid

MISSING LINK Active Direct Box Models BP-1 & PH-1

The Missing Link active direct box was designed by a studio engineer and was field-tested for over two years in actual recording sessions and live concerts. After evaluating comments from many professional musicians and recording engineers, we have developed an active transformerless direct box that we feel is one of the most reliable and transparent-sounding units on the market today.



Suggested list price: \$119.95

GRM
P.O. Box 388127
Chicago, IL 60638-8127
(312) 229-1924
Dealer Inquiries Welcome

Circle #026 on Reader Service Card

SAVE BY BUILDING OUR RACK MOUNT STUDIO EQUIPMENT

QUADRAFUZZ — four separate frequency bands of distortion are mixed for the smoothest fuzz you've ever heard. no. 6720..... \$39.88

HYPERFLANGE/CHORUS — the cleanest, widest range, most versatile flanger anywhere at any price. no. 6750..... \$149.95

VOCODER — unmatched performance in a versatile, low cost rack package. no. 6710..... \$99.95

HOT SPRINGS — user's agree, short of studio plate systems, you won't find a better reverb at any price. no. 6740..... \$59.95

ADD \$3 SHIPPING
FOR EACH KIT ORDERED

Innovative, cost effective designs by Craig Anderton in easy to assemble kits from:

PAIA Electronics, Inc.
Direct mail orders and inquiries to: Dept. 11x
1020 W. Wilshire, Oklahoma City, OK 73116 • (405) 843-9626
Ask for your free catalog.

CHARGE TO VISA OR MC TOLL-FREE
1-800-654-8657 9AM to 5PM CST MON-FRI



••• RADEX RECORDING STUDIOS
also REMOTE RECORDING
890 W. Galena Ave., Freeport, IL 61032
(815) 235-9797
Owner: Dexter R. Witt
Studio Manager: Douglas R. Witt

••• RAINBOW BRIDGE STUDIOS
117 W. Rockland Rd./P.O. Box 615, Libertyville, IL 60048
(312) 362-4060
Owner: Rockland Road Studios, Inc.
Studio Manager: Perry Johnson

••• REELSOUND AUDIO
also REMOTE RECORDING
25859 Mulroy Dr., Southfield, MI 48034
(313) 356-2640
Owner: James Ascenzo, Dan Ascenzo, Barry Warner
Studio Manager: Jamie Ascenzo

••• THE REEL THING, INC.
3133 Chester Ave., Cleveland, OH 44114
(216) 696-3133
Owner: James L. Silver
Studio Manager: Fred Owen

••• RINGGER RANCH RECORDING
also REMOTE RECORDING
1505 W. Wood, Decatur, IL 62522
(217) 429-0822
Owner: Gary Ringger / Dennis Virkler
Studio Manager: Gary Ringger / Rex Parvin

••• RINGGER RANCH RECORDING
also REMOTE RECORDING
Box 0, Gridley IL 61603
(309) 688-4621
Owner: Gary Ringger and Dennis Virkler
Studio Manager: Gary Ringger and Dennis Virkler

••• ROME RECORDING CO.
1414 E. Broad St., Columbus, OH 43205
(614) 253-4418
Owner: Jack Casey
Studio Manager: Jack Casey

••• ROSEWOOD SOUND STUDIOS, INC.
also REMOTE RECORDING
716 Oakland Rd., N.E., Cedar Rapids, IA 52402
(319) 364-5658
Owner: Jeff Stramel and Steve Stramel
Studio Manager: Jeff Stramel

••• SCHARREN STUDIOS
6591 Pilliod Rd., Holland, OH 43528
(419) 874-2665
Owner: Steve Scharren
Studio Manager: Steve Scharren
Engineers: Steve Scharren, Tony Kaiser, Ken H. Deutch
Dimensions of Studios: 24 x 15, Drum Booth 10 x 7, "Lava"
Room 15 x 12
Dimensions of Control Rooms: 15 x 10
Tape Recorders: Tascam 85-16B 16 track (w/dbx), Otari 5050
BII 2 track, Tascam 42 2 track, Sony cassette deck K777 2 track,
Nakamichi cassette deck 500 2 track; Sony TCD 5M TCD 5M 2
track, Tascam 244 Portastudio 4 track, Realistic Hi-speed dubbing
2 track, Revox B77 2 track
Mixing Consoles: Ramsa 8816 16 x 4 x 2
Monitor Amplifiers: Hafler DH 500, Crown D-150
Monitor Speakers: Boston Acoustics A-400 (2), Realistic
Minimus-11 (2) JBL 4411 (2)

Echo, Reverb & Delay Systems: DeltaLab DL-4; Echo, MXR 01
Digital reverb, Lexicon PCM 60 Digital reverb, Forman spring
reverb

Other Outboard Equipment: Aphex Aural Exciter, Symetrix
522 stereo comp/limiter, expander, gate & ducker, Symetrix
SG-200 gate; Sundholm stereo EQ with parametric notch filters,
MXR dual limiter; dbx 150, 152, 224 & NX40; studio technolo-
gies stereo simulator; Rockman, Drumulator; MXR stereo chorus;
Boss pedals (all types); dbx 3BX

Microphones: AKG BT 330; EV PL77, 76; AKG 224E; EV BK-1,
AKG D12E; EV RE 20; Beyer Dynamic M101; Sony ECM-22
and many more.

Instruments Available: Full 10 piece set of studio drums,
Baldwin piano, 3 ovation acoustic electric guitars, G&L 2000
electric bass, Baldwin "Ode" Banjo, G&L and Kramer electric
guitars, Les Paul custom, Fender amps, Chet Atkins electric
classical guitar, Roland JX3P synth, with programmer, Crumar
strings & brass, Gibson ES 335, Emulator II on hand by late 1984,
just about any other instrument, including some of the best studio
musicians in the midwest, available upon request

Rates: Reasonable! Call for quotes!



SEAGRAPE RECORDING STUDIOS
Chicago, IL

••• SEAGRAPE RECORDING STUDIOS
also REMOTE RECORDING
3519 W. Montrose, Chicago, IL 60618
Owner: Tom Haban
Studio Manager: Mike Konopka
Engineers: The White Brothers, Tom Haban, Mike Konopka
Tape Recorders: MCJ JH114 16 track, 3M M 56 16 track, Otari
MX 5050 2 track; Revox A-77 2 track
Mixing Consoles: Neotek Series II 16/16, Quad Eight 16/8,
Yamaha PM700 12/4
Monitor Amplifiers: 2, Mac 2200, Bedini class A, Crown,
Dynaco
Monitor Speakers: JBL 4430 BiRadials, JBL 4311, B+W 801,
Auratone 5c
Echo, Reverb & Delay Systems: Lexicon Super Prime Time,
Lexicon 200 digital reverb, Ecoplate, Eventide H949 har-
monizer, MicMix XL 515 stereo reverb, MXR digital delay
Other Outboard Equipment: UREI limiters 1176, Spectrason
610 compressors, Symetrix limiters & gates, Tapco 31 band
Equalizers, Ashly instrument pre amps & crossovers
Microphones: Neumann U-87 EV HE-20, PL 20, G-36, CS15
PL-95, AKG 451, Crown P2M, Shure SM57, SM 58, SM 59,
Sennheiser 421, Beyer Ribbon, HCA 44
Instruments Available: Yamaha grand piano, Hammond organ,
Roland GR300, Avitar Synth, Slingerland drums, Fender & Gib-
son guitars, amps by Ampeg, Fender, Marshall, Music Man,
Moog Taurus Bass Pedals
Video Equipment & Services: VHS, Beta & Umatic transfers
Complete video production services available
Rates: \$50/hr. Project rates available on request

••• SOTO SOUND STUDIO
also REMOTE RECORDING
931 Sherman Ave., Evanston, IL 60202
(312) 475-9556
Owner: Jerry & Claudine Soto
Studio Manager: Claudine Soto
Engineers: Jerry Soto
Dimensions of Studios: 30 x 30 w/vertical booth
Dimensions of Control Rooms: 15 x 25
Tape Recorders: Tascam Series 70 8 track, Tascam 90-16 16
track, two TEAC 2340 4 track, Otari MX5050 1/2 track, Ampex
PR10 1/2 track; Pioneer HT110 1/4 track, TEAC & Sharp cassettes,
two TEAC, two Hitachi cassette decks
Mixing Consoles: Tapco Cataline 12x4, Tascam Model 10 12 in
x 4 out, Tascam Model 58 in x 4 out, Tascam Model 2 A 6 in x 4
out, Tascam Model 1 8 in x 2 out
Monitor Amplifiers: Phase Linear 700, QSC 51, Technics
SU730, Altec 128B

Monitor Speakers: Alter Valencias, Bic Venturi Formula 4's, Auratones, Realistic 40-1247's, Transistor radio.

Echo, Reverb, and Delay Systems: MXR digital delay, MXR flanger, Tapco reverb, MXR pitch transposer

Other Outboard Equipment: dbx 160, 161, compressor/limiters; Symetrix CL-100 compressor/limiter; dbx noise reduction; Soundcraftsman RP 2201-R graphic equalizer; Gerard Zero-100 turntable, MXR noise gate, dbx 164 stereo compressor limiter; Technics SL-20 turntable

Microphones: Sennheiser, AKG, Shure, Electro-Voice, Audio-Technica

Instruments Available: Dr Rhythm, Simmons Drums available upon request, Moog Hogue, Yamaha CP-10, Guitar, keyboard & bass amps, Ludwig drums, Hammond B-2 organ (w/percussion), two Leslie speakers, Fender Rhodes, Moog Prodigy Synthesizer, Wurliizer baby grand, Space Drum, asst percussion, guitar voice-box, Gibson Les Paul "Gold Top," Epiphone bass, acoustic guitar, Roland organ/strings, Yamaha Digital drum machine

Rates: 1 4 trk \$25/hr, 8 trk \$30/hr or 6 hrs for \$160 Lyrics set to music — all rights belong to client — \$35/hr, 6hrs at \$180

Extras: Studio musicians available, guitar, keyboard, arranging or production services available by Jerry Soto.

Direction: We're the only studio in this region, to our knowledge, that can arrange your lyrics to music, record your voice on your song and more. We record virtually every type of music, and also handle projects for Warner Bros. & ABC T.V. We have secured contracts with blues labels in London, England, and Vienna, Austria, as well as with recording blues greats Buddy Guy, Phil Guy, Brewer Phillips, Lefty Dizz, Eddie Clearwater and others. We also record many other styles, rock, funk, reggae, H&B, Latin, Greek, soundtracks for plays and dance groups, and even people from India! You name it, we record it! In closing, we're proud to say, through hard work and dedication, we've become one of Chicago's most popular studios. We also thank our clients who have made this dream a reality.

••• SOUND HOUSE

424 W. Main Ave., P.O. 1075, Willmar, MN 56201
(612) 235-6404

Studio Manager: Ron Huisinga

••• SOUND IDEAS PRODUCTIONS

Benson Bldg., 7th & Douglas, Sioux City, IA 51101
(712) 255-9911

Owner: Kraig Wall, Greg Wall, Lon Rochester, Jim Rossiter

Studio Manager: Kraig Wall

Engineers: Kraig Wall, Greg Wall, Tom Renfro

Dimensions of Studios: 20 x 30 w/ piano & vocal iso

Dimensions of Control Rooms: 17 x 15

Tape Recorders: Tascam 85-16B 16 track, Otari MX-5050B 2 track, Otari MX-5050B 2 track w/dbx noise reduction, Harmon/Kardon CD401 cassette deck.

Mixing Consoles: Tangent 32-16, 18 in x 16 out.

Monitor Amplifiers: Yamaha P2100 and P2200.

Monitor Speakers: JBL 4411, Auratones SC

Echo, Reverb, and Delay Systems: (2) MICMIX XL 305, Delta-Lab Effectron

Other Outboard Equipment: dbx 155 noise reduction, dbx 162 stereo compressor/limiter, Symetrix stereo parametric EQ

Microphones: Crown PZM, AKG 414, Shure SM81, Sennheiser 421, 441

Instruments Available: Yamaha conservatory grand piano, Fender Rhodes electric piano, Rogers drums w/Zildjian cymbals, Sequential Circuits Prophet 10, Emulator, LinnDrum

Rates: \$65/hr, \$50/hr 6 pm - 8 am and weekends. Block rates.

••• SPECTRUM PRODUCTIONS

914 "L" Street, Lincoln, NB 68508
(402) 474-3111

Owner: Steve Demma and Steve Rall

Studio Manager: Steve Demma and Steve Rall

••• SPIRIT STUDIOS RECORDING

4123 Sterling, Downers Grove, IL 60515
(312) 971-TAPE

Owner: Steve Walker, Bernadette Walker & J.C.

Studio Manager: Bernadette Walker

Engineers: Jay Johnson, Bob Mielcarski, Steve Walker (Chief Eng.) & Mike Furmanski

Dimensions of Studios: 26 x 30 (incl. drum room) irreg., 15 x 16 iso booth

Dimensions of Control Rooms: 13 x 17

Tape Recorders: Tascam 85-16w/automatic locate & dbx 16 track; Studer/Revox A-700 2 track; AKAI GX-260D 2 track, (5) Teac Cass Dk V307

Mixing Consoles: Tascam M 15 24 x 16 x 8

Monitor Amplifiers: Haller DH 200s, Rane HC 6 Cue system

Monitor Speakers: JBL 4411s, Klipsch La Scalias

Echo, Reverb & Delay Systems: Echoplex III, Ursa Major Stargate 423, Lexicon PCM 41 DDL (2), MXR flanger/doubler

Other Outboard Equipment: EXR exciter, MXR pitch transposer w/display, dbx 150s UHF1 outboard EQs, dbx 162 stereo comp limiter, dbx 160x comp limiters (2), C1 4 noise gates, SAE 3000 pre-amp & Onkyo turntable, KG Pro Zow expander, DuPage-Sound dir. boxes

Microphones: AKG 414 Ebs (2) 451s (3) Sennheiser 421s (3) 441 EV RE20 (2) 57s (4) 58s (2) AT & PRO 1

Instruments Available: Wurliizer piano, Arp string synth, Tama drum kit, amplifiers by Avonistic, Marshall, Gibson & Peavey, keyboard mixer & speaker system, misc. Fender and Gibson guitars, many outboard effects

Rates: \$30/hr \$40/hr block and "Special" rates available. Please call us.

••• STERLING SOUND PRODUCTIONS

33018 Breckenridge Dr., Sterling Heights, MI 48077
(313) 977-7829

Owner: Richard F. Carver

Studio Manager: Gordon Carver

••• STUDIO DE LUX

5346 Sunnycrest Dr., W. Bloomfield, MI 48033
(313) 855-2942

Owner: Rick Slawinski

Studio Manager: Bill McKinney, Manager & Head Engineer

••• SUNSET STUDIO

also REMOTE RECORDING

117 W. 8th, Hays, Kansas 67601

(913) 625-9634

Owner: Mark Mekkel

Studio Manager: Mark Mekkel

••• SWEETWATER SOUND

also REMOTE RECORDING

2350 Getz Rd., Fort Wayne, IN 46804

(219) 432-8176

Owner: Chuck Surack

Studio Manager: Chuck Surack, Tony Hettinger

Engineers: Tony Hettinger, Chuck Surack, Dick Swary, Barry

LaBov

Dimensions of Studios: 25 x 18, 10 x 10, 4 x 8 voiceover

Dimensions of Control Rooms: 12 x 14

Tape Recorders: Tascam heavily modified 85-16 16 track, Otari 5050 B 2 track, Teac 6100 2 track, Teac 3340 4 track, Teac/Tascam 122 Cass. 2 track, Aiwa WX 110 duplicating cassette 2 track

Mixing Consoles: Teac/Tascam (heavily modified) M 15

16x16, Allen & Heath 164 16x4 tracks

Monitor Amplifiers: Marantz 510 - Crown D 60, QSC 1400,

McIntosh M175

Monitor Speakers: EV Sentry 500 - Auratone SC, Yamaha NS 10M, Yamaha NS-5

Echo, Reverb & Delay Systems: Ursa Major Stargate 323 digital reverb, LT sound RV-2, w/ micro plate option, DeltaLab Effectron 1024 digital delay, Korg SDF 1000 digital w/digital sampling

Other Outboard Equipment: Valley People Dynamics, Symetrix compressor, Ormnerall noise gates, EXR exciter, EH vocoder 11, Sound TVF vocal eliminator, Sessom parametric EQ, Tascam

model 2 effects mixer, dbx NX40, 160s, all the tape recorders have full dbx. Lott-tech analyzer, Commodore 64 computer and much more. Lots of MIDI stuff

Microphones: AKG 414P48, ElectroVoice RE 20, Shure SM 81s, 57s, 58s, Crown PZM 50, Crown/Radio Shack PZM, RCA BX 44, Audio Technica 8135, 831, 836s, Beyer M 500

Instruments Available: Yamaha DX-7 synthesizer, Yamaha (customized) G1 grand piano, Roland DX-3P synth, Freeman string symphonizer, Oberheim DMX drum computer, Fender jazz bass, Gibson Les Paul, Les Paul Jr., ES 335 dot heritage, Alvarez acoustic, Armstrong flute, Selmer 80 tenor sax, Yanigasawa curved soprano sax, Amps: Fender Twin, Marshall, Crate, X-100 Rockman, Bass Rockman

Video Equipment & Services: All industrial & band videos. We work with Custom Video of Ft. Wayne and have had our work on HBO, Radio 1990, Nightflight, America Rocks, as well as lots of cable shows and other industrial uses.

Rates: \$27/hr for everything. All materials are sold at our cost. No other charges.

••• TOBY'S TUNES, INC.

2325 Girard Ave. S., Minneapolis, MN 55405
(612) 377-0690

Owner: Harley "Toby" Toberman

Studio Manager: Harley "Toby" Toberman

••• TRACK RECORD STUDIOS

also REMOTE RECORDING

13912 Thomas Ave. S., Burnsville, MN 55337
(612) 894-7220, 890-1075

Owner: Norton Lawellin, "Red" Freeberg

Studio Manager: Norton Lawellin, "Red" Freeberg

••• TRADE SECRET RECORDING

9407 Olde Eight Road, Northfield, OH 44067
(216) 468-0646

Owner: Alan M. Horenchak

Studio Manager: Paulette

••• WHITE HORSE RECORDING

620 15th St., Moline, IL 61265
(309) 797-9898

Owner: Jeanne McKirchy-Spencer & Ron Spencer

Studio Manager: Ron Spencer

••• YOGI RECORDING

also REMOTE RECORDING

230 2nd St., Suite 206, Elyria, OH 44035
(216) 323-8036

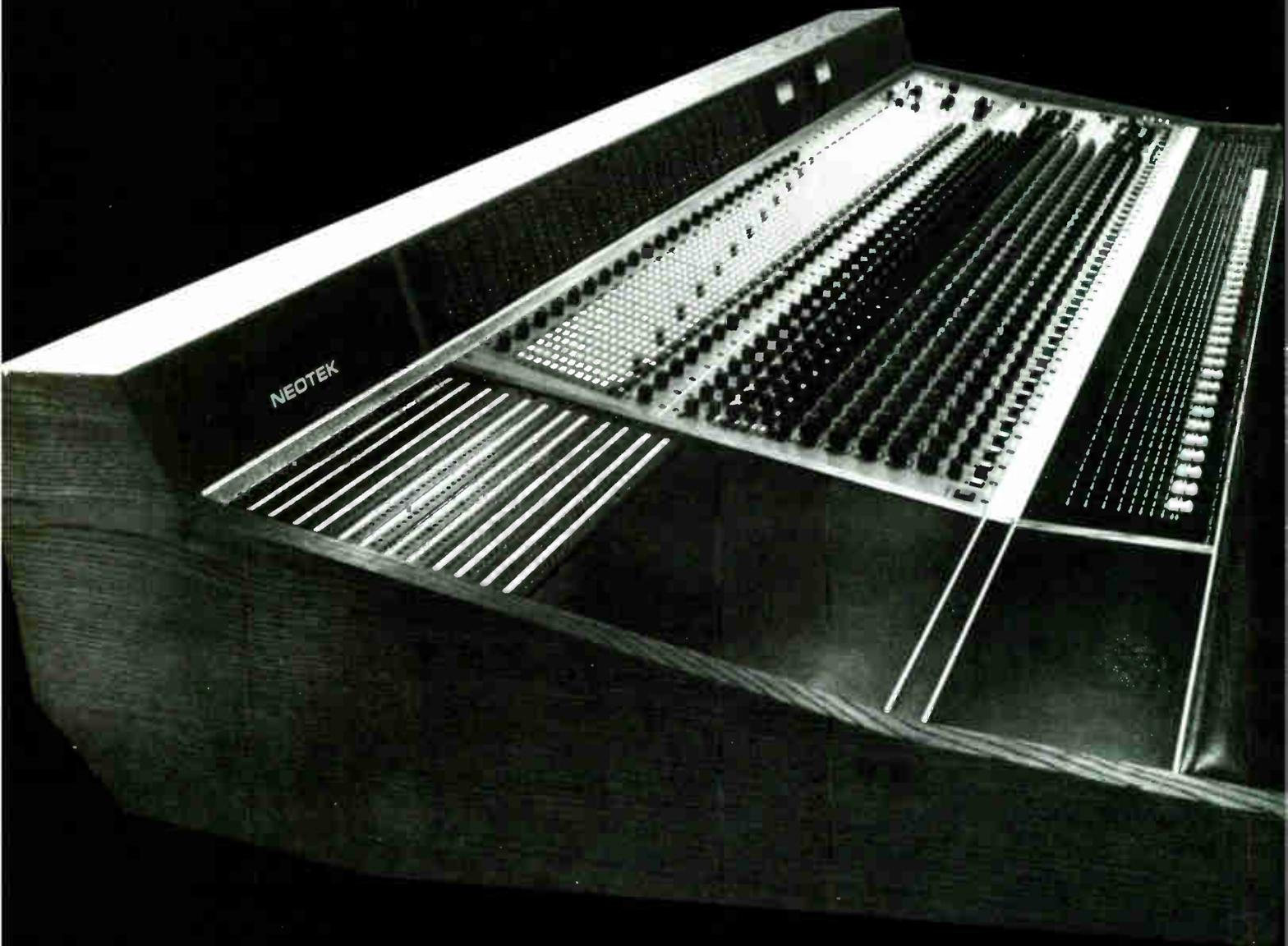
Owner: Paul Pope

Studio Manager: Paul Pope



This Holiday Season
show your staff
how much you
appreciate
them. See
Page 71.

*It's not only
what we make,*



it's what we know.

The choice of a console is one of the most important you will ever make. You want more than just a pretty top plate and lots of knobs and switches. You know that the sonic performance of the console is absolutely critical to the quality of the product you produce, and to your own reputation for performance. NEOTEK consoles are the choice of studios who know that performance means value, and who demand the best of both.

Advanced technology NEOTEK consoles have always been at the cutting edge of analog design, with completely transformerless consoles and mic preamps five years ahead of any other manufacturer. NEOTEK offered the first, and still the best, state variable equalizers and the first consoles with three way solo systems. The latest NEOTEK consoles employ hybrid circuits and active compensation topologies that won't be seen on other consoles for years. When it comes to console design, NEOTEK is the definition of state of the art.

Sonic Performance The legendary sound quality of NEOTEK consoles is a major reason that they are owned by the greatest orchestras in the country: Chicago, Cleveland, St. Louis, Philadelphia. They are at the Lincoln Center, the Metropolitan Opera, the Julliard School of Music, the Berkeley Repertory Theater, the Rome Opera. They are used by audiophile labels like Delos and Varese Sarabande and exclusively for the superlative TELARC CDs. It is just as important to have this performance in your studio, because it is a superiority that everyone can hear and none can afford to ignore.

Technical specifications The measured performance of NEOTEK consoles is unsurpassed. In terms of noise, distortion, and signal bandwidth they exceed the specifications of 16-bit digital recorders. In a time when others are claiming to be 'ready for digital,' NEOTEK continues to improve designs that were ready for digital long before digital was ready for the best in analog. As the result of striving for the ultimate sonic performance, NEOTEKs produce the finest specifications ever measured on production consoles.

Essential intangibles If you can appreciate the driving quality of a Porsche, you can understand why engineers like working on NEOTEK consoles. The signal flow is easy to follow, controls do what you expect, and the equalizer is musical even when cranked to extremes. The construction quality of these consoles maintains their performance and resale value in the long run. You will find shielded cable wired to metal frame jacks instead of ribbon cable to plastic, and instrument grade components are used exclusively. Console frames are made of solid hardwood, with the feel of fine hand finished furniture.

Made to order NEOTEK manufactures a full range of consoles designed for specific applications. There are console series for multitrack recording, four and eight channel recording, broadcast production, theater effects and sound reinforcement, film and television post production, and sophisticated sound reinforcement. Each is built to individual order in the United States. Engineers at the factory are available to tailor each console to the most demanding installation.

If you are about to choose a console, choose NEOTEK.

Let others compromise.

NEOTEK CORPORATION

1154 West Belmont Avenue Chicago, Illinois 60657 U.S.A. 312-929-6699

NORTH Central 24 TRACK

•••• THE ALLIANCE RECORDING
8837 Garfield Whitmore Lake, MI 48189
(313) 632-5653
Owner: Mark Farmer, Al Hirschman
Studio Manager: Al Hirschman

•••• AMBIANCE RECORDING
27920 Orchard Lake Rd., Farmington Hills, MI 48018
(313) 851-9766
Owner: Charles Schenck
Studio Manager: Dennis Forbes

•••• ALPHA RECORDING CO.
515 W. Harrison, Lombard, IL 60148
(312) 932-1984
Owner: Bobbie Thomas
Studio Manager: Corinne Karpik

•••• AMERICAN ARTISTS
430 Oak Grove #110, Minneapolis, MN 55403
(612) 871-0715
Owner: Owen Husney
Studio Manager: Peter Martinsen

•••• ARTIST RECORDING CO.
also REMOTE RECORDING
320 Mill St., Cincinnati, OH 45215
(513) 761-0011
Owner: Carrol Rawlings
Studio Manager: Vic Clay

•••• AUDIOCRAFT RECORDING CO.
also REMOTE RECORDING
915 West 8th St., Cincinnati, OH 45203
(513) 241-4304
Owner: ET Herzog
Studio Manager: E.T. Herzog, Jr.

•••• AUDIO GRAPH PRODUCTIONS, INC.
also REMOTE RECORDING
2810 Bennett Rd., Okemos, MI 48864
(517) 332-3272
Owner: Douglas H. Monson & Glenn J. Brown
Studio Manager: Douglas H. Monson

•••• AUDIO PHONICS CORPORATION
also REMOTE RECORDING
P.O. Box 396, Kenosha, WI 53141
(414) 656-0717
Owner: Jeffery A. Harman
Studio Manager: Jeffery A. Harman

•••• AUDIO RECORDING STUDIOS, INC.
also REMOTE RECORDING
601 Rockwell Ave., Cleveland, OH 44114
(216) 771-5112
Owner: Corporation
Studio Manager: Bruce Gijax

•••• AUDIO VILLAGE
also REMOTE RECORDING
1000 W. 17th St., P.O. Box 291, Bloomington, IN 47402
(812) 332-7475
Owner: Wayne Gunn, Michele Jamison
Studio Manager: Wayne Gunn

•••• BADGER RECORDING CO.
6899 Cary Bluff, Pittsville WI 54466
(715) 884-2799
Owner: Chris Swansen
Studio Manager: Chris Swansen

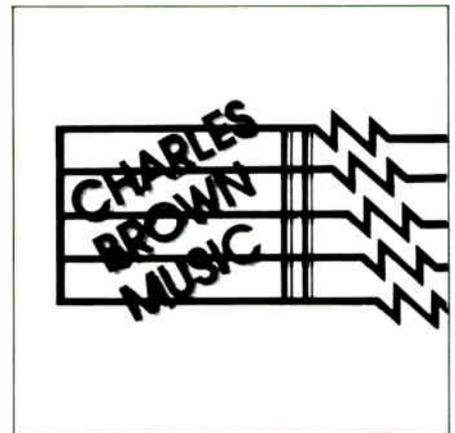
•••• THE BARN RECORDING STUDIO
also REMOTE RECORDING
P.O. Box 256 St Rd 28, Alexandria, IN 46001
(317) 724-7703
Studio Manager: Jim Hoxter

•••• BEACHWOOD STUDIOS
also REMOTE RECORDING
23330 Commerce Park Rd., Beachwood, OH 44122
(216) 292-7300
Owner: EDH Corporation
Studio Manager: George A. Sipal, General Manager: Keith A. Voigt

Engineers: George A. Sipal, Dale Peters, Jim Carroccio, Paul Schwartz, Ciri Madun Jr.
Dimensions of Studio: (A) live room 29 x 26 acoustically shaped, (B) rhythm room 45 x 29 acoustically shaped w/isolation booths, (C) live room 20 x 14 acoustically shaped, (D) rhythm room 31 x 30 acoustically shaped w/isolation booths
Dimensions of Control Rooms: (A) 27 x 27 (B) 24 x 20
Tape Recorders: (1) MCI JH 24 track, (5) MCI JH 110B 1/2 and 1/4, (3) Otari MX 5050 1/4, (2) Teac C-3 cassette, (2) Nissamichi, 680 cassette
Mixing Consoles: MCI JH600 46x24, MCI JH 600 28x24, both with automation
Monitor Amplifiers: BGV 750s and Crown DC 300s
Monitor Speakers: UREI 813 Time Aligned, Auratones, EV Sentry 100s
Echo, Reverb & Delay Systems: (2) live chambers, (2) Lexicon 224, (2) Echoplex, (3) Lexicon PCM 41, Lexicon PCM 42, Gemini Easy Rider, Lexicon M 200
Other Outboard Equipment: UREI LA4 limiters, 4) UREI i176 limiters, (2) Eventide H 949 Harmonizers, (14) S-camp noise gates, (5) S-camp compressors, 3/2 channel Dolby, (4) Gain Brain II, (4) Kepex II

Microphones: AKG 12Es, 452s, 414s, Beyer M88s, EV RE 15s, RE 20s, Neumann U47s, U86s, U87s, KM 84s, Sennheiser MD 421s, Shure SM 7s, SM 66s, Sony ECM 50s and others
Instruments Available: Studio A 9' Yamaha grand piano, Studio B 7 1/2' Yamaha grand piano, Hammond organ, Ludwig drum kit
Rates: Please call for rates
Extras: Complete lounge area with video games, color TV, and kitchen. Lodging packages from hotels to fully furnished apartments. Access to racquetball, tennis, swimming and health clubs
Direction: With charted singles for the Dazz Band, Michael Stanley, Donnie Iris and B.F. Taylor, we are known as an audio oasis in the midwest. Other recordings include Eric Carmen, Color Me Boud, Ennio Morricone, B.F.M., 38 Special, and many more. For national sound at regional rates, at home or on the road, call Beachwood Studios—home of Mobile One, location recording unit

•••• BREEZEWAY RECORDING STUDIO
363 W. Main St., Waukesha, WI 53186
(414) 547-5757
Owner: Lee & Marylee Crooks
Studio Manager: Lee Crooks
Engineers: Paul Wehrley, John Tanner, Andy Waterman
Dimensions of Studios: 32 x 18
Dimensions of Control Rooms: 18 x 15
Tape Recorders: MCI JH 24 24 (16 optional) track, MCI JH 110A 1/4 1/2 track, Otari 5050B 1/4 1/2 track, Technics, Sony, Harmon Kardon Cassette Decks
Mixing Consoles: Sound Workshop Series 34 w/ arms automation 28x24
Monitor Amplifiers: Carver PM 15, UREI 6150 & 6250, BGV 250C, Crown D150A
Monitor Speakers: UREI 813B, JBL 4311, MDM 4, Yamaha NS 10M, Auratone 5C
Echo, Reverb & Delay Systems: Lexicon 200 digital reverb, Echoplex II, Echoplex III, Roland SDE 3000, Lexicon Primetime w/MEO tape echo
Other Outboard Equipment: dbx 165 compressors, UREI LA 4 compressor/limiters, Valley People "Dyna Mite" stereo compressor, noise gates, UREI i176 LN limiters, Eventide H910 Harmonizer, Orban 674A stereo parametric EQ, Orban De-esser, MXR flanger/doubler, MXR pitch transposer, Omnicraft GT 4 noise gates, Dolby 361, dbx 180 noise reduction on 1/2 tracks, Eventide Omnipressor
Microphones: Neumann U 47 tube, AKG 414Es, 451s, Sennheiser 441s, 421s, Electro Voice RE 20s, Shure SM 81s, 57s, 58s, Crown PZMs, Sony C 48, Beyer M500
Instruments Available: Baby grand piano, Yamaha recording series drums w/Paste & Zildjian cymbals, Rhodes electric piano, Simmons drums, Oberheim DMX drum machine, various guitars & amplifiers, Yamaha, Roland & Oberheim synths available
Rates: Please call for low rates
Extras: Lounge with window looking into studio area, cable TV, VCR, stereo videogames, Kitcheneette with refrigerator, microwave oven. Small music store on premises
Direction: In two years, Breezeaway has grown from a basement 8 track into one of Wisconsin's most popular automated 24 track facilities. We specialize in album and commercial projects, and will soon be opening Studio B for dubbing & production work. If you're looking for a comfortable, affordable studio for your next project, call or write for our free brochure.



CHARLES BROWN MUSIC
Cincinnati, OH

•••• CHARLES BROWN MUSIC
1349 E. McMillan Ave., Cincinnati, OH 45206
(513) 281-5212

Owner: Charles Brown
Studio Manager: Beverly Brown
Engineers: John Keene, Jerry Studenica
Dimensions of Studios: 8 x 21
Dimensions of Control Rooms: 14 x 22
Tape Recorders: Otari MTR 90 24 track, Otari MX5050III 8 track, Otari MX 5050 BQII 4 track, Otari MTR 12 2 track, Otari MX 5050 II 2 track, Nakamichi 2x7 Cassette
Mixing Consoles: Allen & Heath Syncon B 32x24
Monitor Amplifiers: QSC, Symetrix
Monitor Speakers: Eastern Acoustic Works, Auratone
Echo, Reverb & Delay Systems: Lexicon 200, DeltaLab 1056 & 256, Lexicon PCM 42, Lexicon Prime Time
Other Outboard Equipment: Symetrix limiters, compressors, gates, Symetrix stereo parametric EQ, Moog Parametric EQ, 12 channels of dbx type 1
Microphones: Shure, AKG, Neumann, Electro-Voice
Instruments Available: LinnDrum, Rhodes, F mu 16 voice poly keyboard and modulator synthesizer, tympani, Yamaha DX 7, Oberheim 4 voice, various percussion, clarinet, vibes
Video Equipment & Services: RTX Softouch & Cypher SMPTE interface for 1", 1 1/4", 24, B, 4 and 2 track, Sony 5800 U matrix, Panasonic video monitor
Rates: 8, 4, 2 track \$50/hr, 24 track \$75/hr. Video and SMPTE on request

•••• CHAPMAN RECORDING STUDIOS
also REMOTE RECORDING
 228 West 5th Street, Kansas City, MO 64105
 (816) 842-6854
Owner: Chuck Chapman
Studio Manager: Dave Brock, Jack Devault



CHICAGO RECORDING COMPANY
 Chicago, IL

•••• CHICAGO RECORDING COMPANY
 528 North Michigan Avenue, Chicago, IL 60611
 (312) 822-9333
Owner: Alan S. Kubicka, Gen Man Hank Neuberger
Studio Manager: Jo Sturm & Susan Divita
Engineers: Chris Sabold, Hank Neuberger, Dennis Anderson, Phil Bonnano, Tommy Hanson, Mike King, Tim Butler, Bill Kovach, John Titak, Ian Burgess
Dimensions of Studios: A 27 x 45, B 23 x 45, D: 35 x 67, Studio C-1, C-2, E & H designed for voice over & production
Dimensions of Control Rooms: A 19 x 20, B 22 x 22, D 26 x 26
Tape Recorders: Studer 24 track, MCI 24, B, 4, 2 track and mono
Mixing Consoles: Cadac Series E 36 in x 32 out, MCI JH 532C 36 in x 32 out, Neve R068 Mark II 32 in x 32 out, Flickinger Model D 32 in x 24 out
Monitor Amplifiers: Crown
Monitor Speakers: Cadac, UREI 813s, Westlake/Eastlake, Tannoy
Echo, Reverb, and Delay Systems: ETM 251, EMT-140s, tube EMT-140s, EMT 240s, AKG BX-20, Master-Room, Eventide Harmonizers & digital delay, Lexicon Prime Time & digital delay, Marshall Time Modulators
Other Outboard Equipment: All ancillary equipment available, we are a true world class studio (automation, SMPTE Time Code, video sweetening, etc.)
Microphones: Neumann, AKG, Schoeps, Sennheiser, Sony, Shure, Electro-Voice, RCA, Altec plus many classic tube microphones
Instruments Available: Bosendorfer grand piano, Steinway grand piano, Fender Rhodes, Clavinet, Harpsicord, Hammond organs, Sonor & Rogers drums, Minimoog, Polymoog, ARP 2600, ARP Omni, ARP Synia
Video Equipment & Services: Complete audio/video sweetening utilizing Sony & Panasonic 1/4" video cassette recorders with RTX SMPTE Time Code Readers, generators, synchronizers, and controllers

Rates: Studio A, B & D \$225/hr, Studio 4 \$230/hr; Production Studios \$75-\$125/hr, rates available for block bookings
Extras: 46 track recording, automation, SMPTE Time Code, video sweetening, the best working environment in the city
Direction: Since we opened our doors in 1975, we have been Chicago's true world class facility. Our staff is considered the best in the city, and we service our clients to the very bill. Recent record clients include Ramsey Lewis, Jerry Butler, Todd Rundgren, Marshall Tucker Band, The Ohio Players, Styx, Cameo, Steve Goodman, Dee Dee Sharp, and Gambler. Commercial clients to our credit include hundreds of spots for McDonald's, Coca-Cola United Air Lines, Wadleys Gum, Schlitz, Sunkist, Kollokas, and Sears. If it can be done, CRC is known as the studio that can do it.

•••• CHICAGO TRAX RECORDING STUDIO
 2656 N. Wayne Ave., Chicago, IL 60614
 (312) 525-6565
Owner: Reid Hyams, Al Ursini
Studio Manager: Reid Hyams
Engineers: Al Ursini, Chief Engineer, Harry Brotman, Ian Burgess, Don Mueller, Larry Sturm, Tom Matthews, Joe Torroni
Dimensions of Studios: 20 x 22, Isolation Booth A' 7 x 8, Isolation Booth B' 4 x 5
Dimensions of Control Rooms: 12 x 10
Tape Recorders: MCI JH 16 w/lor III 24 track, Autolocator 24 track, Tascam 80 B w/dbx noise reduction 8 track, Studer B 67 2 track
Mixing Consoles: Soundcraft 2400, 24x24 w/40 returns
Monitor Amplifiers: Crown, UREI
Monitor Speakers: UREI 811s, MDM 4s, JBL 4313s, JBL 100s, Auratones
Echo, Reverb, and Delay Systems: Froplate reverb, Lexicon 200 digital reverb, Orban stereo reverb, Lexicon Prime Times I and II, Lexicon PC60 digital reverb, Effectron 1024
Other Outboard Equipment: Eventide Harmonizer, EXR exciter, dbx 165 limiters, UREI LA4s, UREI Graphic & Parametric EQ, Pultec equalizers, Valley People DynaMites, Eventide and Roland flangers, Kepex and Gain Brauns, stereo synthesizers, etc.
Microphones: Neumann U87s, KM4s, AKG 414s, Crown PZMs, Sennheiser 421s, 441s, Electro-Voice RE-20s, Sony ECM 22s, ECM 51s, Beyer M260s, Shure SM81s, 57s, etc.
Instruments Available: Yamaha concert grand piano, Hammond organ w/Leslie, Sonor & Gretsch wood drum kit w/seven asst. snare, Fender Rhodes, Moog Model 900 synthesizer, asst guitar amps and Synclavier II upon request, Yamaha DX-7 synth, LinnDrum, Drumlator—anything
Rates: 24 track recording from \$40/hr

•••• CREATION AUDIO RECORDING, INC.
 5002 West Old Shakopee Road, Bloomington, MN 55437
 (612) 881-6020
Owner: Terry Grant, Steve Wiese
Studio Manager: Terry Grant

•••• CREATIVE AUDIO
 705 Western Ave., Urbana, IL 61801
 (217) 367-3530
Owner: Michael Day
Studio Manager: Roger Francisco

•••• CROSTOWN RECORDING
 601 E. Crosstown Pkwy. Kalamazoo, MI 49001
 (616) 343-7972
Owner: Brandon Wade
Studio Manager: Gene Boyd
Engineers: Brandon Wade
Dimensions of Studios: 33 x 35
Dimensions of Control Rooms: 28 x 16
Tape Recorders: Otari MTR 90 Series II 24/8 track, MCI 110 2 track, Otari 5050B II 2 track
Mixing Consoles: Soundcraft 1624/2400 24
Monitor Amplifiers: B+W
Monitor Speakers: UREI 813, JBL 4313B, Auratones
Echo, Reverb & Delay Systems: Froplate I, MacMix Master-Room reverb, Lexicon 200 digital reverb, Lexicon PCM 42 delay, Eventide Harmonizer, Eventide flanger
Other Outboard Equipment: UREI 1176 limiters, Teletronix LA-2A, Gain Brauns, Kepex, White 4000 Series 1/3 graphics, Peterson strobe-tuner, Orban 422 Studio Optimod
Microphones: Neumann 87, Neumann 84, Neumann 47, Sennheiser 441, Sennheiser 421, AKG 414 EB, AKG 451, Shure 81, Shure 56, Telefunken 251, Electro-Voice RE-20, Electro-Voice RE16, PML DC 73, Sony ECM 50, Crown PZM, Countryman 101, Direct Boxes by Countryman, Axmax, Sessom and Westlake
Instruments Available: Baldwin SD 10 9ft Concert Grand, Hammond B3 with Leslie, Yamaha DX 7 synthesizer, Mesa Boogie amps, Fender Super Reverb, Ampex B 15 bass amp, Lab Series 1.6 bass amp, Oberheim DX Drum Machine, Simmons Clap Trap, Sonor and Ludwig studio drum sets, Fender Precision Bass, Telecaster, Les Paul Special, Gibson Southern Jumbo Acoustic
Rates: 24 track \$75/hr, 8 track 1" \$55/hr. Inquire for block rates

•••• CYBERTECNICS
 1953 East Third Street, Dayton, OH 45403
 (513) 258-2463
Owner: Philip Mehaffey
Studio Manager: Phil Mahaffey

•••• THE DISC LTD.
 14611 E. Nine Mile Rd., E. Detroit, MI 48021
 (313) 779-1380
Owner: Robert Dennis, Greg Reilly, Tom Gelardi
Studio Manager: Greg Reilly
Engineers: Greg Reilly, Robert Dennis, Dave Baker, John Laszce
Tape Recorders: Ampex MM1000 24 track, 3M M59 16 track, Ampex ATR102 2 track, MCI JH110B 2 track, Scully
Mixing Consoles: API fitted with Allison Research Computer Mix System, custom, 32 in x 24 out
Monitor Amplifiers: McIntosh, Crown, PAS
Monitor Speakers: D.L.C. desan ACUs w/UREI horn, Acoustic Research modified with JBL mid and Electro-Voice horn, and Auratones
Echo, Reverb, and Delay Systems: (2) EMT 140s, Lexicon PCM 41, Effectron, DeltaLab DDL 1
Other Outboard Equipment: Harmonizer, Kepex, Teletronix compressors, Pultec EQs, Orban parametric EQ, Lott delay and flanger, time code regenerator, DLC limiters.
Microphones: Neumann U47, U67, U87, U86s and U85; Electro-Voice RE-20s, RE-15, RE-10, RE-55, 635A, Sennheiser MD 421s
Instruments Available: LinnDrum, Poly 800
Video Equipment & Services: 3/4" Sony BVU 800, RTX synchronizers and tape controller, RTX Time Code generator, Panasonic color monitor
Rates: Give us a call
Extras: Separate edit room with two MCI 2 tracks and monitor system. Used for tape duplication, editing, and listening.
Direction: Credits include: "ATOMIC DOG" George Clinton, "HEARD IT THROUGH THE GRAPEVINE" Roger Troutman, "LADY" One Way, "THE SAGA CONTINUES" Roger Troutman, and many early Detroit Rock & Roll groups such as BOB SEGER, SRC, FROST, and FRIGID PINK. We are also licensed by the State of Michigan to teach Recording Engineering classes.

•••• EDITEL - CHICAGO
 301 E. Erie, Chicago, IL 60611
 (312) 440-2360
Owner: Bell & Howell/Columbia Pictures Video Services
Studio Manager: V.P. Tech Services Lenard Pearlman

•••• 5TH FLOOR RECORDING STUDIOS
 517 West Third Street, Cincinnati, OH 45202
 (513) 651-1871
Owner: Richard Goldman
Studio Manager: Richard Goldman
Engineers: Gary Platt, Robin Jenney, Brad Kuenning, John Murray, Jim Krause
Dimensions of Studios: "A" 20 x 25, "B" 12 x 17
Dimensions of Control Rooms: "A" 20 x 15, "B" 21 x 17
Tape Recorders: Studio A-MCI JH-114 24 track; Studer B67 2 track; Technics 10A02 2 track; Sansui SC1110 Cassette; Tascam 122 Cassette; Studio B-Otari MX5050 8 track; Otari MX5050 2 track; Studer B67 2 track; Scully 280 2 track; Teac V400X cassette
Mixing Consoles: Studio A-Sphere Eclipse A 28 in x 24 out; Studio B-Spex-kmix MKII 16 in x 8 out
Monitor Amplifiers: BGW 500, BGW 250, McIntosh 2100
Monitor Speakers: UREI 813 Time Aligned, JBL 4311, Auratones, JBL 4411, 2 Auratones
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb, Froplate, Lexicon Prime Time digital delay, Marshall Time Modulator, Cooper Time Cube, MXR 01 digital reverb unit, ADA 128d digital delay
Other Outboard Equipment: Orban 622B Parametric EQ, UREI 1176 LN limiters, UREI LA3A limiters, dbx 160 limiters, dbx 104 De-Esser, dbx noise reduction 26 channel, Audiotronics EQ, (2) Aphex CXI Expander compressors, (2) Aphex EQF-2 Equalizers, LA 2A limiters
Microphones: Neumann U87, Shure SM7 & 58; EV RE-20 & 16, RCA 77s, Beyer M500, AKG 421, 414
Instruments Available: Steinway 7' grand, Fender Rhodes, Rogers drums, LinnDrum, synthesizers available by appointment.
Video Equipment & Services: 3/4" Sony VCR, Sony Monitor
Rates: Available upon request

•••• GATEWAY RECORDING STUDIO INC.
also REMOTE RECORDING
 2180 Buttercup Dr., Florissant, MO 63033
 (314) 831-7706
Owner: Howard W. Myers
Studio Manager: Howard W. Myers

•••• GNOME SOUND STUDIO
 9918 Lauder, Detroit, MI 48227
 (313) 838-3638
Owner: Gnome Productions
Studio Manager: Bruce Nazarian

—LISTING CONTINUED ON NEXT PAGE

Engineers: Bruce Nazanan & Independents
Dimensions of Studios: 15 x 25
Dimensions of Control Rooms: 15 x 20
Tape Recorders: Soundcraft SCM762 24 track, Otari MTR 10G 1/2", 1/4" 2 track, Otari MX 5050B1 1/4" 2 track, Tascam 122 Cassette

Mixing Consoles: Soundcraft 1600 24 x 8 x 24
Monitor Amplifiers: Hafler, BGW, SAE, Crown
Monitor Speakers: JBL 4411s, 4311s, Auratone
Echo, Reverb & Delay Systems: Lexicon 224x W/Larc, Model 200, PCM 42 w/MEO (2), DeltaLab DL-2, ADM 1024 (2), Roland Chorus Echo SRE 555

Other Outboard Equipment: dbx 160xs, 165, Aphex "B" DeltaLab DL-5 Harmonic-computer, Kepex II (8), Gain Brain II, Omnicraft GT-4 (2) Parametric & Graphic EQ (Lots!)

Microphones: AKG "The Tube", C414-P48s, C452/CK-1, D 1000s & D-55Es, Sennheiser MD421s, MD441s, Shure SM57s, SM56, EV RE-10s, RE-11s, RE 15, RE 16, Crown PZM 30s, PZM 6 & Misc. Beyer, AudioTechnica, etc

Instruments Available: Oberheim: 03R DSX, Roland: JX3P w/PC200, TR 808 drum, SVC 350, Vocoder, MSQ700 midi sequencer, SBX SMPTE Sync Box, GR700 guitar synth; Prophet-5, T8, Yamaha DX 7 FM synth, Rhodes 73, Clavinet D6, ARP 2600, Mini Moog, Garfield, Mini-doc, LinnDrum w/extensive library of unique sounds, Apple Computer w/soundchaser, DX 1 effects, speech synth, Midi sequencer, vintage guitars, basses, amps

Video Equipment & Services: Sony, JVC 1/4" decks

Rates: By negotiation

Extras: Gnome has the only computer-controlled MIDI-compatible synthesizer lab in the area. We can sync MIDI synthesizers to SMPTE time code. Our in-house productions have been successfully placed with labels worldwide! Our credits include "The Automax" (MCA), "Was (Not Was)" (Geffen), "David Lasley" (Epic-America), "Ron Banks" (CBS), "Electric Dreams Soundtrack" (Virgin), "Larrance", "Oasis", "Faster" (StreetWise), "Orbit", "Slingshot" (Quality), "Midway" (Personal), "Figures on a Beach" (Metro-America), to name a few

Direction: Gnome Sound is run by experienced, professional people who know about recording, writing, playing, engineering and producing. Let us show you how easy and how much fun your next project can be.

•••• HIGH FIDELITY RECORDING, INC.

also REMOTE RECORDING
 1059 Porter, Wichita, KN 67203
 (316) 262-6456

Owner: corporation

Studio Manager: James Strattan

Extras: We offer full services in video as well as audio. Equipment includes 16(30) tracks on two inch tapes, EMT Plate reverb, Lexicon 200 digital reverb, PCM 41/42 delay, AKG C460, C451, and Neumann U87 mics, ATR 100 2 track (half inch or quarter inch), one inch "C" format VTRS SMPTE code, digital video effects (Spring '85) and duplication in VHS, Beta and 1/4", Dolby and dbx noise reduction, and Orban Compressor, limiter-de-esser, remote 16 track recording, video production.

•••• HUBBARD STREET STUDIOS

also REMOTE RECORDING
 11 East Hubbard St., Chicago, IL 60611
 (312) 670-0110

Owner: Fred Reynolds/Jim Poulosom

Studio Manager: Fred Reynolds/Jim Poulosom

•••• JEWEL RECORDING STUDIOS

also REMOTE RECORDING
 1594 Kinney Ave., Cincinnati, OH 45231
 (513) 522-9900

Owner: Rusty York

Studio Manager: Rollin Bennett, Jr

Engineers: Jr Bennett, Rusty York

Dimensions of Studios: 46 x 30

Dimensions of Control Rooms: 16 x 16

Tape Recorders: MCI JH 114, 24, MCI JH 110 2 track, Studer 2 track, Scully 280 2 track, Scully 280 4 track, Ampex 440, 8
Mixing Consoles: Spectrasonics 1024 24/24, inputs/outputs 24/24

Monitor Amplifiers: Phase Linear Spectrasonics

Monitor Speakers: Spectrasonics, JBL, Auratone, Klipsch, Electrovoice, Sentry III

Echo, Reverb, and Delay Systems: EMT stereo plate, Audicon plate, Lexicon Digital Delay

Other Outboard Equipment: Complimeter 610's, Lang EQ, Pultec EQ, Exciter, Digital delay, Teletronix LA2A

Microphones: Neumann U47 (2), U87, KM 84, KM 84, U64 (2), AKG Sony, RCA, Altec, PZM, Audio Technica - 30 in all

Instruments Available: Baldwin 9' concert grand piano, Fender Rhodes' drum kit, guitar amps, congas, kettle drums
Rates: On request

•••• JOR-DAN, INC.

1100 Wheaton Oaks Dr., Wheaton, IL 60187
 (312) 653-1919

Studio Manager: Dan Zimbelman

Direction: Introducing JOR-DAN A new first class "no com-



promise" studio facility. Design: John Edwards & George Augsburger, Equipment: Neve, Studer, Neumann, EMT, Lexicon, etc. Country suburban setting with adjacent indoor tennis, racquetball, pool, nautilus. Full service professional staff, plus personal attention to clients' accommodations (travel, hotels, dining, etc.) Also featuring 8 track media studio, video transfer service, central quality cassette manufacturing and packaging. Call (312) 653-1919 for information and rates.

•••• K & R RECORDING STUDIO

also REMOTE RECORDING
 28533 Greenfield, Southfield, MI 48076
 (313) 557-8276, 574-2080

Owner: Ken Glaza

Studio Manager: Bob Gajewski

•••• LAKE RECORDING

418 Lake St., Maywood, IL 60153
 (312) 344-8760

Owner: Robert Kaider

Studio Manager: Robert Kaider

•••• MIDWEST RECORDERS

also REMOTE RECORDING
 807 W. Oklahoma, Milwaukee, WI 53215
 (414) 483-5055

Owner: Richard Singer

Studio Manager: Richard Singer

Engineer: Dave Neitzke

Dimensions of studios: Studio A - 650 sq ft Studio B - 145 sq ft

Dimensions of Control Rooms: A - 360 sq ft, B - 145 sq ft
Tape recorders: Otari MTR90 II 24 track, Otari 5050B III 8 track, Otari MTR10 2 track, Ampex 440C 2-track, Studer Revox A 700 2 track, Sony PCM 2-Channel digital, Tandberg 8004 cassette deck

Mixing Consoles: Soundcraft Series 1624 24x24 with 40 mixing channels, Hill 16x8, (2) Custom Made 32x32 boards for remote recording

Monitor Amplifiers: Crown (2) DC 300A Series II Banner (1) 300, Crown D75, AB

Monitor Speakers: JBL 4435s, JBL 4333, JBL 4612 Cabaret
Echo, Reverb, and Delay: Lexicon 224X digital reverb with I.A.R.C., Orban Parametric EQ, Lexicon Model 93 Prime Time, UREI 1176 1.5 Peak limiters, Eventide Harmonizer, Eventide LF 201 flanger, ADA D640 Digital Delay, Audio Arts Limiter compressor, UREI LA 4 limiter, dbx 3bx Series II Dynamic range expander

Microphones: Neumann U87's, U47, U67, Sennheiser, 441s, 421s, AKG 414s, 452s, D12E, ElectroVoice RE-20s, 647A, Studer SMK5 U, Shure SM-58s, Crown PZM 30 GPK

Instruments Available: LinnDrum machine, Yamaha GS2, Yamaha DX 7 keyboard, Memory Mooq, 6' Steinway baby grand piano, Pearl drums, a collection of vintage guitars, Kurzweil

Video Equipment & Services: Sony VO5850 U-matic editing deck, Sony VO 5800 Umatic video deck, Sony RM 440 Edit Con troller for VO 5850, Panasonic WV 777 Camera

Rates: 24 track \$75/hr, 2 track \$40/hr, 8 track \$50/hr, 8 track remote \$65/hr, 2 track remote \$55/hr, 2 track digital \$50/hr, digital 2 track remote \$65/hr

•••• MULTI-TRAC RECORDING STUDIOS, INC.

also REMOTE RECORDING
 25533 Five Mile Rd., Redford, MI 48239
 (313) 531-5353

Owner: N. Canzano, R. Canzano, B. Watt

Studio Manager: N. Canzano

•••• MUSICOL, INC.

also REMOTE RECORDING
 780 Oakland Park Ave., Columbus, OH 43224
 (614) 267-3133

Owner: Boyd Niederlander and John Hull

Studio Manager: Doug Edwards

Engineers: House: Doug Edwards, Lisa Dale, John Hull, Freelance: Robin Gulcher, Jim Dutt, Ken Ellis, Jim Kaiser
Dimensions of Studios: 1 30 x 36 x 20, 2 16 x 18 x 8, 3 12 x 15 x 8

Dimensions of Control Rooms: 1 20 x 25 x variable 12 to 8 feet, 2 15 x 18 x 8, 3 12 x 16 x 8

Tape Recorders: (10) Ampex 440B I, 2, 4 tracks, Musicol M-R/B 8 track, Ampex 300 1 track, (3) Ampex 351 1 track, Ampex 351 2 track, 3M 56 16 track, MCI JH 24, 24 track w/auto locator, (10) Magnecord 728/748 2 track, (10) Telectro AN-1 1 track

Mixing Consoles: Quantum 10-10, 29 in x 16 out, Quantum 168, 16 in x 16 out, Quantum QMB, 8 in x 4 out

Monitor Amplifiers: McIntosh, Marantz, Hafler, custom built

Monitor Speakers: Big Red, Altec, JBL, E-V, Auratone

Echo, Reverb & Delay Systems: Lexicon Prime Time, PCM 41, Eventide Harmonizer, Lexicon 200, Orban 111B, (2) custom built plates. Tape delay, Hammond oil filled reverb unit

Other Outboard Equipment: Kepex, UREI 1176s, Gain Brain, L-H Clarifier, Pultec LA3 MXR dual limiter, UREI 527A, UREI 529, Westrex hi band limiter

Microphones: (30) Neumanns, (10) RCAs, (25) E Vs, Sennheiser, Shure, Altec, Crown PZM

Instruments Available: Steinway grand, Hammond B2 modified, full range of synthesizers, drums available

Video Equipment & Services: 1/2 VHS and Beta, low light color cameras

Rates: Best in the midwest - call us

Extras: We manufacture phonograph records and jackets - real time and high speed duplication of cassettes, 8 tracks and reel to reel, both stereo and mono. We produce and supply nationally syndicated radio such as: Mother Earth News, Prevention Health Report, Energy Watch, Inside Family Circle to radio stations throughout U.S. and Canada

Direction: Records produced at Musicol have won Downbeat awards - Best Jazz Record of Year. Records have been nominated for Dove Awards. Been in business at present location since 1968

•••• OMNISOUND STUDIOS, INC.

also REMOTE RECORDING
 1650 Cass St., Ft. Wayne, IN 46808
 (219) 424-4014

Owner: James Markiton and Dave Mendenhall

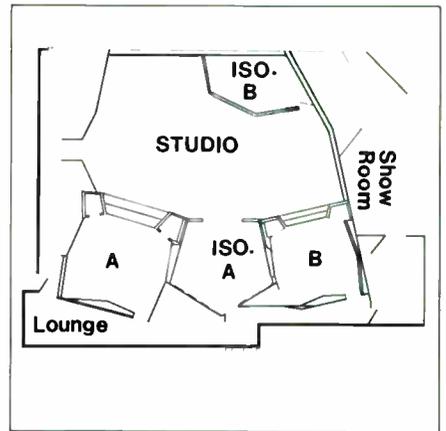
Studio Manager: Jim Markiton

ON SOUND PRODUCTIONS REC. STUDIOS, INC.

1522 Euclid Ave., P.O. Box 15111, Cleveland, OH 44115
 (216) 574-6277

Owner: Van Pavloudis

Studio Manager: Van Pavloudis



OPUS
 Gurnee, IL

•••• OPUS

also REMOTE RECORDING
 4262 Old Grand Ave., Gurnee, IL 60031
 (312) 336-OPUS

Owner: Tony Pettinato

Studio Manager: Tony Pettinato

Engineers: Tony Pettinato, Jim Grossman

Dimensions of Studios: 50' x 30', Iso 17' x 16', B Iso 17' x 12'

Dimensions of Control Rooms: 21' x 18' (A), 17' x 16' (B)

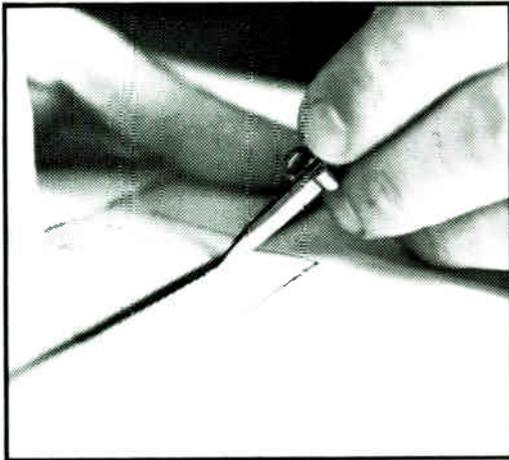
Tape Recorders: MCI JH24 24 track w/auto loc III, Ampex ATR 102 2 track, Technics RU-1520 2 track; Tascam 52 & 58 2 and 8 track

Mixing Consoles: AMEK Matchless 26 x 24, AMEK Scorpion 16 x 16

Monitor Amplifiers: BGW, McIntosh, Soundcraftsmen
Monitor Speakers: JBL 4430, Auratones, Altec 604, Fostex, TOA

—LISTING CONTINUED ON PAGE 58

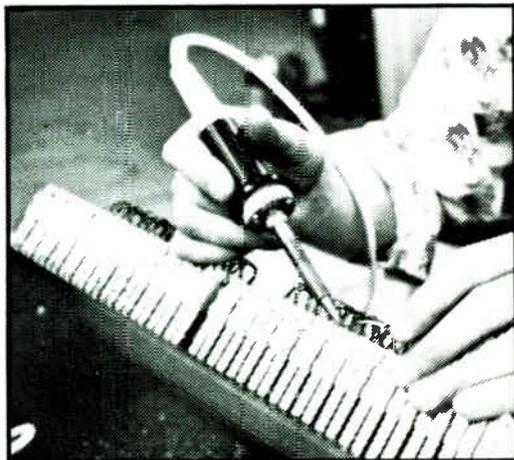
Custom Design



THERE'S MORE TO A GOOD STUDIO THAN GOOD EQUIPMENT..

Smooth operation is necessary for your studio's success, but difficult without careful planning. **AVC's** experience in every facet of Recording/Audio/Video Production Studio design and installation will ensure smooth operation. We draw from an equipment line of over 200 professional brands including:

Installation



 Harrison

OTARI®

Soundcraft

lexicon

Maintenance

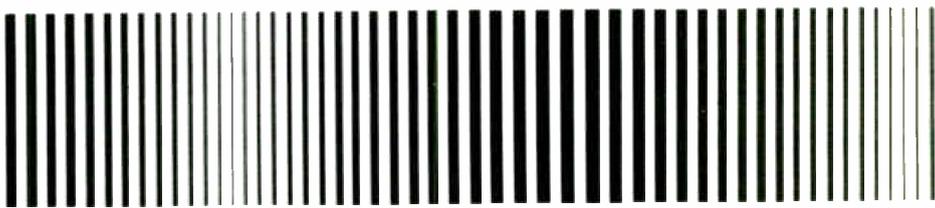


btx

Whether its a patch cord or a complete studio installation, call **AVC** in Minneapolis or Elmhurst/Chicago for the best support to complement your systems needs.

**AVC
SYSTEMS
INCORPORATED**

AVC



2709 East 25th Street • Minneapolis, Mn. 55406 • (612) 729-8305
747 Church Road, Suite A6 • Elmhurst, IL. 60126 • (312) 279-6580

—PAGE 56

Echo, Reverb & Delay Systems: (3) Lexicon PCM 42, (2) Lexicon PCM 41, (3) Plates, (1) Digital reverb
Other Outboard Equipment: (2) dbx 160X, (2) Neve compressors, (4) Rocktron compressors, Harmonizer, (4) noisegates, (2) Rocktron & dbx noise reductions, (4) 2070 Onkyo cassettes, Custom Parametric 8 band
Microphones: (6) AKG 414s, (14) AKG 451s, 15 Beyerdynamics, (10) Shures, (1) RCA DX77, (2) Neumann, (2) Sennheiser 441s
Instruments Available: Fender Rhodes, Juno 60, LinnDrum, MXR drums, Ludwig drums, grand piano, Marshall amps, Fender amps & guitar, bass, B3 organ
Video Equipment & Services: 1" video location shoots & editing
Rates: \$25 - \$50 per hour.

•••• **PAC-3 RECORDING STUDIO**
also **REMOTE RECORDING**
7106 Greenfield Road, Dearborn, MI 48126
(313) 581-0520
Owner: Richard Becker
Studio Manager: Kevin Wright

•••• **PARAGON RECORDING STUDIOS, INC.**
also **REMOTE RECORDING**
9 East Huron, Chicago, IL 60611
(312) 266-0075
Owner: Marty Feldman
Studio Manager: Nancy Gardner

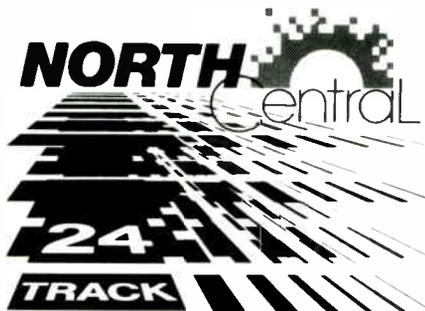
•••• **PEARL SOUND STUDIOS LTD.**
47360 Ford Rd., Canton, MI (Metro Detroit) 48187
(313) 455-7606
Owner: Ben Grosse and Geoff Michael
Studio Manager: Ben Grosse
Engineers: Geoff Michael, Mark Hugger, Ben Grosse, Deh Saravolatz
Dimensions of Studios: 35 x 50 x 20
Dimensions of Control Rooms: 20 x 16 (Sierra/Hidley design)
Tape Recorders: Studer A80 Mk III 24 track; Studer A80 2 (1/2" format); Otari MTR10 2 track; Otari MX5050B 2 track; various Digital units available on a rental basis
Mixing Consoles: Neotek custom modified Series II w/Allison VCAs, 40 in x 24 out; Altec Tube Console 5/1
Monitor Amplifiers: UREI, Crown, Hafler
Monitor Speakers: Sierra/Hidley TM-8s, Yamaha NS 10Ms, anything on request
Echo, Reverb & Delay Systems: Lexicon 224X, Lexicon Super Prime Time, PCM-42, Lexicon Prime Time, Ursa Major Space Station, Audicon 8" plate reverb, Cooper Time Cube
Other Outboard Equipment: Teletronix tube limiters, Pultec tube equalizers, complete Valley People rack w/ Kepex IIs and Gain Brain IIs, Eventide: Harmonizer, phasor and flanger, Loft delay/flanger, Aphex & EXR exciters, and a whole bunch of other neat stuff.
Microphones: Neumann: 87, 67, 47 (tube & FET), km84, AKG: "The Tube", 414, 451, D12E, Sony C37A (tube), Crown PZM, Sennheiser 421, 441, Shure 57, 56, EV RE20, RCA DX77, Mr. Microphone
Instruments Available: Tama drums, Simmons SDS7 digital/analog electronic drums, LinnDrum computer; Yamaha DX7, Prophet 600, Korg Poly800; Yamaha piano, assorted guitars basses & amplifiers, Hammond MS & Leslie
Video Equipment & Services: Please call for details. 2 NEC 19" color monitors are built into control room front wall.
Rates: Please call

•••• **PEPPERMINT PRODUCTIONS CORP.**
also **REMOTE RECORDING**
803 East Indianola Ave., Youngstown, OH 44502
(216) 783-2222
Owner: Gary L. Rhamy
Studio Manager: Brenda Circle

•••• **PINEBROOK RECORDING**
P.O. Box #146, State Rd., #9, So., Alexandria, IN 46001-0146
(317) 724-7721
Owner: Bill Gauthier, Mandy Hammel, Everett Daniels
Studio Manager: Randy Hammel

•••• **PLUM RECORDING STUDIO**
5988 Silvery Lane, Dearborn Hts, MI 48127
(313) 277-0082
Studio Manager: Tom Tnp

•••• **POST SCRIPT PRODUCTIONS**
704 S. Milwaukee Ave., Wheeling IL 60090
(312) 541-1156
Owner: Art Stevens
Studio Manager: Art Stevens



•••• **PRISM RECORDING STUDIOS**
16036 Union Ave., Harvey, IL 60426
(312) 339-8014
Owner: Robert Vukelich
Studio Manager: Robert Vukelich

•••• **P.S. RECORDING STUDIO**
also **REMOTE RECORDING**
323 E. 23rd St., Chicago, IL 60616
(312) 225-2110
Owner: Mr. Paul Serrano
Studio Manager: Ms. Rikki Zee

•••• **PUMPKIN RECORDING STUDIOS**
6737 W. 95th St., Oak Lawn, IL 60453
(312) 598-3045
Owner: Gary Loizzo, president
Studio Manager: Gary Loizzo

•••• **PYRAMID AUDIO INC.**
450 W. Taft Dr., South Holland, IL 60473
(312) 339-8014
Owner: Rob Vukelich
Studio Manager: Rob Vukelich

•••• **QCA RECORDING STUDIOS**
2832 Spring Grove Ave., Cincinnati, OH 45225
(513) 681-8715
Owner: Edward R. Bosken
Studio Manager: Jim Greene

•••• **RAINBOW RECORDING STUDIOS/
SOUND SYSTEMS**
also **REMOTE RECORDING**
2322 So. 64th Ave., Omaha, NE 68106
(402) 554-0123
Owner: Nil Anders Erickson
Studio Manager: Rick Swartz

•••• **RCL RECORDING SERVICE**
also **REMOTE RECORDING**
900 Western Ave., Glen Ellyn, IL 60137
(312) 469-4149
Owner: Constance Lawton, Robert Lawton
Studio Manager: Robert Lawton



RED LABEL RECORDING STUDIO
Winnetka, IL

•••• **RED LABEL RECORDING STUDIO**
552 Lincoln, Winnetka, IL 60093
(312) 446-1893
Studio Manager: Fred Breitherg
Tape Recorders: Studer A80 Mk III 24 track; (2) B67 Studer 2 track; Studer A80 1/2" 2 track
Mixing Consoles: Harrison transformerless 2824, 28 in x 24 out, Audio Arts 12 x 18
Monitor Amplifiers: Biamp
Monitor Speakers: UREI, MDM 4, Auratone
Echo, Reverb & Delay Systems: 224 Lexicon, Ecoplate, PCM 41, Harmonizer, Quantec QRS
Other Outboard Equipment: Over 10 channels various outboard equipment (API, Aphex B&B), (6) Aphex (B&B) limiters, (2) dbx 165
Microphones: AKG, Neumann, RCA, Sennheiser, Beyer, E-V
Instruments Available: Grand piano, Fender Rhodes, Sonor drums, Mesa Boogie and Ampeg amps

•••• **REFERENCE STANDARD STUDIO**
P.O. Box 8588, Northfield, IL 60093
(312) 446-6073
Owner: Gary Fry
Studio Manager: Carol Fry



REFRAZE RECORDING STUDIO
Dayton, OH

•••• **REFRAZE RECORDING STUDIO**
2727 Gaylord Ave., Dayton, OH 45419
(513) 298-2727
Owner: Mark & Jane Frazee
Studio Manager: Mark Frazee
Engineers: Mark Frazee & Gary King Asst. Eng. Jane Frazee
Dimensions of Studios: 38 x 34 x 20, 11 x 11 iso room 9 x 10 drum booth, 20' high ceiling
Dimensions of Control Rooms: 18 x 21 control room Lede acoustics
Tape Recorders: Otari MTR 90 24 track, Otari MTR 12 2 1/2" track, Tascam 25-2 2 1/4"; Tascam 122 casst. 2 track
Mixing Consoles: Trident Series 70 28 x 16 x 24
Monitor Amplifiers: UREI 6500, Crown DC 300A, Crown D150A, Crown D60
Monitor Speakers: UREI 81 3B, JBL 431 3, Auratone 5C, Hitachi HS-01
Echo, Reverb & Delay Systems: Lexicon 200 digital reverb, Orban Parasaund 111B reverb, Lexicon Prime Time, Lexicon PCM 41s, Delay MXR digital delay, Eventide Harmonizer 949, DeltaLab DLS harmonic computer
Other Outboard Equipment: UREI 1176 LN peak limiter, dbx 160 comp/limiters, Valley Audio Kepex & Gain Brains, Klark/Teknics DN 30/30 Graphic EQ, UREI 546 dual parametrics
Microphones: Neumann U87s, 48s, Sennheiser 421s, 441, AKG D12E, AKG 451 EBs w/CK 1 mod., Crown PZMs, Beyers M101s, Beyers M201s, AKG 224E, Shure SM 57s, SM 58s
Instruments Available: Customized Fender Rhodes, Baldwin 9' grand piano, Ludwig drums, Zildjian cymms, Sound City 120 amp, Ampeg & Yamaha bass amp, Ludwig timpani, Musicman bass, Rickenbacker 4001 bass, Rickenbacker 12 string, Martin acoustics, Hagstrom Swede Guitar, Gibson guitars, most key-boards available on request Linn & DX drum machines available, Simmons drums
Video Equipment & Services: 1/2" Beta & VHS Recorders, Multiple Cameras available
Rates: 24 track \$80/hr. Daily & weekly rates available.

•••• **REMINGTON ROAD STUDIOS**
1244 Remington Rd., Schaumburg, IL 60195
(312) 885-1330
Studio Manager: Michael Freeman

•••• RISING STAR RECORDING
also REMOTE RECORDING
6569 N. Lakewood, Chicago, IL 60626
(312) 764-3504
Owner: Rudy Ising

•••• RITE RECORD PRODUCTIONS, INC.
9745 Margham Dr., Cincinnati, OH 45215
(513) 733-5533
Owner: Carl Burkhardt
Studio Manager: Phil Burkhardt

•••• R.M.J. RECORDING STUDIO, INC.
18301 W. McNichols Rd., Detroit, MI 48219
(313) 533-8511
Owner: Rose Reid

•••• RON ROSE PRODUCTIONS, LTD.
also REMOTE RECORDING
29277 Southfield Road, Southfield, MI 48076
(313) 424-8400
Owner: Corporation, Ron Rose, president
Studio Manager: Don Wooster

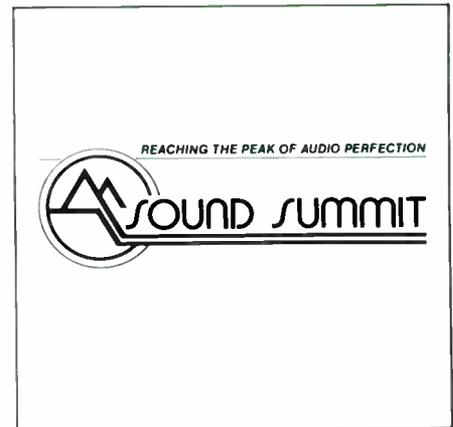
•••• SELLER SOUND
2175 Michael, Warren, MI 48091
(313) 758-7620
Owner: Gary Spaniola
Studio Manager: Gary Spaniola

•••• SOLID SOUND RECORDING STUDIO, INC.
2400 W. Hassell Rd., Ste. 430, Hoffman Estates, FL 60195
(312) 882-7446
Owner: Judd Sager
Studio Manager: Judd Sager

•••• SOLID SOUND, INC.
P.O. Box 7611, Ann Arbor, MI 48107
(313) 622-0667
Owner: Robert G. Martens
Studio Manager: James Spencer

•••• SOUND IMPRESSIONS, INC.
also REMOTE RECORDING
110 River Rd., Des Plaines, IL 60016
(312) 297-4360
Studio Manager: Bill Holtane, C.M.S.
Engineers: Timothy R. Powell, Chief Eng; Bob Hartman, Staff Eng.; John Nevun, Staff Eng.
Dimensions of Studios: A: 525 sq. ft., B: 225 sq. ft. (isolation room), C: (narration only) 40 sq. ft.
Dimensions of Control Rooms: A: 300 sq. ft., C: 400 sq. ft.
Tape Recorders: Otari MTR-90 II 24 and 16 track; MCI JH110B 2 track; Scully 280-MS 4, 2, full track; Otari MX5050 2 and full track; TEAC A3440 4 track; Nagra III full track; Ampex AG 500 2 track; Aiwa 3200 cassette
Mixing Consoles: Soundcraft 1600 24x8x24x2; Ramsa WR-8816 12x4x2; Tascam Model 10 8x4
Monitor Amplifiers: McIntosh, Crown, Kenwood, Eddor.
Monitor Speakers: UREI 811A, JBL 4310, Alter A-7, Auratone.
Echo, Reverb, and Delay Systems: AKG BX20, Eventide Harmonizer, Eventide flanger, MICMIX XI-121.
Other Outboard Equipment: UREI LN 1176 limiters, Allison Kepex noise gates, Orban parametric EQ, dbx noise reduction, dbx 163 limiter, Delta graphic EQ, UREI 565, Audico AVE impulators, Technics turntables
Microphones: Neumann U87, U47; AKG 414EB, C451; Shure SM57, SM53, SM7, SM33, Electro-Voice 654, 655; Sennheiser 421, 441.
Instruments Available: Yamaha grand piano. Others available upon request.

•••• SOUND RECORDERS, INC.
also REMOTE RECORDING
3947 State Line, Kansas City, MO 64111
(816) 931-8642
Owner: Don Sears
Studio Manager: Jim Wheeler



SOUND SUMMIT
Lake Geneva, WI

•••• SOUND SUMMIT
Americana Lake Geneva Resort, Hwy 50, Lake Geneva, WI 53147
(414) 248-7666
Owner: Sound Summit, Inc.
Studio Manager: Phil Bonanno, Mari Valent
Engineers: Phil Bonanno, Mike Clink, John Patterson, Bruce Breckenfeld (maintenance engineer), Independents welcome
Dimensions of Studios: 35 x 24
Dimensions of Control Rooms: 20 x 19
Tape Recorders: Studer A800 24 track; Studer A80 24 track; Studer A80 1/2" 2 track; Studer A80 1/4" 2 track; Mitsubishi X80A 2 track
Mixing Consoles: Neve 8068 w/Necam Auto. 36x32
Monitor Amplifiers: Yamaha 2002, Crown DC 300, DC-50, D60
Monitor Speakers: Lakeside 2way custom, JBL 4411, Yamaha NS10, Auratones
Echo, Reverb & Delay Systems: EMT 140s (Tube Type).



High Tech

At Audio Graph, we know about high tech. Studer machines, countless racks of signal processing gear and digital reverb all adorn our beautiful computer designed environment. However, what brings you back to Audio Graph are the most sophisticated, complex, state of the art audio devices available on this planet today. Your ears.

Join the worlds most demanding industrial clients, book your next session at Audio Graph.

AUDIO GRAPH PRODUCTIONS INC

2810 Bennett Road Okemos, Michigan 48864 (517) 332-3272

Circle #030 on Reader Service Card



23330 Commerce Park Road
Beachwood, Ohio 44122

- 24-48 Track Music Production
- 24 Track/Broadcast Mobile Unit
- Audio Production Seminars
- Music Videos Production

The following are some of the major national recording acts that have recorded in our studios and/or mobile unit:

Yes • Chicago • Donnie Iris
The Dazz Band • The Kinks
.38 Special • Elvis Costello
Todd Rundgren • Loverboy
Hall and Oates • Santana
The Tubes • Color Me Boudie
Eddie Money • U2 • The Fixx
Kansas • Golden Earring
Irene Cara • and many more

An Affiliate
of EDR Entertainment

Circle #031 on Reader Service Card



—PAGE 59

Erchoplite 1, Lexicon 224x w/LARC, Lexicon 200 digital reverb, Lexicon Super Prime Time DDL, Lexicon PCM 42 DDL, Lexicon PCM 41 DDL, Roland Chorus/Echo.

Other Outboard Equipment: (2) dbx 160 limiters, (4) dbx 160x limiters, (2) UREI 1176, (2) UREI LA 4A limiters, Teletronix LA2A (tube) limiter, (2) Neve 32264 limiters, Drawmer noise gates, Omnicraft noise gates, (2) Orban parametric 622 EQ, Orban graphic EQ, Pultec EQ, Orban De-essers, Orban stereo syn, Eventide Harmonizer, MXR flanger, Ursa-Major Space Station, Scamp Rack, UREI metronome

Microphones: Neumann M49 (tube), U87, KM84, U47 fet, Telefunken 251 (tube), AKG C24 (tube stereo), 414, 451, 452, H17, D12, D707, C60 (tube) The Tube, Shure SM 57, 565, SM5, SM7, SM81, Sony C37A (tube), ECM 50, HCA 77DX, Beyler 101, Shoeps/Studer SKM 5, Sennheiser 421, 441, EV RE20

Instruments Available: Yamaha C7 grand piano, Yamaha DX7, Synthesizer, Hammond C3 organ w/Leslie, Fender Rhodes, Sonor drum kit, Minimoog

Video Equipment & Services: Complete audio for video sweetening utilizing Sony 5850 3/4" video cassette recorders and Adams Smith synchronizers

Rates: Upon Request

Extras: Located at Americana Lake Geneva Resort Complex, accommodations are available along with the following recreational facilities: horseback riding, outdoor tennis courts, 2 golf courses, boating, bicycling, indoor and outdoor pools, indoor tennis and racquetball courts, Nautilus room, sauna, steam bath, whirlpools, tanning beds, skiing, an airport and much more

Dimensions of Control Rooms: 18 x 12 x 10
Tape Recorders: MCI JH114 24 track, MCI JH110 2 or 4 track, Otari (3) MX 5050 2 track, Otari MX5050 MK3 8 track
Mixing Consoles: Yamaha RM 2408 24 x 24, Sound Workshop 1280 modified 24 x 24
Monitor Amplifiers: Crown, Yamaha
Monitor Speakers: JBL 4311, Auratones
Echo, Reverb & Delay Systems: Yamaha R-1000 (2)
Other Outboard Equipment: dbx 160, Valley People 610, Dynalex N R., Teac PEQ-4, BTX Softtouch System, Sony 5800 VCR, UREI 1176, dbx and Dolby noise reduction
Microphones: U87 (6), AKG 451, 452 (8), Shure SM 53, 57, 58, 81, Sennheiser MD421, EVRE11, RE15, RE20, Neve wireless systems (3)
Video Equipment & Services: Ikegami ITC 730, IVC 4700U, Complete location production package including scope, monitor, sticks, audio mixer, CCU, Camera cable, system is rack mounted for easy transporting
Rates: Quote on a per project basis



STREETERVILLE STUDIOS
Chicago, IL

•••• STREETERVILLE STUDIOS
161 E. Grand Ave., Chicago IL 60611
(312) 644-1666

Owner: James C. Dolan
Studio Manager: James C. Dolan, Jr.
Engineers: Jim Dolan, Jr., Gus Messler, Justin Niekirk, Mark Rubenstein, Tim Hale, Steve Frusk, Chief Engineer, Steve Kusner

Dimensions of Studios: 1 47' x 22' x 14', 2 37' x 27' x 17', Remix/Video Suite 14' x 15' x 12'

Dimensions of Control Rooms: 1 25' x 16.5' x 11.5', 2 24' x 17' x 10', Remix video Suite 21' x 22' x 10'

Tape Recorders: MCI JH 24 track recorders (5), (4) Studer B 67 Mono, 2 track Otari MTR 10 4 track (6) Studer B710 Cassette

Mixing Consoles: Neve with Neve-m II com auto 81/28 Harrison trans 4042 C, Harrison Auto Set II com auto 4042 B

Monitor Amplifiers: UREI 6500, Haller 500, BGV 100B, Crown D150, UREI 1176 LN Lovelock amps, BGV 750, BGV 600

Monitor Speakers: All rooms UREI Time Alim 814B Yamaha, Auratone Boxer, JBL

Echo, Reverb & Delay Systems: All rooms Lexicon 224x with LARC, EMI 140 plate reverb, EMI 240 Gold Foil reverb, MXR digital delay, Eventide digital delay 1745, Lexicon 92 digital delay, Lexicon "Prime Time" digital delay

Other Outboard Equipment: Allison Gain Brains, Allison Kepeks Orban Parametric dynamic silencer controller 516C, Orban parametric Equalizer 622B, Pultec EQP 15 equalizer, UREI digital metronome 962, dbx over easy compressor/limiter, UREI LA 4 compressor/limiter, White 1 octave equalizers

Microphones: All studios take advantage of a microphone collection that surpasses 100 in count they include: AKG, B&K, Neumann, Sony, Sennheiser, Electro-Voice, Shure, PMC, Beyler. The mikes range from brand new to older vintage models

Instruments Available: Steinway B 4 grand piano, Yamaha 7 x 4 grand piano, Weber tack piano, Hammond Organ model B3 with Leslie, Hohner Clavinol, Moog 2034 poly synthesizer, Musser piano, Musser Xylophone, Musser "One Note" synthesizer, Ludwig 25", 27", 28", 29" tympanis, Fender Rhodes 88 Mark I, Fender Rhodes 73 Mark II, Ampex B15N bass amplifier, Ampex SB12 bass amplifier, (2) Roland cube 60 guitar amplifiers, (2) Sonor Signatur drum sets

Video Equipment & Services: Audio Kinetics "Q-Link" 310 synchronization system, Sony HVU 800 1/2" video cassette machine, Sony MCI 1" layback machine (type C), Sony PVM 1900 TV monitor, custom Sony Trinitron 19" monitor, HTX4500 synchronizers, Sony VO 5800 video recorder playback, HTX 4600 controller, Panasonic CT 1910M TV monitor

Rates: Negotiable

•••• SOUNDTREK INC.
3727 Broadway, Kansas City, MO 64111
also 9101 Barton, Overland Park, Kansas, MO
(816) 931-8735

Owner: Ron Ubel, Grant Schainost, Craig Rettmer
Studio Manager: Ron Ubel, Craig Rettmer

•••• STAR TRAX RECORDING
15602 S. 70th Ct., Orland Park, IL 60462
(312) 429-2760

Owner: Frank Luit
Studio Manager: George Luit

Engineers: George Luit, Jeff Luit, Harry Brotman

Dimensions of Studio: 40 x 27, 14' ceiling
Isolation booth 6 x 6 x 8 ceiling
Drum booth 8 x 10 x 8 ceiling

Dimensions of Control Room: 20 x 18, 14 sided with complete bass trapping

Tape Recorders: 24 track Otari MTR-9011, 2 track Otari MTR10, Nakamichi Cassette decks

Mixing Console: Neotek Series III 28x24 custom designed with extra echo returns

Monitor Amplifiers: BGV, SAE, QSC, Edcor
Monitor Speakers: Control room - EV Sentry 500 Studio - JBL 4311 modified, B&W 12, Auratones 5C

Echo Reverb and Delay Systems: Stereo Erchoplite, Lexicon PCM 42, Delta lab ADM 64 & 1024, ADA-TFX, ADA Stereo Tapped Delay, Super Prime Time, Eventide 949, TFX4, Eventide Instant phaser

Other Outboard Gear: Orban stereo synthesizer, dbx 160X (3), EXR exciters, click track, clap track, Symetrix signal gates, dbx 160, Omnicraft gates (8)

Microphones: Neumann U 87, KM84's, AKG 414s, Sennheiser MD421s, EV-RE20s, Crown PZMs, Shure 57s & 58s

Instruments Available: Young Chang grand piano, Pearl 9 piece 5 ply drum kit, Marshall 50 w amp. Various electronic keyboards & drum computers available

Rates: Call for rates

•••• STOKES SOUND SERVICE
also REMOTE RECORDING
100 Stokes Lane, Hudson, OH 44236
(216) 650-1669

Owner: A J & Allan Stokes
Studio Manager: A J Stokes

Engineers: A J Stokes, Allan Stokes, Ken Love
Dimensions of Studios: 8 x 8 vocal booth

HRC Magnetics MX
Audio & Video Tape Manufactures
12 Years of Proven Service to the Audio Industry
Custom Loaded BASF "Pure Chrome" Cassettes Any Length.
C-60 as low as \$69 1M
C-90 as low as \$95 1M
Custom Cassette Bin Loop High Speed Duplication
3/4" U-Matic Video Tape Loading Re-loading
Custom Cassette Label & Liner Printing
"Reel Cassettes"
3M & AMPEX Reel Tape
Our Low Overhead & High Quality Workmanship can provide your Studio with the Highest Quality for the Lowest prices.
FREE Brochures Available Upon Request.
Please Write or Call Collect (817) 756-5303.
Hix Recording Co., Inc.
Name _____
Address _____
City _____ State _____ Zip _____
1611 Herring
Ulmed, Texas 76708
817-756-5303

Circle #032 on Reader Service Card

We Just Sound Better!

**NEVE NECAM • SSL
3M and MITSUBISHI
DIGITAL**

Film Mixing • Music • Video Sweetening



Murray Allen - *president*
Foote Kirkpatrick - *studio manager*



UNIVERSAL RECORDING CORPORATION

46 East Walton Street • Chicago, Illinois 60611 • 312/642-6465

****** STUDIO A RECORDING**
 5629 Beech Daly, Dearborn Hts., MI 48127
 (313) 561-7489
 Owner: Studio A Recording, Inc
Studio Manager: Marilyn Morgeson
Engineers: Eric Morgeson, Jim Vitt
Dimensions of Studios: 22 x 32
Dimensions of Control Rooms: 10 x 22
Tape Recorders: MCI JH-114 24 track; Studer B-67 2 track;
 TEAC 3300 SX 2 track, (3) Onkyo cassette decks, Sony PCM
 F 1
Mixing Consoles: MCI JH-528 fully automated 28 in x 28 out.
Monitor Amplifiers: Phase Linear #200, Nikko 120, 220, Crown
 PSA 2
Monitor Speakers: JBL 4311, Auratone 5-C
Echo, Reverb, and Delay Systems: Ursa Major 8x32 digital
 reverb, Lexicon Prime Time #93, 2 track delay, Lexicon 200,
 PCM 42
Other Outboard Equipment: Eventide Harmonizer, Stereo
 Chorus, phasers, flangers, graphic EQ, noise gates, compressors,
 limiters, JH 50 automated mixing, dbx noise reduction, Valley
 People DynaMite
Microphones: Neumann U 87, AKG 414-EB, 451-E; Sennheiser
 421, Sony ECM 9-P, Sony ECM 22-P; Shure SM-57, SM-58; EV
 DO 54, EV DS #5 & 6 #5, Crown PZMs
Instruments Available: LinnDrum II computer, 1936 7' Stein-
 way B grand piano, Synclavier II digital synthesizer, Rhodes 73,
 Clavinet, ARP Odyssey, Fender Deluxe amp, Acoustic 150,
 Peavey standard, 5 piece Ludwig drums, assorted percussion
Rates: \$70/hr, block of 10 hours \$65/hr, block of 20 hrs \$60

****** Studio M MINNESOTA PUBLIC RADIO**
 45 E. 8th St., St. Paul, MN 55101
 (612) 221-1500
 Owner: Minnesota Public Radio
Studio Manager: Tom Mudge
Engineers: Tom Voegel, Tom Mudge, Lynne Cruise, John
 Scherl
Tape Recorders: (4) Otari MTR 10 2 track, MCI JH 110B 4/2
 track, Otari MTR 10 w/SMPTe center stripe 2 track, Otari MTR
 9011 24 track, 4M digital mastering recorder 32 track, (2) 3M
 digital mastering recorders 4/2 track.
Mixing Consoles: MCI JH 636 VU automated console 36 x 24 x
 36
Monitor Amplifiers: Sound 80, SR 200 programmable
Monitor Speakers: JBL 4440s, several alternates on request
Echo, Reverb & Delay Systems: Lexicon 224X w/LARC digital
 reverb (2), EMT 140, Erhoptate I and II
Other Outboard Equipment: Orban Dynamic Sibilance con-
 troller, Audio and Design (recording) Complex limiter, Audio and
 Design (recording) "Scamp" rack, UREI LA 4A limiters (2), Even-
 tide 949 harmonizer, UREI "Little Dipper" filter, LARC digital
 parametric equalizers (2), Omnicraft noise gates, MicMix
 Dynallanger, Marshall time modulator
Microphones: Neumann U 87 (6), KM 84 (6), KM 88 (4), SM-69
 Schoeps CMT 56 (2), AKG C 452B/CK1 (7), Sennheiser 421
 (4), Shure SM 57 (4), SM 58 (2), SM 81 (2), C414 (4), C567 (7)
Instruments Available: Rhodes 88 electric piano, Steinway 9'
 grand w/Alpha acoustic "piano bag", Sonor drums w/"nms",
 Paiste cymbals, ARP 2600 synth
Video Equipment & Services: BTX "Softtouch" shadow interlock
 system with JVC 1/4" video recorder editor, CR 82500 and code
 monitors Services video "sweetening" synth to video recording,
 mixing, editing of audio
Rates: Analog recording \$120/hr, digital recording \$140/hr,
 audio interlock rates upon request

****** SUMA RECORDING STUDIO**
 also REMOTE RECORDING
 5706 Vrooman Road, Cleveland, OH 44077
 (216) 951-3955
 Owner: Kenneth Hamann
Studio Manager: Michael Bishop

****** S.Y. RECORDING**
 7876 N. Lincoln, Skokie, IL 60077
 (312) 982-9693
 Owner: Sarqon Yonan
Manager: Paul Berrozheim

****** TAKE 1 STUDIOS**
 1730 E. 24th St., Cleveland, OH 44144
 (216) 771-1315
 Owner: Jeff Kassout
Studio Manager: John Nebe

****** TANGLEWOOD RECORDING STUDIOS**
 also REMOTE RECORDING
 9520 47th St., Brookfield, IL 60513
 (312) 485-0020
 Owner: Larry Millas, Rick Swin, John Pavletic
Studio Manager: Larry Millas



****** TECHNISONIC STUDIOS INC.**
 also REMOTE RECORDING
 1201 South Brentwood Blvd., St. Louis, MO 63117
 (314) 727-1055
 Owner: Corporation
Studio Manager: Edward H. Canter

****** 3 G's RECORDING STUDIO**
 also REMOTE RECORDING
 5500 Troost, Kansas City, MO 64110
 (816) 361-8455
 Owner: 3 G's Industries Inc
Studio Manager: Eugene Gold

****** 3001 RECORDING STUDIOS**
 3001 Indianola Ave., Columbus OH 43202
 (614) 262-3001
 Owner: Jeff Gastineau
Studio Manager: J. Gastineau
Direction: This fall will mark the opening of our new recording
 facility. We will be offering 46 track capability with 1/2" analog and
 digital mastering. These capabilities will also extend into the field
 of video, where we will be concentrating on complete video music
 projects, editing, sweetening, along with in-house composition and
 production of music and soundtracks for film and video. We
 believe our synthesizer system (with over 10 MIDI instruments and
 MIDI computer sequencer) to be the finest in the Midwest. Above
 all, 3001 is a musician's creative studio, where the music is the
 most important thing.

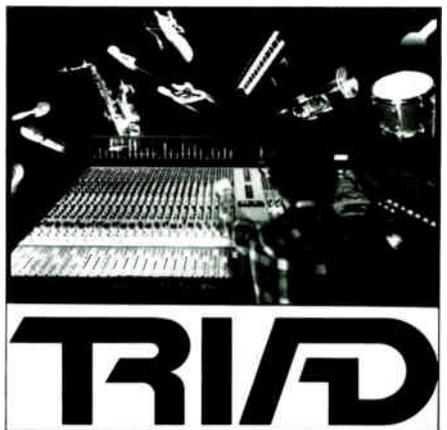


TRAX 32 RECORDING STUDIO
 Mequon, WI

****** TRAX 32 RECORDING STUDIO**
 also REMOTE RECORDING
 11249 N. Riverland Rd., Mequon, WI 53092
 (414) 242-9010
 Owner: Paul Edwards
Studio Manager: John Walsh

****** TRIAD STUDIOS**
 1910 Ingersoll Ave., Des Moines, IA 50309
 (515) 243-2125
 Owner: Richard Trump, Tom Tucker, Bill Synhorst, Joe Borg
Studio Manager: Richard Trump
Engineers: Tom Tucker, Rick Condon, Tony Schmitt, John
 Hurst, Technical Director: Bill Synhorst
Dimensions of Studios: A 38 x 24 B 18 x 21 C 5 x 10
Dimensions of Control Rooms: A 22 x 21 B 18 x 13 C 10 x
 10 D 12 x 11
Tape Recorders: Otari MTR9011 24 track, Tascam 58 8 track;

Ampex ATR 100 2 track, MCI JH 110B 2 track, Nakamichi
 DMP100, Revox PR99 2 track, Tascam 52 2 track, Otari
 MX5050B 2 track, Tascam 440B 4 track, Tascam 122B Cass
 Emig LF1000 Cass
Mixing Consoles: MCI JH 528R W/auto 24 x 24, Tascam 5/0
 20 x 8; Tascam 50 2 x 8
Monitor Amplifiers: UREI, Technics, Marantz, Crown
Monitor Speakers: UREI 813s, JBL 4411, Yamaha NS10,
 Auratone
Echo, Reverb & Delay Systems: EMT 240, Lexicon 224 XL,
 UREI 927, Ursa Major SST282, Eventide H193
Other Outboard Equipment: UREI 1178, 1176, 1A 9A, 1A 4,
 Valley: Kepex, Gain Brain, Maxi-O; Aphex EQF 2, UREI 546,
 Eventide: H949
Microphones: U 47 1st, U 48, U 67, U 87, KM83, KM84, SM57,
 SM81, SM 5B, D12E, C 414, C 452, PZMs, HE 16, M500
Instruments Available: Yamaha 7' grand, Rhevlers Rogers
 drums
Video Equipment & Services: U-Matic, Beta Hi-Fi, VHS Hi-Fi,
 Proton Monitor
Rates: Upon request
Extras: Professional audio equipment sales, custom computer
 hardware/software development, tape duplicating services,
 custom design/installation for audio presentation rooms, extensive
 talent pool
Direction: So you think all the well-developed ears in Iowa are in
 our comfields? Triad's engineers share nearly a quarter century
 of experience plus that rare ability to really listen to your input.
 Our state-of-the-art equipment and friendly service make Triad a
 leader in the field. Write for free music or talent demo credits: Jan
 Park Band, DVC, New Age Waltz, Karen Voegtlin, Ron Cook,
 Barnabas, Billy Barber, Murecourt Trio, Full Tilt, Sarcot



TRIAD STUDIOS
 Des Moines, IA

****** TRC RECORDING STUDIO**
 also REMOTE RECORDING
 5761 Park Plaza Court, Indianapolis, IN 46220
 (317) 845-1980
 Owner: TRC Corporation, Gary Schatzlein, president
Studio Manager: Michael Bryant
Engineers: Andrew Symons, chf; Alan Johnson, Jeff Gardner,
 Kevin Van Wyk (maintenance tech) Pete Saetre, Michael
 Bryant, Gary Schatzlein (exec prod), Nancy Milam (off man)
Dimensions of Studios: Studio A 34 x 44 x 13, Studio B 40
 x 35 x 14, Studio C 8 x 8 x 8
Dimensions of Control Rooms: Studio A 19 x 22 x 14
 LedetTM Studio B 17 x 17 x 11, Studio C 9 x 14 x 11
Tape Recorders: MCI JH 1624 (2) 1624 track, MCI JH 110B (2)
 2 track, MCI JH 110A (1) 2 track, Studer A80 2 track, Studer A80
 4 track, TEAC Model #8 8 track, Studer PR 99 2 track, Ampex
 301 mono
Mixing Consoles: Studio A Harrison w/Allison 65K automation
 3232B 32x32, Studio B MCI w/MCI JH 50 automation 5/8
 28x24, Studio C Sound Workshop Logex 8 12x8
Monitor Amplifiers: Studio A Biamped w/Crown PSA 2 & IX
 300A w/JBL 5234A Crossover Studio B Acoustic Mos Fel 200
 Studio C DC 300A Crown D150 on all foldback systems
Monitor Speakers: (A) JBL 4435, Yamaha NS10M, auratones (B)
 JBL 4435, Yamaha NS10M, auratones (C) JBL 4311
Echo, Reverb & Delay Systems: Lexicon 224, Lexicon PCM 60,
 EMT 140 TS, EMT 140 tube, AKG BX 20 (2) Lexicon Super
 Prime Time, Audio Digital TC 2, Eventide Harmonizer 9 0 (2),
 UREI Cooper Time Cube (2), DeltaLab Effectron 1050, DeltaLab
 DL-2, Eventide Flanger, Eventide Phaser
Other Outboard Equipment: 1176 (8), 1A 3(2), 1A 4(2), Gain
 Brain (2) ADP limiter/compressors (2), ADP noise gates (8), KE
 PEX (4), ADP de-essers (2), ADP parametric EQ (2), White 4001
 EQ's (2), UREI 1/2 octave EQ's (2), ADP autopanner (1), UREI
 metronome (1), 20 channels of Dolby A, 16 channels of dbx
 Allison 65K automation (A), MCI JH 50 automation (B), Aphex
 Aural Exciter II

Microphones: U87 (8), U47 (3), KM84 (4), KM85 (2), KM86, KM88, AKG 414EB (2), Schoeps CMT-55 (2), AKG 421 (8), 441 (3), Shure SM57 (8), EV RE20 (2), RE16 (2), 666, 635A, Beyer M101, M500, PZM (4), assortment of direct boxes.

Instruments Available: Kawai 6-foot grand piano, Baldwin 9 foot concert grand piano, Stereo Fender Rhodes with suitcase, Hammond C 3 with Leslie, Memory Moog, Oberheim DX drum computer, Yamaha DX-7, Oberheim FVS-1, Fender Telecaster, Fender Stratocaster, 2 Ampeg B-15 Amp, Kazoo.

Video Equipment: 1/4 inch record and playback machine for post scoring, Panasonic monitor, SMPTE time code generator.

Rates: Studio A 16/24 \$125/hour, Studio B 16/24 \$115/hour; Studio C 8 track \$65/hour Bulk rates available upon request.

◆◆◆◆ TSI RECORDING

530 Arlington Rd., Newton Falls, OH 44444
(216) 872-5719

Owner: Mike Talanca and Joe Hudek
Studio Manager: Mike Talanca and Joe Hudek

◆◆◆◆ UNITED RECORDING STUDIO

4024 State Line, Kansas City, KN 66103
(913) 262-3555

Owner: David H. McQuitty
Studio Manager: Dick Brown
Engineers: Guido Toledo, Dan Billings, Mike Green

Dimensions of Studios: 24 x 20
Dimensions of Control Rooms: 20 x 16

Tape Recorders: MCI JH-24 24 track; MCI JH-110 2 track; Tascam 70H8 8 track

Mixing Consoles: Harrison MR-4 36 x 24

Monitor Amplifiers: Haller, Phase Linear

Monitor Speakers: UREI 813B, Yamaha NS-10M, Auratone Echo, Reverb & Delay Systems: Ecoplate 1, Lexicon 224XL, Lexicon Super Prime time

Other Outboard Equipment: 2 Eventide Harmonizers, dbx 900 series signal processing, UREI 1176 comp/limiter, Omnicraft gates

Microphones: Neumann, AKG, Sennheiser, EV, Shure

Instruments Available: Drum kit, Hammond B-3 w/Leslie, piano, anything available w/notice for small fee

Rates: Best studio at the best rates in the area

◆◆◆◆ UNITED SOUND SYSTEMS, INC.

5840 Second Blvd., Detroit, MI 48202
(313) 832-3313

Owner: Don Davis
Studio Manager: Mike Iacopelli
Engineers: Mike Iacopelli, Greg Ward, Rufus Harris, Dave Baker, Al Hurshman

Dimensions of Studios: Studio A: 35 x 28 x 25; Studio B: 21 x 11 x 7

Dimensions of Control Rooms: Studio A: 15 x 12 x 10; Studio B: 16 x 14 x 7

Tape Recorders: Studer A-800 24 track, Studer A-80VU 1/2" 2 track, Ampex MM 1200 24 track, Ampex ATR-102 2 track (2).

Mixing Consoles: Neve with Necam 8108, 32 in x 24 out; Flick-enger custom, 28 in x 24 out

Monitor Amplifiers: Haller 220, SAE 2400L, Haller D 500

Monitor Speakers: UREI 813, Auratones, JBL 4311

Echo, Reverb, and Delay Systems: EMT 140 (tube), Ecoplate II, AKG BX 20, Lexicon 224, DeltaLab DL-2

Other Outboard Equipment: dbx, UREI, Teletronics limiters, Eventide Harmonizer, Eventide flanger, Scamp rack w/noise gates & auto panners, SMPTE generator, UREI graphic EQ, Dolby and dbx noise reduction

Microphones: Neumann U 87, U-47, U-67, KM-84, AKG 451, 414, Shure SM 56, SM-7, Sennheiser MD 421, Crown PZMs, E-V RE 20

Instruments Available: Baldwin SD 10, Baldwin L, Fender Rhodes, Pearl drums, Ludwig drums, Roto-toms, vibes, glockenspiel, Clavinet, Hammond B-3 and C 3 w/Leslie, Fender Vibrolux & 300 bass amps

Rates: On request

◆◆◆◆ UNIVERSAL RECORDING CORP.

46 E. Walton, Chicago, IL 60611
(312) 642-6465

Owner: Murray R. Allen
Studio Manager: Foote Kirkpatrick
Engineers: Jim Schettler, Bill Bradley, Danny Leake, Bob Bennett, Richard Fairbanks, Mike Mason, Tom Miller, Bill Reis, Ed Golya, Jeff Palmer, Diane Haglung, Dave Lewis, Steve Wilke, Richard Chopowski, Terry Schilling

Dimensions of Studios: Studio A: 45 x 60; Studio B: 20 x 40; Studio C: 15 x 20, "Backroom": 9 x 12

Dimensions of Control Rooms: A: 30 x 25; B: 30 x 25; C: 20 x 8, BH 20 x 12

Tape Recorders: Mitsubishi X-800 32 track digital, 3M digital 32 track, 3M digital 4 track, (4) MCI analog 24 track; (8) Ampex analog ATR 2/4 track, (16) Ampex analog 440 1/2" 24 track; (4) Scully analog 1/24 track, Ampex analog 1200 16/24 track.

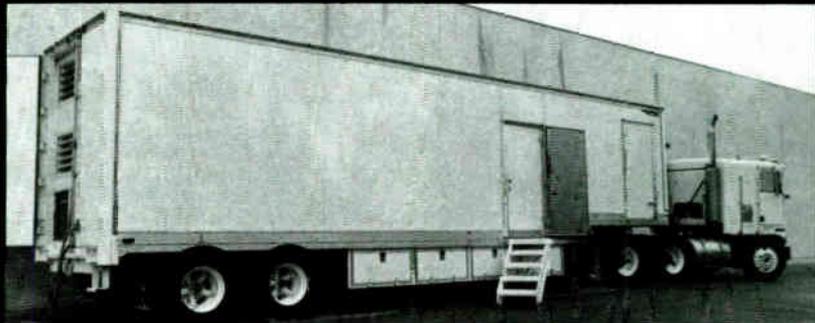
Mixing Consoles: Neve 8078, 32 in x 32 out; SSL 6000, 32 in x 32 out; MCI 628, 28 in x 24 out; (2) ADM film 16-8.

—LISTING CONTINUED ON NEXT PAGE

The First Remote Audio Facility that doesn't Look or Sound like a Truck.



Dual MTR-90/II, Automated MR-4, Softouch



Air-Ride Great Dane 40' trailer

The GHL Remote Truck is fully-loaded with leading-edge audio technology, from the maintenance shop up-front, to the motorized snake reels in the back. We invite your serious comparison.



GHL • audio engineering

P.O. Box 273, Hilliard, Ohio 43026
Call: 614/876-1057

Wichita, Kansas?

- 1-inch Video Post Production
- 1-inch Location Production with Hitachi HR-100 and SK-91 Camera
- Video Duplication
- 16/30 Track Audio Recording Studio
- Digital and Superanalog Mastering
- Audio Sweetening For Video

High Fidelity Recording Inc.
1059 Porter
Wichita, Kansas 67203
(316) 262-6456

Circle #035 on Reader Service Card

Tech-knowledge-y

Some audio and lighting companies simply offer technology. At L.D. Systems, our professional services and equipment are backed by a diverse staff who take you beyond terminology and spec sheets. Designers, engineers, technicians and craftsmen work together, pooling knowledge from a variety of backgrounds to offer our customers something more.

Intelligent technology.

L D SYSTEMS, INC.

467 W. 38TH HOUSTON, TEXAS 77018 (713) 695-9400

professional sound and lighting sales, services and rentals

Circle #036 on Reader Service Card



—PAGE 63

Monitor Amplifiers: Crown, UREI, Ashly, Biamp
Monitor Speakers: UREI 813, 811
Echo, Reverb, and Delay Systems: Quantec, Lexicon 200, (6) EMT plates, four rooms, (3) 224X Lexicon, 2016 Eventide, (4) Harmonizers 949, Lexicon Eventide
Other Outboard Equipment: Mitsubishi X 80, dbx, Dolby, UREI 1/3 octave, Orban parametrics, LA 2A-3A, 1176
Microphones: Neumann U-47, U-67, U 87, KM83, KM84, AKG 414, 451, 421, 441, C12, C24. Over 200 mikes to choose from.
Instruments Available: Bosendorfer 9'2" Imperial grand piano, (3) Steinway grands, (3) Fender Rhodes, Celeste, Tympani, (2) Sonar drum kits, also Ludwig & Slingerland, tack piano synthesizers, Hammond B3
Video Equipment & Services: C Format, BTX Soltouch, BTX multi-machine sync. Controllers, Shadow T, jam sync generators, house sync, 1", 1/2", 2" audio
Rates: Studio A \$210/hr, Studio B \$195/hr, Backroom \$150/hr, Soltouch \$50/hr, Digital \$50/hr
Extras: Universal is located in the heart of the hotel, restaurant, night club area of Chicago, has an "in house" Cantonese restaurant delivering to all studios. We arrange hotels and limousine service.
Direction: Universal is one of the largest, full-service audio facilities in the world. With 2 film mixing theatres, a video sweetening facility, a cassette duplicating factory, a location film crew, Universal offers the most complete audio service in the country. Among our most recent recording projects are albums by Chi-Lites, Champaign, The Police, Prince, Weather Report



**UNIVERSAL
RECORDING
CORPORATION**

UNIVERSAL RECORDING CORP.
Chicago, IL

•••• WEST MINIST'R SOUND
also REMOTE RECORDING
(Box 10) Otho, IA 50569
(515) 972-4475

Owner: Frank Wiswol, Kirk Kautman, Keith Brown
Studio Manager: Frank Wiswol

•••• WESTWOOD SOUND STUDIO
4300 Watertown Road, Maple Plain, MN 55359
(612) 475-3152

Owner: James Johnson
Studio Manager: James Johnson

•••• WORLDWIDE SOUND PRODUCTIONS
also REMOTE RECORDING
202 West Plum, Robinson, IL 62454
(618) 544-7898

Owner: Ron Wheeler
Studio Manager: Ron Wheeler

**ZEM
RECORDING STUDIO**

ZEM RECORDING STUDIO
Cicero, IL

•••• ZEM RECORDING STUDIO
3709 South 60th Court, Cicero, IL 60655
(312) 656-1544

Owner: Edward Zajda
Studio Manager: Sue Zajda
Engineers: Ed Zajda, Jennifer Zajda
Dimensions of Studios: 30 x 24
Dimensions of Control Rooms: 16 x 10
Tape Recorders: Otari MTR 90 MK II 24 track, Tascam 85 16 1/2 track, Ampex ATH 102 2 track, (2) AKAI CX 91 Cassette
Mixing Consoles: Tancent 3216 24 in x 16 out
Monitor Amplifiers: Crown D75, Bryston 4B (2)
Monitor Speakers: JBL 4343s, Yamaha NS 10Ms, Auratones, B&W DM3000, B&W DM17
Echo, Reverb & Delay Systems: Eventide Harmonizer H949, Delta Lab DL 2 Acousticcomputer, Lexicon 224XL, Lexicon Super Prime Time
Other Outboard Equipment: 18 channels dbx type I, 2 channels dbx type II, Dolby A system 361, UREI 1176 (2) comp., dbx 160 (2) comp., dbx 900 rack, Orban parametric, EXR Exciter, Aphex Exciter
Microphones: Neumann, AKG, Sennheiser, Shure, ElectroVoice, sony
Instruments Available: Yamaha Electric concert grand, Ludwig drums
Video Equipment & Services: Upon request
Rates: No "extra charge" for all available equipment or musical instruments
Directions: Our main goal is to give the highest quality of sound and service at a fair price to our clients



ZENITH/db STUDIOS
Chicago, IL

•••• ZENITH/db STUDIOS
676 N. LaSalle, Chicago, IL 60610
(312) 944-3600

Owner: Coken & Coken Inc
Studio Manager: Richard A. Coken
Engineers: Ric Coken, Mike Moats, Joel Sears, Chuck Rapp, Pete Gale, Jim Moore, Curt Frisk, Michelle Linsner, Shawn Snowden, Luis Quiroz, Chris Field, Hans Wurman, Dick Gurvin
Dimensions of Studios: 1000 sq ft, 700 sq ft, 500 sq ft, 300 sq ft
Tape Recorders: Ampex 1200 24/8 track, ATR 104 4/2 track, ATR 102 2/F T track, 440B 4 2/F T track, AG350 FT track, MC1 JH 10 1/6 track, Suclly 280 2/4/8/F T track, 280B 8 track,

Tascam Mod 34 4 track, 122 cass 2 track; Technics M85MK3 cass. 2 track; Nackamichi 700II cass. 2 track; Wollensack L551AV cass 2 track, Nagra 4.2 FT. track; Assorted NAB Machines 1 track

Mixing Consoles: Trident Series 80, 24/24/24; ADM Technoloh RC 24/16/16, (2) Audio Designs Film 12/3/3, Audiotronics 10/4/4, Electrodyne 16/8/16, Quantum QM8B 8/4/6, Tapco 20/6

Monitor Speakers: Crown, McIntosh, Altec

Echo, Reverb & Delay Systems: EMT 140's, Orban Reverbs, Cooper Time Cubes.

Other Outboard Equipment: (2) Magnatech Interlock distributors, Magnatech 92 C resolver, Magnatech 150 Series automatic dialogue replacement, Magnatech Type 34B noise suppressor, Studer telephone hybrid, UREI: (3)565 Little Dipper, 545 parametric equalizer, 530 dual octave graphic, (6) 1176 LN limiter, (2)176 limiter, (5) Altec SFX filter set, (2) Teletronix Laza limiter, Audio Design 500 Series scamp rack, Polyfusion PEQ: Prograph programmable graphic equal, (2) SAE octave graphic equalizers, (6) Orban DeEsser 516EC, (3) Orban 672A paragrphic, Orban 245 E stereo synthesizer, Omni Craft AV pulser, White dual octave graphic, (5) Pultec HLF3C filter set (2) Pultec EOP1A equalizer, (5) Pultec EOP1S equalizer, (4) Allison Gain Brain, (7) Allison Kepex, (2) Valley People Gain Brain II, (2) Valley People People Kepex II, (2) Burwen 1201 Dual dynamic noise filter, (2) UREI 964 digital metronome, (2) Technics SL2000 turntables, (2) Technics SL1500 MK2 turntables, (2) Technics SP 15 turntables, Nagra Kudelski SLO resolver, (8) Channels dbx type I Model 155, Magna Sync Moviola 16mm 6-plate editor, Moviola Upright 25mm 2-head editor, Moviola Upright 16mm 3-head editor, EXP EX2 exciter, Korg Vocoder.

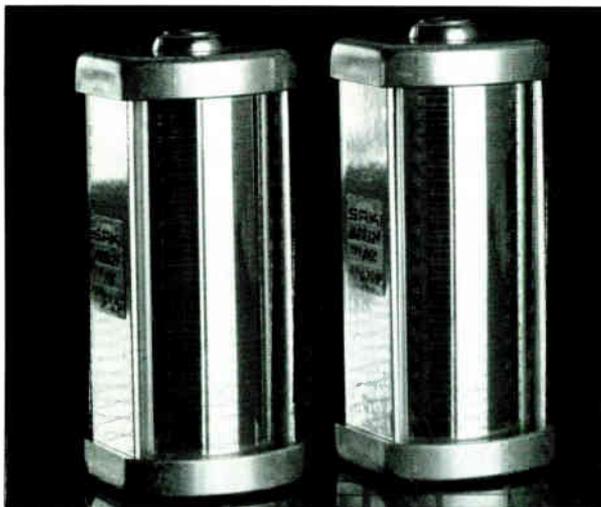
Microphones: Neumann, AKG, Sennheiser, Sony, RCA, Shure, FV, Altec, Crown (PZM), Pearl

Instruments available: Steinway piano, Hammond B3, Pearl drums, Muzzer vibes, Arp synth, Huter clarinet.

Video Equipment & Services: Recorders: Video: (2) JVC 6600 U, Panasonic NV 2125, RCA VHS, Recorders-Film: Westrex 1581, (2) Magna Tech (2) Magna Tech 236, (2) Magna Sync 3000 16mm, Magna Sync 3000 35mm; Dubbers & Projectors (10) Magnatech 16mm/35mm, (2) Magnatech 35mm, Magna Sync 35mm, (6) Magna Sync 16mm, (4) Phillips & Jan, SMPTE Interlock System BTX shadows and controller for 3 machine interlock, BTX SMPTE generator, reader, regenerator, NTSC color Sync Generator with black, Special Effects 3 Orban dual reverbs, Eventide 949 harmonizer, (2) UREI Cooper Time Cube, Audio-Digital TC3 delay line
Rates: \$50 to \$200 hr

QUALITY THAT WORKS!

The quality of Saki's proven technology can now be added to your Studer 2", 24 track equipment.



After 16 years of technological leadership in one of the most demanding and ever-changing fields, you can depend on Saki's commitment to service your future needs long after the competition is gone.



SAKI MAGNETICS, INC.

A California corporation since 1968

8650 Hayden Place, Culver City, CA 90230 213 / 559-6704 (TWX-910-328-6100)

Circle #038 on Reader Service Card

MOVING?

FOR UNINTERRUPTED SERVICE

MAIL TO:

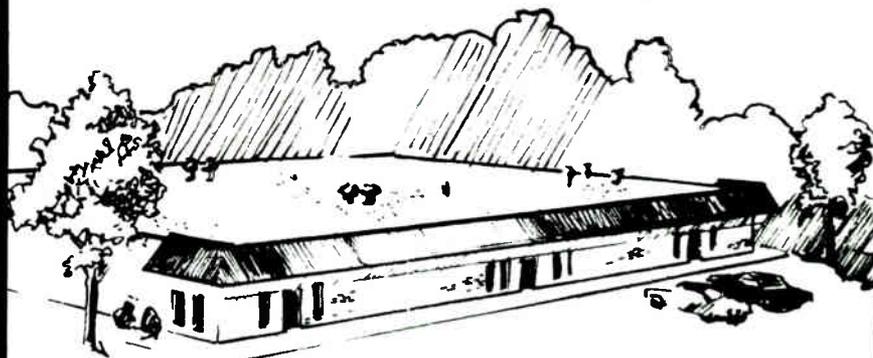
**MIX PUBLICATIONS
2808 NINTH STREET
BERKELEY, CA 94706**

(PLEASE ATTACH OLD ADDRESS LABEL HERE)

(PLEASE PRINT NEW ADDRESS BELOW)

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

*Midwest
Custom
Record Pressing Company, Inc.*



— COMPLETE MANUFACTURING PLANT —

Specializing in Records, Album Jackets & Cassettes. "No order too small"
Convenient Midwest Location

Write or Call for Free Brochure & Professional Assistance!

#6 Grandview Pk. Dr., P.O. Box 92
Arnold, Missouri 63010 (314) 464-3013



Circle #037 on Reader Service Card

NORTH CENTRAL STUDIOS:



"The Backroom" at Universal—a complete video sweetening facility housing two 24 track recorders, a unique Ampex 1200 that can be fitted with different headstacks, the house synch-generator, and all necessary synchronization gear.

—FROM PAGE 35, NORTH CENTRAL

Ohio, have also been rolling their unit about with great success. According to GHL, "Recently, there has been a strong interest from established groups to find greater seclusion during the recording of their albums. Many have tried to build their own studios or sought some kind of 'resort' studio in which to work. [What GHL offers] simply stated is the group picks an appropriate location and GHL turns it into a world-class recording studio." GHL also does concert recording, of course, as well as video and audio for video work. The truck is equipped with a Harrison console, Otari recorders, a dbx 700 digital audio processor, BTX Softouch and much more. Gary Hedden, from whom the company derives its name, is the chief engineer.

QCA is another Ohio studio (Cincinnati) that reports a big increase in business over last year. There, the work has, once again, been mainly for major label acts, many reflecting the area's very strong orientation towards R&B. Recently in the studio were Midnight Star, a Cincinnati soul band whose last LP went double platinum. Another top R&B unit, The Deele, signed to Solar Records, has recorded their next album at QCA. Also completing projects there were the Ohio Players and Bootsy Collins. In a slightly different vein, but no less impressive, Paul Barrere, the ex-lead guitarist of Little Feat, recorded his second Mirage LP at QCA using local players primarily. Clearly, the studio got a major boost when it purchased a Studer A-80 Mk III 24 track about a year ago. Since that time, the studio has also expanded its selection of outboard gear—most recently they bought a Lexicon 224 digital reverb to go along with their already popular AMS reverb.

Several studios in the region upgraded to 24 track since our last report. Zem Recording, in Cicero, IL purchased an Otari MTR-90 24 track to go along with their Tascam 16 track. Cross-town Recording in Kalamazoo, MI likewise bought an MTR-90 to make the switch to 24. Breezeway Recording in Waukesha, WI has its MCI JH-24 in full operation now and has purchased a hearty selection of new outboard equipment—not bad for an operation that was really little more than a basement eight track a couple of years ago! In addition, Breezeway is set to open a second studio on the premises for dubbing primarily. And finally, Lake Recording, in Maywood, IL, near Chicago, has expanded with an MCI recorder to go along with their Sphere console, and owner Robert Kaider tells us there has also been some extensive interior remodeling done to the facility over the past few months. ■

DUPLICATION SERVICES

- CASSETTES:** CUSTOMIZED DUPLICATION OF ALL LENGTHS AND QUANTITIES FOR EVERY APPLICATION — AV, EDUCATION, ENTERTAINMENT, COMPUTER, ADVERTISING/MARKETING. BLANK CASSETTES AVAILABLE IN BULK.
- AV SERVICES:** SPECIALIZED AV DEPARTMENT HANDLES PULSING, MASTERING, DUPLICATING, LOADING AND FINISHING FOR EVERY FORMAT, AVL LABELLE, AUDISCAN, DUKANE, KODAK, COUSINO, MACKENZIE, BELL & HOWELL, SINGER, OPTISONICS ELBA, TIFFEN, TELEX, AND WOLLENSAK.
- 8-TRACK:** COMPLETE 8-TRACK CARTRIDGE SERVICE INCLUDING DUPLICATING, LOADING AND PACKAGING.
- PRESSINGS:** COMPLETE PRESSING AND PACKAGING FOR 7", 10", 12", AT 33 1/3 AND 45 R.P.M.
- PACKAGING:** CUSTOM DESIGN; SINGLE, MULTIPLE OR PROCESS COLOR PRINTING. CUSTOM OR STOCK MAILERS, CASSETTE CASE LINERS, SHRINK WRAPPING.
- LABELS:** CUSTOM DESIGN, PRINTING, APPLICATION — ALL FORMATS.
- SHIPPING:** ROUTINE DISPATCH AND BULK MAILING SERVICE
- EQUIPMENT:** CUSTOM DESIGN, MANUFACTURE, MODIFICATION AND INSTALLATION. SALES AND SERVICE FOR TELEX, LABELLE, SHURE, AND OTHER NEW AND PRE-OWNED EQUIPMENT.



media international incorporated

247 East Ontario Street ■ Chicago, Illinois ■ 60611 USA ■ 312/467-5430

TOTAL RECORDING DUPLICATING EQUIPMENT AUDIO

be SYNTHABLE

The software wizards stuck a 9-foot concert grand onto a tiny silicon chip . . . a world-class speaker is the way to hear it. Because a system designed only for "traditional" sounds can't live up to the powerful levels and complex timbres of electronically-created music.

That's why we created the 380SE.

Total Transparency—and Psychoacoustic Satisfaction, too.

The 380SE is a clean and powerful three-way speaker system. Electronic reeds and strings, flutey and brassy tones, percussive accents, special effects . . . all sounds at all levels come through with exacting sonic accuracy. The 380SE illuminates subtle variations in pitch and level, whether handling one note at a time or a full synthesized chorus.

Attention to Detail

The digital wizards must master every detail of their technology. A speaker designed for electronic music gives them the freedom to concentrate on sound creation rather than sound reproduction.

So we paid attention to every detail of the sound system. That's why the 380SE is constructed entirely from our own high-quality components. With continuous power handling of 360 watts. Full range inputs. Bi-amp and tri-amp connectors. Four bridging connectors. Mid- and high-frequency level controls, flush-mounted where you can get right to them.

And as you can see, we didn't overlook the visual details. The 380SE's appearance is visual confirmation of its class. The 380SE's performance proves its ability to handle electronic music.

That's what being synthable is all about.

For complete technical data, call or write:



TOA Electronics, Inc.
480 Carlton Court
So. San Francisco, CA 94080
(415) 588-2538
In Canada: TOA Electronics, Inc.
10712-181 Street
Edmonton, Alberta T5S 1K8
(403) 489-5511

© 1984 TOA Electronics, Inc.



LUNCHING WITH BONZAI

by Mr. Bonzai

As I uncorked the beaujolais, Fee Waybill strolled into the room puzzling over the ranking of Twisted Sister high on the *Billboard* charts. Like a rock broker, he was analyzing the rise and fall of musical pork bellies. I suggested that the song "We're Not Gonna Take It Anymore" was evidence that the kids needed a crappy anthem every six months or so.

"Well, that's pretty crappy, I have to admit," he agreed. "The hairdo's have a lot to do with it—I just don't get it."

To shift our conversation away from something as mundane as album charts I extracted a plastic bag from my briefcase and began to set the contents on the coffee table. He noticed the price tag.

"Now \$1.89 isn't bad for 14 prehistoric animals. 'Not recommended for children under three.' Alright, I can eat them."

"If you had lived in a caveman society, what role would you have played?" I asked. "You're so big, you probably would have been a warrior."

"Who knows what 'big' would have been?" he replied. "Compared to Arnold Schwarzenegger I could have been the busboy—or the guy who stripped the dead flesh off the old rotting animals so the big guys wouldn't get the bones caught in their teeth."

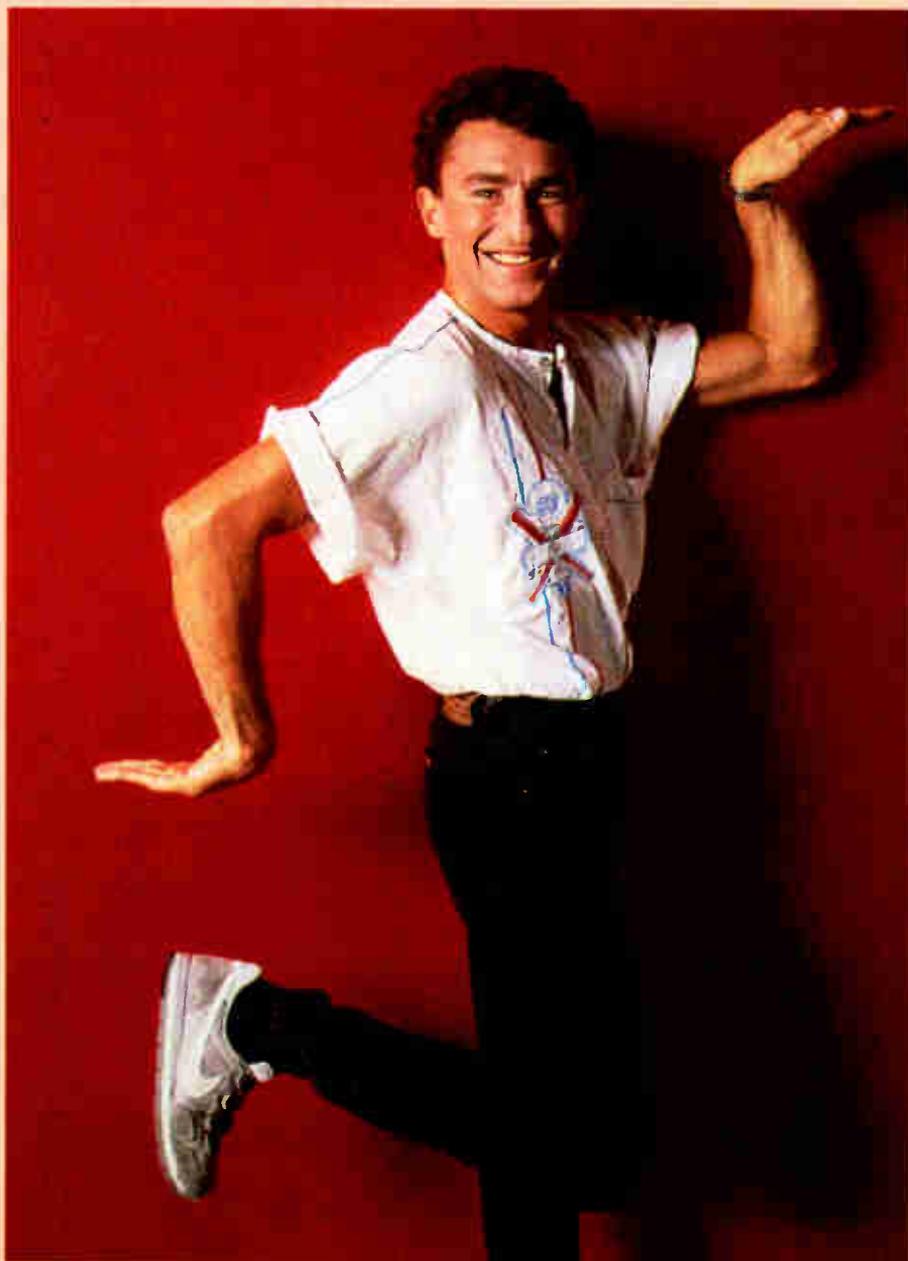
The Tubes are an iconoclastic group of artist/musicians who have bucked the pop system ever since their debut weekend shows of theatrical rock at the San Francisco Art Institute in 1972. Only recently have they achieved commercial success, culminating in the Top 10 single "She's a Beauty." They are infamous for their outrageous brand of carnivalesque performance, wacky stage personas, creative videos and cocky satirical stance. Fee Waybill, lead singer and chief lyricist, has just released his first solo album, *Read My Lips*. Meanwhile, The Tubes are in the studio working on a new album, with Todd Rundgren producing.

Bonzai: You've worked with Todd before, haven't you?

Waybill: We did an album with him in 1979, just before the big video turnaround. We had the ambitious idea to do a concept album about a kid who grew up watching too much television. At the time there was no outlet for video, no

FEE WAYBILL

A TUBE ON A ROLL



RON SLEZNAK

MTV, but we did it anyway and then didn't know what to do with it. We based our live shows on the concept.

Bonzai: A video album at that time

sounds like a poor business move.

Waybill: We weren't businessmen—we were artists, you see. We were being creative. It did turn out to be a bad financial venture.



Fee as Quay Lewd during late '70s version of "White Punks on Dope."

your life and all of a sudden coming up against the majors. They just pound you down into the ground—eight-nothing in five innings. His standards were so high. He would just not stand for anything in the least bit funky. If you blew the part, that was it. You had to do it all over again. He was a perfectionist about everything. He hated to let little mistakes build up on a track. We'd work and work and work for a basic track—sometimes all day long. Sometimes we never did get it right and we had to come back the next day and do it again. He's a songwriter, too,

and if there's a hit single involved, he's usually involved in it.

Bonzai: Does he restructure the musical ideas?

Waybill: Sometimes he rearranges stuff if he thinks that it's not commercial sounding or doesn't flow to the ear. On the first record he rewrote a lot of things. "Amnesia" for instance—the chorus just did not make it. It was that simple. The verse and the "B" section were great but the chorus was just down the drain. David said it didn't make it and so he rewrote it.

Bonzai: You're responsible for most of the lyrics, aren't you?

Waybill: I have been in the past. The last

PHOTO: JANET MACOSKA

Bonzai: What made you decide to make a solo album?

Waybill: One of the reasons that I wanted to do a solo album is because most of the decisions made in my career have been made by me and six other guys. I wanted to go out and do a project on my own, to do a song the way I wanted to from beginning to end. Even though I'm not as musically oriented as the other guys in the band, I knew what I wanted to do—at least I thought I did. You always think you do, but as you develop a song, it takes on its own characteristics and becomes what's good for *it*. Your idea gets mutated, but that's OK—it was your idea.

To get back to The Tubes, the band decided democratically to leave David Foster as our producer, who had done our last two albums. Since he was available, and I wanted to work with him, and The Tubes were looking for a new producer—which takes time—I decided to go ahead with the solo project. We've grown a lot since we last worked with Todd, and I think we will be more responsible for the kind of album that emerges. We know what we're doing.

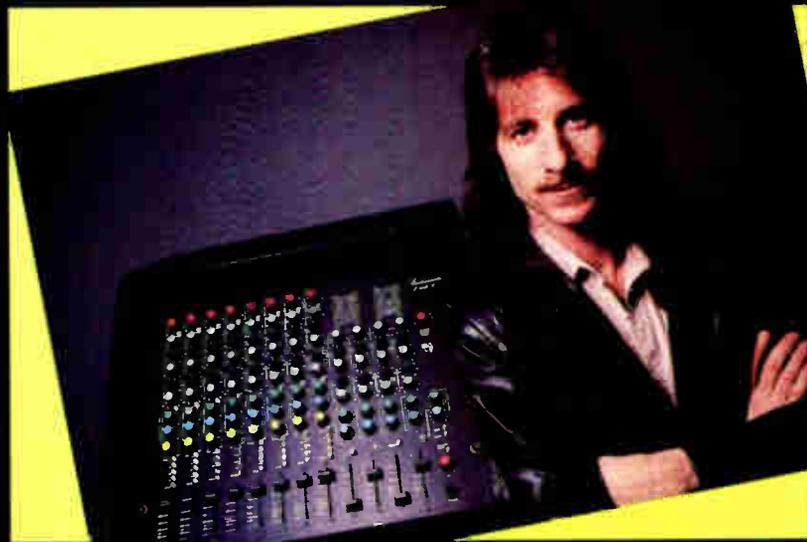
Bonzai: Is it fair to say that most people associate David Foster with the transition to a more commercial sound?

Waybill: I'd say that was fair.

Bonzai: What are his qualities as a producer that would make that happen, or allow it to happen?

Waybill: He was just in a different league. It was like playing "B" league softball all

Eight into Four



When you hit the road as much as I do each year, your equipment not only has to sound good, but it has to be roadworthy as well. With today's advances in keyboard technology, it's imperative that sound reinforcement gear is of the same high quality and can reproduce the sound accurately. My Studiomaster reproduces that accuracy and also has taken the abuse that occurs when touring.

T Lavitz

T Lavitz
FORMERLY THE DRAGS

StuDiomaster Inc.

A DIVISION OF

1015 E. LANCASTER ST. / P.O. BOX 2344 FT. WORTH, TEXAS 76113 (817) 336-5114 CABLE: INTMUSIC TELEX: 163203 IMCTX US

Circle #040 on Reader Service Card

couple of records—I've written most of the lyrics, but not all of them. Roger and Bill and Prairie all write lyrics. David re-wrote a few things, and we even got outside help on a few things, on parts that were just too difficult. On some R&B

Steve's guitar are the recognizable parts. Steve and David and I wrote five of the songs on my record and when they hear that guitar again and my voice, there's no way it can't sound a little like "She's a Beauty." The new songs are different

Bonzai: What's to stop somebody else from coming along and marketing a pedestal?

Waybill: There's nothing to stop them, the way that exploitation and merchandising go today. In fact, you know you've



"The Tubes have no real leader—which is good and bad. It's great to keep everybody on an even keel, but you can never do everything you want. You have to do what everybody wants. . . . I've been real lucky. I hope everybody in the band has the opportunity to do a project like I have."

stuff, we just didn't have the right feel. David won't let his ego or his pride affect the result of a song. He'd say, "If you can't play it, I'm going to get somebody else to play it. The song has got to be great. The part's got to be great—otherwise it's not going to be a hit." Maybe he sacrifices a little in detente to get this perfection. At times you have to forget your pride and your ego to make the song work. We never had any commercial success before that—and he was partly responsible for writing both hits from *Completion Backwards Principle*: "I Don't Want to Wait Anymore" and "Talk to Ya Later." He had a part in the success of "She's a Beauty." He hears singles.

Bonzai: When people hear your solo album will they mistake it for a Tubes record?

Waybill: They could, yeah. We received our biggest recognition for "She's a Beauty," written by me and David and Steve Lukather. The sound of my voice and

from Tubes songs, though. I'm sure there will be some confusion, but what're you gonna do? I tried to sing like Bing Crosby on a couple of tunes but it just didn't cut it. Then I went for the Bruce Springsteen sound, but Bruce has that pretty well covered, so I had to go back to my own voice.

Bonzai: But The Tubes are still a living, breathing entity. . . .

Waybill: Yes, they are. . . .

Bonzai: Do you have any plans for merchandising any Tubes food, cosmetics or home appliances?

Waybill: We're thinking about marketing some tubular pedestals. . . .

Bonzai: For women?

Waybill: It's a wide open field. You can put your woman on the pedestal, or you could put this fan on a pedestal. It would be much more effective than on the floor.

made it when somebody comes along and does a knock-off of your product.

Bonzai: I think that Picasso once said that you do it first and the others come along and make it pretty.

Waybill: The others come along and change from show-art to show-business.

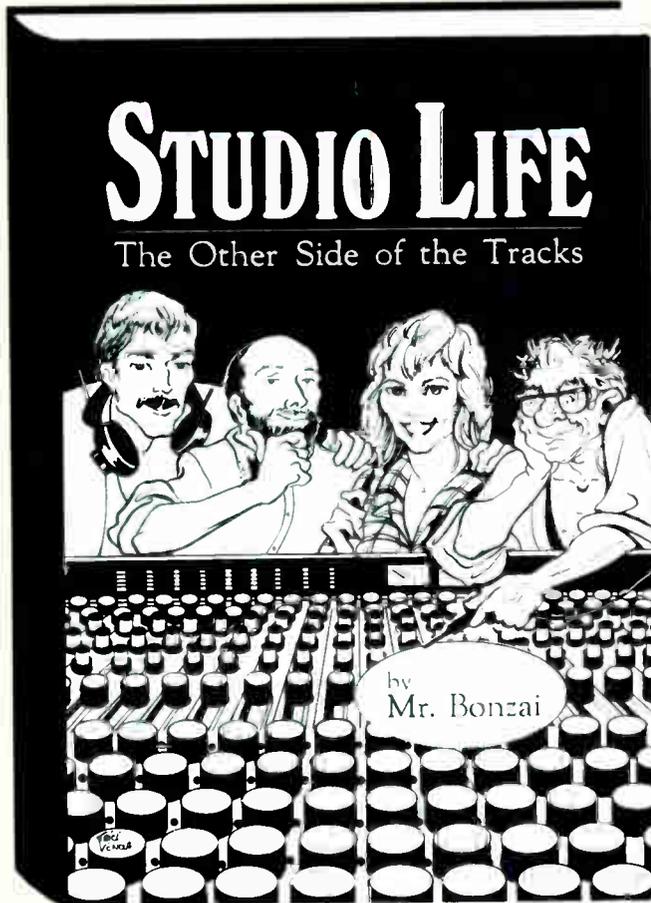
Bonzai: In your childhood, what musician had the biggest effect on your sensibility and direction?

Waybill: . . . Maybe Roy Orbison. I used to sing all of his songs and there's something about his vocal range that was compatible with mine. I could almost hit all the high notes, but I could never quite make them all.

Bonzai: Which comedian had the biggest effect?

Waybill: Jonathan Winters. He used to drive me insane when I was a kid, and from there it was Lenny Bruce and then

What do you give 'em for the holidays?



Give the gift of laughter. Put Mr. Bonzai under the tree. The perfect gift for friends in the music industry, those special clients, your staff, or yourself!

Studio Life: The Other Side of the Tracks is a satiric and whimsical journey through the hidden world of recording, filled with colorful characters and bizarre sessions. Come join the crew at Ryan Recording as they struggle for respectability and profits in the music business: Mr. Bonzai, the optimistic studio manager; Cart Ryan, the young engineering virtuoso; Layla, the lovely receptionist/second engineer; and Smilin' Deaf Eddie, the miracle maintenance man.

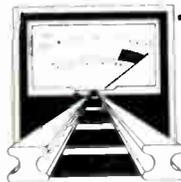
Once inside the double-insulated studio doors, you'll meet some familiar characters... the lounge singer going for a Grammy, the aging pop star laboring for twelve years on his new album. You'll visit engineering conventions where preposterous new products are unveiled. You'll discover the secret of the phantom snare, thrill to high-tech recording espionage, and venture into music video, all from Mr. Bonzai's affectionately irreverent point of view. It is first-rate entertainment throughout, the book the recording industry never knew it needed and couldn't live without.

QUANTITY DISCOUNTS AVAILABLE. PLEASE INQUIRE.

"Mr. Bonzai has captured the true meaning of **Studio Life** in this incisive satire. I couldn't stop laughing." —Chris Stone
President, Record Plant, L.A.

"The workings of a truly deranged mind. A funny, biting, and witty book. Mr. Bonzai's a nut." —Ray Manzarek
Keyboardist, the Doors

"**Studio Life** should be the new Bible for all studios." —Michael Sembello
Recording Artist



STUDIO LIFE: The Other Side of the Tracks by Mr. Bonzai

YES! Please send me _____
copies of STUDIO LIFE.

Enclosed is my payment @\$7.95
per copy plus \$1.00 postage, or

Bill to: VISA Mastercharge

Credit Card Number _____

Expiration Date _____

Signature _____
World Radio History

Name _____

Address _____

City _____

State _____

Zip _____

PAYMENT MUST ACCOMPANY ORDER.
Quantity Discounts, Inquiries Welcome
Mail to: Studio Life, c/o Mix Magazine,
2608 Ninth St., Berkeley, CA 94710
(415) 843-7901

USE

ZERO



Sonic Sealed Screw type Tabs-out Tabs-in Black & white

C-Ø Cassettes 11.5¢ INCLUDING FREIGHT

Immediate Delivery Meets all Standards Provides High Reliability

Also Available: Blank-Loaded Cassettes and Cassette Boxes



PLANTRON

(206) 854-3366

PO Box 58971 • Seattle, WA 98188

Circle #041 on Reader Service Card

POST GRADUATE SEMINAR

December 26-30, 1984

50 hours of intensive study covering operation of SSL consoles, Neve Necam, BTX Softouch, digital recording systems, and more.

Knowledge of this equipment is a prerequisite for success as a recording engineer.

Openings for only 20 serious students.

Seminar price: \$2,000.00

For reservation call or write:

Murray R. Allen
Universal Recording
46 East Walton Street
Chicago, Illinois 60611
(312) 642-6465

Richard Pryor and Robin Williams.

Bonzai: Was there a politician that had a big effect on your childhood?

Waybill: Well, it's probably not what you're looking for—but I grew up in Phoenix, Arizona. The politician that had a major effect on me getting out of Arizona, getting out of the whole established routine of things was a guy named Barry Goldwater. I just could not handle it. That was enough, especially when he ran for president. I couldn't believe it. That made me see the light, and I quit my job, moved to the mountains, and lived on brown rice.

Bonzai: Do you know any frightening human beings?

Waybill: We've known a lot of crazy people in San Francisco. The Tubes all used to live together, and these crazies would hang around. One guy would go to the market across the street from our house and steal tons of shit—a shirtful of meat—and just walk right out and sit on the front porch and eat raw meat out of the package. With people like that, you just don't know what they'll do next. That's more frightening than anything. The real murderous types you avoid—unless they happen to be your manager.

Bonzai: Then you just have to deal with it—it's part of the real commercial world we live in. And you are one of the prime examples of someone who has adapted—hasn't given up his artistic integrity, and yet has profited immensely.

Waybill: Well, I don't know if I'd go that far—my shoes have holes in them.

Bonzai: But you're doing the projects you want to do.

Waybill: I've been real lucky. And I hope that everybody in our band has the opportunity to do a project like I have.

Bonzai: I guess you're the obvious one to do it first.

Waybill: I know, I'm the obvious one because I'm the lead singer and people think I control everything. The Tubes have no real leader—which is good and bad. It's great to keep everybody on an even keel, but you can never do everything you want. You have to do what everybody wants.

Bonzai: What do you appreciate in an engineer?

Waybill: Well, I'm spoiled because I've worked with Humberto Gatica for the last three records, and there's nobody better that I've worked with. He is very, very fast and he is an engineer who works one step ahead of you. David Cole at Capitol, where we did some overdubs, is another engineer who is always one step ahead. When you're doing a vocal, and you fuck it up but keep on



singing—when you stop, they go back to the right place. They get to know you and they know what you want, and they keep it real simple. We've also worked with guys in the past who try to make it mysterious. They try to keep it a mystery and they won't tell you what they are doing. I don't like guys trying to bullshit me. Humberto will explain every piece of gear—what the Publison is doing, or the Super Prime Time. Hum's got a special EQ box that he takes with him, and he uses special microphones for certain things. If the voice sounds a little nasal one day, he can take it out with EQ, and he knows it before you ever ask him to get rid of the nasal quality, or get rid of the roughness, or to add roughness or breathiness.

Bonzai: What type of studio environment do you like to work in?

Waybill: Actually, it's changed. We used to like working in places with a lot of gimmick bullshit around—pong machines

and pinball and video and crap like that. I've really gotten away from that. For the solo album, we worked at Lighthouse, a studio over in the Valley. I like to work at small studios that you can lock out. This place is a one room studio, and for two months there was nobody else there. We had a full time maintenance man and if anything broke down he had it fixed instantly. We had a runner to get potato chips or fruit juice, or whatever we needed. And we had a very good second engineer, Laura Livingston, who was always ready to take over if Hum had to go out.

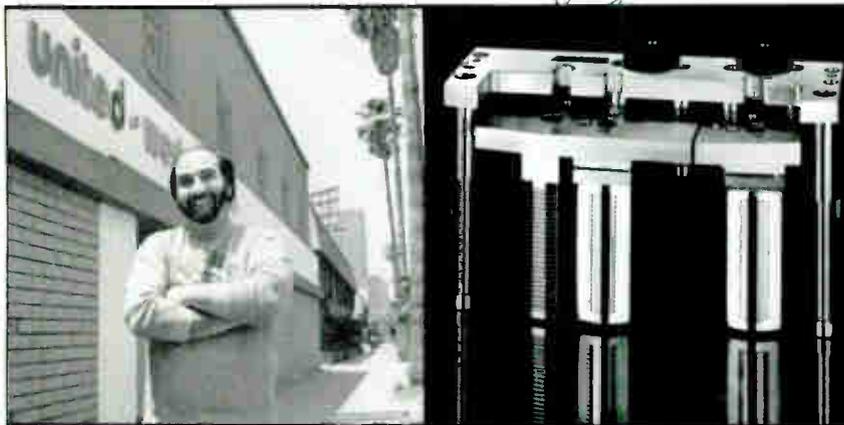
Bonzai: Do you remember when your voice changed?

Waybill: (laughs) Yeah, I do—it was in high school. I used to sing in vocal groups, like The Scottsdale Singers. I was very lucky, because I wanted to sing and I wanted to act and work in musical comedies. The guy who directed the plays was also the director of the vocal group. His name was Joseph Essley, and he got me into singing. I started as an alto, which is a lower female voice, because as a freshman I could sing real high. When I became a junior, I couldn't hack it anymore and had to go down to singing tenor—that's where I stayed. Thanks to him, I really learned how to sing correctly. I learned how to project, how to correct myself if I was singing flat or sharp, how to sing with or without vibrato. I just learned control of my voice. I was never known as a rock singer when I started because I enunciated too well. They kept saying, "No, slur it—you can understand everything."

Bonzai: Do you have any advice for troubled young musicians?

Waybill: I've been doing seminars about the music business, and I've learned to be a lot less negative. I used to say, "Forget it, don't bother. You'd be a lot better off selling encyclopedias." It's not a good idea to discourage the ones that really want to be musicians. The only key is perseverance—you just never give up. You have to want it bad enough to get a day job on the side if you have to. Play in horrible dump clubs around LA if you have to. Sign an independent record deal—I wouldn't strongly advise doing that, but it can be a stepping stone these days. A lot of the independents are finally making some money and can sign groups for money. You've got to be prepared to dedicate yourself. It took 14 years with The Tubes before I got to do something my way, and even then I didn't get to call all the shots. They said, "Yes, you can do a record, and this is what you get to do it with." If I hadn't had David Foster and Humberto committed to do my record, and a management company like Fitzgerald Hartley behind me, then it might not have happened. ■

"The sonic quality of Saki heads, makes them the #1 choice on all our multitracks"

Chief Engineer Cary Fischer

SAKI MCI 24 Track

United Western receives no compensation for this endorsement

After 16 years of technological leadership in one of the most demanding and ever-changing fields, you can depend on Saki's commitment to service your future needs long after the competition is gone.

SAKI heads are made in the USA



SAKI MAGNETICS, INC.

A California Corporation Since 1968

8650 Hayden Place, Culver City, CA 90230 213 / 559-6704 (TWX-910-328-6100)

Circle #042 on Reader Service Card

THERE IS NO ALTERNATIVE

At US\$ 3'000.— the FM 236 linear-phase electronic crossover has become a rave success.



It revolutionises electronic crossover design with features like 36db/Octave attenuation, absolutely perfect step response without any overshoot or ringing, proprietary constant linear-phase filter circuits and more unique features.



Ask for the data-sheet if you are interested in the true State of the Art.
 FM ACOUSTICS LTD, Tiefenhorstr. 17, CH-8820 Wädenswil/Switzerland
 Telephone: 01 / 780 64 44, Tele x: 875414 FMAC
 US office: FM ACOUSTICS USA, P.O. Box 311, 956170311 Davis CA
 Phone: (916) 7586300 Telex 550161 FMA USA
 In Canada: Perspective Audio P.A. Inc., 23 Chatel, Lorraine, P.Q.
 J6Z 3C4 Phone: (514) 621-4087

Circle #043 on Reader Service Card

PREVIEW

has a VCA defeat switch for applications where automation is not required. Programmable mutes are standard, as is a fully balanced patch bay. Other features include balanced inputs/outputs, stereo monitor sends, multi-track monitoring, three-band sweep EQ, PFL/AFL and tape solos, calibration oscillator, phantom power, full VU metering, P&G faders, and solid oak frame. The 32 channel version is priced at \$26,000.

Circle #048 on Reader Service Card

Amek M3500 Console

Shown at last month's AES Convention in New York City, the Amek Systems M3500 is the top of the line in the company's console series. The M3500 is configured 56 x 48 with complete 48 track routing and monitoring. The fader system is VCA-based with dedicated subgrouping and the console has eight automation-ready effects returns. All the eight auxiliary sends (six mono and one stereo) on the i/o modules may be instantly reset from an on-board memory which can be dumped to or re-loaded from external storage media.

Amek is also offering the Massenburg moving fader system for the M3500 console. Developed by George Massenburg Laboratories in Los Angeles, this automation system utilizes Winchester disk storage and is based on the Motorola 68000 microprocessor, and allows merging of fader and mute information from different versions of the mix. It can also read such information from Neve/Necam and SSL automation systems written on floppy disks.

Circle #049 on Reader Service Card

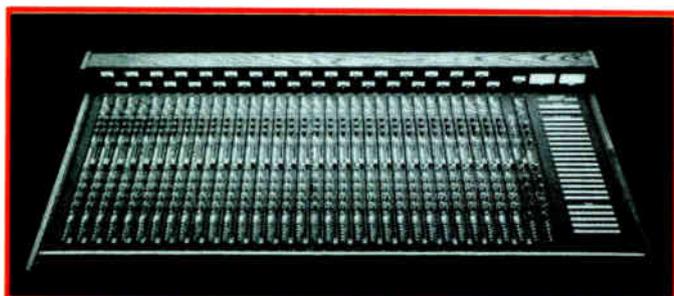


Tascam Ministudio Porta One

The Tascam Ministudio Porta One is a portable, battery operated four channel audio mixer/cassette recorder. This \$599 unit utilizes the standard 1 7/8 ips tape speed, allowing the playback of normal stereo cassettes, and switchable dbx noise reduction is included. One or all four channels can be assigned to any track, and once a piece has been worked out, it can be mixed down to stereo using the Porta One's integral mixer, transferred to a larger format machine, or routed through an external mixing board via the four discrete tape out jacks.

Other features include variable pitch, a return-to-zero counter, and two band EQ and pan controls on each input. Separate four track tape cue mixing and adjustable headphone outputs facilitate signal monitoring. The unit's low-profile design with "easy-touch" controls protects against damage and prevents the accidental changing of settings. Optional AC and auto battery adapters complement the built-in battery supply.

Circle #047 on Reader Service Card



Pulsar "On Track" Consoles

Pulsar Laboratories, Inc., of Mogadore, Ohio have introduced their "On Track" series of recording consoles, shown at last month's AES Convention in New York City. All the boards in the series (available in 16, 24, 32, and 48 track versions) utilize the I/O design concept where each input is also an output, resulting in a compact and cost effective unit.

The "On Track" is a semi-automated console with eight VCAs (any channel can be a master), and each channel



Ramsa UHF Wireless Microphone

The Ramsa wireless microphone/receiver combination uses a fixed frequency design, selecting and receiving up to three wavelengths in the UHF 400 band. The system's WX-8350 receiver operates on a space diversity principle and features LED display reception level metering, a built-in squelch circuit, and three output levels can be chosen: +4 dBm, -20 dBm or -60 dBm. The WX-8050 microphone features a smooth frequency response tailored for vocal applications and operates for over four hours on a single SUM-5 battery.

Circle #050 on Reader Service Card

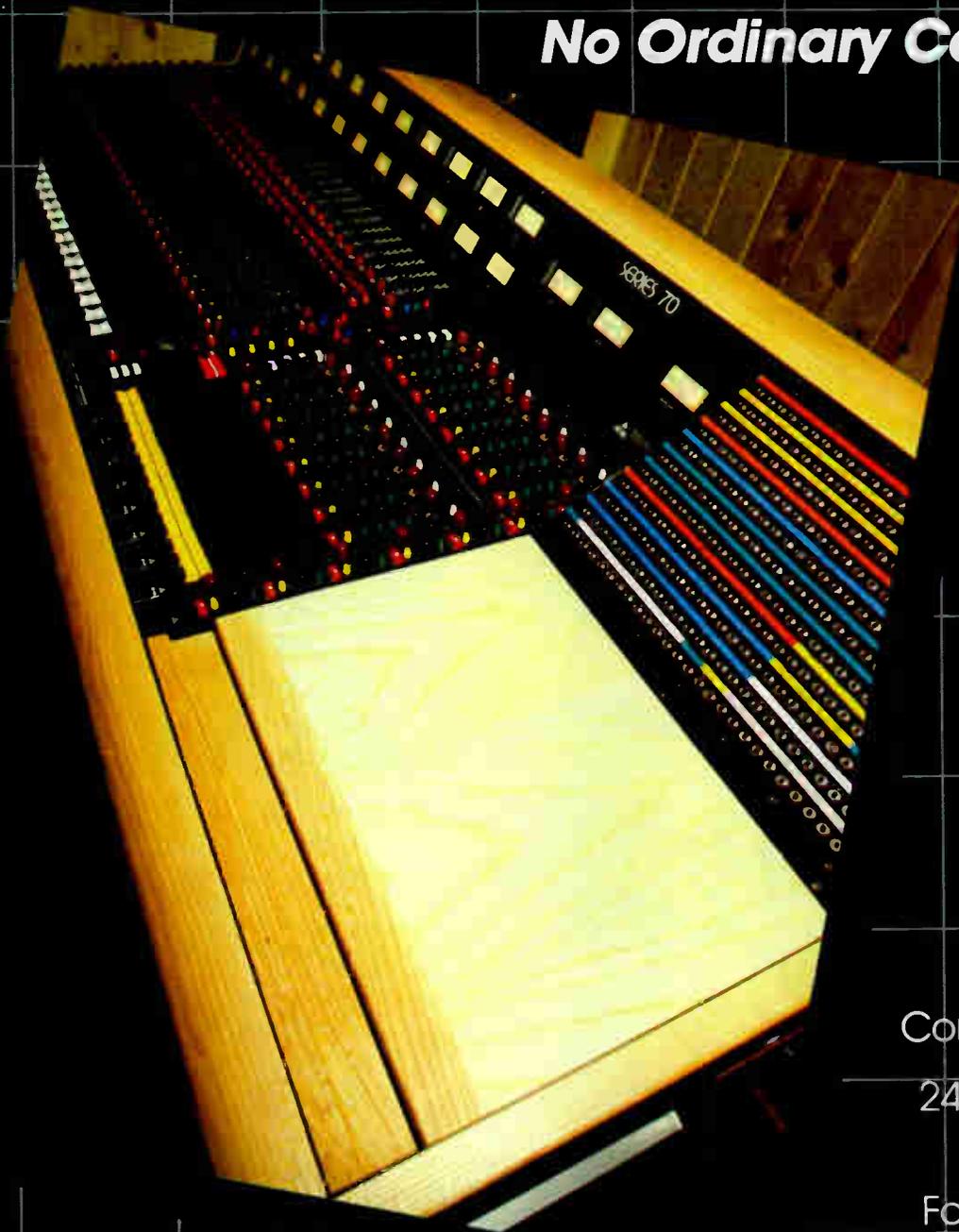
PAS MRS-1 System

According to the manufacturer, the recently-introduced MRS-1 (Modular Reinforcement System 1) from Professional Audio Systems is the first three-way, modular, full range, time corrected PA system available to date. The system is comprised of a double 18-inch bass module, a single 12-inch mid-bass module, a constant coverage horn with 2-inch compression driver, and dedicated electronics. Controlling the system is the one rack space System Processor, which is inter-



SERIES 70

No Ordinary Console!



True 16 Bus
Console/Faders

24 Monitoring/
Meters

Four Band E.Q.

Dealers:

AFP Sound Systems
Audiotechniques
Cramer Prof. Audio/Video
Everything Audio
Leo's Professional Audio
Southwest Pro Audio
Trackside Engineering

313/476-2293
212/586-5989
617/449-2100
213/995-4175
415/652-1553
512/443-4567
404/436-3024

Michigan
Metro N.Y.
New England
So. California
Oakland, CA
Texas
Southeast

*For other dealer
information, contact:*

TRIDENT (U.S.A.) INC.

617/368-0508
617/365-2130

Circle #044 on Reader Service Card

nally calibrated for the Time Offset Correction™, the cross-over filters, and turn-on/turn-off transient protection.

Cabinets are wedge shaped to facilitate clustering, and constructed of ¾-inch multi-ply with 2-inch by 3-inch bracing. System performance is rated at 40 to 15k Hz ± 3dB frequency response, and phase response from 100Hz to 10kHz is given at ± 10 degrees. The retail price for the MRS-1 is \$4,160 with mono System Processor and \$4,660 with stereo System Processor.

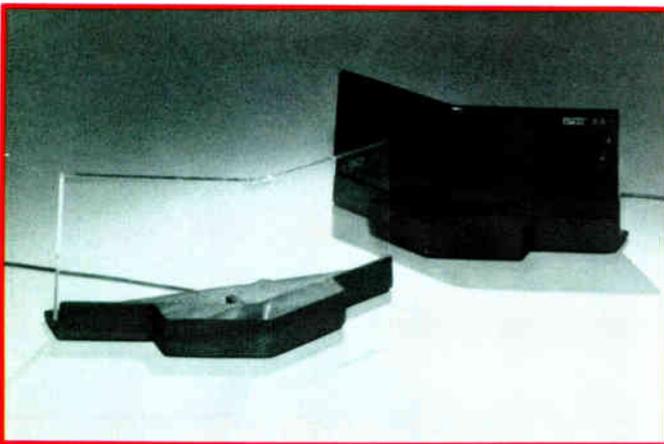
Circle #051 on Reader Service Card



JRF ½-inch Retrofit Kits

JRF Magnetic Sciences has unveiled a new retrofit half-inch, two track conversion assembly designed to fit Ampex ATR series analog mastering recorders. The ATR assembly offers easily accessible adjustments for azimuth and head wrap, and is fitted with premium Saki magnetic heads. The firm has also developed conversion packages for MCI JH-110A/JH-110B, Ampex 440 and 3M recorders.

Circle #052 on Reader Service Card



Crown PZM Model 2.5

The PZM 2.5 from Crown International is a low-profile, minimum visibility microphone which combines a precision-calibrated pressure capsule with a boundary that improves directionality. The 2.5 is designed for applications such as theater productions, conferences and public speaking, where the elimination of audience noise is desirable. In operation, the microphone can be placed on a surface such as a floor, table or lectern and aimed at the source. The corner boundary design increases the microphone's sensitivity and improves speech articulation through its specially tailored frequency response.

The PZM 2.5 is 12 to 48 Volt phantom powered, and includes a transformer-balanced, low impedance output and a permanently attached 15-foot cable. Suggested retail prices are listed at \$369, and both transparent and dark boundary models are available.

Circle #053 on Reader Service Card



VE-jr Vocal Eliminator

LT Sound, makers of the Thompson Vocal Eliminator series, have introduced the VE-jr, a low-cost vocal eliminator designed for applications where budget and performance standards do not require the more flexible VE-1 or VE-2 models in the line. The VE-jr can remove the lead vocal from most stereo disks, although the degree of success depends on the recording techniques and vocal style used on the original record. The unit connects to component stereo systems via the tape monitor inputs/outputs, and is powered by a standard nine volt battery. A microphone input and mixing control is provided, allowing the user the option to make recordings with or without the new vocal. The VE-jr is priced at \$149.

Circle #054 on Reader Service Card



Electro-Voice PL78

Electro-Voice has introduced the PL78, a new cardioid condenser microphone which offers exceptional gain before feedback in both vocal and instrumental live performance applications. The PL78 also reduces undesirable proximity effect problems caused by close miking via a sophisticated internal filter network, so performers have more control over tonal colorations.

The microphone can be powered by an internal 4.5 Volt alkaline battery or any 24 to 48 volt phantom source. A protective gig bag and stand mounting adapter is included.

Circle #055 on Reader Service Card

Soundcraft Automation Options

George Massenburg Labs, of Los Angeles have agreed to design and implement a hard disk-based automation system for present and future Soundcraft recording consoles. The system utilizes features of the GML moving fader technology including real time automation software, standard Motorola 68000 family microprocessors, the extendable GML decision list and complementary I/O format.

A compatible VCA system will also be available and all current releases are designed to be upgradeable to the moving fader design. Other automation options for Soundcraft consoles include tape-based storage for applications not requiring a disk storage media, and the Audio Kinetics MasterMix system can also be used.

Circle #056 on Reader Service Card

Let Telex Bankroll You to a Tape Duplicating System

For only \$268.50* a month you can own a basic Telex 6120 system, without interest or finance charges.



Basic monaural cassette-to-cassette system \$358.00 down and 12 monthly payments of \$268.50.



One of many system configurations available for cassette-to-cassette, reel-to-cassette, reel-to-reel duplicating.

As you may know, the Telex 6120 is considered to be the most advanced and reliable in-cassette tape duplicating system on the market. To make this system affordable, we have a special, time limited offer to non-profit and commercial organizations. So even if your budget is small, or your funding is limited or you rely on donations, you probably qualify to buy a state-of-the-art Telex tape duplicating equipment now. Here is how it works. You select the 6120 system of your choice. Make a 10% downpayment and pay the balance in up to 12 months, without interest or finance charges. For example, the downpayment for a basic monaural cassette-to-cassette duplicating system is \$358.00 with a monthly payment of \$268.50. If you duplicate tapes as a commercial service, you'll pay for the system with just a few hours of operation. If you're non-profit and send out for your duplicating, you can do it yourself and save more than enough to buy the equipment. Either way, within a year you'll own the system outright.

Of course, you can select system configurations for reel-to-cassette or reel-to-reel duplicating. Mono or stereo systems are available. And because the Telex 6120 is based on the building block principle, you can expand a basic system when needed.

This special offer is based on two conditions:

1. Your purchase is subject to credit approval by a participating dealer.
2. This offer expires December 31, 1984.

Please contact us now.

We'll send you complete

technical information about the system. You'll

get the names of participating dealers. We'll include

our price list. We'll even provide you with a chart that lets you

determine how quickly a basic system can pay for itself.

Remember, • Minimal Investment up front

• Pay as you go for up to 12 months • No interest or

finance charge • This offer expires December 31, 1984

You must act now. Write to Audio Visual Department, Telex Communications, Inc., 9600 Aldrich Avenue So., Minneapolis, MN 55420 U.S.A. or call us toll free during business hours at 800-828-6107. In Minnesota call 612-887-5531.

*Payments are based on the suggested list price of \$3580.00 for a basic monaural cassette-to-cassette high speed series 6120 tape duplicating system with a 10% downpayment of \$358.00, and 12 monthly payments of \$268.50. Offer available only through participating dealers and does not include state or local taxes. Offer expires December 31, 1984.

TELEX®

TELEX COMMUNICATIONS, INC.

CORPORATE SPONSORSHIP

Rolling Stones vs. the Miller High Life

by Blair Jackson

Just a few short years ago, the Rolling Stones became embroiled in a controversy over the sponsorship of their U.S. tour by Jovan, a youth-oriented cosmetics manufacturer. Some critics cried "Sell-out!"—surprised that this one-time band of rock and roll revolutionaries would allow themselves to be "manipulated" by the corporate world. But from the group's standpoint, the association with Jovan was a way to pay for the tour's costly production, thus insuring the group a larger profit. And what had they lost? Jovan was simply allowed to put its name on all advertising for the shows. Of course that was hardly the first time the corporate world had underwritten a rock tour, but because the Stones are such a popular group, and because, indeed, Jovan's sales and profile both grew as a result of the tour, it opened the floodgates for corporate involvement in rock tours. Schlitz beer was very visibly involved with The Who's farewell tour a couple of years ago—so much so that The Who actually appeared in a massive television advertising campaign for the beer. Pepsi paid millions to help underwrite The Jackson's tour this year and used Michael and his brothers in two commercials. And coast to coast, corporations large and small have sought ways to use rock and roll to expose their products to the demographic group that composes the core rock audience—namely 15 to 25 year-olds (though it varies from band to band).

It's not surprising that beer companies were among the first corporate concerns to get involved with rock. Most kids start going to concerts around the same time their interest is perked in alcohol, and drinking, both legally and illegally, has long been a favorite pastime of young concert goers. Of course beer makers can't brazenly appeal to underage rock fans. That's why Kevin Wulff a spokesperson for Miller Brewing chooses his words very carefully when he talks about his company's objectives in sponsoring rock shows. He talks of "entry level drinkers—people who have just come of legal age in their states."

"Our corporate objective with the Miller High Life brand was to increase the awareness and improve the image of the beer amongst the legal drinking age to 25-year-old segment," he says, "so we felt music would be a

good tie-in. We felt we could not only use it in our promotions, but also make it part of our advertising strategy. So about three years ago we started the Jimmy Buffett commercials, then Gary U.S. Bonds and Eddie Rabbitt and some others. During the same period of time we tested the sponsorship of concerts, mainly in the Southeast and also the regional band network—we sponsored five different bands."

The result of Miller's initial forays into the rock world was a solid three-prong attack: the Miller High Life Concert Series, in which Miller sponsors shows in specific venues; the Miller Rock Network, which involved sponsorship of some 20 to 25 up and coming bands; and Rock to Riches, a radio promotion that ties in with local battle-of-the-bands competitions in different parts of the country, the winners receiving a recording contract, musical equipment and more.

In addition, Miller occasionally acts as actual promoters for some college shows.

Wulff says that several years ago Miller briefly entered into arrangements to help underwrite the tours of two specific artists—Ted Nugent and Eddie Rabbitt—"but there are always a lot of problems with that sort of thing," he says. "I'm not talking about problems with the artist here, but problems with local concert promoters and occasionally an artist's organization. We much prefer sponsoring venues because that's not just a flash-in-the-pan thing—the artist comes to town, we sponsor their show and they're gone. When we put our name on, say, the summer concert series at the Greek Theatre in Berkeley, our name is out there for a few months and it's not just connected with one or two shows."

Wulff also says that having a beer company sponsor a particular artist

—PAGE 84

Field Test

Toa SD Series Loudspeakers

Perhaps the most overlooked links in the audio chain are those two at the very end: speakers and human ears. These vital transducers rely upon one another in a most integral manner, as each functions as the inverse of the other. The loudspeaker converts electrical variation into acoustical wavefronts which are captured by the ear, setting into motion a complex biomechanical reaction ultimately resulting in the stimulation of auditory nerves which brings us back to, you guessed it, electrical variations. Though in this case we refer to it as "hearing."

Inevitably, this biomechanical transmission of information is not precisely duplicated from individual to individual, as different people tend to perceive a given sound in subtle fashions; most likely contributing to personal preferences in sound and speakers. This phenomenon, what you *think* you hear, is known as psychoacoustics.

Toa Electronics has placed a great emphasis on this notion of psychoacoustics through the promotion of their line of compact speakers, the SD series. Considering that most quality speaker systems will tend to appear technically similar on paper, Toa has taken the next step by addressing the often obscured arena of subjective preferences.



Toa 30-SDM

There are four different models in the SD line-up; all are bass reflex (or vented) three-way systems with an input impedance of 8 ohms. The 30-SD and 30-SDM ('M' indicates monitor speaker) each contain a 12-inch woofer while the 38-SD and 38-SDM each contain a 15-inch woofer plus an additional tweeter. The remaining components: radial horn, compression driver, moving coil tweeter and passive crossover network are all

Digital Tower

Reflections Of The Future

Digital Energy Conversion Amplification™... A new standard of power. Brought to you by Peavey via the DECA™-700 and DECA™-1200 power amps. The world's first (and only) 90 percent efficient and truly digital power amplifiers.

Because linear amplification allows at best between 40 and 60 percent efficiency, we knew that in order to manufacture a 90 percent efficient power amp, we would have to depart from conventional technology. DECA™ is not magnetic field nor is it analog. It's a totally new discovery on which we have applied for six patents.

The DECA-700 and DECA-1200 power amps deliver time after time with virtually no heat, very little mass (24 and 26 pound units) and 90 percent efficiency. The DECA-700 specs out at a rated minimum power output of 350 watts RMS per channel into 4 ohms and 700 watts RMS into 8 ohms (in bridge mode). Our DECA-1200 is rated at minimum power of 600 watts RMS into 4 ohms and 1200 watts RMS into 8 ohms (in bridge mode). Other features include DDT™ compression circuitry to prevent amplifier overload, absolutely no measurable TIM or slew rate induced distortion, multiple overload output and load protection features. They are both available in a 19" rack mount (two space) configuration.

DECA Technology. Yesterday our competitors said it couldn't be done. Today they're wanting to know how we did it.

Discover for yourself our exclusive DECA power amps by visiting your nearest authorized Peavey dealer or writing us at Dept. DECA, Peavey Electronics, 711 A Street, Meridian, MS 39301.

Circle #046 on Reader Service Card



150Hz-8kHz

emilar

1365 N. McCann St. ■ Anaheim, CA 92806 • 714.632.8500 • 800.854.7181 • TWX 910.591.1191

Circle #057 on Reader Service Card



2 Channel Octave Band Graphic Equalizer
L-C ACTIVE 4100A

The model 4100A features Active, Inductor-Capacitor (L-C) Tuned Filters. The resonant frequency of each filter is derived PASSIVELY by a Tuned L-C Pair. This drastically reduces the number of active devices necessary to build a Ten Band Graphic Equalizer. Only seven operational amplifiers are in each channel's signal path: THREE in the differential amplifier input; TWO for filter summation; ONE for input level control; ONE for the output buffer. The result . . . the LOWEST "Worst Case" NOISE of any graphic equalizer in the industry . . . -90dBv, or better.

White instruments, inc.

P.O. Box 698 Austin, Texas 78767
 512/892-0752
 TELEX 776-409 WHITE INST AUS

Circle #058 on Reader Service Card

common and identical to every model. The SD series are really quite unique in appearance. The first thing you'll notice about them is the rectangular slotted opening for the bass speaker. Despite the fact this was an acoustical design consideration (the narrow opening creates an acoustic low-pass filter), aesthetically the effect is impressive.

Low end—In spite of the reduction of exposed cone area on the front panel, the woofer still passes a healthy punch. Of course, the vents in the enclosures allow for the addition of rear-going waves to the total signal. The theory behind the slotted opening is based on the sonic property that higher frequencies become increasingly more directional, and low enough frequencies (long wavelengths) can actually bend or wrap around obstructions. In this case the shorter wavelengths emanating from the woofer are blocked or simply can't bend around the restricted escape. The effect seems to be one of tone quality rather than drastic attenuation, as the cut-off is fairly gradual. The bass takes on a warmer, rather than softer sound.

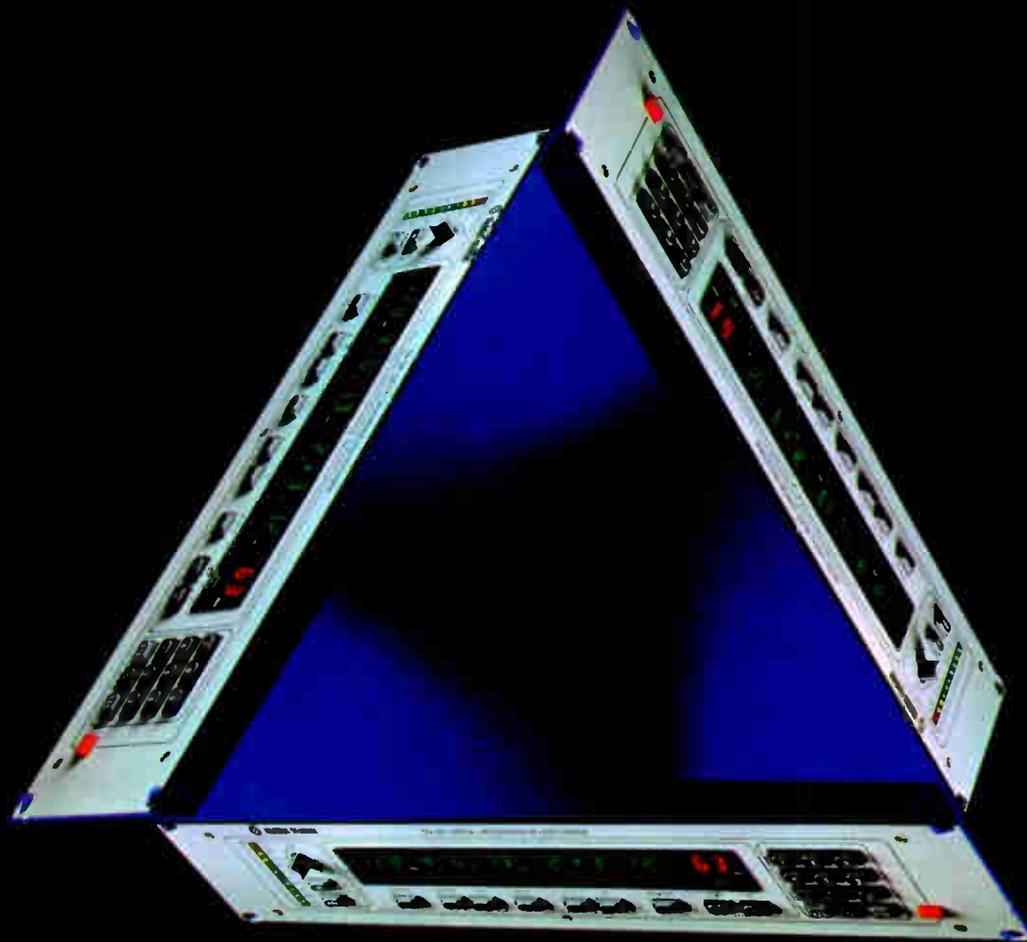
High end—Toa incorporates a compression driver with a 1 3/4-inch diameter voice coil coupled to a radial horn on all models in the SD series. Typical coverage pattern of the horn is 90 degrees horizontal by about 40 degrees vertical. The horn and driver handle that portion of the signal from 1kHz to 10kHz with a pretty smooth frequency response. Above 10kHz, a moving coil tweeter(s) takes over for an extended response to theoretically over 20kHz. The horn itself is constructed of heavy die-cast aluminum and like all mounted components on these speakers, is painted a matte black. It is surface mounted to the uppermost portion of the front face and protrudes from that plane by about three inches at center peak. Both the horn and the tweeter(s) are mounted by Allen-head type screws, very refreshing to see as this kind of screw head has a greater resistance to stripping through repeated removal and replacement.

Crossover network/patch bay—Located on the back of the SDs, or on the right side of the SDMs you will find a very well thought-out panel housing three inputs, three outputs, and a high frequency attenuator control. The crossover circuitry is mounted to the inside of this panel. All connections are of the 1/4-inch phone type, and all jacks are clearly labeled. The format is such that the left-most jacks are designated as specific inputs with the corresponding jacks to the right intended for series or bridge outputs for that channel. The crossover network is of the LC type, and is accessed via the fullrange input jack. It provides a 12dB per octave roll-off with crossover points at 1kHz and 10kHz.

An adjoining high frequency at-

A small universe

325
1164



Create space The DN780—Reverberator/Processor

Klark-Teknik's ongoing investment in research leaps into the age of variable space with the new DN780 reverberation simulator. Its *Very Large Scale Integration* technology and a superfast *Digital Signal Processor* (DSP) allow the world's first practical application of specifically developed algorithms, creating "added density"TM reverberation: reflections with much smaller intervals between them.

The result is simply — greater realism.

From natural concert hall reverberation through remarkable small room and plate sounds to an impressive "infinite space" effects programme, the DN780 will uncannily place you in the musical environment of your choice.



KLARK TEKNIK



British designed, British made
Trusted throughout the World

Circle #059 on Reader Service Card

Manufactured by Klark-Teknik Research Limited
Coppice Trading Estate, Kidderminster DY11 7JJ,
England. Telephone: (0562) 741515 Telex: 339821

Klark-Teknik Electronics Inc.
202a Eastern Parkway, Farmingdale,
NY 11735, USA. Telephone: (516) 249-3660
World Radio History

Omnimedia Corporation Limited
9653 Côte de Liesse/Dorval, Quebec H9P 1A3,
Canada. Telephone: (514) 636 9971



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.

- * Suggested retail
- + Dolby is a registered trademark of Dolby Labs, Inc.
- ^o Just call us for the nearest one

Fostex[®]
PROFESSIONAL MULTITRACK

FOSTEX CORPORATION OF AMERICA 15431 Blackburn Avenue, Norwalk, CA 90650 (213) 921-1112

tenuator allows for 10dB of cut with an "off" position at full left. This control affects both the horn and tweeter(s) simultaneously.

Below the full-range input are jacks to access the woofer and high-end assemblies for biamplified applications. In this mode of operation the passive crossover network is bypassed and an active crossover network inserted before the power amplification.

Specifications — All of the speakers have been aligned by specifications of the Thiele-Small parameters. Power handling capacity is rated at 120 watts, 24 hours continuous pink noise band-limited from 50Hz to 20kHz; continuous program is rated at 360 watts. The 30-SD is 23.2"(H) x 17.3"(W) x 15.4"(D) and weighs 46.3 lbs. The 30-SDM is 18.7"(H) x 16.9"(W) x 23.6"(D) and weighs 44.1 lbs. Both have a rated sensitivity of 100 dB (1 watt/1 meter) and a frequency response of 60Hz to 20kHz. The 38-SD is 26.6"(H) x 20.1"(W) x 18.1"(D) and weighs 59.5 lbs. The 38-SDM is 20.5"(H) x 19.7"(W) x 26.0"(D) and weighs 52.9 lbs. Both have a sensitivity rating of 102dB (1w/1m) and a frequency response of 50Hz to 20kHz.

Enclosure—All of the enclosures are made from a highly compressed particle board of a very dense nature. The cabinets themselves are internally braced, screwed and glued together. Also, the inside surfaces are fully blanketed with a heavy 1/2-inch felt for acoustic damping. Access to the internal components is by removal of the back panel (16 Philips screws) for the SDs, or by removal of the bottom panel in the case of the SDMs.

All of the speakers are equipped with recessed handles. They are located on each side of the SDs and placed so that one person can move a speaker about with relative ease. The SDMs however are a little front-heavy, as the handles on these units are positioned too far back. Though, this really only presented a hassle when one person was moving a 38-SDM. Another inconvenience of the SDM was the minor difficulty in packing them together in a vehicle. This was mainly due to their irregular shape and protrusion of the horn (not as much of a problem with the SDs). Perhaps Toa would consider providing for a detachable hard cover for the front face so that these units could be packed or stored more conveniently for those situations where space is at a premium.

Conclusions—Overall these speakers are extremely portable and pack an amazing punch for their size. Structurally they hold up extremely well, short of dropping them off a moving truck. A pair of SDs seem highly suited for onstage side-fills or as main PA for moderately loud groups in small to medium size rooms (approximately 500 peo-

ple). They should be of great interest to groups or individuals who can benefit from an uncompromised sound for a small package. The SDMs on the other hand are designed for a more specific application. Compared to other popular monitor speakers, these are similar in size and perhaps a little lighter. Their design makes them very rugged and surprisingly inconspicuous from off-stage (the 38-SDM stands only 26.6" high at its peak). As monitor speakers tend to be a very personal thing with musicians, Toa encourages the buyer to educate himself and actively compare. I found the SDMs to be worthy of any sound stage (I admit a personal preference for the sound of the 38-SDM); it seemed the more power I fed them the better they sounded; appar-

ent loudness notwithstanding of course!

As Toa stresses, "Let your ears be the final judge." They feel strongly enough about this line that they're encouraging everyone to compare as many different speakers as they possibly can. I found they have good reason to feel this way, but check out the SD series for yourself and put them to the test. It only follows that good sounding speakers will "speak" for themselves.

All Toa speakers carry a one year warranty against defects in material and workmanship. Suggested retail prices are: \$529, 30-SD; \$549, 30-SDM; \$589, 38-SD; \$599, 38-SDM. Toa Electronics, Inc. 480 Carlton Ct., San Francisco, CA 94080. (415) 588-2538.

—Dan Levin

multimax
16:2:1 12:4:2:1 16:4:2:1
All from one 19" rack mount console

- 3 band Equalisation
- 2 auxiliary sends
- 90mm smooth action faders
- Mic and Line inputs
- Subgroup direct outputs
- RIAA equalised inputs
- Peak LED on inputs
- 12 way LED displays on masters
- Phantom power on every input
- 5532 Op-amps throughout

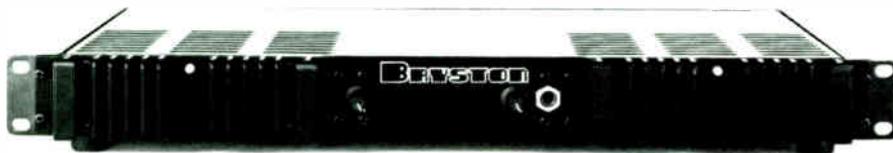
Hill Audio, Inc.
 231 Marquis Court
 Lilburn, GA 30247 USA
 (404) 923-3193
 TLX 293827 HLAB

Headwater Industries
 635 Caron Avenue
 Windsor, Ontario N9E 5B8, Canada
 (519) 256-2454

Hill Audio, Ltd.
 Hollingbourne House
 Hollingbourne, Kent ME17 1QJ, England
 (062 780) 555
 TLX 966641 HILL

Circle #061 on Reader Service Card

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 0.1% IM or THD.

IN THE UNITED STATES

VERMONT
RFD #4, Berlin, Montpelier, Vermont 05602

IN CANADA

MARKETING LTD
57 Westmore Dr., Rexdale, Ontario, Canada M9V 3Y6

Circle #062 on Reader Service Card

rh "SMART" CROSSOVERS™

and Array Series Enclosures

new firsts from RENKUS-HEINZ

now... microprocessor electronics control very compact R-H speaker systems to achieve studio monitor quality sound



SWG SIGNAL PROCESSOR/CROSSOVER

- Incredible 134dB SPL, 40Hz-17KHz
- Fail-Safe System Overload Protection
- Adjustable Intelligibility Enhancement
- Time Coherent System Performance
- Compact Modular Array for Fast Set-up
- Optional Flying Hardware

Designed for:
LIVE MUSIC CLUBS
DISCOS
THEATERS
CONCERT REINFORCEMENT

ASK YOUR DEALER FOR A DEMO OR WRITE US



RENKUS-HEINZ, INC. DRIVERS • HORNS • SPEAKER SYSTEMS
17851AB Sky Park Circle • Irvine CA 92714 • (714) 250-0166

Circle #063 on Reader Service Card

—FROM PAGE 78, MILLER

"may be a bit of a turn-off for under-age people. In the situation where we sponsor a venue, it's much more like a major league baseball situation. You have to be of age to purchase the product, of course, but also, the artist is not encouraging anyone to buy the product. We're just bringing you the series like we'd bring you the Los Angeles Dodgers, who we also sponsor."

Wulff says that Miller is aware that not every artist who plays at one of the venues they sponsor is the type they would like to be associated with—some for example, flaunt anti-social behavior or seem to promote reckless use of alcohol or drugs—"but we make it very clear in our advertising that what we're sponsoring is the series, not an individual artist. There's only been one time I can think of that we've decided not to get involved with a particular artist, and that was an Ozzy Osbourne show a couple of years ago. He just had an image at that time that we didn't want to be associated with."

What the rock sponsorship game is about, more than selling a product, is, as Wulff puts it, "image enhancement." Miller is hoping that when people of legal drinking age go to the store for beer they'll associate the good time they had at a Miller-sponsored show with the product. In addition, they are hoping to project a positive image of the product to the "entry level drinkers."

Interestingly enough, when Miller sponsors a series, they don't necessarily get to have their beer sold at the shows. Often, concession companies make deals that don't involve the promoter, much less a sponsor. So there are times when Budweiser is sold at shows partially put on by Miller and then there are concerts such as those at the Greek Theatre in Berkeley, where no alcohol is served at all because of the venue's location on the UC Berkeley campus. Nonetheless, Miller High Life signs grace areas on either side of the stage.

Wulff says that the rush of corporations trying to attach their names to rock tours and venues has turned what was once a relatively small avenue open to companies into a highly competitive bidding fracas. "It's almost like the Olympic bidding wars," Wulff says. Chrysler sponsored a venue in North Carolina, Budweiser two facilities in the Midwest, Haagen Das in South Carolina and of course there are numerous specific tours being underwritten, from ZZ Top to Lionel Richie. Whereas there was once skepticism on the part of many rock fans over this increasing blend of art and commercialism, Wulff says that "now I think it's very well received. Kids have come to expect it, really." And that is indeed good news for Miller Brewing and a host of other corporate giants trying to cash in on rock and roll. ■

The scope and challenges of today's music keep expanding daily. Basic musical craft remains the indispensable foundation for success. But there is also a whole new dimension of music technology. It is an inseparable part of our musical present and future.

For the emerging musician, Berklee has a comprehensive selection of course offerings, professional faculty, and technical facilities including:

A Performance Synthesizer Facility equipped with over 50 of today's latest instruments, such as the

Oberheim OB8, Rhodes Chroma, Yamaha DX7, Roland Jupiter 6, and others.

Six professional recording studios featuring three 24-track Studer/Otari facilities with automation and digital capability.

Two Movieola film studios and BTX Softouch System for film and video scoring and editing.

Call or write our Admissions Office for our free catalog today. Because at Berklee, we'll make you more of a musician.

Berklee will make you more of a musician by teaching you more than music.



Berklee
College of Music

Where careers in music begin.

For a current catalog, contact the Berklee Admissions Office. Call toll-free 1-800-421-0084 (9 a.m. to 5 p.m. EST). In MA call: 617-266-1400. Or write: BERKLEE, Admissions Office, Dept. MX2, 1140 Boylston St., Boston, MA 02215.

SESSION PLAYER

by Carol Kaye

Ever since I began writing this column over a year ago, I have received many kind letters from *Mix* readers with suggestions for future columns and queries concerning the various set-ups and instruments I've used over the years.

der "P" and Fender Jazz Bass is not only the additional pick-up and narrow neck (too crampy for my hand which is very small) but also the body shape and sound. I never did like the sound of the Jazz Bass for recording but it sounded pretty good live if you could find the right settings. It had a treble pot, volume

Sunset Sound. (The Benson had four 10-inch speakers with a closed back). I finally wound up recording with a small custom-made Versatone amp (one 12-inch speaker, solidly baffled—closed everywhere, with a pan-pot to mix the treble and bass amps in it) which was made by two gentlemen who were carving names for themselves while inventing and programming items such as the Gibson effects pedals, Maestro Box, and all the electronic stops for the Lowrey Organ—Bob Hall and Jack Cookerly. A synthesizer player, Paul Beaver, was using the Versatone amp and I liked it when I tried it one day at Capitol Records and used it from about 1970 on. It can be heard on "Wichita Lineman," "The Way We Were," "Mission Impossible," "Ironside," "MASH," "Hawaii 5-O," "Butch Cassidy," and "Guess Who's Coming To Dinner."

On "Airport" (cut at Universal), I used the Gibson Maestro Box, the "Steam" effect coupled with the Octave-Divider and lots of Echo-plex. All that worked nicely with the theme and end credits. For "Big Jake" (the John Wayne movie recorded at the CBS Studio Center in Studio City) I can remember using a lot of effects on the Gibson Box such as Steam, Claves and Octave Divider while playing lines with a lot of 10ths which gave it a Spanish-Western type flavor. I especially remember that date as all the percussionists were giving me dirty looks—they get paid a lot for doubling different percussion instruments and I was cutting into their territory with all my stuff.

About 1969, engineers started to use both my amp and direct box at times. My live sound was always clean, good and quiet and I never really played too loud in the studios and engineers loved to mike me until about 1974 when they just took everything direct.

The Danelectro (Dano for short) Bass is a semi-cheap 6-string bass guitar. Bass guitar is the name for a 6-string bass, although some people mistakenly refer to the electric bass as a bass guitar, just because it has a guitar shape. It is tuned like a guitar, but down one octave which gets into the electric bass range and sounds the same as the electric bass on the bottom first four strings but has the added B and E strings on top. In 1963, when I first started playing electric bass (having tired of playing studio guitar), producers were using the Dano, Fender bass (which I changed the name to electric bass later), and string bass (later called the acoustic bass) on all dates. The Dano is what Ike Turner played, was the "click" sound you hear on all the Burt Karmfert

ELECTRIC BASS IN THE STUDIO

Having played on over 10,000 studio dates (records, commercials, TV and movie soundtracks) since 1958, I'd like to focus on how the electric bass has evolved over the years and how equipment and techniques have changed.

Although I was first known as a guitar player, it was almost by accident that I became a session bassist in late 1963. At that time, studios had high side baffles which separated the players and occasionally enclosed the amplifiers, especially on dates with live strings. The use of direct boxes for bass was virtually unknown then, so the player's choice of amplifier and the microphone being used had as much to do with the sound heard in the control room as the instrument itself.

I used the Fender Precision (Fender "P") Bass with a medium, and then smaller Rosewood neck from 1963 through about 1970. I switched to the one-piece neck and used Fender until I played live with the Hampton Hawes Jazz Trio in 1974. I turned the volume control up full to get rich highs and the treble setting ranged from one-third to almost full, depending on the kind of music. The bass in the studio always sounded brighter than what finally wound up on the record. The Fender "P" has only one pick-up, volume and tone controls, and most of the well known bassists (Ray Pohlman, Chuck Rainey, Joe Osborne, James Jamerson, Lyle Ritz, Bob West) used the Precision bass in those days.

The difference between a Fen-

pot, and pick-up mixing pot.

I consistently used a Fender Super Reverb amplifier with an open back and four 10-inch Utah speakers. It's the amp I used on the Beach Boys ("Help Me Rhonda" to "Heroes and Villains"), "Homeward Bound," etc. It was usually miked with the Shure 545, (Telefunken and Neumann mikes worked nicely on it also) and the mike worked best when centered on the cabinet and placed back about one-and-a-half feet. Some engineers liked to stick it right on the grill, up high on one speaker but I think it worked best about one foot away in the middle. I usually had the amp volume low (about 2½-3), highs on about "6" or higher, bass on about "4". Amps did not have midrange controls then.

There are other electric basses: the Hofner, a violin-shaped bass made popular by the Beatles, the Ampeg, Music Man, G & L (Leo Fender's current bass), Alembic, and Rickenbacker (made by the original Fender team, minus Leo Fender). Music Man and G & L are close in sound and design to the early Fenders as is my current bass, the Strings 'N Things Blues Bass (from Memphis). I like the shape as well as the sound and feel of the Strings 'N Things Bass—sort of an advanced Fender "P" with two pickups—right out of the factory box, it gets a great live and studio sound.

I went on to use the first Benson bass amplifier ever produced which sounded great. I used it on "Feelin' Alright" with Joe Cocker, cut with a mike at

records and some American recordings too; I used it on "Dancing In The Streets" in place of the electric bass. Glen Campbell used my Dano on his solo of "Wichita Lineman." Eventually though, the pick sound on the electric bass replaced the need for three bassists on the dates.

The Hofner is a mellow-sounding bass, nice in the room but hard to get a definable sound in the studio on. The Alembic has a mid-range recording sound, fairly punchy if you play it hard. Around 1974, I helped Gibson with their Ripper and Grabber basses (technical advice, etc.). They built the pick-up on a slide when I kept changing my mind as to the pick-up location. I used the Ripper on "Big Man," Cannonball Adderly's last recording featuring singer Joe Williams (Fantasy Records). I liked it fairly well but mostly I missed that Fender punch so I went back to Fender then. Also, by that time, I was using Fender's giant LED Lighting custom amplifier with Gene Czerwinski (Cerwin-Vega) speakers. By the way, on Laurindo Almeida's "Hits of Broadway" LP recorded at Capitol Records Studio "B", I used Gene's little 10-inch speaker baffled by a small long cabinet and miked real close—that thing sounded great.

For you engineers who are having trouble getting definition from an

electric bass, a number of things can be done: (1) Have the player make tone adjustments via the instrument treble pot, (2) Have the player play closer to the bridge, (3) Have the player put sponge rubber under his strings or felt muting on top of his strings, but under his bridge cover, (4) Have the player play with a pick (a hard pick), (5) Or last resort, use a little limiting, with a little high end and make sure the player is playing hard (which is different from "loud").

Special effects that I liked with the bass were: Octave Divider (works well with my system of picking), fuzz tone, Double Mutron (plays Lydian-type scales up and down from one note), MXR Phase Shifter, the effects on the Gibson Maestro Box (earlier recordings) and the EchoPlex set for one or two repeats. I have used other effects such as the wah-wah (tough on the bass), flanger and chorus (Jaco Pastorius uses this a lot). You have to be careful that the effect gadget does not diminish the original bass sound if you are laying down a basic bass track.

Harmonics are pretty bell-like high notes gotten on the bass by lightly touching a string at harmonic overtone points with the left hand. The harmonics were popularized by Jaco Pastorius. Lenney Breau created a beautiful harp-

like guitar style by interweaving harmonics with regular notes on guitar and 12-string guitar (each string tuned differently) which has been copied by many guitarists.

To get a "boo-bam" effect on the bass, you can hit the strings with your right hand up one octave from your left hand fingering. I used this on some records in the late '60s for an island-type effect. It's a pretty and percussive sound. The slap-pop that has been so popular seems very elusive to record as far as a good round bottom sound which I miss on many of today's recordings. You can't have a good dance tune without a solid bass line. The slap-pop is fun as an occasional rhythm thing but to me doesn't provide the fat music note you need to build the rest of the band on.

I also used the Yamaha electric bass for a short time—never recorded with it though. One bass I used for awhile was the fretless Hohner which got a very good sound. It had plastic strings (black) and does require a different left hand technique to play as do all fretless basses. I used it on one of Don Ellis' LPs and some work at Capitol. Sometimes a fretless is elusive to record—you have to put some highs on the instrument itself.

We'll talk about guitar in a future column. ■

HEAR PERFECTION.

EAR
EAR
EAR
EAR
EAR
EAR
AR

OTARI MTR SERIES TAPE RECORDERS

SUPERIOR AUDIO AND A RUGGED, INTELLIGENT TRANSPORT PUT THESE MACHINES CLOSEST TO PERFECTION.

ONE MORE REASON FOR CHOOSING E.A.R. PROFESSIONAL AUDIO; SPECIALISTS IN SALES AND SERVICE OF FINE RECORDING STUDIO EQUIPMENT. CALL US TODAY FOR THE PERFECT FORMULA.

- OTARI • SOUNDCRAFT • TRIDENT
- LEXICON • NEUMANN • APHEX
- 3M • QUAD EIGHT • TASCAM
- AMPEX • DBX



E.A.R.
PROFESSIONAL AUDIO
2641 East McDowell
Phoenix, Arizona 85008
(602) 267-0600

Circle #065 on Reader Service Card

Hugh Masekela's Many Homecomings

The village of Gaberone is in Botswana, three hours by car from Johannesburg, South Africa. A young township—founded by blacks 18 years ago as a refuge from the apartheid of South Africa—a few years ago it didn't even have telephones, but now it's got a modern 24-track recording studio run by people who are dedicated to bringing Africa's music to the world.

"I've always felt I owed some kind of debt to these people where I come from," says trumpeter Hugh Masekela, a South African who has not set foot in the country of his birth since 1960. Along with his partner and producer, Stewart Levine, and with the backing of London-based Jive Afrika Records, Masekela's mission is to take the music and musicians of the Southern African countries, process it using modern technology, and make it available to the masses. Masekela's new album, *Techno-Bush*, is the reason Gaberone has its first real recording studio. It's a collection of "South Africa's greatest hits," plus updates of "The Lion Sleeps Tonight" and Masekela's 1968 chart-topper, "Grazin' in the Grass."

"We had to make a record that could compete in the marketplace," Levine explains. "We couldn't just do traditional African music. On this album we began to synthesize the cultures."

The first plan called for the basics to be recorded in South Africa by musicians working from charts—without



Masekela with partner/producer Stewart Levine in Jive Afrika's mobile unit.

Masekela, who would overdub his parts later. But for many reasons, some of them political, that idea never jelled. Masekela and Jive considered bringing the African musicians to London, but the cost of doing that for the seven or eight albums they plan to make would approach that of building a studio. So Jive decided to purchase the mobile unit being offered by the Record Plant in Los Angeles and park it in Gaberone. "It was the only way to get us all in the same room at the same time," says Levine. "Otherwise, we would have had to record all over the world."

"This is a chance to give the people who are best suited for this music a place to work at a state-of-the-art production level with state-of-the-art technicians," says Masekela.

"Jive wants to make records

with the artists in the area, and we want to bring fellow producers, writers and artists down there where other musics can marry," adds Levine. "It's a serene and peaceful place to record, and unlike some of these 'paradise' studios like in the Bahamas, indigenous music makes for a reason to be there."

Masekela has been in self-imposed exile from South Africa since 1960, living in the United States until 1982, when he moved to Gamberone. He grew up listening to American jazz recordings in the '40s and '50s, and played in a series of dance bands—performing for blacks only—in the late '50s.

With the help of Harry Belafonte and Dizzy Gillespie, Masekela got out of South Africa in 1960 and enrolled in New York's Manhattan School of Music.

—PAGE 98

THE FAR SIDE

By GARY LARSON



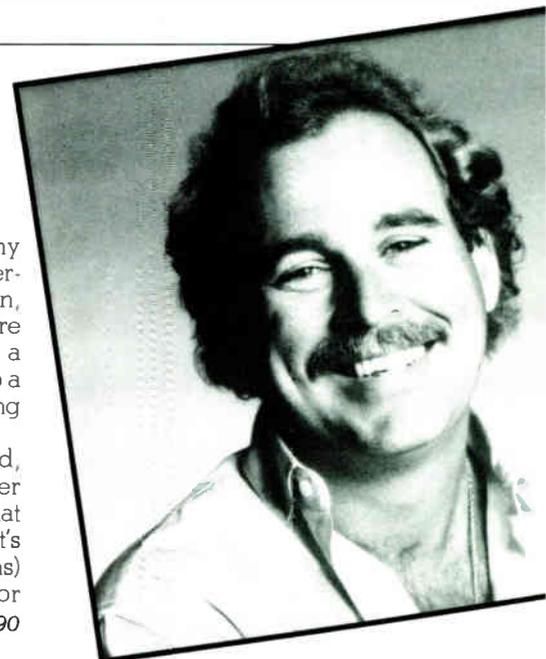
"Aha!"

Jimmy Buffett: A Pirate Looks at '85

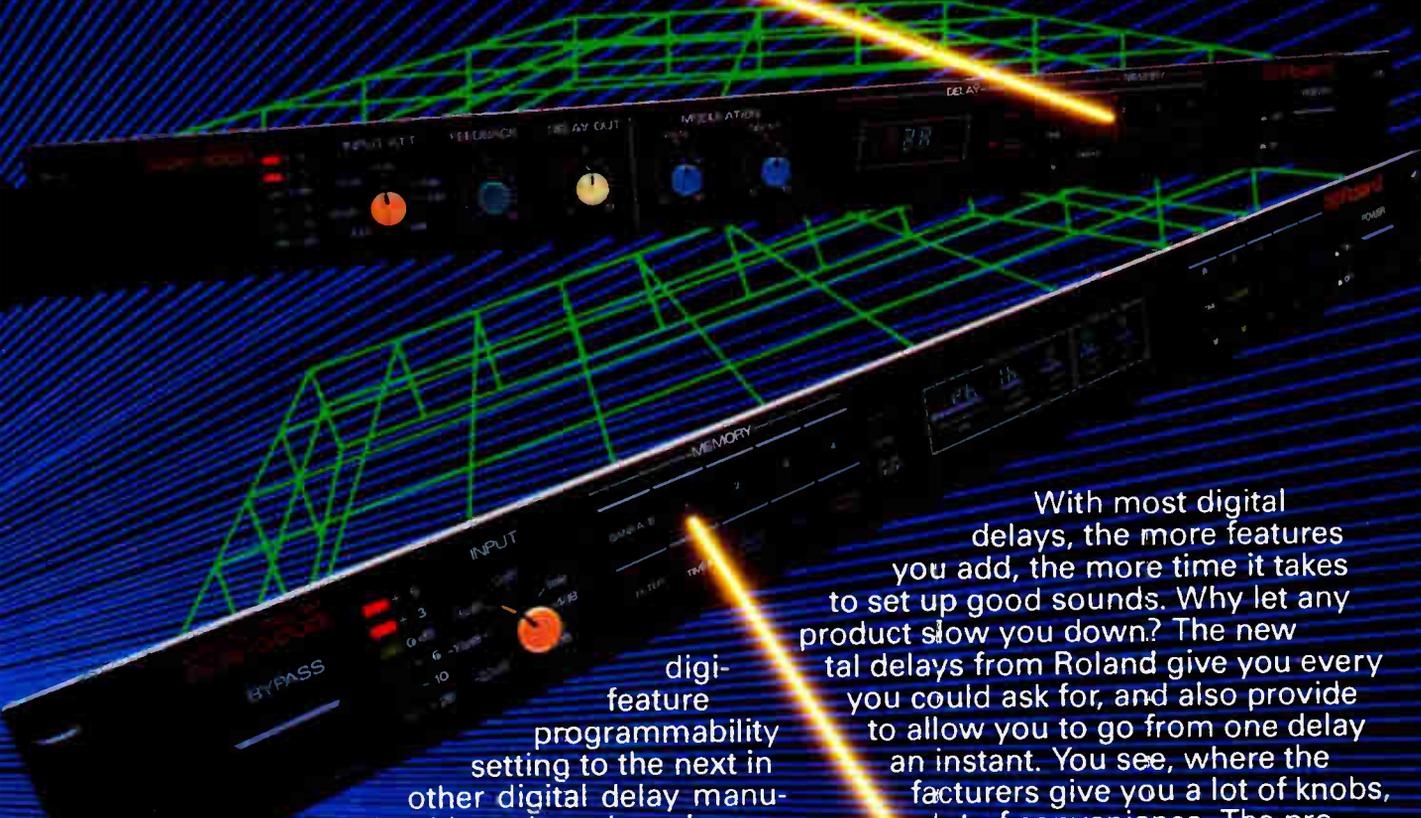
"I want you all to know," Jimmy Buffett told a sun-bathed crowd of several thousand at the Concord Pavilion, (Concord, CA) "that the reason we're playing in the *afternoon* is due to a booking situation. I haven't turned into a vegetarian or found God, or anything like that . . ."

His intentions thus established, the Alabama-born singer/songwriter launched into a two-set performance that left the crowd of "parrotheads" (Buffett's affectionate name for his diehard fans) cheering, stomping and yelling for

—PAGE 90



INSTANT



With most digital delays, the more features you add, the more time it takes to set up good sounds. Why let any product slow you down? The new digital delays from Roland give you every feature you could ask for, and also provide you with the convenience of being able to go from one delay setting to the next in an instant. You see, where other manufacturers give you a lot of knobs, Roland has elected to give you a lot of convenience. The programmability of the Roland Digital Delays lets you go from crystalline echo to full-dimensional flanging to there...just push a button (or a footswitch). What's more, Roland has provided higher resolution and more delay time per channel than any product on the market. The features speak for themselves:

Both Units: Four convenient footswitches: Delay switch between Memory Channels), Playmate (to switch between Memory Channels), Hold. Precision control of Delay Settings: 1 to 10 mSec in 1 mSec steps. Wide Frequency Response: Digital Companding and Pulse Code Modulation (16 bit A/D converter) increase frequency response, to give an effective dynamic range of 100 dB with only .03% THD.

SDE-1000: Four channels of microprocessor-based memory, 1,125 Sec. of Delay and LED readouts for Delay time for \$499.00.

SDE-3000: Eight channels of memory, 1 mS to 4.5 Sec. of Delay, LED readouts for Delay Time, Feedback Level, Output Level, Modulation Rate, and Modulation Depth—all for \$1099.00.

Instant Delay. Once you've experienced it, you won't be able to settle for less.

With most digital delays, the more features you add, the more time it takes to set up good sounds. Why let any product slow you down? The new digital delays from Roland give you every feature you could ask for, and also provide you with the convenience of being able to go from one delay setting to the next in an instant. You see, where other manufacturers give you a lot of knobs, Roland has elected to give you a lot of convenience. The programmability of the Roland Digital Delays lets you go from crystalline echo to full-dimensional flanging to there...just push a button (or a footswitch). What's more, Roland has provided higher resolution and more delay time per channel than any product on the market. The features speak for themselves:

Both Units: Four convenient footswitches: Delay switch between Memory Channels), Playmate (to switch between Memory Channels), Hold. Precision control of Delay Settings: 1 to 10 mSec in 1 mSec steps. Wide Frequency Response: Digital Companding and Pulse Code Modulation (16 bit A/D converter) increase frequency response, to give an effective dynamic range of 100 dB with only .03% THD.

SDE-1000: Four channels of microprocessor-based memory, 1,125 Sec. of Delay and LED readouts for Delay time for \$499.00.

SDE-3000: Eight channels of memory, 1 mS to 4.5 Sec. of Delay, LED readouts for Delay Time, Feedback Level, Output Level, Modulation Rate, and Modulation Depth—all for \$1099.00.

Instant Delay. Once you've experienced it, you won't be able to settle for less.

Roland RolandCorp US, 7200 Dominion Circle, L A, CA 90040.

DELAY

DYNA-LIGHT introduces the MOTO-LIGHTS



Featuring:

- 180° Sweep in One Second, Horizontal and Vertical
- Joystick Controlled
- Computer Interface
- Home Base Adjustable from Controller
- Four Channel Connection with One Mic Cable (up to 100 units can be operated by one channel)
- Master Joystick Overrides Individuals for Grouping
- Six-Color Gel Changer with Keypad Control Available

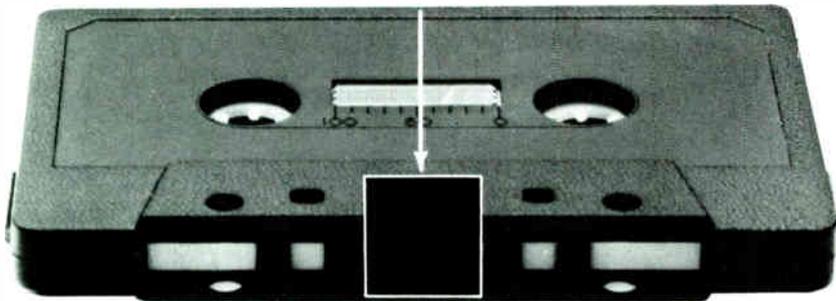
Models:
MOTO-46
(ACL or 120V)
MOTO-64
(ACL or 120V)
MOTO-CANON
(4 PAR 46
ACL's in one can)

For Information: **DYNA-MIGHT SOUND AND LIGHTING**
3119-A South Scenic Springfield, MO 65807 (417) 883-4549

Circle #067 on Reader Service Card

THE SOUND OF BARGAIN CASSETTE DUPLICATION

SCRATCH AND LISTEN



Take the "Scratch" out of Scratch and Listen

Bargain cassette duplication is no bargain. If you've tried it, you know. It's bad enough when cassettes end up sounding terrible, but when the tape jams or breaks, you know you've wasted your money!

At Bonneville Media Communications we make your dubs sound just like your master — that's our specialty. We use tape that sounds good play after play and cassettes designed to last. And we never stop testing our materials and equipment for peak performance.

Bonneville is not "bargain basement." But we're not expensive either. For a very competitive price, you get very high quality cassettes that save in replacement and other hidden costs.

And we've found that's what most people want.

Call us for your next cassette duplication order. Put an end to "Scratch and Listen."

Call 801-237-2677

BONNEVILLE
MEDIA COMMUNICATIONS

A division of Bonneville International Corporation.

Circle #068 on Reader Service Card

—FROM PAGE 88, BUFFETT

more. The name is an apt allusion to Jimmy Buffett's well-known love of warm, tropical climates, cold alcoholic drinks, and colorful down-home humor. All were much in evidence during the 25-song performance, throughout which Buffett demonstrated the songwriting skills, broad-reaching musical tastes and irreverent wit that have made him something of an institution among lovers of countrified rock. From "Cheeseburger in Paradise" and "Come Monday" to his classic ballad "A Pirate Looks at Forty" and the parrot-head anthem "Margaritaville," Buffett led an all-star aggregation (including former Eagles bass player Timothy B. Schmit) in a tight, spirited performance blending the best of Nashville and LA-styled sounds.

Though his latest album was not scheduled for release for another three weeks (mid-September), Buffett and his band were nearing the conclusion of a national tour that put them among the top-grossing acts of the summer. (The "booking situation" Buffett referred to was the necessity of adding a second show, after the previous night's performance had turned into a sellout of close to 9,000.)

"The crowds have been great—sold out everywhere," Buffett said after the show. "The audiences are half war babies and half under-20. It's like people my age and their kids are coming out to the shows."

Making the turnouts for the tour all the more gratifying to Buffett and his record company (MCA) was the fact that an album release had not even been projected at the time the tour was planned.

"I was really going to go to Nashville and just do three or four things sort of leaning toward the country vein. But we got in the studio and hit this great groove and did the record. So it was done, and the tour had already been planned, so I went ahead with it."

The album, *Riddles in the Sand*, was recorded at Nashville's Sound Stage Studio, and co-produced by Jimmy Bowen, Michael Utley and Tony Brown. Besides several cuts which will fit snugly into country playlists (especially the single, "When the Wild Life Betrays Me"), the ten-song LP delivers Buffett's patented blend of country lyricism and rock and reggae rhythms—all in a much sparser production setting than on his previous three or four albums.

"I cut back a little on having so many people on the album," Buffett explained. "It's fun to do, but I've been pulling myself out of production a little. It slices your time in half because you've got an immense amount of technical stuff to worry about, and I think it detracts a lit-

tle from the artistic performance. So this time I just sat in the booth.

"We pre-produced before we went in, on a little Fostex portable studio, and it was an immense help. Then I just walked in and sang my ass off. I think it's the best vocal performance I've done. And I think it had a lot to do with not having to worry about the production end of it. [Pianist] Michael Utley and I have worked together for almost fifteen years, and he's more than capable—he really shined on the production.

"The background vocalists were Mac McAnally, Wendy Waldman and Larry Lee. They're all old friends and proteges of mine, and they happened to be in town. It was really great—it wasn't like using background singers. They were friends and there was a lot more excitement."

In addition to surrendering the producing chores, Buffett also took a different approach to the songwriting on *Riddles in the Sand*. Eight of the songs on the album are collaborations between Buffett, Utley and Will Jennings. The remaining two were written by Mac McAnally and Rhonda Coullet, respectively. This is the first time a Jimmy Buffett album has contained no songs written solely by the artist, and it points to a new direction in his career.

"I'm going to concentrate a little on writing with other people," Buffett says, adding that he feels the collaborations on the new album are "real neat writing. We got a nice little groove going with the three of us. . . . We also produced some demos of the Neville Brothers, and we wrote some songs for them. And in October, I'm going over to London to write with Steve Winwood. Will [Jennings] used to write with him. He heard this album and invited us to come over and see if we can write some things."

Jimmy Buffett and Steve Winwood? That's right, folks. And if that sounds interesting, how about Jimmy Buffett and Michael Nesmith—he of *Elephant Parts* fame?

Buffett is no stranger to video, having produced a clip of "White Sport Coat and a Pink Crustacean" in 1972, as well as a three-song video that was shown as a short in theaters. Now he is looking to make his contribution to the current video wave.

"Nesmith is doing a show called *Television Parts* for NBC. They contracted for eight shows and they're doing exclusive videos on different artists. We did the first one. I also wrote another piece that they're going to use, so I'm sort of consulting on the music.

"What it means," Buffett continued with a sly grin, "is that I'm writing certain pieces for the show that they eith-

SIMMONS

SERVICE TECHNICIANS

Because of the rapid expansion in the sales of our range of electronic drums and the recent move to our new larger premises, we are looking for experienced digital/analog electronic engineers for our service/warranty department. Send resumes only please to:

SIMMONS GROUP CENTRE INC.
23917 Craftsman Road
Calabasas, CA 91302

Salary negotiable, depending on experience and qualifications. We are the market leaders and are looking for ambitious, career-oriented people to grow with us.

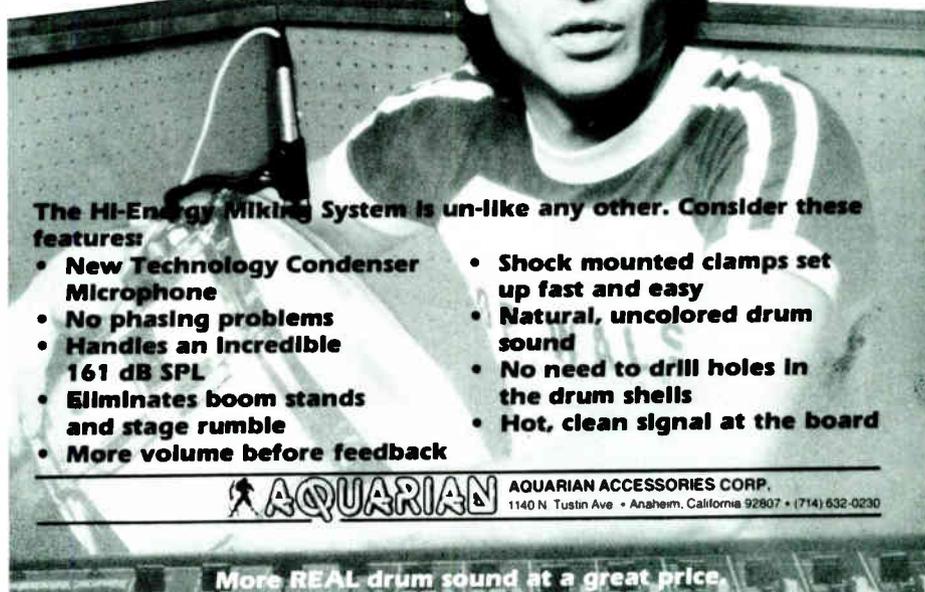
THE DRUMS OF THE FUTURE

Circle #069 on Reader Service Card

Chet McCracken with Joe Walsh says:

"FOR SOUND,
you can compare the Hi-Energy Mics
to any on the market today."

"FOR PRICE,
there IS no comparison."



The Hi-Energy Miking System is unlike any other. Consider these features:

- New Technology Condenser Microphone
- No phasing problems
- Handles an Incredible 161 dB SPL
- Eliminates boom stands and stage rumble
- More volume before feedback
- Shock mounted clamps set up fast and easy
- Natural, uncolored drum sound
- No need to drill holes in the drum shells
- Hot, clean signal at the board

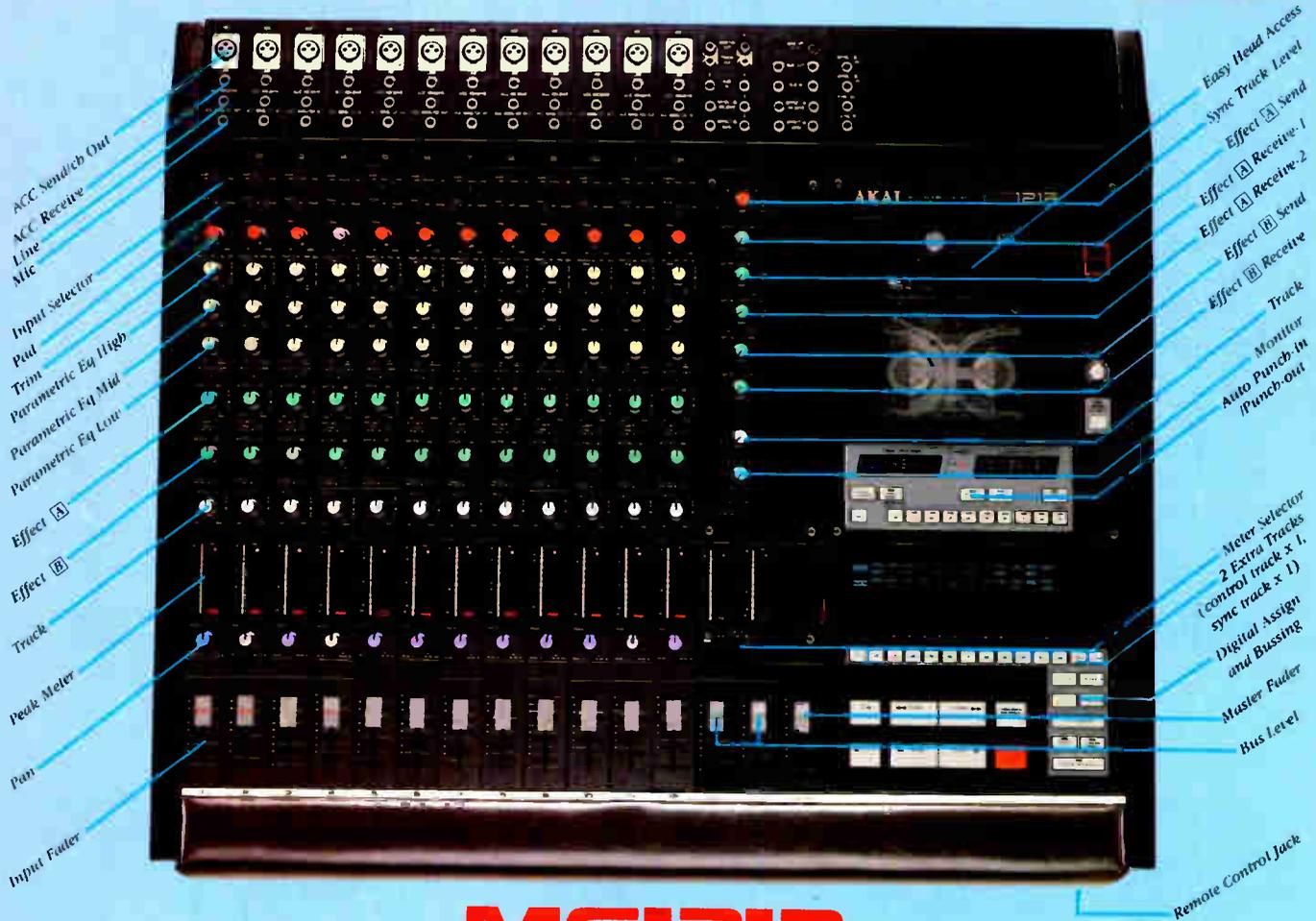
AQUARIAN AQUARIAN ACCESSORIES CORP.
1140 N. Tustin Ave. • Anaheim, California 92807 • (714) 632-0230

More REAL drum sound at a great price.

Circle #070 on Reader Service Card

The Finest Name in Sound Reproduction

New Offers You the Last Word in Sound Creation



MG1212

12 CHANNEL MIXER / 12 TRACK RECORDER

The 12 channel mixer/recorder MG 1212 employs to the fullest extent Akai's advanced audio-video technology. Beginning with the world's first 1/2 inch cassette tape and Akai's exclusive Lambda loading system, the MG 1212 achieves both high sound quality as well as a compact design. The MG 1212 incorporates a mixer and a tape deck into a single unit, featuring many useful and convenient time-saving functions for personal multitrack recording.

Programmable Channel/Track Selector
The MG 1212 has a built-in 12 channel mixer, eliminating the hassle of wiring and operating with a complex pattern of connection cords. These functions all come underneath the central control of the computer, enabling the desired channel source (MIXER) to be recorded on the desired track. This simplifies ping-pong recording enormously.

Auto Punch-in/Punch-out
The MG 1212 is capable of automatic punch in/punch out between any two points on the

desired track (multitrack capable), simplifying the editing process enormously.

Auto PB Mute

The MG 1212 is capable of automatic playback mute between any two points on a desired track (multitrack capable), cutting out undesired notes when ping-pong recording or mixing tracks down. This eliminates the need to operate the fader controls of the mixer.

Computerized Multi Function Locator
• **Absolute Time Counter**

The real time digital tape counter will display the tape operation time in 1/10 second increments, from -99 minutes 59 seconds 9/10 seconds to +99 minutes 59 seconds 9/10 seconds.

• **Auto Memory, Manual Memory, Search, Repeat**

Pre-designating the tape location points, the MG 1212 is capable of repeat playback, memory search and program search between the two memory points. This speeds up the editing process enormously.

• **(-) Minus Search**

The operator can use the MG 1212 to search out desired tape locations by entering the desired time, which is then subtracted from the time displayed on the memory time counter.

The "AKAI MICRO STUDIO System", the first "music creation system" to combine technical advancement with creative simplicity. This newest contribution to the fulfillment of artistic innovation is presented to those of you who create good sound, with the sensitivity to your needs that has guided the development of products for those of us who truly appreciate good sound.

SUGGESTED LIST \$6,995

AKAI

Micro Studio System

er accept or they don't—and I don't have to live in Los Angeles!

"Nesmith is great to work with. He and I have been working together for a long time. The show is going to be one of those things that will either take off and be a big hit, or else they'll drop it. But like Nesmith says, 'If it's a bomb, that means *only* fifteen million people saw it!'"

Aside from his songwriting and video projects, Buffett is planning a tour of Australia and Japan, as well as a visit to one of his favorite cities, Paris. Some friends there are opening a nightclub called *La Vie Dansante* (coincidentally, the title of one of the songs on his new album), and Jimmy Buffett and the Coral Reefer Band will make an appearance.

"I've been getting all this publicity about how I'm this expatriated American living in the French Antilles, so they're starting to write about me in the French papers. And I speak the language, so I'm going to go over there and kill 'em. We're going to bring oldtime rock and roll back to Paris and London.

"This unit here," Buffett says, referring to his current road band, "is just really, really good. We'll probably do the next record together. Everybody's over 35 and been around—it's like the Oakland [sic] Raiders. I just renegotiated my contract, and there's a whole influx of new, young parrotheads coming in. I think we're here for a long time."

Sounds great to us. How do you say, "Please bring me a margarita" in French?

—Hillel Resner

MoFi's Rolling Stones Audiophile Set

Proof that the analog vinyl disk is far from dead can be found in Mobile Fidelity Sound Lab's forthcoming collection of Rolling Stones LPs, half-speed mastered and boxed in a deluxe presentation similar to MFSL's Beatles and Sinatra collections.

The eleven-disk set encompasses the first seven years of the Stones' recording career, including *The Rolling Stones, 12x5*, *Out of Our Heads*, *Aftermath*, *Between the Buttons*, *Their Satanic Majesties Request*, *Beggars Banquet*, *Let It Bleed*, the live LP *Get Your Ya-Ya's Out*, and the two-record compilation *Hot Rocks* (which contains several important tracks not available on the other disks).

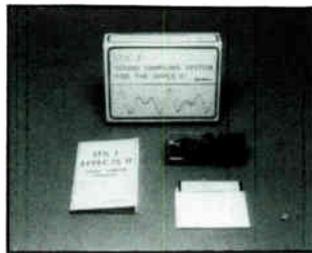
The box also includes a full-color book of the original album art, du-

—PAGE 169

INEXPENSIVE SOUND SAMPLING HAS ARRIVED

Now you can digitally record and play back ANY sound with an Apple II. The DX-1 sound sampling system from Decillionix is a versatile hardware/software Apple add-on making sound sampling affordable.

- Plays effectively ANY sound musically over at least five octaves
- Samples sounds from external sources
- Tuning and scale control provided
- Select pre-set sound sequences or program your own sequences
- Play DX-1 "live" in two basic modes
- Select drum rhythms — drum and cymbal sounds included
- On-board high fidelity pre-amp lets you interface to any signal source
- Excellent for musical and sound effects applications
- Includes direct interface to Syntauri and Passport keyboards



DX-1 System Price: \$349.00

Requires a 48K Apple II+, IIe, III, or Franklin, and one drive.

Decillionix

P.O. Box 70985, Sunnyvale, California 94086 (408) 732-7758

Apple is a trademark of Apple Computer Inc.
Syntauri is a trademark of Syntauri Corp. Passport is a trademark of Passport Designs Inc.

Circle #071 on Reader Service Card

LISTEN TO OUR LINE

In stock and ready for immediate shipment, a complete line of **REPLACEMENT TAPE HEADS, RECORDER SPARE PARTS** and **ACCESSORIES** from and for the following recorder manufacturers:

HEADS

APPLIED MAGNETICS
AMPEX
3M
MCI
OTARI
NORTRONICS
REVOX
TASCAM
TELEX
WOELKE

SPARE PARTS

AMPEX
3M
MCI
OTARI
REVOX
TASCAM
TELEX

ACCESSORIES

NORTRONICS

ALIGNMENT TAPES
BASF
NORTRONICS
STL

CASSETTES
BASF

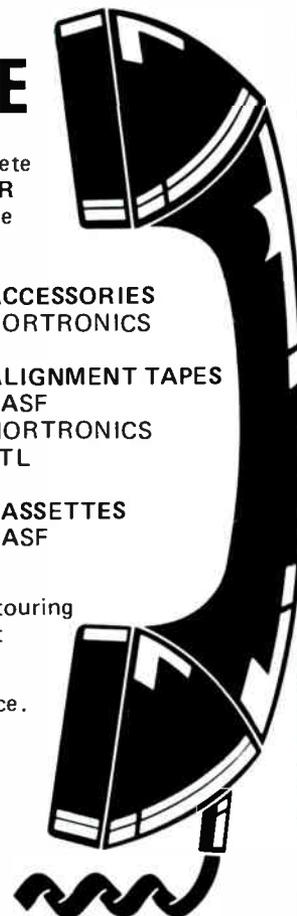
REFURBISHMENT SERVICES — A complete recontouring service for Reel to Reel, Audio for Video, Film, Cart or Duplicators Heads.

NO CHARGE for evaluation and 24 HOUR service.

**SPRAGUE
MAGNETICS
INC.**

15759 STRATHERN STREET / VAN NUYS, CA 91406
Phone: (818) 994-6602 / Telex: 754239

Circle #072 on Reader Service Card



Mark Isham: A Chameleon On His Own

Mark 1984 as the year Mark Isham broke from the ranks of support players. For years he has held esteemed positions in such diverse musical units as Art Lande's Rubisa Patrol (whose ECM albums struck a delicate balance between the spontaneous and the melodious), a jazz-rock-etc. outfit called Group 87, and, among other short-lived gigs in the Bay Area too numerous to mention, a ripe spot in the articulate heart of Van Morrison's band. But while Isham the trumpet player has pinned down a spot in sideman annals, his recent work demands that the world take a new look at this versatile musician. In the last few months we've heard his spacious, lyrical score for the film *Never Cry Wolf*, similarly atmospheric synthetic textural studies on his debut Windham Hill album, *Vapor Drawings*, and the more rock-slanted sounds of Group 87's second album, *A Career in Dada Processing*.

Just who does Mark Isham think he is, wearing so many hats simultane-



PHOTO IRENE Y. JUNG

ously? "I must admit, I play trumpet very seldom these days," he says. "It's kind of a shame because I really enjoy it; lately when I pick it up, my technique is just real sloppy. But the way things are going now, there is more of a demand, in the types of music that interest me, to be involved on a more compositional, orches-

tral basis. And, of course, synthesizers are the orchestras of this decade."

Watching the icy grandeur that comprised the backdrop for *Never Cry Wolf* was something of a revelation; Isham came up with one of the first truly effective uses of a predominantly electronic score in a Hollywood film. It was also many people's introduction to Isham's synthesizer painting.

The commission came about somewhat circuitously. Isham had demoed some music intended for label-shopping with his Rubisa Patrol comrade Bill Douglas on flute. Douglas, it so happened, had played a bamboo flute part on Carroll Ballard's earlier film *The Black Stallion*, and through a mutual friend Ballard heard the Isham/Douglas work. The filmmaker had already commissioned two separate scores for his arctic adventure but wasn't happy with either of them. He asked Isham to put some rough ideas onto an eight track; the composer's pensive, open-sounded musical pastiches provided the perfect aural complement to the cool, sprawling panoramic shots, with no digital aftertaste. The pact was sealed.

"There was actually a fairly large group of people involved—in ad-

EAST COAST SOUND
is proud to announce its appointment as dealer
for
HILL AUDIO in the northeast U.S.A.



Complete 8 track systems starting as low as \$2,500.00
Complete 16 track systems from \$10,000.00

eastcoast (203) 748-2799
sound specialties
40 MAIN STREET • DANBURY, CT 06810

RAMSA	KLARK TEKNIK
AUDIOARTS	VALLEY PEOPLE
LEXICON	TEAC
DBX	FOSTEX
UREI	MASTER ROOM
AKG	DELTALAB
CREST	COUNTRY MAN
AB	ASHLY
CROWN	EXR
APHEX	SENNHEISER
SOUNDTRACS	ROBERHEIM
DYNAMIX	ROLAND
ALLEN & HEATH	SEQUENT. CIRC.
ORBAN	

SEND \$3 00 for our 150 pg. catalog, the largest in the industry

Please put me on your mailing list.

Name _____

Address _____

City _____ St. _____ Zip _____

dition to synthesizers, a small string orchestra, flute, glass harmonica, women's voices," Isham explains. "All of it was kind of a mixture all the time, so you're never quite sure what's going on instrumentally. That's the way I like to work. I don't like the *effect* of pure electronic sound. That can be useful and interesting at times, but certainly in this sort of context, where the images are nature and beauty, you want the sound to reflect *that*. For me, it's easier to get involved with blendings, using acoustic sounds to keep pulling you back into that frame of mind. I use a lot of time modulation; it's as important as any one synthesizer. Especially on that film, creative uses of digital delays and harmonizers helped give the sound *space*, an acoustic quality." They put the sound in an environment."

Almost concurrent with the film's release came *Vapor Drawings*, an album imbued with that same glacial sort of appeal. It was a pleasant surprise, given the seeming moratorium against electronics espoused by Windham Hill to that point (with the exception of isolated synthetics such as Jared Stewart's keyboards on the second Shadowfax album). *Vapor Drawings* is a variegated portrait of Isham's musical attributes, as a tasteful welder of synthesized parts and a player whose background traverses classical and jazz (listen for the subtle quote of Sonny Rollins' "Oleo" at the end of "Raffles in Rio"). For emotional balance and restrained vitality, Isham's album may be the best record yet from the label that sold the world on George Winston. It is Weather Report with tighter organization and greater cinematic possibilities.

But the sympathies don't seem aligned. Initially, Isham's connection to the label was through Steven Miller, longtime friend and a frequent engineer/producer for Windham Hill. Miller casually heard some of Isham's work tapes while laying around the house and the idea stuck. Isham recalls: "We just started talking and he said 'if we took some of these ideas, smoothed out the edges and made them more melodic, I bet I could sell [label founder Will] Ackerman on an album of this kind of stuff.' I said, 'I don't believe it, but I'll certainly supply you with whatever you want to make it possible.' That was about a year before we actually got started on the project. As it was, the deal was not the same as the others; Windham Hill hardly took any financial risk on the album. They simply guaranteed a release, gave a kind of half-assed advance that didn't even begin to cover our costs and then gave a fairly reasonable point spread. So they didn't really dive in to complete responsibility for the project. It seems to have done quite well; I'm their fifth best artist now.

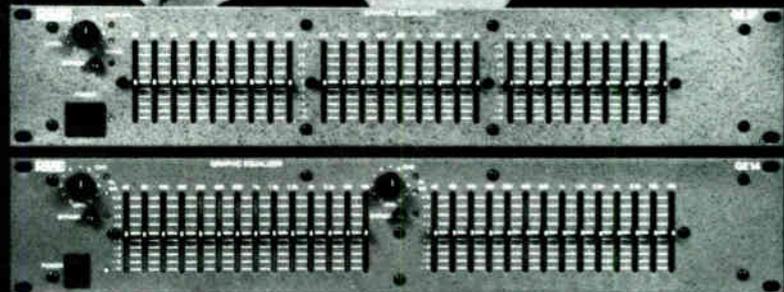
I'm certainly the highest-rating first-release artist."

Yes, but the name Mark Isham isn't exactly unknown to the musical community. "It's funny; in the Windham Hill area, I am rather unknown," Isham claims. "I've found there's a difference. The Windham Hill crowd is really not into modern-oriented jazz. Very few of them would know anything about Group 87. I think Van Morrison is more the crossover. That's more the generation—late 20s to 40ish." It was up to producer/engineer Miller to steer the project down a musical path true to the Windham Hill form—a kind of lyrical,

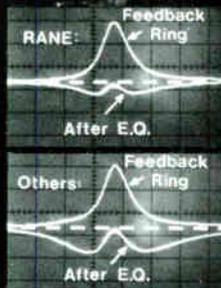
rural ease of listening; no jarring dissonances or explicit dance rhythms. They went into London's Tapestry Studios in April and May of '83 to lay the tracks, some of which were conceived, or at least finalized, in the studio.

"This was not an easy album to make," Isham says of the experience. "There was a lot of pressure involved. How can I say this? Steve and I are old friends, but we had never worked together and I think certain things came out in the working situation that surprised both of us. He had the label's interests in mind and I tried to go with him, but at one point I felt a certain amount of re-

CONSTANT-Q GRAPHICS: THEY ARE BETTER



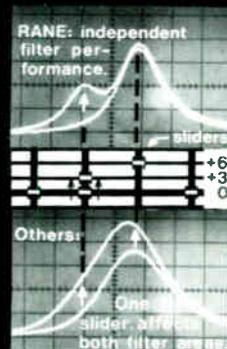
GE 27 1/3-OCTAVE and GE 14 DUAL 2/3-OCTAVE STATE VARIABLE GRAPHIC EQUALIZERS



Constant bandwidth ("Q") filter performance is a quantum improvement over conventional designs where bandwidth seriously degrades at moderate slider settings. These analyzer photos clearly show how Rane's State Variable equalizers can remove feedback tones with considerably less attenuation of surrounding sound quality. Constant-Q filters also have significantly less interaction, which maintains

graphic precision and reduces the need to re-adjust adjacent sliders every time you make a single EQ change.

And yet better technology isn't necessarily expensive: either model costs only \$499 suggested list price. You'll hear the difference—and that's what counts.

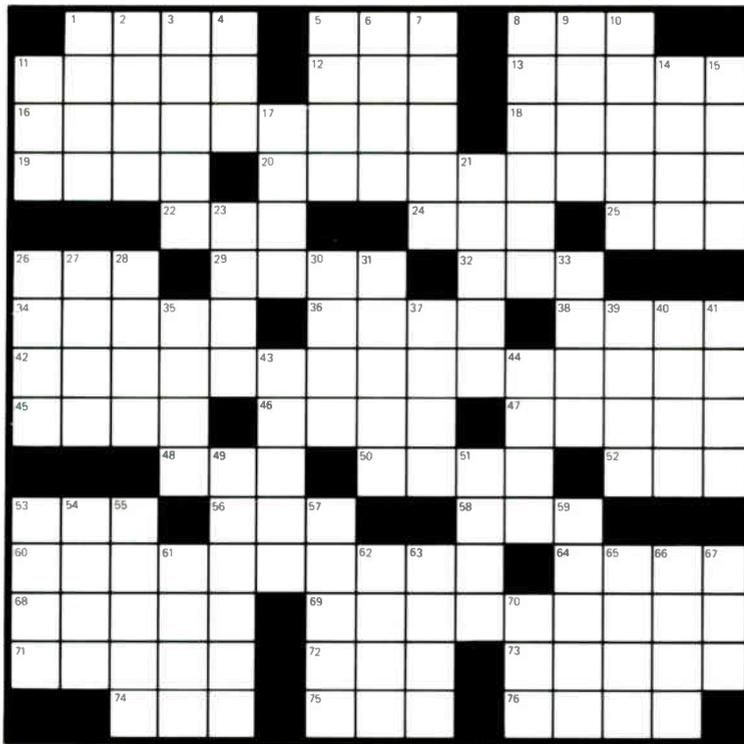


6510 216th SW,
Mountlake Terrace, WA 98043
(206) 774-7309

Circle #073 on Reader Service Card

MIX WORDS

© 1984 Armand E. St. Martin



"TAPE OFF, EH?!"

ACROSS

1. Theatre light
5. Labor org.
8. Brylcreem quantity
11. Keeping up
12. Family member (abbr.)
13. Laid off
16. Canadian Gordon
18. "Tell _____ I love her."
19. Suits to _____
20. Canadian songstress
22. Great fear of Winston Smith (in 1984)
24. No longer working (abbr.)
25. SLO _____ fuse
26. CIA forerunner
29. Certain Norseman
32. Sound group
34. Lasso
36. Financial attachment
38. A Guthrie
42. Sound workplaces in the Great White North
45. Soon, to the Bard
46. Comedian Louie and family
47. _____ pink
48. "_____ for me and my _____"
50. Division (abbr.)
52. Tokyo, once
53. Exclamation of surprise
56. Former Zappa guitarist
58. School at Stockton
60. Canadian band with a man's name
64. Workplace safety org.
68. Weaving willow
69. "_____ Rag"
71. "_____ Fell on Alabama"
72. Pub order
73. Jumped
74. Engineer Herschberg
75. Born _____
76. Sibilant sound

DOWN

1. Jetty
2. Capitol Hill occupation
3. Yellowish tint
4. Oriental holiday
5. Golf utensil
6. Pianist Russell
7. Change _____

8. Add water
9. Hebrew month
10. Press release
11. Mode companion
14. Concerning a historical time
15. Banana Boat Song's alter ego
17. _____ Morgana
21. Intended
23. "When I was _____"
26. Killer whale
27. Bond portrayer, to friends
28. "In corpore _____"
30. Air _____
31. Languished
33. Marquis de _____
35. Breakfast-in-space drink
37. Being _____
39. Ceremony
40. Resistance _____
41. Scandinavian city
43. Photo developer's rubber stamp (two words)
44. Engaged in _____
49. Disinclined
51. Knitting term
53. Guitarist Garrett
54. Biblical verb
55. Co- _____
57. "The proper study of mankind _____" Alexander Pope
59. North and South _____
61. Had been _____
62. "A _____ of Two Cities"
63. Foil _____
65. Seven _____
66. _____ upon (finds)
67. Educators' group
70. Northeast urban transports

sentiment about that. He himself is a talented musician, and I think some of the jazz influence was more from him. Left to my own devices, I probably would have taken it into a more conceptual direction. It could have been more compositional, as opposed to saying 'we'll play E-flat minor for eight bars here and the trumpet will noodle on top,' which happens occasionally on the album."

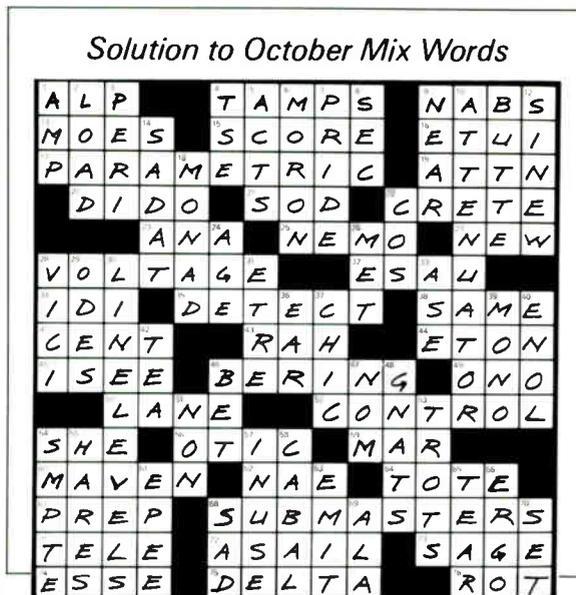
Regardless of birthing pains in recording, the end product glistens nicely. Like his favorite synthesists—Brian Eno and Josef Zawinul—Isham adopts a devoutly non-technical stance on electronics, relying on the muse of intuition. "I'm not that much of a keyboard player in terms of piano technique, so I use a lot of computer-generated things, sequencers and equipment that generates patterns that interact with each other," Isham modestly admits. Among the arsenal for this record were a specially modified Prophet-5, an Oberheim four voice multi-cabled to an MC4 Microcomposer which drives it, and those venerable machines—a Moog 12 and an Arp 2600, impossible in a live setting but still fertile for studio use. Isham has since been working with Berkeley-based pioneer Don Buchla on his Buchla 400, a computer-based digital instrument now marketed by the Kimball Organ company.

Not all of *Vapor Drawings* is electronic; Isham fleshes out the album with trumpet forays and grand piano, for instance. Peter Van Hooke (who is also in Group 87, along with guitarist Peter Maunu) lends periodic percussion, real and digitized. "I think a lot of the drum things are quite unique," Isham notes, "like on 'Threshold of Liberty' [a march-like piece that mounts to a crescendo a la Ravel's 'Bolero']; the snare was recorded in a courtyard right off a canal, miked from many feet away. It gave it a real outdoor, marching quality. I think it was an actual parade marching drum, too, not your standard rock and roll snare; it really has that feeling of somebody coming over the hill."

At present, Isham is in sort of an active holding pattern, planning the next solo album, awaiting word on more film projects (he recently finished scoring the documentary *The Times of Harvey Milk*), doing solo concerts and Group 87 dates. As the current phase of his career has taken hold and started burgeoning, the old has begun to wane: Van Morrison dropped Isham from his band after he refused to make a full-time commitment. But that's the price a talented chameleon has to pay when he wants to step out from the background and show some colors of his own.

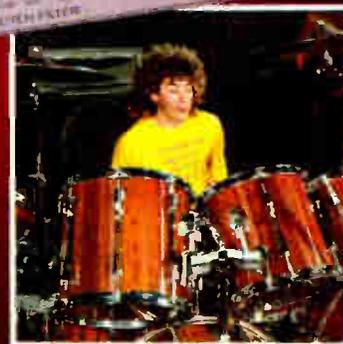
—Josef Woodard

Solution to October Mix Words





"LIMITLESS"



One look at the MSP1000 Multi-Signal Processor from Ibanez and you'll see the most exciting new processor on the market. A soft knee type limiter with DBX VCA chip, a 2/3 octave 15 band graphic eq, and a two band notch filter combine to give you three complete units in one single package. Each section may be accessed individually or in series without the need for extra patching.

A second look at the MSP1000 will start you thinking about the unlimited number of uses for this unit. Use it for sound reinforcement, on stage monitor mixing, studio recording, instrument pre-amp, fixed installations, acoustic instruments, and more. Take a good look at the MSP1000, the possibilities are "Limitless".



Ibanez

Circle #074 on Reader Service Card

For a full color catalog send \$2.00 to Ibanez, dept. MX • P.O. Box 886, Bensalem, Pa. 19020 • 17421 "B" East Gale Ave., City of Industry, Ca. 91748
• P.O. Box 2009, Idaho Falls, Id. 83401 • In Canada: 6969 Trans Canada Highway, Suite 105, St.-Laurent, Quebec, Canada H4T1V8

World Radio History

WE'RE LOOKING FOR PEOPLE WITH 24 TRACK MINDS.



Use your ears to get started in a career in our Audio and Recording Arts Program. Seven hundred hours of equipment intensive, hands-on training—recording, mixing, and editing music and sound for TV, films and records. You'll graduate with the experience employers love to hear. Call (212) 929-6999. Financial aid available for eligible students.

226 W. 26 St., NYC 10001 (212) 929-6999

**CENTER FOR THE
MEDIA ARTS**

Circle #075 on Reader Service Card

TOTAL CONTROL!



MORE INPUTS. MORE OUTPUTS. MORE SPECIAL EFFECTS. GLI's 5990 does it all!

Our 5990 Creative Controller™ is a complete, flexible system that's ideal for numerous pro and audiophile applications. It puts total sound control at your fingertips with tight-tracking rotary controls and an intelligent layout with instant accessing of all functions. The 5990 offers 3 main channel inputs with switchable line/phono inputs plus 3 band EQ on every input. Plus:

- State of the art. Modular construction. Double sided glass epoxy PC boards.
- 3 phono inputs built-in at factory. • Exclusive LED Beat Match. • Total pre-cue capability. • Toroidal transformer for Hum-free performance. No turn on-off transients.

GLI's 5990 Creative Controller. The finest sound mixer ever designed. And it's yours for only **\$1,195.00.**



INTEGRATED SOUND SYSTEMS, INC.
1227 Walt Whitman Rd. Melville, New York 11747 • (516) 351-2100
In Canada: Jean Hepburn Enterprises 125 West Fifth Ave.
Vancouver, B.C., Canada V5V1A1 604-879-7761

—FROM PAGE 88, MASEKELA

His roommate there was a young pianist from New York named Stewart Levine. What the pair didn't learn about jazz and classical music from their formal training they picked up in clubs and on the street from their other school chums, including Herbie Hancock and Ron Carter. Masekela found a second home at Harlem's Apollo Theatre, playing behind such greats as John Coltrane, Art Blakey and Horace Silver.

But bebop was not where Masekela's heart lay. He missed his home and yearned to adapt his native African music to American jazz. In 1965 he and Levine formed Chisa Records, a production company designed to develop Masekela's musical ideas. What he had in mind then, he says, "is the music we're making now in Botswana. It has taken us this long."

Although Chisa connected with MGM and MCA/Uni, and scored a number one single with "Grazin' in the Grass," Masekela never quite clicked in America. He made a few disco LPs for Casablanca in the mid-'70s and then dropped out of sight. "I didn't feel I could do the music justice here in the States," he says, "because the American labels just weren't behind it."

Masekela settled in Botswana and began playing with local musicians. He started thinking about recording again, and in 1982 was signed to Jive in England by the label's two young, white South African owners, Clive Celdar and Ralph Simon. "They are very serious about South African music," says Levine. "They grew up in the record business in South Africa, and they're the only white guys from down there who know what they're doing."

Levine, meantime, had become a successful producer with the likes of B.B. King, the Crusaders, the Marshall Tucker Band, Minnie Riperton, Sea Level, and Joe Cocker. He was eager to work with Masekela again: "We have a long-term relationship. Hugh and I are best friends and partners, in business and in life." Getting the music on tape was, according to both Masekela and Levine, a pure pleasure—unquestionably the finest recording experience of their 25-year collaboration.

Techno-Bush is a true blend of science and roots. "We were literally in the middle of the jungle," Levine recalls. "The truck was set up against a 16-room inn. We set up a glass for the drums [for isolation] and placed all the amplifiers in various small rooms. The separation was fabulous, and everyone was able to sit and play in the main room. It worked out great.

"We recorded all the horn parts

and most of the vocals outside—there's no sound, man, just some birds and animals. We set up microphones in the trees." The exceptional cleanliness of the album's sound is due in large part to that natural ambience, Levine notes, and the quality of the mikes he used—a Neumann U-47 for the horns and Sennheisers and AKGs for the other instruments. The drums were miked with "plain old Shure SM-57s, because they're flat and they pick up great with very close miking."

The house is of the wood-frame variety, appropriate to the warm climate. "There's no cold weather there, so there's no insulation," Levine explains, "and concrete—none of the things which in a normal studio keep outside sounds from coming in." Rather than finding these conditions detrimental, Levine says the absence of soundproofing made the house sound really good. "This experience made me think about the way studios are constructed."

A thunderstorm caused a power surge that blew out the studio's speakers, shutting operations down for two days. There were few other interruptions during the three months of sessions.

"There was one drawback," says Levine. "The recorder in the truck was only used for live concerts before, and it didn't have a tape counter, much less autolocate. We never knew where we were on the tape! When we were tracking it didn't make any difference, but the minute we got into overdubs we were in no-man's land."

"Some of these songs were ten minutes long, so I said, 'We can't do much punching, so I hope you know your parts.' We finally got a tape counter on the day we left!"

Using African musicians made a huge difference, Levine notes. "American jazz players always thought of themselves as overqualified, and the R&B musicians were underqualified, so we were never really able to get anyone to play it."

"In Africa, all we had to do was turn on the tape machine. The people on the album *live* for this stuff," adds Masekela. "Many had never recorded before. When they heard the playbacks they were blown away. It was a real pleasure to make records with them."

"They're so open to everything," Levine echoes. "They're just thrilled to be part of what we're doing." Working with musicians inexperienced in recording was surprisingly easy, although some had to have their feet taped to the floor in front of microphones so they'd keep consistent volume. "I taught the singers proper mike technique. That was great—no bad habits! It saved a lot of time."

—PAGE 144

In A/B tests, this tiny condenser microphone equals any world-class professional microphone. Any size, any price.

Compare the Isomax II to any other microphone. Even though it measures only $5/15" \times 5/8"$ 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.

Call or write today.

* Pro net price for Omnidirectional, Cardioid, Hypercardioid, and Bidirectional models.



COUNTRYMAN ASSOCIATES INC.
417 Stanford Ave., Redwood City, CA 94063 • (415) 364-9988



Circle #076 on Reader Service Card

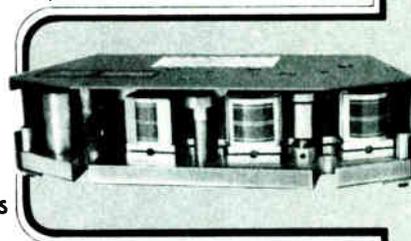
The only way to master analog in the 80's... 1/2 inch-2 track!



Announcing JRF/Magnetic Sciences' complete Conversion Retrofit Assembly for Ampex ATR Series Tape Machines. Engineered and precision manufactured to offer optimum performance and long term reliability.

Features include . . .

- Smooth, easily accessible adjustments for:
 - ✓ Azimuth
 - ✓ Head Wrap
- Ceramic Tape Guidance
- Long life SAKI magnetic heads



Also available are 1/2 inch-2 track conversion packages for MCI Model JH1 10A or JH1 10B, Ampex 440, or 3M Tape Machines. If you have a custom application - we'll be glad to furnish technical and design assistance as needed.

Remember . . . There's only one way to master analog: The 1/2 inch - 2 track way by JRF MAGNETIC SCIENCES.

JRF/Magnetic Sciences, Inc.

101 LANDING ROAD, LANDING, NJ 07850 • 201/398-7426

Circle #077 on Reader Service Card

FIELD TEST



RAMSA WR-8616 MIXING CONSOLE

by Joe Van Witsen

The WR-8616 mixing console is the latest model in Panasonic's Ramsa product line. The board permits a high degree of production flexibility and superior, no-compromise audio quality in an extremely rugged and compact frame. The mainframe permits the insertion of a variety of optional modules to allow the user to customize the board to live recording, post-production applications or a combination of the two.

Two types of input modules and two types of output modules are offered. The mono input module provides three band equalization with continuously variable frequencies. Two Effect controls and two Send controls can be switched to pre- or post-fader positions. A pan control may be assigned to master left and right busses only, or may be switched to enable odd-even panning of the

four group busses in addition to the Master Pan function. The stereo input module can accept a pair of stereo left and right input signals from sources such as cartridge machines and cassette recorders. A two band equalizer is employed for 100Hz and 10kHz band filtering. A low pass filter with a -12dB octave cutoff at 8kHz can be used to reduce tape hiss. A high pass filter provides a sharp -18dB/octave cutoff at 80Hz for eliminating low frequency rumble. The basic group module provides program monitor control, return control, channel "on" switch, and a solo switch for individual monitoring of the group signal. The monitor group module combines the summing and output functions of the basic group module with a versatile four input-four output mixer. Through the use of the appropriate number of monitor group modules, the WR8616 may be tailored to four track, eight track or 16 track recording applications.

The master module is the control center for the console's master busses, accepting signals from the input and/or the group modules. It contains master rotary level controls for the send and effect busses, a 100-mm curepress fader with dB-calibrated markings and a versatile effects return section which includes a stereo send control which allows the operator to add the returning reverb or delay signal to the send busses. The monitor module provides 2 independent stereo mixes in addition to the headphone, solo, and mono master functions. A 4 position switch selects the L-R, Aux, or Send L & R signals for studio cue feed or additional program purposes. A 6-position switch adds pre-fader-monitoring of the group busses to the control room section. Two push button switches and a rotary fader control the signals sent to the internal headphone amplifier. A solo control prevents sudden level changes in the headphone and control room sections when any solo switch is depressed. The TB/OSC module contains 1kHz and 80 Hz oscillators for test and slate functions. A multi-position push-button switch assigns the oscillator or internal talk-back microphone to the studio, group, master, or send busses.

The console comes complete with a full function monitor bridge with level indicators for both the input and output modules. Eight 3-color bar graph meters allow monitoring of the channel line input, channel direct output, and stereo module signals, six VU meters monitor the group master send effect and solo signals. The input channels are monitored by the eight bar graph meters, switched 1 through 8, 9 through 16, and stereo 13 through stereo 16. Signals can be monitored either at the direct output stage or at the line monitor output stage by a selector switch on the mono input modules. On the stereo input modules, signals can be monitored either post-head amplifier or at the line monitor output stage, where the left and right signals are already mixed. The six VU meters monitor each output channel. Monitoring positions can be chosen among 1 through 4 group, L-R master, send L/R, Effect L/R, Solo, and Mono.

The WR-8616 includes engineering refinements such as extensive use of high speed ICs and transistors which reduce or eliminate many service problems. The rear panel connectors—unlike conventional soldered connectors found

—PAGE 103

GOOD NEWS

Affordable signal processors by DOD Electronics. Our commitment to high quality, low cost signal processing equipment continues with our R-825 Compressor-Limiter, R-835 Crossover, R-845 Reverb and R-855 Mixer.



R-825 COMPRESSOR-LIMITER
 Independent de-esser and side chain.
 Attack and release time controls.
 Up to 20 to 1 compression ratio.
 Gain reduction display (active at all times.)



R-835 CROSSOVER
 Stereo two-way, mono three-way.
 18db/octave, state-variable butterworth filters.
 Crossover points, 100Hz to 10KHz continuous.
 Signal to Noise > 90db



R-845 REVERB
 Four band EQ with pre-limiting.
 Wide range input and output controls.
 Adjustable drive and mix controls.
 Produces a smooth and natural sound.



R-855 MIXER
 Four-input, stereo output mixer.
 Mono and stereo effects return.
 High output headphone amp.
 Line/mic switch, 48db gain (max).

DOD
 5530 South Riley Lane
 Salt Lake City, Utah 84107
 Telephone (801) 251-8400

ELECTRONIC PERCUSSION FOR THE NEW AGE



TECHSTAR

Electronic Drums

The Techstar Electronic Percussion System from Tama embodies the design philosophy for the New Age—bold, functional and totally new! The designers at Tama have incorporated technical innovations and imaginative system designs to rewrite the book on electronic percussion. Advanced drum voice generation techniques create an exciting range of professional drum sounds, from subtle to awesome! The revolutionary Techstar Drum Pad brings back the performance, the "feel" and the sensitivity of acoustic drums. Professional features make Techstar perfect for stage, studio and for private practicing. The Techstar System lets you integrate leading edge percussion technology into your sound quickly, easily, affordably. Bring on the New Age—with Techstar!

TAMA

World Radio History

Circle #079 on Reader Service Card

For a full color catalog send \$2.00 to: Tama, Dept. MX, P.O. Box 880, Bethlehem, Pa. 19020 • 17421 B. 1st Gate Ave., City of Industry, Ca. 91748 • P.O. Box 2009, 4400 E. 11th, Tulsa, Okla. 74112

—FROM PAGE 100

on many mixers—are wire-wound with strong lapping coils (like those used on computers and test equipment) for excellent reliability.

The WR-8616 is ideally suited to post-production applications due to its highly flexible design. We field tested the console in an audio-for video sweetening and layback environment. In this application, microphones are rarely fed into the console, as most of the source material is already in recorded form.

A wide variety of gear was connected to both inputs and outputs of the board. The interfaced equipment included 2 Panasonic NV 9600 3/4" VCRs, each with stereo outputs, a Tascam Model 58 half-inch 8 track recorder, a Tascam Model 40-4 four track recorder, an Ampex VPR-80 1 inch broadcast video editor, with stereo outputs, as well as an alphaSyntauri digital synthesizer with sound sampling card, and a Yamaha DX-9 FM digital synthesizer. Output buss 1 and 2 were connected to the input of the Ampex VPR-80 while output busses 3 and 4 were connected to the input of the editing 9600 3/4" machine. In this configuration, any of the VTRs could supply audio material to be recorded in the Tascam 58. The 4-track and the synthesizer were also wired to output source material onto the 8 track.

Having separate output busses going to both the 3/4" editor and the 1" editor eliminated the need for patching and facilitated bouncing tracks from 3/4" to 1" and back again. The send left and right output busses were connected to the input of the Decillionix Dx-1 sound sampling card for the alphaSyntauri. The Dx-1 digitizes audio signals inputted, stores them on diskette, and allows the sound to be played musically or at different pitches through the Syntauri keyboard. This makes sound effects and musical bridges easy to cue up since any sound from any source can be stored and immediately called up at the touch of a key.

The Tascam 8 track could synchronize to either the Ampex 1" editor or the Panasonic 3/4" editor. This was accomplished by means of an Adams-Smith System 2600 Synchronizer which allowed the Tascam to chase and lock up to the editor whenever the editor was playing or shuttling.

The RAMSA WR-8616 that was supplied to *Mix* for evaluation arrived with six modules not yet installed, in separate shipping cartons, with just blank filler panels on the mainframe taking their place. The module installation instructions are concise, with clear illustrations, allowing all six modules to be fully installed in less than a half hour. The mechanical specifications of the modules are designed for quick, fool-proof installation. The 24-page operators manual

gives a full description of each control of each type of module, explains signal flow with block diagrams, and provides full technical specifications with both graphs-plots and spec-sheet data. The manual contains all the instructions and technical data needed to understand and operate the console. This is a refreshing contrast to the technical tomes in fat three ring binders that require an advanced engineering degree to understand. The service manual is equally concise and economical, containing theory of operation, block diagram flow charts, over-sized foldout schematics, exploded views and parts list.

The first test that we put the WR-8616 through was to connect the

outputs to a monitoring system. Without any signals plugged into the input modules, we cranked up all the trim-pots, input faders, and output faders to reveal the noise floor of the unit. The noise floor of a console is especially important in a layback or sweetening situation because much of the source material is coming off 3/4" sound tracks which have a fairly high noise floor of tape hiss and control track flutter (which can be alleviated by using noise reduction on the original video sound). When combined with the process of bouncing or ping ponging tracks between the 3/4", 8-track and 1", it becomes vital to have the console's signal patch as clean as possible.

—PAGE 104

The Right Features At The Right Price

Before we built Audio Centron mixers we listened to sound technicians, recording engineers and musicians. Using their criteria, we designed reliable mixing boards with essential, practical, logical, necessary and sensible features to make their jobs easier.

Essential Features: Completely variable trim control with

LED indicators and balanced inputs and outputs ensuring quiet operation.

Practical Features: 60mm faders and push-button assignable graphic equalizers mean ease of operation.

Logical Features: Complete patching on each channel and on the master output section offer versatility for any playing application.

Necessary Features: Specs like -119dB equivalent input noise and universal +4dBv balanced outputs that make any soundman nod in approval.

Sensible Features: Stereo mixers start at \$859.

Get the right features for your dollar. Get Audio Centron.



AudioCentron

Manufactured in the USA by SLM Electronics
1400 Ferguson Ave. St. Louis, Mo. 63133

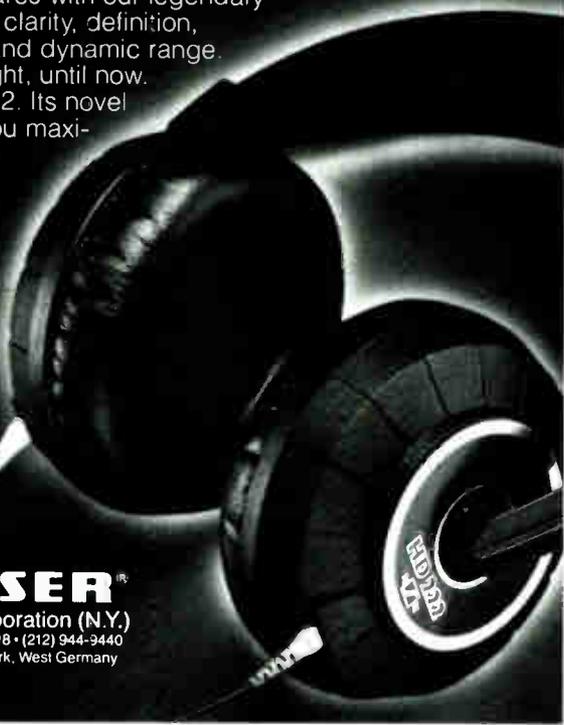
Circle #080 on Reader Service Card

IMPOSSIBLE!

They said it couldn't be done. Create a "closed-ear" headphone that compares with our legendary Open-Aire® models for clarity, definition, wide-range response and dynamic range.

And they were right, until now. Now, there's the HD 222. Its novel 8.8-oz. design gives you maximum performance and privacy with minimum weight. Plus the kind of forget-you're-wearing-it comfort that's uniquely Sennheiser.

For professional monitoring — or total involvement — audition our HD 222. And hear the impossible for yourself.



SENNHEISER®

Sennheiser Electronic Corporation (N.Y.)
48 West 38th Street • New York, NY 10018 • (212) 944-9440
Manufacturing Plant: D-3002 Wedermark, West Germany

©1981 Sennheiser Electronic Corp.

Circle #081 on Reader Service Card

—FROM PAGE 103

Upon turning the gains full up, the noise floor was surprisingly lower than we had expected. This is not a "semi-pro" console, but a compact, fully professional, studio quality system. We found the various monitor modules allowed customization of patching so that sending signals to different recorders could be accomplished without repatching or resetting levels. For example, a piece of dialog on 3/4-inch tape can be simultaneously recorded on track 1 of the Teac 8-track for the sweetened track, track 1 of the Ampex VTR for lip-sync reference and the Decillionix for storage and later, instant recall of the dialog segment, to use, say in a flashback sequence where a character hears certain things repeatedly throughout the program. The monitor bridge is easy to read even from several yards away. The use of LED bar graphs for the input modules and meters for the output modules facilitates quick, accurate adjustment of the right controls.

There are several innovative features incorporated into this console which make the production process easier. One is individual module on/off switches with LED indicators. This allows any input to be muted without changing any of the control parameters on that module. The equalizers on all the input modules have on/off switches as well so that EQ can be preset and then switched on silently. The mono input modules contain a +48v phantom power supply that can be switched in and out as needed. Each mono input module additionally features a phase polarity switch. This can be a time saver if a microphone is wired out of phase, and can also correct certain phase cancellation problems caused by multi-miking. Another very handy feature is the inclusion of 6 play and stop momentary contact switches to activate tape decks, cart machines, turntables, etc. These play and stop switches are accessible through a multi-pin connector on the rear of the console meter bridge where all the other connectors are located. The console is powered by a separate rack-mountable power supply which connects to the WR-8616 by a 10 foot 10-pin cable. The remote power supply allows the console to be smaller and lighter while permitting easy service should the power supply need maintenance.

FINAL EVALUATION:

The Ramsa WR-8616 is a very high quality, compact and portable mixing console ideally suited to video post-production and audio for video applications. Its logical signal flow and customization options make it easy to learn and use. We would encourage Panasonic and the Ramsa design team to develop this product line with larger mainframes allowing at least 24 input modules and as many outputs.



Audio Vision

COMPUTERIZED SOUND RECORDING

74 e. center, lindon, ut. 84062

(801) 785 - 0077



QUANTEC QRS • LEXICON 224 • LEXICON SUPER PRIME TIME
SIMMONS SDS-7 • ADR VOCAL STRESSER • TUBE MICS • PULTEC
EQ'S • APHEX RACK • UREI 813'S • STEPHENS • MCI • ALLISON
AUTOMATION • YAMAHA NS-10'S • EVENTIDE HARMONIZER 949
VALLEY PEOPLE DYNA-MITES • SYMETRIX • EFFECTRON • CROWN
EVENTIDE FLANGER • SONY CASSETTE DECKS • RSS PHASER • WMS
FLANGER • DRUM COMPUTER • YAMAHA C3 GRAND PIANO

74 e. center, lindon, ut 84062

801-785-0077

Circle #082 on Reader Service Card



SHEILA E.
THE GLAMOROUS LIFE
 Warner Brothers

Produced by Sheila E.; directed by Sheila E. and The Starr Company; recorded in Studio 3, Sunset Sound, Hollywood, using an Ampex MM 1200 24-track recorder and a custom made Sunset Industries 32 in x 34 out console, mixed onto an Ampex ATR 100 1/2-inch deck; engineered by Peggy Mac, Terry Christian and Bill Jackson; mastered by Bernie Grundman Mastering.

This is one of the year's pleasant musical surprises, an album that doesn't have to grow on you—it grabs hold right

away. Sheila E. has an engaging blend of sophisticated musical chops and pop simplicity, and her sincerity and innocence are highlighted very effectively. Warner Bros. must be thrilled, too, because according to Sheila and her engineer at Sunset Sound, the album was recorded and mixed in five days.

Sheila Escovedo has been generating excitement in music circles for a few years now, as percussionist with such people as George Duke, Herbie Hancock, Marvin Gaye and Lionel Richie. Drummer Billy Cobham produced two albums by Sheila and her father, famed percussionist Pete Escovedo. But now, having hooked up with Prince and his Starr Company, Sheila is on her own, breaking through, making the charts, earning "bullets," crossing over, doing hit videos—all the things that major "new" stars do.

According to engineer Peggy Mac, Sheila takes a very active part in the recording process. "She's pretty much right in there. She knows what she wants to hear, and she's been around it long enough to know what can be done. She's real good to work with in that way. She's not one who sits back and says, 'Well, you do it.' She knows what she wants on anything that she does. And she plays drums, bass, guitar and about everything else."

If the pattern on the drum machines during the intro to "The Belle of St. Mark" doesn't clue you in that Prince is in the studio, the crisp popping of the sleigh bells is a real giveaway. Several parts of the album sound a lot like Prince (the guitar solo and talkbox moaning on "Short-berry Strawcake," low harmonies on synthesizer bursts here and there), but Peggy Mac says, "Sheila played a lot of that. She played a lot of her own stuff. Prince mainly gave her a lot of support and guidance." "He [Prince] helped me in certain ways, but he didn't produce the album," Sheila says. "And a lot of people say he played, and some people say he didn't, so I'll leave it up to you."

"Noon Rendezvous" makes use of claves, snare rim-shot with echo, electronic toms, and a white-noise effect that acts as a sort of open hi-hat. "We experimented a little bit, but no big elaborate things like a lot of people do, spend days on a snare drum sound," says Mac. Swirling low synthesizers lay the foundation, while another bell-like keyboard doubles the melody that Sheila is singing in a wispy sort of voice.

"People have said that Sheila is real self-conscious about her singing," says Mac, "but I didn't find that. I remem-

ber the day she sang 'Noon Rendezvous' in the studio. She sang that real well. If she was self-conscious you couldn't tell it. That was a great vocal. I don't think she has anything to worry about."

Sheila's songs take unusual, sometimes humorous twists about love. "Some of them could be about me, but then it could be something from somebody else too," she says, once again lending a bit of mystery to what is actually on the vinyl. "Sometimes it's hard to write about yourself. It's just something that you felt at that time. Or your friends might tell you stories about their relationships and what they're going through. It's a mixture."

Equally non-formulated and non-restricted are Sheila's musical arrangements. Each song is given a completely different musical orchestration, and Sheila's leaning is toward under-arranging, leaving things sparse rather than packing and packing tracks on top of one another. "Usually she would record the rhythm first, and then bass," says Mac. "Or melody. Sometimes she'd just get a melody, put a scratch piano and vocal down, and then put bass and drums to it. Then do a real piano and guitars, and build it from there. Synthesizers and vocals, and build from there. The way she does songs is always different."

Larry Williams' frantic sax

burns hot during the intro to the hit, "Glamorous Life." Sheila's insistent and razor-sharp cowbell work propels the tune, and try to convince me that Prince isn't adding an occasional background "ooh oh oh oooooo." Williams sends out a torrent of notes as the tune breaks down, and Sheila lets loose, rolling between her high and low drums and setting her cymbals aqiver with quick flourishes, playing off of what sounds like a hyperactive Linn bass drum. Engineer Mac says they were using primarily AKG 451s and Shure 57s on Sheila's timbales, cymbals and bells. The percussion sounds, whether Linn, Simmons, sampled, acoustic or what, are well orchestrated throughout the record.

Peggy Mac has also helped engineer 12-inch dance singles of two of Sheila E.'s songs, "The Glamorous Life" and "The Belle of St. Mark." "Making a 12-inch, you have to take a three-minute song and make it seven minutes long, and you have to make it interesting. You can't just make it the same thing over and over. So you have to create different parts—make the bass break down a little bit different. Put in a different guitar part, or take the guitar out, or take the synthesizer out, something like that. Keep it interesting, but make it longer." According to Mac, it isn't necessary to be using a drum machine when doing an extended single. "Not really, not if a drummer has good time," she says. "You can create a lot through editing. You can do some good things with creative editing."

Sheila was back at Sunset Sound recently, mixing and editing her second video, "The Belle of St. Mark," from live footage of her concert in Los Angeles after the premiere of *Purple Rain*. Peggy Mac noticed a bit of a change in Sheila from when she first recorded *Glamorous Life*. "It was fun and different, because she was more confident this time in the studio," the engineer says. "She was right in there, we worked real hard together and got some real good mixes. Some people will just take whatever, but she doesn't. She knows what she wants, and I think that's real important for an artist, especially a new one. She doesn't let people influence her. She's a strong one."

Sheila's debut is a strong one, indeed (not quite an album's worth of great material, but very satisfying), because she has learned to take her musical influences and shape them together with that single-minded vision. The low, rumbling George Duke funk groove midway through "Shortberry Strawcake," the ballads that rival Lionel Richie for simplicity, yet don't take themselves quite as seriously, and the let's-go-craziness of Prince—it sounds like Sheila has caught the pass, and now she isn't looking back.

—Robin Tolleason

The Quality Choice is LEMO Electronic Connectors



LEMO Audio-Video Connectors

Designed to maximize communication capabilities within a minimum of space. Available in coax, triax, multipin and mixed coax-multipin configurations.

- RELIABILITY
- SPACE SAVINGS
- RUGGED CONSTRUCTION
- QUICK CONNECT & DISCONNECT
- AESTHETIC/FUNCTIONAL DESIGN

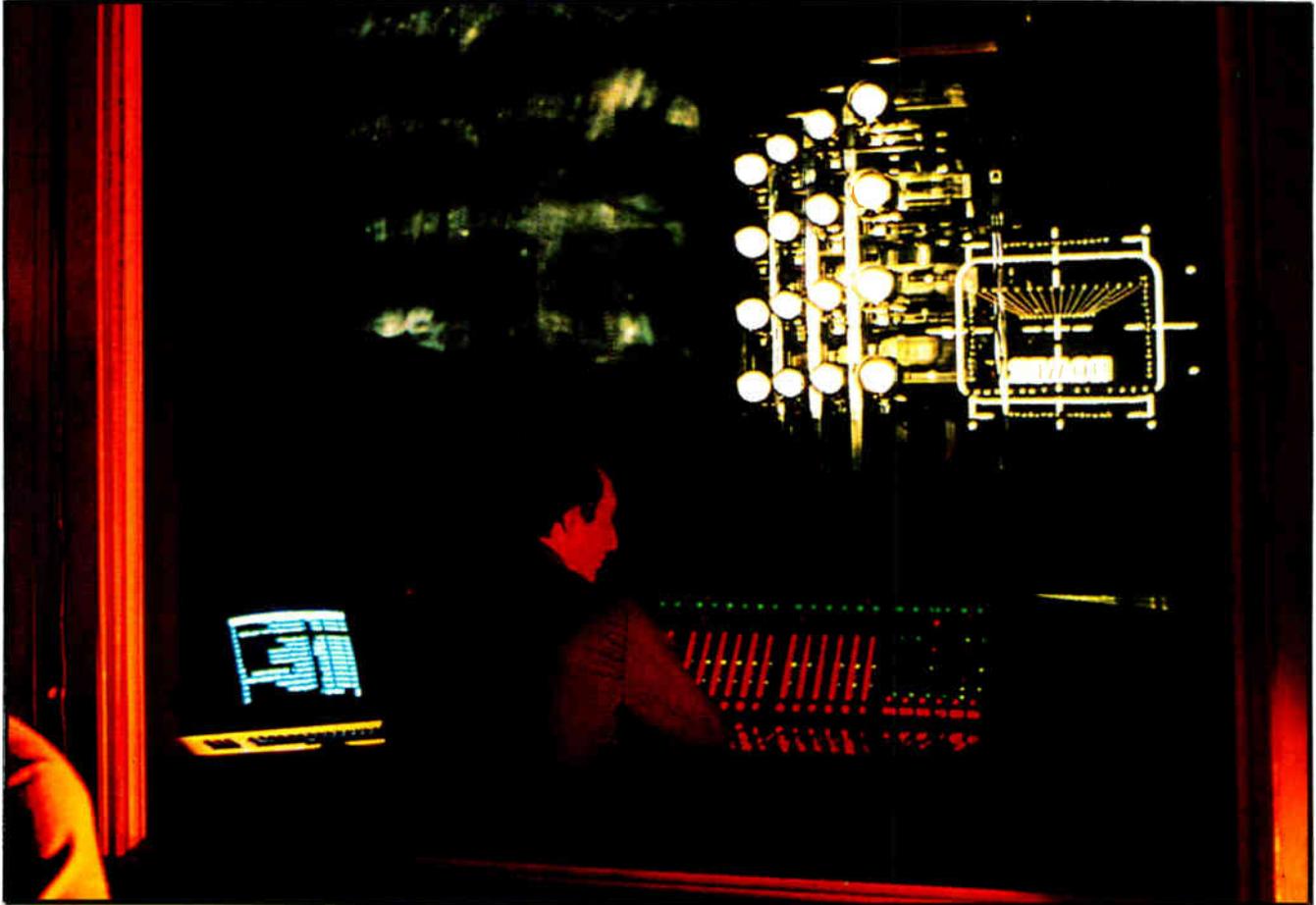
For technical data and catalog, as well as the name of your local representative, please call or write LEMO U.S.A., INC. (707) 578-8811, TELEX 340-933, P.O. Box 11006, Santa Rosa, California 95406.



Circle #083 on Reader Service Card

Mix

VIDEO • PRODUCTION • SUPPLEMENT



Peter Conn of Homer & Associates at their visual mixing console.

CONTENTS

NOVEMBER

- | | | | |
|-----|---|-----|---|
| 109 | Video News
by Mia Amato | 126 | Music Video Production
by Lou CasaBianca |
| 112 | The Tonight Show Goes Stereo
by Tony Thomas | 130 | Video Interface: Graphics Generators
by Neal Weinstock |
| 118 | WWTW-TV: Stereo PBS in Chicago
by Gregory A. DeTogne | 134 | Interactive Video Primer
by Carole Berkson |
| 122 | Audio Applications: Audio for Videographers
by Ken Pohlmann | 136 | Hardware/Software: The 126th SMPTE Conference & New Products |
| | | 147 | Video Events Calendar |

VIDEO NEWS

by Mia Amato

NEWS IS STEREO AT KOMO-TV

ABC affiliate KOMO has switched on stereo TV in Seattle, spurring sales of stereo-ready TV sets in its area. KOMO has been telecasting with the *dbx-Zenith* stereo system since August for some of its local programming and its nightly news. A special breakdance show in stereo was produced by the news department. General manager **Monty Grau** says the station will be "adding other local, network and syndicated shows in stereo as they become available."

Mike Brown, producer/director at KOMO, says the station is doing phone surveys to see if ratings increase for the stereo shows. Most of the Seattle audience have mono receivers but that's changing, says Brown.

In newspaper ads and on-air promos, KOMO is introducing its viewers to stereo, explaining how to go about purchasing adapters and stereo-ready sets. "We know from retailers in our area that quite a few stereo sets, particularly the RCA, are being sold. We've also talked to people who have video stores and they indicate there's a lot of interest in getting the adapters and in component television in general."

Chief engineer **Jack Barnes** is upgrading the station's audio and presently adapting field production for stereo newscasts. Existing news gear, 3/4-inch cassette recorders and portable one-inch Type C VTR have two audio tracks available.

"We're recording news readings in the field on one track, on one mike," explained Brown. "For the background sound we point a second mike away and record on track two. Ambient sound on the cutaways is recorded in stereo." When assembled, the newscaster's voice is on both channels, while location sound is mixed to create some multi-channel depth. "It's mostly stereo-enhanced," said Brown, "but it gives a nice stereo image. We're still exploring it, but mostly we're trying to standardize location audio so the guys in the studio have an easier job editing for air."

BILLBOARD VIDEO CONFERENCE

The Sheraton Hotel at Universal City is the site for Billboard Magazine's Sixth Annual *Video Music Conference*, November 15 through 17. Scheduled: a production panel headed by **Daniel Pearl**, innovator in the concert-style clip genre ("Every Breath You Take," "The Reflex," etc.). Also, seminars on video music rights, a showcase for foreign videos, and Video Awards gala. Information: (818) 842-1212.



Hershman's "Lorna"

WHAT'S NEW IN VIDEODISK

Video artist **Lynn Hershman** took a \$5,000 grant from *Texas Tech* to produce "Lorna," which she describes as an "interactive video art disk game." Two grand went to *3M's* optical disk pressing plant, and now Hershman has 100 of them to distribute to private collectors and museums.

"Lorna" is surrealist and fun to play, as users manipulate branching storylines and single-frames on a laser disk recorder to explore the dilemma of a woman trapped in her house. "Lorna has agoraphobia," Hershman explained. "There are 32 different versions of the story to play—you can either have her commit suicide, move to LA, or get cured." Hidden somewhere in the videodisk program is an airline ticket number. The first user to find it and mail the answer back wins the ticket, good for any round-trip destination in the free world. Like "Money Hunt," the prize in this crackerjack program might spur sales;

actually the fare is a premium Hershman earned in an airline frequent-flyer promotion "when I was flying around the country getting this disk done."

Music for the game was created by **Terry Allen**, a Lubbock recording artist whose label is *Fate Records*. In the game, Hershman makes use of the split-audio capability of the laser's stereo feed in scenes where a telephone call is interpreted differently by the caller and callee. Editing was done by **Lisa English**, who runs *ACE video*, a small-format editing house in San Francisco.

There will be no mass marketing for the disk, which sell for \$300 each.

"I wasn't really thinking of the home video market," said Hershman, "this is really an art project, a limited edition." But folks will be able to play the game in museums and galleries like San Francisco's Fuller-Goldin, which will display "Lorna" this month. A linear version of "Lorna" is slated for air on public television.

An interactive art disk that is available now is "Body Music," released by *Pioneer Video* at \$19.95. An artful mix of nude photography, music, and special effects, this program was created by **Peter and Coco Conn** of *Homer & Associates*, who worked for three years combining 7,000 slides by **Brian Aris** to music by **Chris Rainbow**. Cubist and digitized elements were designed on a multiple-pass optical printing device (see *Mix*, October 1983).

AND ON THE HARDWARE SIDE... Pioneer Video plans to market a combination Laser Vision videodisk/Compact Disc player. The player will automatically play either CD or videodisk of any size, including the new eight-inch, \$10.99 videodisk "singles" announced for next year. The player will retail around \$1500.

CAMPUS NETWORK REVAMPS

The electronic cinema service set up by *Campus Network* now reaches over 40 colleges, providing low cost entertainment by satellite. Vice president **Brad Siegel** reports the company dropped its earlier format of pay-per-view

live concerts in favor of a broader range of entertainment. Beaming weekly are taped concerts (*Wang Chung*, *Freddie Hubbard*), comedy showcases, *Rocky & Bullwinkle* cartoons, and independent films. Shorts produced by college students, culled by *Steve Amateau*, have been purchased for air in addition to scheduled series like "In The Groove" and "Audiophilia," clip-based shows produced by *LRP Video* in New York. Most of this material is ad-supported, and supplied to schools free of charge.

Ambitious technologically, the service has installed 18 "video centers" of satellite downlink, wide screen video projectors and stereo sound monitoring at the subscribing colleges. The signal is travelling by Ku-band satellite frequencies, not the C-band used for cable TV applications. Many of the schools which have their own satellite receiving equipment merely record the feeds and play them back on closed-circuit TV around the dorms. Campus Network is presently negotiating for live concerts and is interested in acquiring music-related programming of all types. *Fred Goodman* is handling acquisitions.

VIDEO PEOPLE

The founders of Music Video Services Inc., *John Persico* and *Mike*

Cooper, celebrated the first anniversary of their club video pool, now reaching nearly 200 non-broadcast TV outlets. Along with clip distribution and computerized tracking of clip play in clubs, the organization has expanded to include duplication services, customized clip reels, "ambient video," and a monthly publication, *Fast Forward*.

Livingston Taylor is hosting *This Week's Music*, a syndicated TV series from Viacom running in 30 cities. The half-hour show includes video clips, live performances and dancing. Clip programming and artist booking is being handled by *Marcus Peterzell*, lately with *E.J. Stewart Video* in Philadelphia.

The new *Hank Williams Jr.* video, produced by *Tom Thacker*, cameos *Cheech & Chong*, *Mel Tillis*, *Leon Redbone*, *Dickie Betts*, *Willie Nelson*, *George Thorogood*, and the *Oak Ridge Boys*, to name but a few, in a party scene. Rounding up the stars for "All My Rowdy Friends Are Coming Over Tonight" was the job of production manager *Karen Everly*, who happens to be a vice president of the Nashville Music Association.

Kim Dempster directed *Vanity's* video for her first solo album *Wild Animals* under the Motown Label. At RCA Video, *Phillip Rosen* has been

promoted to director of program and talent negotiations and *Joan Aceste* appointed to director of business affairs. *Jude Jansen* is directing this year's edition of American Film Institute's "Screening Room West," a forum for independent videomakers which in the past has included *Michael Nesmith* and *Bill Viola*. Screenings run Monday nights at AFI's Mark Goodson Theatre in LA. Video artist *Max Almy* is currently teaching experimental video at UCLA and working on a video clip for *Steve Miller*. Her latest videowork, "The Corporate Way" appears on cable TV soon.

At *Teletronics* in New York, *Gary Bradley* has been promoted to director of editorial services. *Positive Video* (Orinda, CA) bestowed VP stripes to three: *Nal Osheroff*, *Robert Lautz*, and *Jim Oster*, (formerly with The Post Group). *John Pivrotto* now heads up studio bookings for Positive's San Carlos facility.

STUDIOS, EDITDROID IN LA

Convergence Corporation has opened a demonstration facility for its EditDroid film editing system at *The Egg Company*, 3855 Lankershim, in North Hollywood. Designed by LucasFilm Ltd., EditDroid uses laser videodisks to random-access and preview footage in a computerized way. To schedule a demo, call (818) 505-0044.

The *San Francisco Production Group* has installed Computer Graphics Lab's Images II animation computer, a sophisticated motion control and palette video drawing device for high-resolution, film-like animation and 3-D effects. *Jennifer Grey*, known for her animation work on commercial spots for Levi Strauss and MTV, has joined SFPG staff as principle artist on the system. In Irvine, CA, *Kirsch Video Productions* has opened a 3/4-inch post facility for music video work.

"Saxophone Summit," a video-cassette recording of jazz artists *Sonny Stitt*, *John Handy* and *Richie Cole* in concert, has been released in Japan on the Victor label, reports *Dany Walker* of *Mobile Video Productions*, whose company directed and recorded the show for *National Video Productions*. A seven-camera shoot of jazz guitarist *Lee Ritenour* in concert was wrapped by *One Pass Video*. *Stanley Dorfman* directed the hour-long program, which is also scheduled for home video release in Japan. *Charlex* (NY) produced the opening sequences and continuity for the *Cars'* "Heartbeat City" video album for Warner Home Video. The animated-plus-live-action cuts created by *Alex Weil* and *Charlie Levi* are similar to their work on the *Cars'* clip, "You Might Think," including a night club inside a woman's pocketbook . . .

★ ★ COMING ATTRACTION ★ ★

NOV. 15-17, 1984

 **Billboard** 

VIDEO MUSIC

CONFERENCE

Sheraton Premiere Hotel

Universal City, California

For ticket information, contact:
Kris Sofley 818/842-1212

GOOD SEATS STILL AVAILABLE

Circle #088 on Reader Service Card

SYNCON series B

Shopping for a Desk these days can be a chancy business. Limited budgets all too often mean limited equipment, limited performance – and limited potential for future expansion. It's a story that many smaller studios know to their cost.

Enter the SYNCON Series B – a mixer of unrivalled flexibility, designed by AHB to grow with your studio but with a minimum upfront capital outlay.

The in-line modular concept of the SYNCON B means that you can start with a basic 8 or 16 track configuration and, without factory modification, expand to a 44 input, fully automated console with patchbay. And even the patchbay is totally modular – totally expandable.

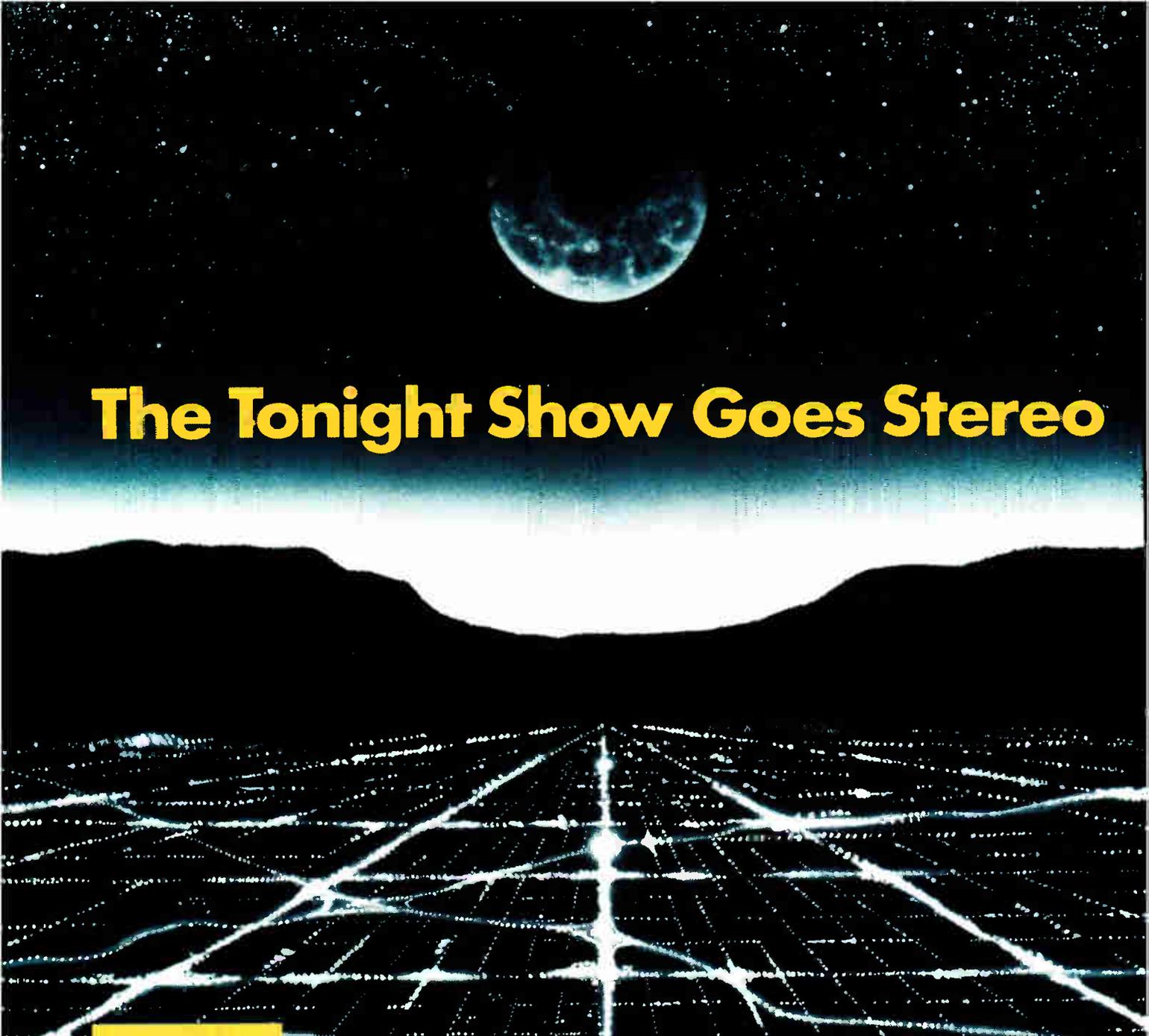
For more than 10 years AHB has earned the confidence of the World's audio fraternity. With the SYNCON Series B we have proved that it is possible to build a low-cost desk with a performance equal to one twice its price. With a sound-handling capability unmatched in the price range.

So we can confidently claim that the Series B represents one of the best deals going in today's market.

AHB
ALLEN AND HEATH-BRENNELL LTD

Allen & Heath Brenell (USA) Ltd.
Five Connair Road
Orange
Connecticut 06477
USA
Tel: (203) 795-3594

Circle #085 on Reader Service Card



The Tonight Show Goes Stereo

by Tony Thomas



One of the longest running success stories on television is NBC's *Tonight Show*. For 30 years, millions have been entertained by one of the few throwbacks to the days when television programs aired "live." Although the show in its present form is videotaped, the "live" feel is maintained through very stringent production parameters: no stopping, no canned applause, no canned laughter, no taped music, no postproduction. The show that

appears on the tube is virtually the same show viewed by the studio audience, with all of its inherent spontaneity and imperfections.

VIDEO VERITE

This form of "video verite" places special demands on all of the technical people involved in the production of the program. As in any live situation, every element must fall into place perfectly, on cue and on time. Changes must be made quickly and effortlessly. To this end, NBC designed and built a very special audio mixing board many years ago to cope with the vagaries of live television. Constructed primarily from Langevin

components, the board has been in use for two decades.

Ron Estes, the *Tonight Show's* chief audio engineer and resident expert on the board, comments: "I'm sure this is like nothing you've ever seen before. This is a custom-built NBC mixer that was built around 20 years ago. It is, to this day, probably the best mono television console made. This console never quits. What they did is take a block of aluminum and carve a console out of it. It is built like a battleship."

According to Estes' assistant, Roger Cortes, people sometimes use the board as a step-ladder to change light bulbs—an NBC benchmark of durability.

ty. The designers of the board clearly were not out to design a work of art; the board is downright ugly by current standards. But what it lacks in aesthetics, it makes up for in performance and versatility. One of the first things you notice is its odd layout of sliders, rotary pots, switches and meters.

Missing are the neat rows of identical sliders, switches and mini-pots obligatory on today's recording and television boards. This apparent hodgepodge of components has kept many a monitor-mixer at bay when bands come in to tape. "The board has 53 simultaneous inputs, but most people ask, 'Where are they?'," Estes quips. The board's homely countenance and subtle complexity have also made it the subject of scorn and ridicule by the uninitiated who fail to probe its design. For live television work, the board performs its daily tasks quite well, despite its vintage. The jack panel, for example, has 1,000 connectors. This allows the experienced mixer to get into or out of the board at virtually any point, pre- or post-fader.

"It is a very functional board," beams Estes. "Every single fader has an input mult and every slider has an isolated output. So you can go to the patch panel through tie-lines and feed things back to foldback or to the PA. Each of the six submasters has a UREI LA-3A which is remotely controllable from the board. You can also read the amount of gain reduction on the board.

"The board has essentially four masters, Estes adds. "There is a board master, a remote master, and two auxiliary masters. They are basically of the same priority. There is a remote control feature on the remote master that allows video control to insert the network spots during the station breaks. The six submasters go into the two cast and music submasters (split any way you want), which in turn go into the board master. Into the six submasters go the 20 sliders (which can be assigned any way you want) as well as the two reverb returns. Into ten of the 20 sliders go the various sub-fader groups which are essentially four-in/one-out mixers. There are filters for effects and off-camera voices and two program amplifiers, so that if one fails, the other automatically switches in."

The design of the board is necessarily hierarchical, with faders going into other faders, which go into still other faders, terminating at still another fader—the master. This design allows the mixer to fade down the entire band (for example) with one fader, a necessity for the fast-paced program like the *Tonight Show*. One unfortunate side effect of this type of layout is the 18 transformers needed to couple (or isolate) the various sections of the board, thereby reducing its transient response. At only -55 dB, the console's signal-to-noise ratio is still

better than that of the video tape recorders it plugs into.

OLD TECHNOLOGY MEETS NEW

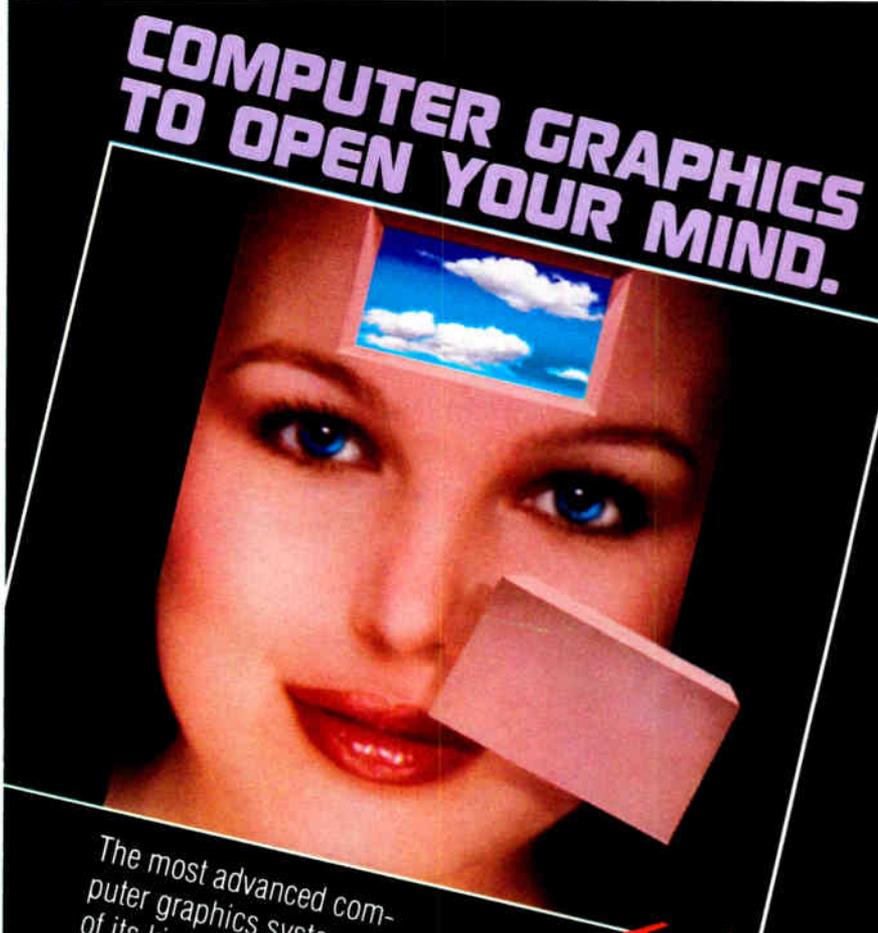
For the past three years, Estes and Cortes have conducted experiments with their seemingly archaic console which are on the cutting edge of current television audio technology, so much so, that Estes has been nominated for an Emmy for his achievements. "I've been at NBC for 15 years," Estes relates. "Back in 1972 we experimented briefly with stereo while working on the *Midnight Special*. The way we did it was to have a mono feed going direct to videotape and a stereo feed going to a 1/4-inch two track audio recorder. About three years ago, I thought that it would really

be nice to figure out a way to do the *Tonight Show* in stereo."

At first, Estes was content simply to monitor the programs in stereo. He gerry-rigged his trusty mono console to produce a stereo output. This was no small feat, since the board has only one +8 dBm output. The other two are -22 at 150 ohms, the board's standard internal levels. According to Cortes, an Ampex-440's electronics were even pressed into service as a stereo line amplifier to feed the monitor system in this make-shift setup.

"The way we configure the board for stereo is to make the 'cast' and 'music' masters the 'left' and 'right' channel masters," Estes explains. "The submasters are then assigned to either the

COMPUTER GRAPHICS TO OPEN YOUR MIND.



*San Francisco
Production Group*

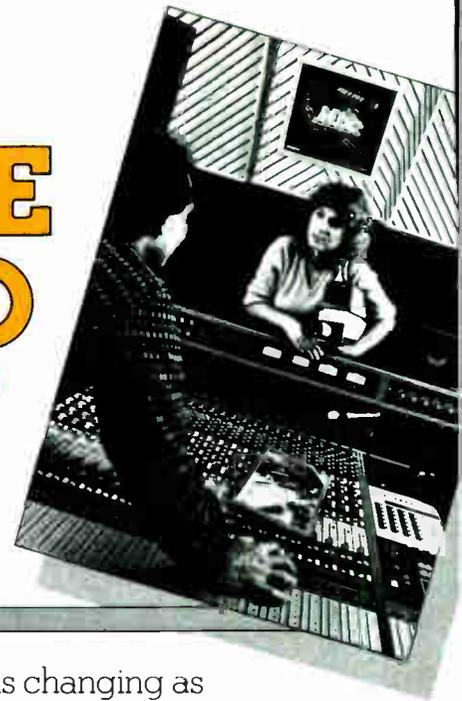
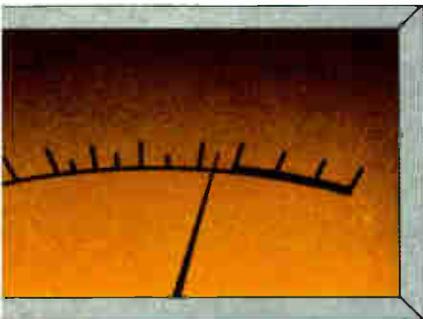
The most advanced computer graphics system of its kind. IMAGES II from NYIT's Computer Graphics Lab interfaced directly to a Sony BVH-2500 and a Matrix high resolution film recorder.

- Animation
- 1" Post Production
- Disc Premastering
- Digital Effects
- Pin-Registered Slides
- Ultimate
- Video Graphics
- Comps and Layouts

San Francisco Production Group
550 Bryant Street, San Francisco, California 94107 415/495-5595

Circle #086 on Reader Service Card

...IF YOU'RE IN THE STUDIO YOU'RE IN THE MIX



No doubt about it: the recording industry is changing as never before. Digital recording . . . video music . . . stereo television . . . Compact Disc . . . computerization in the studio . . . home taping of records and radio . . . new markets. As a serious professional, you're probably changing too, and doing your best to keep up with these new developments. That's where **Mix** comes in. ■ No other publication offers such a wide variety of informative columns and feature articles on today's dynamic audio/video scene. Whether you want to learn about the latest hardware and innovative production techniques . . .

tour the newest, state-of-the-art studio installations . . . read the views and personal experiences of leading producers, engineers and performers . . . catch up on recent sessions and other events . . . or simply be entertained by some of the

best writing anywhere—**Mix** has it all! (And only **Mix** publishes detailed directories of studios throughout the U.S., as well as other vital facilities and services.) ■ We want you to find out for yourself how *you* can benefit from reading **Mix** each month, so we're making a special introductory offer: **12 months—one whole year of Mix—for just \$19.95!** That's one-third off our newsstand price.

■ Just return the enclosed card with your check or money order. For only \$1.43 a month, you'll begin receiving one of the most valuable tools of the trade you'll ever use! **Special bonus:** Send payment with your order and receive two extra issues.)



left channel, right channel, or both channels. This is something I have to contend with on the main board because there are no panpots. This is no problem on the auxiliary boards we sometimes use as sub-mixers, because they have panpots. We place the reverb returns on opposite channels to eliminate the 'hole in the middle,'" Estes adds.

Their experimentation really began to bear fruit when the *Tonight Show* switched from the old two-inch Quad VTRs to the more compact one-inch machines. The two-inch machines only had one good audio track, while the one-inch units provided two. This gave Estes the excuse he needed to find a way to record the program in stereo, since at that time the show had been mixed and monitored in stereo for about a year. "The problem was," Estes recalls, "if we put the left and right outputs on separate channels, then someone would have to mix the two channels, then someone would have to mix the two channels together after the fact to produce a mono output, opening the door to potential phase problems."

SUM AND DIFFERENCE

Estes' solution to this dilemma was to utilize a technique that has been successfully employed for two decades in FM broadcasting—the "sum and difference" system. The way this system works in FM is that the sum of the two channels (left and right or mono) is placed on the main carrier, while the difference (left-right) or the information needed to reconstitute the stereo signal is placed on a 19 kHz subcarrier. This can only be picked up by receivers equipped to detect the stereo "pilot", and have the ability to decode the encoded information. In Estes' application of this principle, he sends the mono (L+R) "sum" signal to track one, which is always used for the main (mono) feed to network affiliates. The "difference" (L-R) signal to sent to track two, which can later be decoded by any station broadcasting in stereo.

The black box which generates the sum and difference signal was built by NBC engineer John Strain who deserves much of the credit for the success of the system, according to Estes. In operation, the sum and difference offers the best of both worlds. The stations which broadcast in mono (now and in the future) can have the mono signal they are used to without having to resort to mixing two satellite transponder or phone line audio channels together. Those that opt for stereo broadcasting can decode network feeds to produce discrete stereo audio, which they can then process and broadcast.

AHEAD OF THE GAME

What most people don't realize



PHOTO: TONY THOMAS

The "Tonight Show" console: "It's built like a battleship."

The Battle ... is won

Most of today's 1" type B VTRs are equipped with telcom c4

Users already selected telcom c4 as the most suitable NR System for type C VTRs. The new telcom c4 units are now designed to improve the sound of type C VTRs. telcom c4 creates lower distortion from tape, better crosstalk attenuation, improved headroom plus a 25 dB gain in dynamic range. No line-up procedures. telcom c4 units for VTRs

Contact:
Solway Inc., P.O. Box 7647,
Hollywood, FL 33081
Phone (305) 962-8650, Telex 467257

are available for 1, 2 (stereo) and 3 channels, for simultaneous encode/decode and automatic switching. Furthermore, telcom c4 is used in connection with ATRs, line and satellite transmission. Don't you also need super sound for stereo or copying? Just contact us for further information.

ANT
 Telecommunications
 ANT Nachrichtentechnik GmbH
 Lindener Str. 15 D-3340 Wolfenbüttel
 Phone (05331) 83-0 Telex 95651.ant d

telcom c4 is proven to give the best high fidelity with no looking after, just plug it in. telcom c4 is equipped on more VTRs than any other noise reduction system!

Circle #087 on Reader Service Card

is that the *Tonight Show* has been recording in stereo for two years, beginning in October, 1982. At last count, nearly 400 programs have been recorded utilizing the "sum and difference" system, including all of the *Best of Carson* repeat shows, which are generally a year or so old. The first stereo broadcast of the *Tonight Show* occurred on Thursday, July 26, 1984, on WNBC-TV, New York City, the NBC flagship. The "sum and difference" channels were uplinked to the satellite at the NBC Burbank complex and downlinked at NBC New York, where they were decoded and broadcast using the FCC's approved TV stereo transmission system. The test of the system went very well, according to Estes, although no stereo TV receivers were marketed by then to afford the public a sneak preview of stereo TV.

The fact that NBC has so many *Tonight Show* programs in the can places them in an enviable marketing position, especially since the other networks are now scraping to change their current fare into stereo in time to take advantage of the huge market predicted for the stereo television receivers and adapters that will soon invade the stores.

QUALITY CONTROL

Now that stereo television is finally a reality, many program producers are beginning to take TV audio quality seriously. Yet, the *Tonight Show* has long been a trendsetter in improving the quality of televised sound, as evidenced by the Emmy awarded to Dave Williams in 1976 for Outstanding Achievement in Tape Sound Mixing for the anniversary show broadcast on October 1, 1975.

Ron Estes has continued the tradition by striving for excellence in the

show's audio output. To this end, very little compression is employed in the mixing of the *Tonight Show*, and the outboard gear and mike complement used is close to state-of-the-art. Valley People "gain brains" are in evidence as well as a Crystal Systems EQ, a Lexicon 224 DDL, an AKG BX-20 reverb controlled at the board and JBL 4411 monitors. A Boulder Labs monitor amplifier will soon be installed, and an EXR exciter is always used to "brighten-up" the sound of the broadcasts psycho-acoustically. In addition, a Yamaha 1516 outboard mixer is used with bigger setups to give 16 additional inputs, EQ, foldback, and panning capability. A Dolby film noise reduction system with several bands is employed in the decode mode as a frequency controllable noise-gate to eliminate room rumble and other extemporaneous and extraneous noise.

The microphone selection is also quite impressive for television, which has long relied on durable dynamics rather than more sensitive (and generally audibly superior) ribbon and condenser microphones. The familiar Shure ribbon that has been dubbed the "Johnny Carson mike" sits unused in a storage cabinet backstage, having been replaced a few years back by an AKG C-414 condenser. The boom mikes are all Schoeps 441s. On the brass section are all beautifully rebuilt RCA 77Ds, found stashed away in cardboard boxes in the NBC storeroom, following several years of shameless disuse. The reed section is miked with Neumann KM88s, and the drums sport Schoeps overhead, AKG 451s on the snare, a cherished Altec tube mike on the floor tom, and an EV RE-20 on the kick. The guitar is handled by a Sennheiser MD-441, the

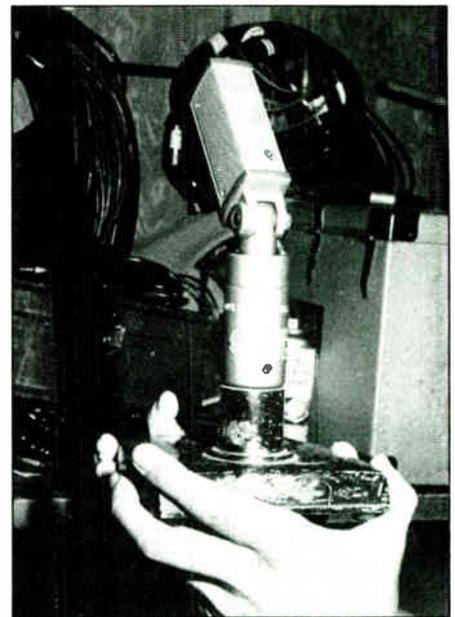


PHOTO: TONY THOMAS

Johnny Carson's original Shure ribbon microphone, long since replaced on the show.

acoustic piano has a Crown PZM, and the Fender Rhodes and the bass come in direct. For the various guest performers the show, there are AKG 451s, 535s, 330s and Sennheiser 431s.

THE WAVE OF THE FUTURE

Despite the venerable antiquity of the *Tonight Show* studio, there are signs that state-of-the-art technology is invading other portions of the Burbank complex. The brand-spanking-new Studio 11 has risen from the asphalt parking lot in the past year to house production of the soap opera *Santa Barbara*. At over 18,000 square feet, (Roger Cortes affirms jokingly that the fog rolls in at Studio 11 every morning), the studio is twice the size of the older studios in the complex. It has the first SSL 6000 board (sans computer) used in a video production complex in the entire country. Plans are in the works to gut and similarly refurbish two other studios on the lot, installing new mixers, switchers and cameras. A new NEC computer-controlled routing-switcher (originally purchased for the networks ill-fated coverage of the 1980 Moscow Olympics) has been installed in the complex to allow instantaneous control and monitoring of the various studio and network lines. New VTR input selectors are in evidence which utilize the latest "touch-screen" computer technology, allowing the videotape engineer to simply point to his choice of inputs.

While all of this newfangled technology is bound to overtake the *Tonight Show* studio sooner or later, it seems that the team of Estes and Cortes are content, for now, to continue to pioneer new technology on a console that is for others, an anachronism. ■



PHOTO: TONY THOMAS

Ron Estes (L), the chief audio engineer for the show, and his primary assistant, Roger Cortes.

The first Montage* in the South is at

Crawford Post Production, Atlanta.

Also the first all SMPTE digital controlled one inch edit suites with ACE touch-screen edit controllers, AVC 33 switchers, ADO and Vidifont V CG; Ampex VPR 3's—new and extremely fast video tape machines;

Sony BVH 2500, the new video tape machine capable of recording a single frame or field—essential for sophisticated video animation and video disc preparation;

Bosch FGS 4000, a new video graphics computer capable of complex three-dimensional animation with subtle lighting variations;

Twenty-four-track, computer-assisted audio recording and mixing studio with Neve 8128 console with Necam II automation and dbx digital mastering.



CRAWFORD
POST PRODUCTION

Call Bob Judson, 404-876-7149

*The Montage Picture Processor random access off line edit system has been called the most important creative advance in the evolution of video editing. It allows you to edit video tape like film—inserting, shortening, rearranging without reediting the entire program beyond that point.

Circle #089 on Reader Service Card
World Radio History

Chicago PBS Station Launches Full-time Stereo Transmission

Now, is anyone listening?

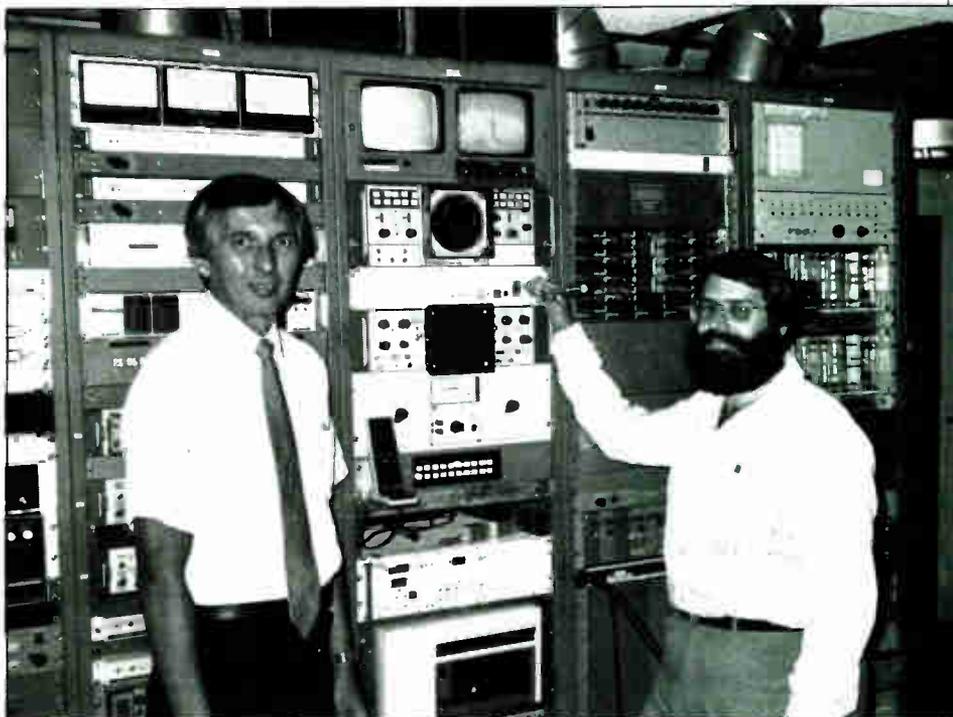
by Gregory A. DeTogne

History is being made in the airwaves above greater Chicago-land's rooftops, and most people aren't even aware of it. WTTW/Channel 11, the Windy City's PBS outlet, has become the first television station in the U.S. to begin transmitting full-time in stereo. The station's pioneering efforts represent the culmination of over a decade's worth of research which began in 1972 with stereo simulcasts of a program called *Made in Chicago*, and reached maturity on August 7th of this year, when the station began stereophonic transmissions using the new FCC approved Zenith/dbx system.

From a developmental standpoint, WTTW has invested more manpower into the development of stereo TV than hard dollars. "Basically, every step of the way has taken a lot of midnights and sheer creative energy," Larry Ocker, the station's vice president of engineering said. Getting to the point WTTW is at today started when *Made in Chicago* and other similar programs made their debut. At the time, stereo simulcasts of this type featuring musical performances were primitive at best. Most of the stations that were broadcasting them in conjunction with FM radio used different sources for recording the audio and the video, and that sometimes had disastrous effects upon synchronization.

"Right from the start, I realized that if we wanted to have something worth watching and listening to, it would be essential to have everything recorded on one tape," Ocker remembers. "The only problem we faced was how to do it. We couldn't just go buy some miracle black box that would solve our problems because the technology wasn't there yet."

After a little head-scratching, Ocker and Jim Swick, the station's assistant chief engineer, wound up modifying a mono quad-track tape machine so that it could play more than one audio channel and achieve stereo separation. "The quad-track tape had a cue-track on it that was later used for time code," Swick explained. "By experimenting with various noise reduction devices to improve the poor sound quality of that track, we were



Larry Ocker (left), WTTW's vice president of engineering, and Jim Swick, assistant chief engineer.

able to use it as the other necessary audio channel, and thereby created our first stereo videotape recorder."

Made in Chicago was probably one of the better examples of the early simulcasts, but it still had its share of problems. One of the bigger stumbling blocks in its production was the fact that the technology didn't exist at the time to electronically edit videotapes—everything had to be "butt-spliced" with a razor blade. This harsh reality forced the producers to shoot the show in different one-tape segments that were lashed together later. It was basically like live television; there was no margin for error—if a performer made a mistake, the whole segment had to be shot over.

By 1974, *Made in Chicago* had run its course, and gave way to the nationally syndicated *Soundstage*, which featured some of the best top-name musical acts in the business. To increase the quality of the simulcast program, Ocker and Swick set to work once again modifying their quad-track so that the tapes could be electronically edited. After more long nights and grueling days, they came up with plans for a spe-

cially-made head that would have the existing mono track split in two and protected by guard bands to give it stereo capabilities (this was still before the time of factory-made stereo videotape recorders). Once the custom head was in place, the cue-track they had formerly been using for audio was freed up and put to work as a control track, which enabled them to edit electronically. With this new-found ability, *Soundstage* could utilize different camera angles, and wasn't forced to be recorded all at once. The show was further enhanced when WTTW laid out the cash for a studio quality 24-track audio console that greatly improved the sound of the final mix.

While the public eye was on *Soundstage* (which, incidentally, is still one of WTTW's most popular exports to the rest of the national PBS chain) Ocker and his crew were diligently preparing WTTW for the time when simulcasts would be replaced by full-time stereo. Eventually, on October 14, 1983, the station's experimentation led them to begin transmitting a stereo signal via the Telesonics generating system, even though no one was really listening.

NO DROPOUTS

Samson's "Phase-Reflex" technology solves wireless' biggest problem.



The total freedom of movement promised by wireless mic and instrument systems is a very attractive option for most modern musicians and singers. Unfortunately, the stratospheric prices of the more "professional" systems exceed their ability to eliminate problems like *drift*, *interference* and *dropouts*—so many of the most adventurous performers have gone back to messy cabling.

Samson's Broadcast Series "Phase-Reflex" Wireless System finally solves the big problem of dropouts, and other types of interference, by incorporating the most sophisticated wireless technology available into a versatile and surprisingly cost-effective package.

We've combined the most refined "true diversity" receiving system operating at a Hi-Band VHF/FM frequency range to insure full-fidelity wireless performance with no unexpected interruptions or surprises.

The system consists of a full-frequency response microphone (with a choice of the Shure SM58 Dynamic or SM85 Condenser capsule) or "belt-pack" instrument/lavalier transmitter and Samson's PR-50 30 Channel FM Digital Receiver. These elements working together result in a frequency response of 20 Hz to 18 kHz, extremely low

harmonic distortion and excellent signal-to-noise specs for the strongest, most uncolored and "natural" sound possible. The system's range is a full 300 ft. under the most adverse conditions and 1500 ft. line of sight.

To offer greater performance, the Samson PR-50 receiver features an exclusive three-parameter "Auto-Mute" (patent pending) function to mute off-station noise when the mic is off; a streamlined and compact 19" rack-mountable housing and balanced line outs and a line level out for recording and mixing. Samson's HT-20 microphone transmitter uses a standard 9V battery and has no protruding antenna to get in your way.

And when it comes to the *bottom line*, Samson's Broadcast Series System is priced at \$1,295 U.S. (w/Shure SM58 mic cartridge), \$2,000 less than our closest performing competitor. In fact, competitive units at twice the price don't offer all of these features. We've created *the* system that solves your biggest problems with wireless. The Samson Broadcast Series "Phase-Reflex" Wireless System is the first *real* step towards experiencing the ultimate freedom of wireless.

SAMSON®

WE TOOK THE WORRY OUT OF WIRELESS.

Samson Music Products,
124 Fulton Avenue, Hempstead, New York 11550
516-489-2203 TLX 510 222 1630

In Canada: Omnimedia Corporation, Ltd.,
9653 Côte de Liesse, Dorval, Québec H9P 1A3
514-636-9971

Circle #090 on Reader Service Card
World Radio History

As WTTW grappled with the newness of Telesonics, the FCC began gearing up to set rules that would govern stereo television broadcasts. The agency was extremely cautious in developing guidelines, mainly because they had just been left twitching after making what was arguably a bad judgement call with regards to stereo AM regulations. (The FCC decided to let the AM marketplace select an appropriate stereo transmission system, with the end result being that four incompatible systems evolved and began competing with one another.) With television, the FCC wanted to select one stereo multi-channel system as a standard, so they called upon the EIA (Electronic Industry Association) to study the various transmitting and noise reduction devices available, and ordered them to report back on which one was best. Three transmission devices were considered (Zenith, Telesonics, and one from the EIA of Japan), along with three noise reduction systems (one from dbx Inc., Dolby Laboratories, and CBS).

The Japanese transmission system was an offshoot of dual-language broadcast equipment that had been developed years before. Overall, it was designed for maximum cross-talk separation, which left something to be desired as far as optimizing stereo is concerned, and was a bit noisy because it

was equipped with an FM modulated subcarrier.

On the other hand, the Zenith and Telesonics systems were very similar in configuration. Both utilized AM sub-carriers, and were operationally very close to the equipment used to transmit FM stereo.

After conducting lengthy tests and producing reams of documentation about their findings, the EIA reported back to the FCC that the Zenith system combined with dbx noise reduction was the hot ticket. The FCC devised regulations that protected the system the EIA chose, and back at WTTW, the plug had to be pulled on the Telesonics system Larry Ocker's engineering team had installed.

Fortunately, due to the similarity of the Zenith and Telesonics systems, WTTW was able to switch to the Zenith/dbx transmission method without too much difficulty, and full-time stereo broadcasting began on August 7th of this year with whole-hearted FCC approval. To insure actual 'round the clock stereo transmission, a stereo synthesizer was purchased to enhance mono-recorded programming.

"All of us here feel that it's extremely important for stereo to always be on when a person dials in WTTW," Ocker said. "What good is it to own a

stereo set if you can only watch two programs recorded in stereo a night? It would be just like when color TV first came onto the scene, and all you could see in color was *Bonanza* and *Walt Disney*."

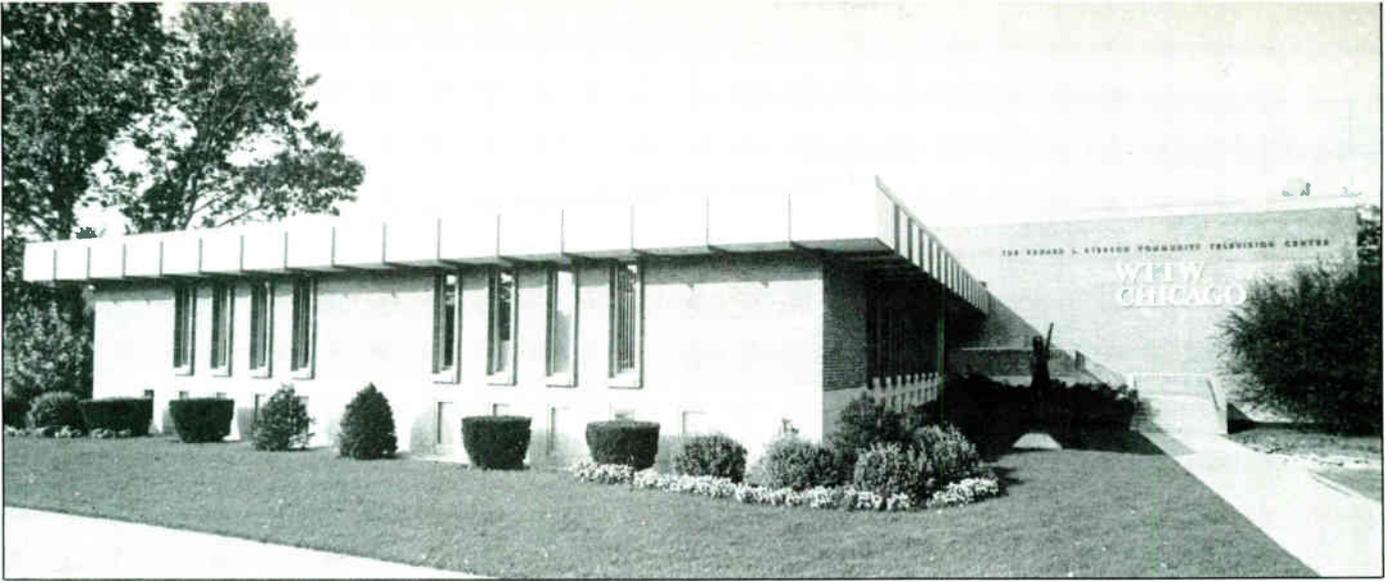
Waxing philosophical on the day I visited them in their offices at WTTW's studios, both Ocker and Swick expounded upon their feelings about stereo television and its future.

"Stereo television will be the norm in a few years," Swick said. "It'll start first in the major markets, and then creep into the rest of the country. Television has been stuck in the mono rut for too long, and with the advent of things like MTV, people are dying to have better sound to go along with the improved visuals. I also believe that when the sound finally changes, producers' attitudes will change as well, and viewers will be watching programming that will convey a story that relies upon what you hear as well as what you see."

Ocker, after having bashed his brains and pulled his hair for the last eight years while launching WTTW's stereo transmitting system, has a pragmatic view of stereo television: "Since television has always been mono, it will take a lot of time and money to turn the industry around into complete stereo. Engineers will be faced with changing just about



WTTW's Studio A, which houses the bulk of the station's audio control equipment.



WTTW's studios at 5400 N. St. Louis Avenue on Chicago's Northwest side.

everything: generators, transmitters, routing and switching systems, the list is endless. Regardless of the human effort though, it will happen, and in the next five years it will be out of the novelty stage and rapidly advancing toward being a reality in every home."

Having stereo broadcasts will more than likely bring about a new scenario in the electronic manufacturing industry as well. Instead of making single, modular receivers as we know them today, manufacturers may lean toward developing different components that each have specialized functions. Given this vision, homes could be outfitted with one large screen or monitor, a stereo receiver, separate amplifier, a decoder, and quality sound reinforcement systems that could also be used with FM, tapes, or albums.

But wait a minute—before we leap too far ahead into the future, we should stop and remember that there really aren't that many stereo television receivers in our part of the world yet, and even if there were, WTTW is the only station at the moment that would be serving them full-time. The medium is, after all, in its infancy, and if you went out looking for a television with stereo capabilities, you might not find it at the dealer's shop on the corner. "It's the old proverbial chicken before the egg syndrome," Ocker believes. "Which do you want first, a well-established transmitting system, or a million consumers with stereo sets and not much to watch that's broadcast in stereo? The way we're approaching it now is the correct path to follow, because it takes years of development to get all the bugs out of a fledgling transmission system. Once we get our end refined, then I think the consumers should get ready to jump on the bandwagon."

Until then, we'll all have to hold out for a few more months or years and continue to listen to the tube on tinny-

sounding four-inch mono speakers. With the scarcity of stereo tuners right now, you could easily be led to believe that the few privileged people who are receiving WTTW's stereo broadcasts today are probably Larry Ocker, Jim Swick, and their best friends, but guess again, because even they don't have a set yet that will pick up what they've worked so hard to create.

"It's true," Ocker related while Swick glanced aside with a slight look of

embarrassment. "Although stereo television receivers are quite common in Europe and Japan, we're having a hard time getting our hands on one. At the moment, we're scrounging up parts from all over so we can build one from scratch. As a matter of fact, Jim was going to work on the set this afternoon.

On that note, Swick disappeared from the room, and dashed down the corridor, probably on his way to search for some obscure tuner. ■

GRD
AMERICA'S MOST EXPERIENCED REAL TIME DUPLICATOR
 The world's largest state-of-the-art cassette duplication facility continues to give you incredible sonic excellence. GRD was first to introduce Real-Time cassette duplication at a reasonable cost, and elevated the cassette to audiophile quality. This year GRD has taken the next step into the future with Digital Duplicating, AGFA's super-extended normal bias 612 tape and high bias 627 tape. GRD will faithfully reproduce your most demanding programs without compromise... in Real-Time at unreal prices.

HIGH QUALITY PRINTING
 AND ASSEMBLY
 CUSTOM LOADED BLANK
 AGFA CASSETTES, CHROME, 612

(602) 252-0077
 P.O. BOX 13054
 PHX., AZ 85002

THE RECORDERS Quartz-lock, Auto Bias, 30-20,000 Hz, 0.25% w/r m/s, Dolby B — more than 67 db S/N ratio

Circle #091 on Reader Service Card

AUDIO APPLICATIONS

Please, don't discount the importance of sound, with pictures. Sure, your attention is on the screen, as is the attention of the viewers, but hearing is an important stimulus too. You must employ it to reinforce your visual message; otherwise it will surely detract from it.

by Ken Pohlmann

What can I say? You guys are incredible. A new breed of individualists, gung-ho spirit and insatiable thirst for the visual, intrepid desire to paint visual reality in between synchronization pulses. One eye shut, the other shrouded in a rubber eyepiece, weighed down by nicad batteries, roaming everywhere whether there's news there or not, committing it all to video. Are you all products of broken homes? Trevor, what compels you to hack your way through the Central American jungle with the rebels, shooting back with frames instead of bullets? Laura, I know for a fact that you're selling your food stamps to buy videotape, so you can finish your epic on New York subways. Well, you guys are modern-day heroes, champions of pure journalism, for you nothing else matters, except the story.

I admire your spirit, I am envious of your adventurism, yet alas I am

come subsumed by the picture's projection or realism. Rather, the chance for heightened expression is offered. Conversely, poor sound, poor because either it is technically bad, or inappropriate, decreases realism. Out-of-sync sound immediately and wholly destroys any chance of illusion. Similarly, less obvious problems degrade the illusion or impart a vague sense of distraction to the viewer.

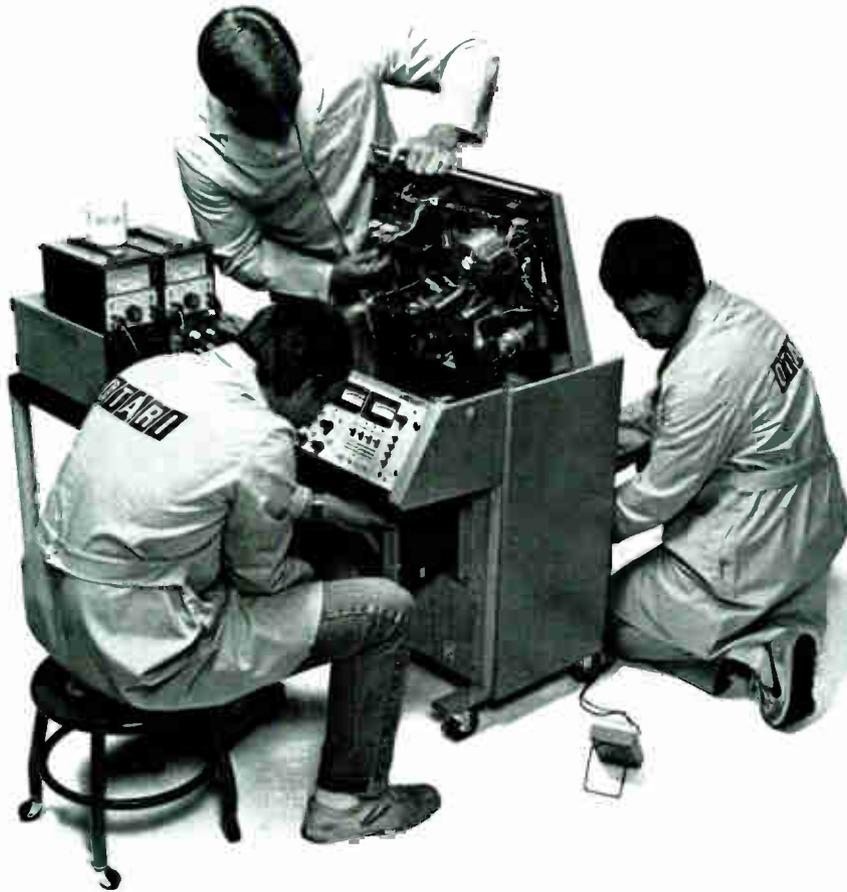
Inappropriate sound is big trouble. The brain tends to believe what it sees, then listens to the ear for collaboration. But if it sees a picture of a car door slamming and hears glass breaking, it is the visual which is made to appear ridiculous. Agreement is vital. Pictures of talking heads in which every facial inflection and movement of the lips is clearly visible establishes the ability to clearly hear what is being said, because in real life when someone is that close, we can hear every word. If the words from out of the mouths of video images are not distinct and intelligible, the brain immediately begins doubting. Similarly, when a talker moves forward into the picture, or the picture moves into the talker, we expect the sound of his words to become louder, both absolutely and in terms relative to room ambience. Anything else just isn't right.

There is a serious point underlying this entire argument which must be recognized. Audio recording, and video recording, may be either creative or re-creative. In the case of re-creative recording, our task is documentation. The recording should attempt to duplicate the actual. In creative work, that constraint is removed. An album's kick drum may sound unlike any real kick drum, yet that is accepted. A computer generated piece of graphics might be surreal, yet is accepted. Yet when juxtaposed, sound and image must agree, according to strict constraints. In the case of re-creative work, both sound and picture attempt to re-create the actual event, agreeing as they agree in actuality. But even in creative work, they must agree. The sound of a kick drum cannot be shown as a tambourine is struck, even in the most creative or abstract contests, unless the evident absurdity is the desired effect. The ears accept unexplained events, as do the eyes, but when working together, the four of them demand agreement between sight and sound. In other words, the music must fit the picture, and vice versa. When the two elements are added, one plus one equals two, however one minus one is

AUDIO FOR VIDEOGRAPHERS

not privileged to join your ranks. I dropped out of video early; I could never even figure out what that white balance thing was all about. Maybe it's the sunglasses I have to wear constantly here in Miami to cut the glare and look cool, or all those hours of contemplating the inside of my eyelids. Clearly something has stunted my visual sense. And yet, videographers, I can offer my services in a Sancho Panza role, as advisor and store of provincial wit, in audio matters. Hence, a short course in sound, for the visually-inclined.

Please, don't discount the importance of sound, with pictures. Sure, your attention is on the screen, as is the attention of the viewers, but hearing is an important stimulus too. You must employ it to reinforce your visual message; otherwise it will surely detract from it. A well-executed radio drama demonstrates the ability of sound to create a sense of realism, and when sound is coupled to visuals, that ability does not disappear or be-



Tuned up for low-speed performance.

Until now, professional tape duplication engineers had to produce their low-speed masters on machines better suited for high-speed record mastering. They've suffered long enough. **Otari introduces the MTR-10-4 LX.**

We've taken our popular MTR-10-4 and turned it into a new beast: The LX—a 1/2" four-channel recorder specifically tuned for the requirements of low-speed duplicator mastering.

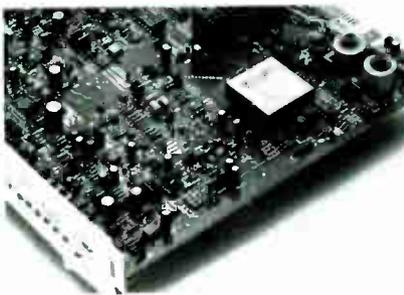
The LX delivers a frequency response of 20 Hz to 17.5 kHz and signal-to-noise ratio of 64 dB, at 3.75 ips. At 7.5 ips, frequency response is 20 Hz to 20 kHz, with a signal-to-noise ratio of 67 dB. And of course, the LX has all the other professional features of our MTR Series recorders.

The faster master

Once you've recorded a state-of-the-art duplication master on the LX, it would be a shame to reproduce it on anything less than our DP-80 high-speed duplication system.

The DP-80 master runs at an incredible 480 ips—twice as fast as any other duplicator—and fast enough to allow for 7.5 ips masters at a 64:1 duplication ratio. With the LX and the DP-80, duplication engineers now have the tools to take pre-recorded music to new limits. Together, they make great music.

For more information, please call Mike Pappas, Manager, Otari Industrial Products Division, at (415) 592-8311. Otari Corporation, 2 Davis Drive, Belmont, CA 94002. Telex: 910-376-4890.



The Dolby® 11X pro option is available on both the MTR-10-4 LX low-speed Mastering Recorder and the DP-80 high-speed Duplication System.

*Trademark Dolby Laboratories Licensing Corporation.
© 1984 Otari Corporation.

Circle #092 on Reader Service Card
World Radio History



zero. These simple equations have been solved at LucasFilm, which is undertaking a major effort to upgrade the entire sound chain for films, beginning with location recording, and continuing through to the redesign and quality maintenance of theater acoustics and sound systems.

Videographers, please remember that sound has a great ability to create atmosphere and context. By all rights, opera recordings should be singularly unsuccessful at conveying the many sounds and sights of what is essentially a theatrical performance. Yet opera recordings do quite well at establishing and conveying, through sound only, the physical contexts of the settings. One recording of Beethoven's *Fidelio* ingeniously creates the impression of the dank underground prison of Act II. Vocals ring with the crispy reverberation of stone walls, and subtle slap echoes, one after another, define the three dimensions of the prisoner's cell. The sense of realism is overwhelming. Moreover the effects are added only at the beginning of the act, and are slowly pulled back to avoid detection, and identification as an obvious ploy. Yet the ear is fooled; the brain hears the extra information, reflexively decides on the context, saves that information, and never notices when the cues disappear. Few listeners conscious-

I suspect that the biggest impact of stereo television will be for commercials; all of those annoying ping-pong effects will surely be used extensively by local used car salesman and others of their kind who have no respect for sensibilities.

ly perceive the effects at all, instead, they probably attribute the chills down their spine to the performance. Videographers, aided by distinctly nonvisual means

The ear-brain duo is a fairly sophisticated system, yet fairly easily fooled, as we saw above. Thus, phantom images may be created in the thin air between speakers, as is demonstrated by stereo.

Stereo and video is an important, but troubling development. Stereo represents more information, and thus a chance for a more solid illusion. Yet it presents difficulties to the videographer, problems which have been debated but not yet resolved. Stereo is yet another constraint for the ear-eye combination. Any audio recording could have its channels reversed, with no great consequence. First violins on the right instead of the left? Big deal. Synthesizers on the wrong channel? I would never have known anyway. But sound with pictures is a different kettle of fish. A man on the left of the screen talking with a woman on the right, and the man's voice comes out of the right speaker, and hers from the left. Absurdity. Big problem. In addition, stereo television presents many problems of context. As the video picture switches from actor to actor, left and right, profile, straight, close and distant, should the sound simultaneously switch left and right, off- and on-axis, direct or ambient? The thought of it isn't relishing.

Somehow it appears that while the eye is tolerant of continual change, the ear is not. This might be corroborated by the fact that our eyes are selective organs, we may look left and right, near and far, thus we are not bothered by an image which does the same. But our ears are relatively nonselective. We cannot especially listen to something here or there, near or far. Sound which changed to fit a changing picture would be a startling revelation in human sensory perception, to say the least, perhaps giving us an idea as to how a being from outer space might hear sounds. Thus the problem arises. If the sound must agree with the picture, how do we reconcile a changing picture with an unchanging sound context? I am tempted to publicly go on record as saying that this obstacle might so severely limit stereo television that its impact on the television medium could ultimately be slight. Consider for yourself: You're seated eight feet from a television screen, placed between two loudspeakers, eight feet apart. A man is on screen left and a woman is on screen right; his voice out of the left speaker, and hers from the right. Totally wacky because the visual mouth and its sound source are four feet out of sync. Move speakers in? On either side of the cabinet, two feet apart? Big deal. The resulting stereo perspective is interesting or noticeable only if you are seated two feet from the screen. Of course, widely-spaced speakers could be effectively used for other off-camera effects, but how important is that, really? I suspect that the biggest impact of stereo television will be for commercials; all of those annoying ping-pong effects will surely be used extensively by local used car salesman and others of their kind who have no respect for sensibilities. Stereo Television? You

The art of shaping sound.

SONEX is a high-performance acoustical foam that upgrades your studio inexpensively. Ideal for a temporary isolation booth, it can also eliminate slap echo and harsh resonances in the main room or silence noisy tape equipment in the control booth. Write for our color brochure today.



**Alpha
Audio**

2049 West Broad St. • Richmond, VA 23220 • (804) 358-3852

Circle #093 on Reader Service Card

can bet I'll be standing in line at Sears to be first on my block to hear my favorite TV commercials in stereo.

There are other points concerning video switching. I am hoping that sound engineers keep on their toes. While I'm watching a symphony orchestra on television, the visuals jump from section to section, soloist to soloist however I maintain continuity because the mix doesn't attempt to jump with the picture. I am, however, grieved then the camera presents a shot of a clarinetist and there is no trace of clarinet in the mix. The point is obvious. The mix must be good—the sound must contain everything the camera can see. Everything must be discernible so that as the camera selects different visual perspectives, I can change aural perspectives mentally at will, if I choose.

There are a host of other topics to cover, and hardly any space left. Let's mention a few: Room simulators. They permit creation of any acoustic environment, architecturally possible or otherwise. If I was doing television postproduction, I'd buy a room simulator as quickly as possible, and I'd make every audio mix fit the picture. Noise reduction. Video tape recorders generally have terrible audio response. One prominent video house has tested video audio machines and found a 57 dB S/N

Let's outlaw lip-synching. If overdubbing is a white lie, then lip-synching is treason. It should be punishable by hanging. It's *never* right, and it drives me nuts. If overdubbing was done as badly as most lip-synching, you'd wonder what drug had been slipped into your drink.

ratio. But with noise reduction they measured a 77 dB S/N ratio. This is highly recommended. Don't kid yourself, the transmission degradation doesn't hide that much. A few years ago I recorded the "CBS Evening News" one night, then recorded it the next night, after they had switched over to noise reduction on the network feed. It was day and night. Digi-

tal recorders. Digital audio processors, reel to reel, PCM or delta companded delta modulation, highly recommended. Think how much money you'll save on noise reduction (see above). Also, I'd like all videographers to please watch out for sloppy editing. I know you needed 30 frames of the drummer inserted in there, and he looks great, but apparently the footage was taken from another tune. What he's hitting isn't even close.

Which brings us to the final point. Let's outlaw lip-synching. If overdubbing is a white lie, then lip-synching is treason. It should be punishable by hanging. It's *never* right, and it drives me nuts. If overdubbing was done as badly as most lip-synching, you'd wonder what drug had been slipped into your drink. I'm serious. The kind of looping consciousness required to nail it down is apparently rarely down in television work, and the results are plain to see, in both vocals and instrumental work. When a production technique becomes popular on game shows and in shopping malls as a form of entertainment, it's time to reconsider its utility, as well as your expertise. Either clean up your act, or get rid of it. I'm serious. Let's record the music right in the first place, on camera. You videographers are heroes, but no one lives above the laws of bad art. ■

Only Swintek GIVES YOU A CHOICE in wireless microphone systems

- Choice of mics—Beyer M500, Shure SM57, SM58, SM78, SM85
- Choice of finishes—chrome, black chrome or gold
- Integral antenna or rubber duckie
- Systems for hand held mics, lavalier mics, electric instruments or ENG/EFP/LPTV

Unsurpassed field-proven reliability assures the high audio quality that professionals demand. VHF high band and narrow RF signal bandwidth permit numerous systems to be simultaneously used on nearby frequencies without interference or receiver desensitizing by local TV or radio broadcast signals. All metal construction assures durability and RF shielding. dB-S compressors permit wide dynamic range without unnatural compression. Swintek—the proven performers.

alan gordon enterprises inc.



1430 Cahuenga Blvd.
Hollywood, Ca. 90078
(213) 466-3561



Circle #094 on Reader Service Card



by Lou CasaBianca

Audio, video, computers and communication satellites now offer an endless variety of software connections. We are on the brink of a new age of world-wide person-to-person visual and aural communications. Computer-controlled video will link home, business, and public entertainment centers without the restricted bandwidth of audio frequency-based systems. One day even your copy of *Mix* may be delivered to you electronically. Recent dramatic advances in digital electronics and very large-scale integration (VLSI) have made personal computers, videodisks and videocassette recorders high-tech commodities.

The fact is that this vast techno-mechanical galaxy of hardware is driven by its content; the wide array of software that is rapidly approaching possible terminal glut. Over the last three years, computer video games have gone from boom to bust, hitting saturation, virtually self-destructing and undergoing a huge shakeout this year. Home video software is the new corporate target market for high-tech revenues. There is a convergence of programming represented in the marketing of feature films by Hollywood, and the sales of soundtracks and video music by the record companies. The home video software market can be overviewed by looking at the top three all-time best selling videotapes. Number one is Paramount's blockbuster feature

film *Raiders of the Los Ark*, followed by Vestron's *Making of Michael Jackson's Thriller*, an epic music video. And number three is Karl Video's *Jane Fonda's Workout*, an aerobics, semi-cheese-cake how-to tape.

Recently, *Mix* attended the Video Software Dealers Association's third annual trade show in Las Vegas to get a better handle on just what the coming boom in video software will mean to audio, video and film producers, and production facilities managers.

THEY'RE HERE!

There's always something surreal about attending conventions in Las Vegas. Waiting to greet you at the airport are rows and rows of money-eating metal robots standing at attention in their one-armed mock salutes. In the casinos, the winners and losers, each with their own personal rituals and superstitions, go up against the odds one more time.

The VSDA was formed as an alternative to the Consumer Electronics Show, which has traditionally neglected software. The organizing force behind the association were members of NARM (The National Association of Record Merchandisers), key video dealers and distributors, and a number of major Hollywood studios. The first convention was in Dallas, with 225 video dealers attending. In 1983, attendance tripled at the second show in San Francisco. Last year CES officials literally relegated video to a tent separate and apart from the main

body of the show. As a result of the growth of video and the fall-out from the last CES, this year's attendance soared to over 2,000. Although the show was overbooked and logistically under-organized, it was able to validate its *raison d'être* by attempting to establish a consensus on industry priorities through an ambitious schedule of workshops and conferences. The major feature film and home video manufacturers and producers were represented in well attended exhibits. It appears that the VSDA has replaced CES as the key national video software trade show. As an indication of the Association's new-found stature, it was able to attract such luminaries as Francis Ford Coppola, Raquel Welch and Joe Piscopo.

THE VIDEO PEOPLE

VSDA members are primarily independent mom and pop and small chain video dealers with locations in the shopping malls and strips of America. As is typical in most industries, 20 percent of the distributors or less control 80 percent or more of the business. Most of the major video software wholesale distributors and manufacturers are also members. The dealers and manufacturers have felt neglected or even insulted by their treatment by the CES, particularly since software is the reason most people buy the hardware that is featured at CES—or is it?

Recent surveys show that the major use of VCRs is for the purpose of time-shift taping of the "soaps," sports and movies. Most dealers are not very sales oriented, and the video software business has evolved into the movie rental business. For many dealers their sales effort consists of having the right movies in stock when a customer comes in for a rental. Hardware, like VCRs and cameras, are "loss leaders." Rentals vs. sales is one of the major issues between dealers and a major concern of program producers and artists, who are cut out of any profits from dealer rentals. It is estimated that more than 10 million prerecorded videocassettes will be sold in the United States this year. For every videocassette sold, there are about 10 tape rentals, bringing total viewings of prerecorded cassettes for 1984 to 100 million. Next year's convention will be held in Washington D.C., as a part of an organized VSDA effort to lobby against legislation that would prohibit rentals without due compensation to producers.

MUSIC VIDEO

One of the most persistent buzzes at the show was the caution and doubt

A system designed to offer you the ultimate satisfaction.



ProAudioSystems

"From architectural planning to the top of the charts."

243 Azusa Ave, West Covina, CA 91791
 818 966-1781 · Toll Free 800 423-6582
 Another commitment within the Hanich Music complex.

Circle #095 on Reader Service Card

—FROM PAGE 126, SOFTWARE

surrounding the disappointing sales of what were supposed to be blockbuster music video releases. After the phenomenal success of the *Making of Michael Jackson's Thriller*, many program producers assumed that if they signed a superstar, they would automatically be guaranteed huge sales. Instead, sales of releases by David Bowie, Journey and others have been far below what have proven to be overly optimistic and unrealistic projections.

Most of the video music in current release, with rare exception, can be classified as either feature film, live concert, or video clip collection. The following is a cross-sectional overview of some of the music video new releases and best-sellers represented at the VSDA, available on video cassette and/or videodisk.

CBS/Fox, as the home video software marketing arm for CBS Records, CBS Television and 20th Century Fox Films, has a diverse music video catalogue from the Beatles *Let It Be* and the Rolling Stones *Sympathy For The Devil* to The Who, Stevie Nicks and Billy Joel in concert.

Electron Video Creations released Stephen Beck's *Illuminated Music*, a collection of video art interpretations of the music of Jimi Hendrix, Yusef Lateef, the Joynt Effort, Jordan Belson and Stephen Beck. Program includes

"How To Tune Your TV" for videophile quality television reception.

Karl Home Video, manufacturers of Jane Fonda's *Workout*, have released John Lennon's interview with Tom Snyder. The company was recently sold to Lorimar and will become the foundation of its home video marketing effort.

MCA, which owns Universal Pictures, has dozens of movies and has current music videos with U-2's "Live at Red Rocks," Olivia Newton John's "Twist of Fate" and "Music Video from *Streets of Fire*."

Media Home Entertainment is one of the original independent video software manufacturers and has an extensive music video catalogue. The new releases include Elton John's "Live In Central Park," Tina Turner's "Queen of Rock 'N' Roll," Journey's "Frontiers and Beyond," James Brown, "Live In Concert," and David Bowie's "Serious Moonlight" tour.

MGM/UA, drawing on a very extensive feature film library, distributes "The Compleat Beatles," "Cool Cats: 25 Years of Rock 'n' Roll Style," featuring footage of Buddy Holly, Elvis, Pete Townsend, The Stones and others. They also handle "Girl Groups: The Story of a Sound," featuring The Ronettes, The Shangri-Las, The Marvelettes, The Supremes, Martha & The Vandellas and others. Catalogue includes Pink Floyd's

"The Wall," "The Secret Policeman's Other Ball," and many of Elvis' classic feature films like "Jailhouse Rock."

Monterey Home Video, a relatively new player in the music video arena, released The Tubes "Live at the Greek" and Canned Heat's "Boogie Assault."

Paramount Home Video riding the enormous wave of success of *Raiders of the Lost Ark*, *Star Trek II*, *Flashdance*, and *Terms of Endearment*, released *Footloose* to the home video market.

Pacific Arts Video Records, in addition to its classic Michael Nesmith in "Elephant Parts," has Jethro Tull's "Slipstream," "Happy Hour" by the Humans, "The Paul Simon Special," and "Musicourt," featuring the music of Carlos Santana, Joe Cocker, Todd Rundgren, Meatloaf and others. The company also dabbles in comedy and feature films.

Pioneer Artists, a division of Pioneer Video, Inc., distributes all of their product on laser disks. They have just released a number of titles on the equivalent of 8-inch laser 45s which contain up to 20 minutes of material and will retail for \$10.99. The company has new programs from Styx, The Allman Brothers, The Jefferson Starship, Stray Cats, Bowie, and The Motels among others.

Prism's music video catalogue includes concert productions featuring Sheena Easton, Crystal Gayle, Dionne

Winner
MTV AWARDS
BEST VIDEO
OF THE YEAR
"YOU MIGHT THINK"
THE CARS
ELEKTRA RECORDS
CHARLEX

CHARLEX
 2 WEST 45 STREET N.Y., N.Y. 10036
 212.719.4600

Circle #096 on Reader Service Card

Warwicke, and Johnny Mathis.

RCA/Columbia released David Bowie's "Ziggy Stardust/The Spider From Mars—The Motion Picture." The company introduced and will be releasing "The Police On Tour" for IRS/A & M video.

Sony has formed Sony Video Software Operations to market its own line of music video. They originated the video 45 on cassette at a suggested retail price of \$16.95, and \$29.95 for most video LPs. Software artists include Ashford & Simpson, Danspak, Duran Duran, Kansas, Devo and others. Sony also has a number of Jazz and Classical titles, from Dizzy Gillespie to Vladimir Horowitz.

Thorn/EMI music titles include Thomas Dolby's "Live Wireless," Phil Collins "Live," Paul McCartney & Wings' "Rockshow," Steve Miller "Live," Queen's "The Greatest Flicks," Genesis and others.

Vestron is in the record books for its "Making of Michael Jackson's Thriller," and has released titles from Pink Floyd, The Kinks, Linda Ronstadt, Neil Diamond, Asia in Asia, and Picture Music, a collection of 10 titles including pieces by Kim Carnes, Billy Squier, The J. Geils Band and Thomas Dolby. (See *MVP-Mix* September 1984).

Warner Home Video's major release was The Cars' "Heartbeat City" featuring video clips and performance footage. The video LP includes "Hello Again," directed by Andy Warhol & Don Munroe, "Drive," directed by Timothy Hutton, "Panorama," directed by Gerry Casale of Devo, as well as other tracks. The opening and continuity for the collection and "You Might Think" were produced and directed by Charlex. (See *Mix MVP* for August, 1984). WHV has a library of over 20 titles that includes Blondie, Alice Cooper and *Woodstock*.

STEREO BROADCAST AND STEREO HOME VIDEO: ANOTHER DRIVING SCORE

ABC has announced that it will begin stereo broadcasting this fall with *The Sunday Night Movie*. Like the other networks, CBS has been ordering most programming, particularly music related programs in stereo. PBS is geared for multichannel sound and shows like *Soundstage* have long been produced in stereo. The network's satellite feed to its affiliates is in stereo—permitting stereo "simulcasts" through local FM stations.

Almost immediately upon FCC approval of multichannel TV sound, equipment suppliers announced plans to introduce a host of products for broadcast and home video. Items include TV sets with built-in stereo tuners, add-on stereo decoders to bring monaural sets up to date, audio receivers with stereo TV tuners. This is in addition to hi-fi Beta and VHS stereo recorders already introduced. The enhancement of audio for

film and video has already created a demand for better equipment and higher production standards.

VIDEO MUSIC PROJECTIONS

The Association of Music Video Broadcasters predicts that by 1988 short-form music video will account for more than half of the total unit and dollar sales by a recording artist. Mort Lasitar, broadcast consultant and executive director of the Association says, "If back in 1972 you said that by 1984 prerecorded cassette tapes would replace LPs as the dominant format, people would have called you crazy. But that's precisely what happened. If the record companies take the lead in marketing, then records and video will be sold side by side in the same kind of store. If they continue to say, as they do now and as they did with audio tape, 'that's not our business,' then who knows?"

The consensus at the convention among dealers, and at the cash register among consumers is that concerts on video are for the most part not really entertaining or repeatable. Since most of the titles released by the labels are in this category, this obviously is part of the reason for the lack of consumer interest at the retail level. Original concept productions created for film and video, and sequentially released through the different media tiers like *Thriller* and *Purple*

Rain are the exception to the rule and are proof that there is a waiting market.

VIDEO MUSIC DIRECTIONS

Realistically, music video is still the record business—the dominant perception at the labels is that video is a promotional tool for records. There are more and more third party financed productions and increasingly even the major film studios are getting involved. Prince's *Purple Rain*, is the essence of free enterprise and crossover... where life becomes art, becomes the picture, becomes the soundtrack, becomes the book, etc. The significance of *Purple Rain* may be more in its quintessential bridging of music video with cinema and records. The video and the soundtrack were released and promoted the movie well in advance of its release. Prince's management, Cavallo, Ruffalo and Farquoli, unable to get backing for the film from within the industry, found the financing and produced the picture themselves. As the producers, i.e., risk takers, they will experience a significant recoupment for their investment and be able to reinvest in other projects. When the record companies stop treating music video as commercials, and see the revenue potential of different forms of video music in theatrical and cable short subjects, music video will become a viable programming arena. ■

SONY
THE LEADER IN
DIGITAL AUDIO

**AUDIO
INTERVISUAL
DESIGN**
LOS ANGELES

**IF YOU TAKE THE TIME
TO COMPARE DIGITAL
MULTITRACK RECORDERS...
...SONY IS THE ONLY CHOICE!**

- Village Recorders did—
...and bought two.
- Neil Young Studios did—
...and bought two.
- Seven other studios did—
...and bought twelve.

• Quality • Reliability • Local Service
Contact Jim Pace • (213) 653-0240
FOR INFORMATION

Circle #097 on Reader Service Card

It's a Graphic Generation

by Neal Weinstock

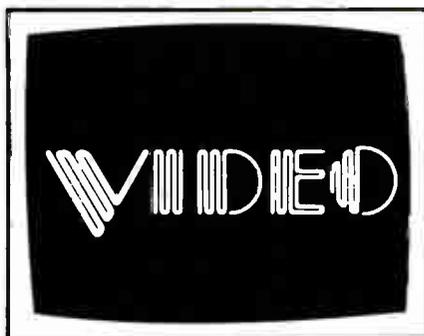
Last month Video Interface generated a discussion of character generators, and promised to continue now with that technology's richer sibling, machines that generate graphics.

It's a graphics generation, comin' at you, goin' wild. . . Graphics are a big deal, these days, in many ways. Come right down to it, explaining just how many ways is about the same as answering, "What **is** a graphic?" Which is about as easy as, "What is our generation?"

A graphics generation, for one. This is a story about graphics generation.

What's a graphic? Any image; could be 2D, 3D, in motion or still. More specifically, it is usually defined, in motion pictures, as an image that combines typography or visual symbols in some way that is meant to create identity. Examples are easier to cite than definitions: logos, weathermen's maps, or, in a music video context, anything created with the aid of a graphics generator (boy, that's a tautology if ever there was one). That is, mattes, wipes, split screens, and all that stuff that in film is usually called an "optical" (because it takes an optical printer to make it happen on film). Also, images created by dedicated video computers like the ADO, Quantel, or other brands. "Dedicated," we say, not only to their selfless \$100/hour tasks, but particularly dedicated because they only do what everybody knows all too well that they do.

A general purpose mini-computer is undedicated, and therefore can be turned to the creation of graphics in



INTERFACE

the hands of animation studios. If so utilized, it will undoubtedly make far better graphics, and at around the same hardware investment as a dedicated video graphics device, however, it will demand far greater time and personnel investments than the average music video-maker will be able to afford. Too bad: much of what's wrong with music videos can be traced to the same old tricks done time and time again.

But this subject has been harped on before. Telling folks they ought to have more imagination is not often as fruitful as telling them they can cure their lack of imagination by buying a big machine. Can machines make us think differently? Of course—we think about the machine, instead of, well, the last machine which is now outmoded, which had also once made us think about itself instead of the wilds beyond the campfire.

"Human cultures are impossible to understand without contemplating

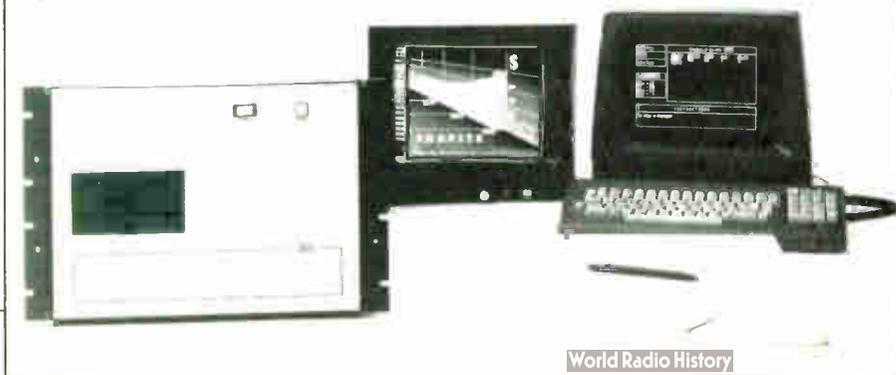
people's relationships with the machines they have created," any anthropologist would be happy to intone at this point. "The proper subject of art is a contemplation of the materials the artist uses," most modern artists could happily add here, too. Once a graphics generator was a stick that smeared mud on a cave wall. Latterly it has been a film or video camera, and then came the special effects generators of early TV days, the totality of whose specialties allowed one to cut, wipe, or dissolve between live studio cameras.

And now, our generation of machine-contemplators have "graphics generators," which allow ever more-complex imagery to be made on a desktop. "We're in, a kind of pre-Each stage now," says graphics designer Richard Greenberg (*Zelig*, *Superman*, *Alien*, *World According to Garp*, and many others). "Just at a point where images can be created synthetically and played the way you'd play music. . . We're seeing a basic change in the way people view narrative film. We're a generation that's grown up with images; our films now will be looked at soon the way we look at silent and wonder why the titles are up on the screen for so long."

People just couldn't read very fast then, Greenberg explains. Similarly, we're only beginning to learn to read the new symbols coming into use.

What is now the happening thing in graphic generators? At the last NAB show, there were new medium priced and low priced trends, with the Rolls Royces of the business getting a few significant updates, too. Starting at the bottom, \$10,000 showed itself to be a handy price point. The Vectrix WITS, Apis Graph Pac, and Symtec PGS III all fall in there together. WITS is basically for weather mapping, but the Graph Pac allows you to draw or otherwise enter full screen color graphics over live video; PGS III hooks onto a personal computer, offers 16 colors at a time out of a palette of 4096, 22 fonts, two image planes with graphic overlays, and resolution of 512 x 480. CombiComp's solids modelling program for the IBM PC does some

3M Model BFA System



The Orban 424A Gated Compressor/Limiter/De-Esser.

Explained by us.

GAIN REDUCTION: Shows gain of the VCA (0 to -25db). Shows the effect of any control but OUTPUT TRIM and DE-ESSER.

INPUT ATTENUATOR: Adjusts drive to compressor/limiter, determining amount of G/R.

ATTACK TIME: Adjusts speed of response to input level increase. Fast: Peak limiter & compressor. Slow: Compressor only.

GATE THRESHOLD: Determines the input level that causes "gating"; VCA gain then moves slowly to IDLE GAIN setting.

OUTPUT TRIM: Adjusts VCA gain to control or prevent clipping as required. Effect is seen on VCA LEVEL meter. Not an Output Attenuator (Output Attenuator is located on rear of unit).

DE-ESSER OPERATE/DEFEAT: Activates or defeats de-esser control circuitry.

COUPLED/INDEPENDENT: Couples A and B gain and gating circuits for accurate stereo tracking.

COMPRESSION RATIO: Adjusts compressor from "looser" (2:1) to "tighter" (∞ :1).

RELEASE SHAPE: Linear: Compressor releases at constant rate. Exponential: Release starts slower, then accelerates.

VCA LEVEL: Shows peak operating level of VCA. Clipping occurs above approximately +2.

IDLE GAIN: Presets VCA gain when in gated condition or anytime unit is DEFEATED. Used for smoothing out transitions and for decreasing audible action of compressor.

OPERATE/DEFEAT: Activates or defeats gain control circuitry. Does not bypass any circuitry.

DE-ESSER SENSITIVITY: Adjusts threshold of de-essing. De-essing increases as control is turned clockwise.

Also available as a single-channel unit: Model 422A. Ask your dealer for a detailed brochure.

Reviewed by others.

"In addition to the measured performance being very good the subjective impressions of the unit were excellent. This product has many novel and highly practical features all of which are quite simple to use but need not be used if simplified operation is required. Overall a very good compressor/limiter, well made and easy to service."

Hugh Ford, *Studio Sound*
November, 1983

"Overall, the 422A/424A should prove to be a system of diverse capabilities, able to tackle the widest variety of material—once the user masters its operation. In addition, its solid construction and excellent service documentation should insure years of reliable operation. Such qualities are typical of timeless designs that tend to retain their value long after the accountants have depreciated them away."

John Monforte, *db Magazine*
July-August 1983

orban

Orban Associates Inc., 645 Bryant Street, San Francisco, CA 94107 (415) 957-1067 Telex: 17-1480

Circle #098 on Reader Service Card

amazing things with 4096 usable colors out of a palette of 16.8 million, and resolution of 512 x 512. Actually, with your own PC you can start even cheaper, at \$2,500, with Video Associates Labs' Micro-Key. Now compatible with both Apples and IBM PCs, MicroKey does RGB or composite keying, genlocking, and adjusts H phase, burst phase, and proc amp, so that any graphics you can create with the microcomputer are of broadcast quality—though you are obviously stuck with the PC's palette and resolution.

Raise the ante to the \$30,000 to \$100,000 level, and there is no doubt which graphic-maker was on most attendees' minds at NAB: Ampex's AVA was, in its day, the most popular of graphics generators. Designed for its vendor by

the New York Institute of Technology's Computer Graphics Lab (then run by Ed Catmull, who went on to manage George Lucas's Industrial Light & Magic). When the product became outdated a couple of years ago, Ampex still had not developed its own capabilities in designing a successor, and Computer Graphics Lab was now a competitor, selling its own creations. So it took a while to come out with a worthy next AVA generation, but now AVA-3 is all it ought to be. For \$89,900 alone, or \$73,950 when purchased with ESS-3 still-store, AVA-3 is a paint system based on 24-bit CPU, offering 16 million colors, a library storage system, extensive menus for cut-and-paste, digitizer for entering artwork, and "view" mode for trying out an effect be-

fore committing to it.

Computer Graphics Lab's Images II system—their in-between generation answer to the original AVA they sold away, is now selling for \$46,000 in basic configuration—that is, with a single eight-bit frame buffer. This gives resolution of 512 x 486, 256 colors displayable out of 16.8 million. Up to three frame buffers may be used, totalling up to features such as: transparent colors, airbrushing, paint smearing and fingerpainting, a large library of pre-programmed and user-defined brushes, texture painting, drafting, and more beyond the ability of this reporter to take notes while standing up and drinking.

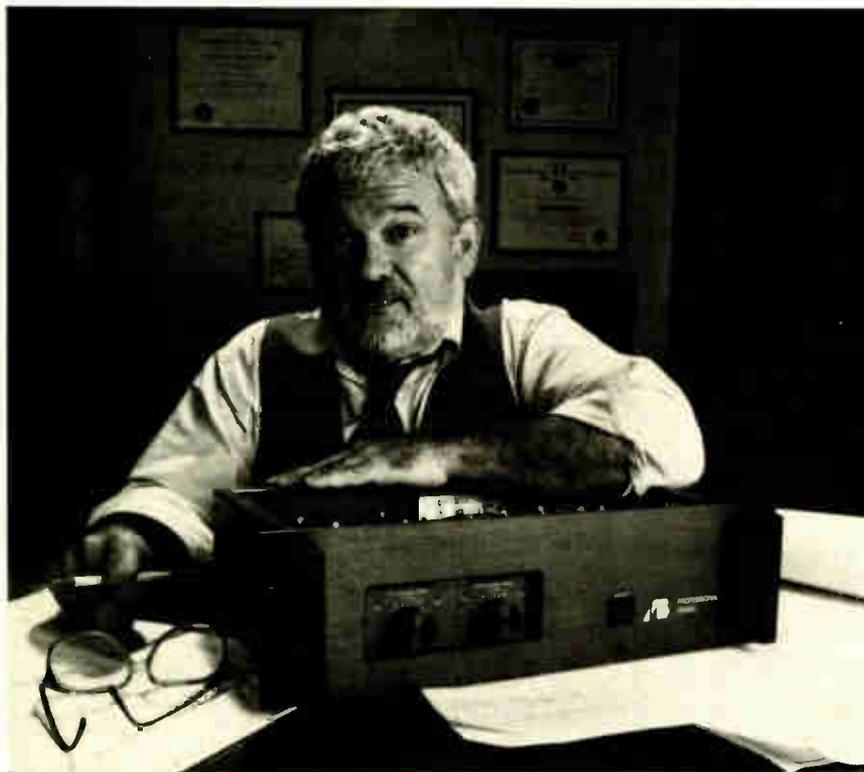
3M splashed into the paint system business this spring, too. Their BFA is a complete break with the previous 3M D-8800 series of graphics generators; for \$32,000 you get a 16-bit CP/M-86 system with 16 million colors, 16:1 zoom, 28 brush styles, independent control of hue, saturation, and intensity, and color cycling for pseudo-animation.

Thomson-CSF added frame-store to their Vidifont Graphics V; it now acts as both digitizer and paint system, with 32 colors usable per image, out of an on-screen palette of 2,000, out of a total of 16 million. And now, graphics can be sequenced on a "slide tray"; with two hard disks, the total frame storage capacity is 960 (the frame-store adds on for \$30,000).

Aurora added software to their AU/100 system. Most interesting is a 3D transformation that takes an object or screen area and rotates it on one axis. The system also now interfaces with Sony's BVH-2500 single frame VTR.

Lastly, but hardly least, Harvey Dubner may now be a subsidiary of Grass Valley Group, but the innovations continue to roll on his CBG-2. The system now does fully 3D solid modeling in three axes, with anti-aliasing to smooth out jagged line edges. The CBG-2 does not run images in real-time, but is the video equivalent of the sort of 3D high resolution graphics produced for films like *Tron*.

Still at the top of the heap are MCI/Quantel's Mirage, and Bosch/Fernseh's FGS-4000. Is any video graphics generator worth \$250,000? Well, they do more tricks all the time. New options for Mirage include the ability to compress and expand any sections of the live video image; and, even niftier, the ability to float point-of-view anywhere within 3D space in any image. The FGS-4000 already did this, so Mirage is just keeping its end up in the high tech TV sweepstakes. Bosch now ups the ante with instant 3D—to convert any 2D image to 3D, just "thicken." Bosch also incorporated a full-fledged paint system, to address an area in which Quantel had what they didn't. ■



A Promise of Performance

"I guarantee that, whatever the job, we will provide the audio power to meet your need. From 50 to 1000 Watts, AB Systems will deliver uncompromising performance, value and reliability, providing you the cost effectiveness to make the job worth doing.

Our success is evidence that this is a promise we keep!"

Barry Thornton
Barry Thornton
AB Systems



AB System Design, Inc.
11480 Sunrise Gold Circle
Rancho Cordova, CA 95670
(916) 635-0890

Circle #099 on Reader Service Card



MILLER

The Professional Video Source

Panasonic **VHS** Hi-Fi Recorder

Professional/Industrial Video

AG-6800

- Audio dynamic range greater than 80 db

- Flat frequency response from 20Hz to 20kHz

- Wow and flutter 0.005% or less



- Loop-through connection allows for simultaneous control of up to 500 units

- Fully compatible with standard VHS programming

- Time code IN and OUT

The Ultimate in Video Catalogs Free*

An enlarged and updated version of the 1984/85 Professional Video Source catalog featuring technical articles, the latest specs, including an expanded section devoted to the outstanding products of Panasonic, and a new rental section, is now available.

*To receive your **FREE** 136-page catalog, just send your business card or letterhead, with a check or money order for \$3.00 (to cover shipping & handling) to: **MILLER ASSOCIATES, Dept. M.**

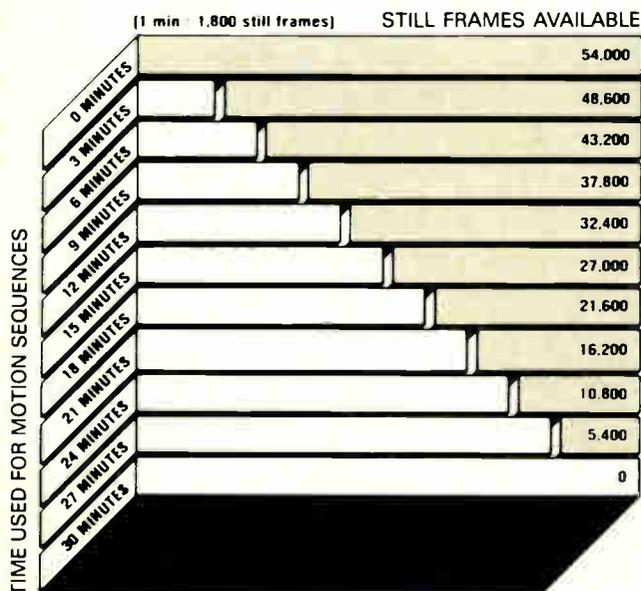
Contact MILLER, experts in Music/Video applications, for further information.

Equipment • Tape • Rentals • Systems Engineering • Repairs • CCTV

48 WEST 21st ST., NY, NY 10010
(212) 741-8011 1-800-221-9328

INTERACTIVE

(COURTESY PIONEER VIDEO INC)



Capacity Trade-Offs for Interactive Laser-Disc: In preparing programming for interactive Laser-Discs, a maximum of 30 minutes running time is possible. This running time needs to be allotted between still frames, each of which requires at least 1/30th of a second of disk space, and motion sequences, which can be of variable length.

VIDEO PRIMER

by Carole Berkson

Interactive video is opening up new markets, new clients, new sources of income for audio and video professionals and production facilities everywhere. Interactive will begin to generate studio activity in the same way music video in the last three to five years has become an increasingly larger piece of the audio/video revenue pie.

Movies and television programs play in the linear sequence only: uninterrupted from start to finish. Interactivity is the communication interplay between a gameplayer and the game, between the student and the lesson, between the consumer and the sales pitch. Whether games, entertainment, education, training or industry sales, for interactive video users there is the freedom to choose what, when and how quickly they move through a given subject matter.

Interactive video is beginning to offer home entertainment beyond the standard electronic intergalactic shootout: Director's Choice, a four-volume in-

teractive movie/boardgame, includes a videocassette of a full-length classic movie, game board, 900 movie trivia questions, and replays of critical scenes for players to re-direct.

Personal Learning Systems

Personalized, self-paced one-to-one education and training programs can now be offered cost-effectively through interactive video systems. The CPR (CardioPulmonary Resuscitation) videodisk learning system was developed by David Hon for the American Heart Association—a training program which instructs the student with the direct experience of performing CPR on an electronic mannequin which registers measurements of the student's performance on one screen while live action video on a second screen coaches the student with immediate feedback.

The military is safeguarding its personnel from training injuries and saving millions of dollars in training costs and damage to sophisticated equipment; the first aerospace application of interac-

tive videodisks was developed by Michael Schwartz of Northrop in the F-20 Cockpit Demonstrator flight simulation system. The cockpit uses three discrete CRTs, perfectly synchronized. Voice-over narration is available in six languages.

GM Ford and Toyota dealers are training sales staff, managers, maintenance and repair professionals through an extensive videodisk program series. The same videodisk system in each dealership is intriguing customers with point-of-purchase productions highlighting and explaining the latest models and features.

Point-of-purchase videodisk systems are appearing in retail stores, shopping malls and airports. For example, shoppers can approach a specially-designed kiosk with TV monitor and interactive videodisk system, and, presented with simple screen menus, press a button to see a demonstration of a particular product feature. The Sears Catalog videodisk offers shoppers access to any page presenting stills or motion sequences. More sophisticated applications use kiosks with videodisk player, touch-screen monitor, keyboard and credit-card reader to provide an integrated interactive video product catalogue and purchasing mechanism.

As video hardware and software vendors market to six million Americans who will own videodisk players within nine years—by 1993—audio/video professionals need to get a better handle on the market.

Technology

Why Videodisks? A laser videodisk holds up to 54,000 video frames in more than 10 billion tiny pits per side. One TV frame of 525 horizontal lines fits on one circular track on the videodisk. Read by a low-power laser beam, encoded information is decoded by light reflection and transmitted to a television screen. The laser beam can jump ahead to a particular frame, freeze frame, scan ahead, review and play video frames in any order required for interactive purposes—all accessed within seconds. Protected by a polished rainbow plastic coating, the 12-inch disk is durable, and the encoded information is impervious to dust, fingerprints and wear. The disk allows 30 minutes of program per side or up to 60 minutes per side if there is little interactive capability required.

Videotape can be used for interactive applications, but search and access time is slow and storage capacity is

quite limited compared to videodisk capabilities. Thirty frames per second, 54,000 frames per half-hour disk and eight intensity levels per pixel result in total videodisk capacity of approximately three billion characters (three gigabytes) per side.

Just a few years ago, videodisk mastering was expensive, time-consuming (weeks or months), unreliable in quality and cost-justified only with high volume duplication. Technology has advanced and costs have reduced dramatically; a one-inch pre-mastered tape can now be sent to 3M, Sony, Pioneer or other facilities which have reduced duplication turnaround time from weeks to days (three working days for 150 or fewer disks) and cost (\$2,000 to \$5,000 dependent upon level of interactivity and number of sides to master). Mass reproduction of videodisks has become more cost-effective than videotape for high volume duplication; after set-up and dependent on level of interactivity and number of sides to master). Mass reproduction of videodisks has become more cost-effective than videotape for high volume duplication; after set-up and dependent upon quantity, a one-sided disk can be reproduced for approximately \$10 to \$18 and a two-sided disk for approximately \$15 to \$23. Also available



Three major U.S. auto companies are using video disk systems to train sales representatives and demonstrate products to customers.

now is a one-of-a-kind reference/retrieval disk—within 24 hours and at a cost of approximately \$500.

A revolutionary market expansion is beginning as the major manufacturers produce affordable videodisk recorders with read-and-write capability. Panasonic released its entry in this category for about \$35,000 at NAB. Sony's introduction of a read-and-write videodisk system is imminent. Other manufac-

turers are expected to follow as interactive video technology parallels the dramatic cost decreases and increased capabilities of calculators and microcomputers.

The future of video editing lies in high speed access to original and stock footage. Film or videotape footage can be transferred to videodisk. Two or more videodisk players connected to an editing console will allow immediate access and dissolve capability for editing onto a third disk or videotape. With computer memory remembering more footage locations than a team of editors, the editor's creativity is freed from administrative tasks. Entries in the interactive videodisk editing category include: EditDroid, produced by Convergence Corporation and LucasFilm, creators of Star Wars (see *Mix* October 1984 article); Spectra Image; the CMS 3400 system; and the Montage Picture Processor built around computer-controlled Beta tape players but videodisk-compatible.

The expanded capabilities of interactive (non-linear) programming dictate an unprecedented coalition of audio/video, computer, marketing and training professionals. Team player responsibilities can vary and overlap, dependent upon the project objectives, level of interactivity, delivery deadline and budget. We'll have more on that next time. ■

VIDEO MASTERING BY THE MASTERS

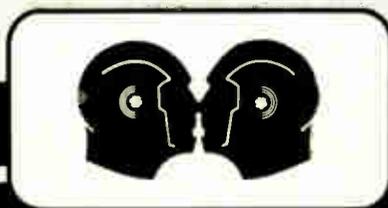
- **Four years ago, Master Digital**, using digital audio techniques, proved to the recording industry that we could consistently duplicate real-time audio cassettes that exceed the quality of records.
- **Three years ago, Master Digital** pioneered the synchronization of digital audio to video, giving masters an audio dynamic range never before associated with video.
- **Two years ago, Master Digital** began compact disc mastering and has since produced the

largest single compact disc order to date for the world's largest electronic retailer.

- **One year ago, Master Digital** started engineering the most sophisticated video cassette mastering facility. Now we are pleased to announce that our new facility is on line producing stereo VHS Hi-Fi, Beta Hi-Fi and U-Matic duplication. Our video mastering division has consistently produced the highest degree of video and audio quality that our broad client base has come to expect.

Based on the principles of high technology and dedicated customer service, we would like to add you to our list of satisfied customers. If your company demands the highest quality product at a more than competitive price, delivered when promised, then call our V.P. of Sales, Paul Addis, and **experience the Master Digital difference!**

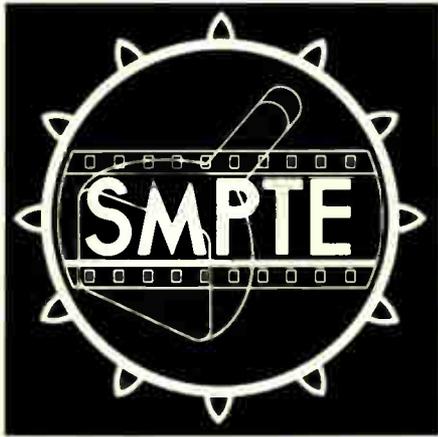
(213) 452-1511



Master Digital, Inc.

1749 14th Street • Santa Monica, CA 90404

Circle #101 on Reader Service Card



The 126th SMPTE Conference:

Focusing on the Future of Image Technology

The 126th Technical Conference and Equipment Exhibit of The Society of Motion Picture and Television Engineers, held October 28 through November 2, 1984 will be the largest such event ever held in New York City. This year's equipment exhibit, offering a dazzling array of 409 booths featuring the latest in film and television technology from over 160 manufacturers, begins Tuesday, October 30, and occupies both the New York Hilton and the Sheraton Centre hotels in New York City. Conference vice president Charles A. Ahto,

We're really gearing the conference towards getting some predictions of where we're going and what we are going to see in the future of image technology.

of Tape-Film Industries, who is responsible for the "nuts and bolts" portion of the event's activities and facilities coordination, feels confident that the 126th meet will be a complete success: "We've oversold all our available exhibit space. This is going to be a tremendous conference—the biggest we've ever held in New York City!"

Of course, the highlight of the conference is the extensive papers program, under the direction of SMPTE editorial vice president Maurice L. French, of the Canadian Broadcasting Corporation. "We have attracted papers

The New Products section begins on page 138.

that reflect our theme, 'Focusing on the Future of Image Technology'," French explained. "We're really gearing the conference towards getting some predictions of where we're going and what we are going to see in the future of image technology. At the moment, we've got about 110 papers submitted by authors from many parts of the world, so hopefully, we can get a diverse viewpoint and certainly see how the other half lives."

With five days of sessions and papers slated during the conferences, there will be presentations on nearly every facet of motion picture and television sciences. "We're at the point now where we've been turning papers away—we just can't fit them all in," French lamented. "The papers are divided throughout the week into different sessions which address different disciplines of image technology—electronic, film, or a composite of both. For example, on Monday afternoon, the special events coverage session 'Image Technology in Action' will present papers by ABC on the coverage of Olympic-type events. It looks to be a very exciting conference."

A small selection of the papers announced at press time include: "Automated Testing of Recording and Dubbing Equipment" by Michael Drolet, National Film Board of Canada; "A Practical Way to Expand the Audio Capacity of Videodisk" by George C. Treneer, EECO Inc.; "The Academy's New State of the Art Loudspeaker System" by John Eargle, John Bonner and Daniel Ross, JBL Inc.; "Performance Characteristics of HMI Lamps" by Robert E. Levin, GTE Sylvania; three papers on the history, design and applications of EditDroid by Ralph Guggenheim, Andrew Cohen, and Robert Lay of LucasFilm; "The Interface of Motion Picture Film and Video" by S.J. Powell, R.C. Sehlin and R.J. Zavada of Eastman Kodak; "Cost Effective Digital Video Products—A Low Price May Not Be Enough" by Phil Bennett, Abekas Video Systems, Inc.; "Resolution Requirements for HDTV Based Upon the Performance of 35mm Motion Picture Films for Theatrical Viewing" by Arthur Kaiser, Henry W. Mahler and Renville H. McMann, CBS Technology Center; "The Panaflex 16—Doing More With Less" by Jack Holzmann, Panavision; "SP-3 Three Chip Color Camera" by S. Ikeda, H. Inoue, A. Kohono, T. Tanahashi, T. Kamata and M. Mitsui, NEC Corporation; "The Transition from Analog to

Digital Television Plants—A Broadcaster's View" by Bernard L. Dickens, CBS; "Portable One-Inch VTRs—Still a Topic" by Heinrich L. Zahn, Robert Bosch GmbH.; "Current and Future Computer-Assisted Audio Productions Systems Based on SMPTE Time Code" by Robert D. Predovich and Andrew Staffer, The Master's Workshop; "Comparative Considerations About the Application of 1/4-inch or 8mm Tape in TV Broadcasting" by Heinrich L. Zahn, Robert Bosch GmbH.; and "Evaluating Lens

The days of 'Film vs Tape', and the various debates we had years ago on 'Is film dead?' and 'The impact of the new video tape' are gone. What we're talking about now is *image technology*—the new composite of film technology, motion pictures, video, computers—it's all of the elements and a mix of the various disciplines.

and Camera Image Quality: An On-the-Spot, Filmmaker Oriented Approach" by David W. Leitner, Du Art Film Lab/Du Art Video.

For over 30 years, the society has been intensely involved in the quest for international standardization, and has assumed the responsibility for recruiting delegates to represent the USA's position in both International Standards Organization (ISO) and International Electrotechnical Commission (IEC) meetings.

One example of the SMPTE's importance in international standards was its involvement in the industry agreement on one-inch type "C" helical recording standards. For its role, the society received a citation from the Academy of Television Arts and Sciences. "We are very much in the forefront of

everybody's life," French explained, "and international standardization is very important if we are to exchange each other's material and be able to play it on each other's equipment. During the conference, there are more than 25 engineering committees meeting to talk about standards. The SMPTE has always been a leader in standardization, and those meetings are also open to interested individuals."

As technology has changed over the years, so has the membership of the Society as a whole. Whereas the group was once segmented into separate cliques of "film engineers" and "television engineers," French sees a blurring of the distinction between the two: "We are no longer able to remain separate, even if we wanted to. The days of 'Film vs Tape', and the various debates we had years ago on 'Is film dead?' and 'The impact of the new video tape' are gone. What we're talking about now is *image technology*—the new composite of film technology, motion pictures, video, computers—it's all of the elements and a mix of the various disciplines.

"For example, film right now is the prime image collecting medium, because of its superb resolution and its ability to record color subtleties. It far surpasses that of videotape. So, as a collector, you may use film and then go to a flying spot scanner, scan the negative and go to one-inch videotape, and edit on tape. There are many other possibilities, such as the new electronic film conforming system developed recently in Sweden. You transfer all your film negatives to tape, make workprints and cut the workprints and the magnetics [mag film] using conventional film methods which take advantage of the skills of the film editor. Then you can conform the workprint to the videotape material and make a master videotape without cutting the original negative.

"So in that system alone, there is a complete integration of film technology and electronic technology. It's an integrated, cooperative venture now. This is where the industry seems to be heading—in this day and age, I don't see how one can stand alone.

"These are the kinds of answers and projections we may see emerging from the conference. For one application, you may need to shoot with an electronic camera, and eventually release on film with multitrack sound, or on videotape, disks, or other forms of sales formats. The industry today is built upon many disciplines combining. There's a cooperative, interchangeable situation evolving."

—George Petersen

MusicMasters
LIBRARY

FRESH MUSIC

The newest library money can buy out!

A fresh, 3-album series of music and moods you can use, available on a buy-out basis. It's a smart, one-time purchase with no annual renewals or hidden costs.

For Free Demo and more information, call or write Rick Furgerson c/o Music Masters, Inc., 17 Ponca Trail, St. Louis, Missouri 63122.

(314) 821-2741

Circle #102 on Reader Service Card

The EDITABLE DELAY LINE

bel BD-80 Digital Delay Processor

- Store Up to 8 Seconds
- Trim and Edit the Memory
- Trigger Internally or Externally



Made in England. Distributed in U.S.A. by
Peter Tempel Audio
230 El Camino Del Mar, San Francisco, CA 94121
Phone: (415) 751-2355 Telex 184-967 IMSSFO
Dealerships Available in Some Areas

As seen at AES

Circle #103 on Reader Service Card



Doctor Flick

Garfield Electronics has introduced the Doctor Flick, a combination digital metronome and click track reading synchronizer for computerized musical instruments. Its metronome provides calibrations of 24, 25 and 30 frames per second for film and video scoring, with 1/32nd frame resolution and .001 percent crystal based accuracy. Doctor Flick simultaneously synchronizes all brands of sequencers and drum machines including MIDI units to click tracks through their clock or Sync inputs, and produces individual triggers from audio sources for controlling drum machine trigger inputs.

This rack mounted unit also generates the FSK sync to tape codes used by Roland, Linn LM-1 and Oberheim, and all functions are accessed through front panel jacks for easy interfacing to sequencers and drum machines in the control room. The Doctor Flick is ideally suited for film, video, and commercial scoring applications. \$1,195 list.

Circle #104 on Reader Service Card

Sony Vidimagic™

The Sony Vidimagic Model FP-60 is an all-in-one video projection system featuring not only a high quality video projector, but also a Betamax video tape player/recorder, a 181-channel cable-compatible TV tuner and built-in PA system. All this is tucked into a compact 35-pound unit that can be managed by a single person. Vidimagic Model FP-62



offers all the same features as the FP-60, but without the Betamax player/recorder. The units are therefore ideal for sales and educational presentations, on-site training, point-of-purchase displays and visual presentations at business conferences.

The unit's single Indexton tube eliminates the necessity for picture tube registration on the screen, a necessary alignment process required when operating conventional three tube projection systems. All the user has to do is focus—using a motor-assisted system similar to a slide projector. This ease of operation provides Vidimagic with a flexible choice of picture size from 30 to 200 inches diagonal. Thus the user can select either a standard screen or a white wall for projecting the image at angles varying from seven to 20 degrees. For more demanding applications, the optional video projection screen, which also fits into a single carrying bag, can be used.

Circle #105 on Reader Service Card

LaSalle Music

Professional Audio & Musical Instruments

We specialize in the design and sale of synthesizer oriented production studios.

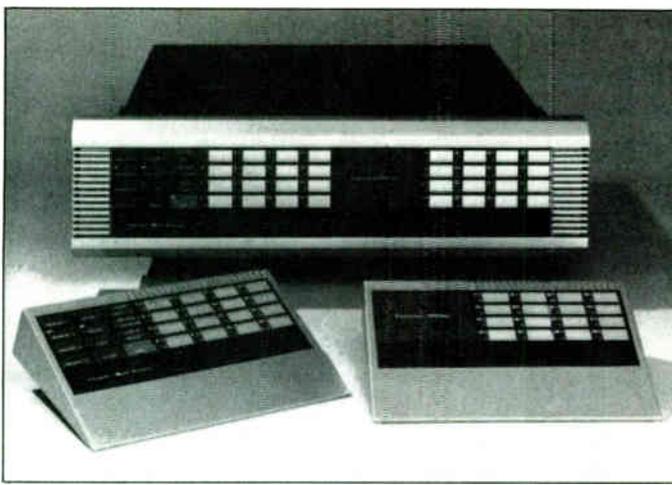
Over 250 Product Lines including Sony/MCI, Soundcraft Amek, Tascam, Fostex, Audioarts 8X, Fairlight CMI, Kurzweil, PPG, Oberheim, Emu Systems and Linn Drum.

LaSalle Music

75 North Beacon St.
Watertown, Massachusetts 02172
(800) 533-3388
(617)927-7767



Circle #108 on Reader Service Card



IMS Smart Switcher Model 200

The Model 200 Smart Switcher from Integrated Media Systems is an audio routing/mixing system that can be configured in matrixes of 32x8, 8x32, 16x16 etc. in one 5¼-inch frame including power supply. Matrix configurations are in groups of eight, and can contain up to 256 crosspoints per frame. The matrix can be expanded up to 128x128, with up to 32 control stations.

The Model 200 is available with both local and remote control panels to access the matrix. Features include: four on-board memories for preset matrixes, control via SMPTE RS-422 serial, RS-232 computer control, external contact closure (GPIB), vertical interval switching, party line control, multiple source summing capabilities, optional VCA

level control, multiple source summing capabilities, optional VCA level control and excellent audio performance. The switcher can be structured in multi-levels (e.g. stereo audio and time code) and is easily field upgradable.

Circle #106 on Reader Service Card

Edit Memory/List Module

Video professionals who utilize off-line time code editing systems can now add edit memory and list management capabilities with a new software module for personal computers from Comprehensive Video Supply Corporation, Northvale, NJ. The new EL-232 module for the Edit Lister computer aided video software line allows the user's micro-computer to receive edit information generated by off-line editing systems equipped with an RS-232 port, such as the Convergence 90 series, the JVC VE-93, and the Sony BVE-800.

The program stores the edit list in the computer's memory, and translates it into the standard CMX format. The program then allows the user to perform list management functions, and then generated a paper tape for loading into an off-line editing system for auto assembly. The software is currently available for Apple computers, and should be available for IBM computers by press time.

Circle #107 on Reader Service Card

EX2000 Disk Drive Tester

The EX2000 from Proto PC of St. Paul, MN, is a microprocessor based test instrument used to align and repair floppy disk drives with industry standard SA400 and SA800 interfaces. Features include: quality European keys, gold connectors, test points for easy scope hookup, single keystroke

1984 • 85

theguide

THE ROCKAMERICA GUIDE TO VIDEO/MUSIC

This is the only up-to-date reference source to video music. 497 pages of listings include:

- Record Company Video Contacts
- Directors and Producers
- New York Production Listings
- Los Angeles Production Listings
- National Production Listings
- Television Distribution Outlets
- Video/Music related Publications
- Video/Music Glossary and more

Mail \$60.00, plus \$5.00 postage and handling (N.Y. residents add appropriate tax) to:

ROCKAMERICA, INC. 27 E. 21st Street
 New York, N.Y. 10010 (212) 475-5791

Rockamerica's VIDEOFILE is the monthly magazine for the video/music industry. VIDEOFILE subscribers are informed about all aspects of the video/music industry, including:

- new video releases
- artist interviews
- U.S. regional Top 40 video charts
- video and film reviews
- producer and director profiles
- video equipment developments
- cable and broadcast video chart
- exclusive reports from London, Los Angeles, and Australia
- club video playlists

Our international subscribers include:

- club owners, DJs and video operators
- record companies
- video production companies
- management and promoters
- film studios
- advertising agencies
- media, and more

Subscription rates: U.S.—\$45.00
 (via airmail) U.K. & Europe—US \$70.00
 Japan & Australia—US \$80.00

Rockamerica's

Videofile

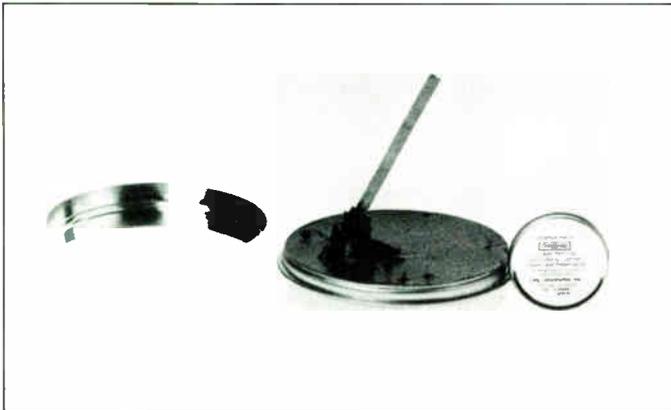
...your connection to the video/music professional

Rockamerica's
Videofile 27 E. 21st Street, New York, NY 10010

Circle #109 on Reader Service Card

for any alignment track, hysteresis check, speed check (instantaneous and average), step rate select, as well as all standard exerciser functions. Optional accessories include cable sets for 5-inch and 8-inch drives, and alignment disks and manuals for virtually any floppy drive. The EX2000 is priced at \$299.

Circle #110 on Reader Service Card



Cramolin Paste Red Type 81

Cramolin Pastes are fast acting anti-oxidizing lubricants that clean, preserve and lubricate electrical contacts and connections. When applied to electrical contacts, Cramolin Pastes remove resistive oxides and form a protective layer that adheres to the metal surfaces and maintains maximum electrical conductivity.

They are used on high amperage/high voltage contacts and for adverse environment applications. Cramolin Pastes are free of acids, sulfurs, alkalis and other noxious components that are aggressive to metals. The product improves performance of electrical contacts, collector ring assemblies and reduces sparking of brushes on commutators. Applications include: battery terminals, relays, switches, contactors, screw connectors, buss bars, conductor rails, commutators, antenna connections, etc.

Circle #111 on Reader Service Card



CLUE Digital Editing System

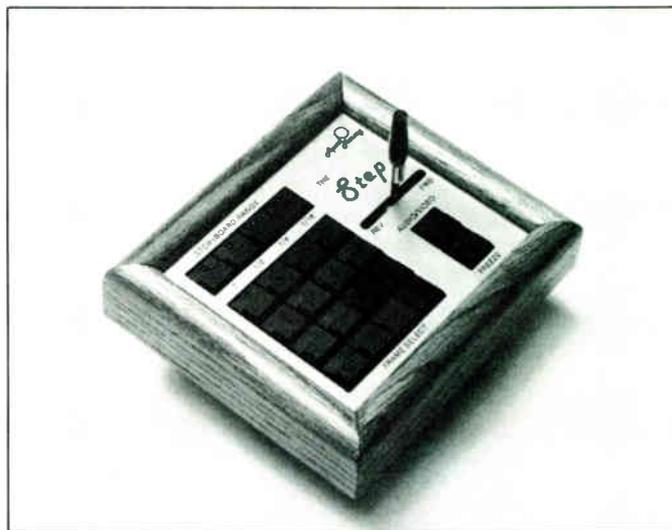
Kema Marketing, a division of Amek Consoles, Inc., has introduced CLUE (Computer Logging Unit & Editor). CLUE provides a cost-effective solution to the problems of using the Sony PCM-F1 and PCM 701ES digital audio processors in a professional recording environment, as well as providing an invaluable aid to operation for the PCM 1610 system.

CLUE exists primarily to satisfy the need for low cost

Sony digital audio editing and offers the added advantage of sophisticated logging and autolocation facilities, and providing more accurate counters than those found on domestic recorders. CLUE enables butt copy-editing to be performed either in analog or digital modes to frame accuracy (1/30 sec NTSC). CLUE also facilitates the insertion of auxiliary devices into the signal path during edits and makes provisions for fader and level adjustments.

CLUE is comprised of a 19-inch rack unit which houses the controlling computer, disk drive, switching circuitry and interface connections, and a remote typewriter keyboard. Communications with the user is effected through the monitor which displays available commands recorder status information, counters, and logging details. The program is entirely menu-driven with smart commands being one-key entries. The system is priced under \$8,000, and future options include time code read/write, and audio/video interfaces.

Circle #112 on Reader Service Card



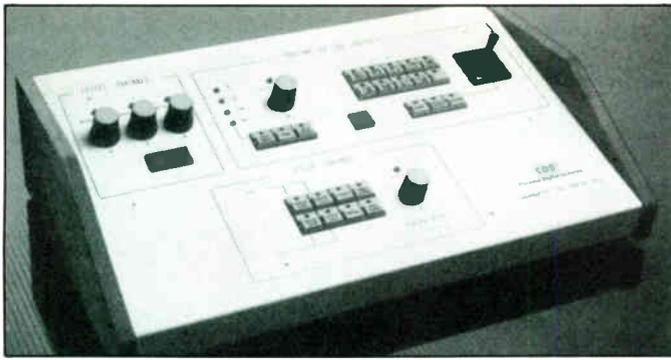
The Step

The Step from Apert Herzog is a video storyboarding device which can store a sequence of selected frames and display them on screen simultaneously for edit decision making. Sixteen frames can be placed in the screen with each frame storing up to one second of video and four seconds of time code and audio. Separate audio and video cursors allow independent selection of audio and video in/out points. Video storyboarding can store one field of every incoming video frame, or every second, fourth or sixteenth incoming frame. A joystick rotates the frames forward or backward.

By visually referencing a given frame location with the video cursor, the action can be reviewed within the cursor. The time code number at the step output is always that belonging to the frame surrounded by the cursor. And the joystick also moves the audio mark cursor relative to the audio sweeping cursor. When the sweeping cursor passes the mark cursor, the audio out turns on or off depending on which toggle position the audio mode switch has been left. An audio/video select switch selects between audio and video mode with the audio cursor toggling the display to mark in or mark out. A freeze switch freezes the last 1, 2, 4, or 16 seconds of video and the last 4 seconds of audio.

The Step is capable of interfacing with all 1/2, 3/4, 1, and 2 inch VTR's that provide RS170 or CCIR signals with at least 35 dB s/n. A time base corrector is not required. It is compatible with all SMPTE time code edit controllers and is available in 525 line monochrome, 525 line NTSC, or 625 line monochrome.

Circle #123 on Reader Service Card



Chromafex 766 Digital Video Effects

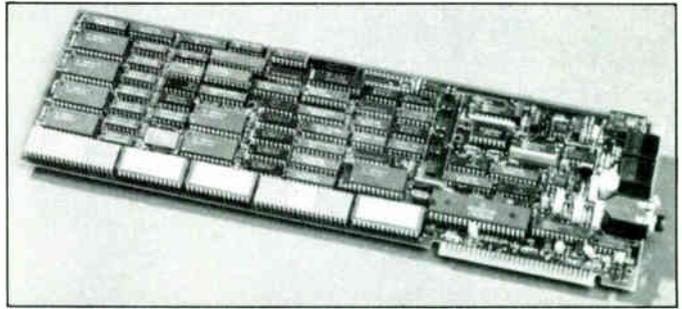
Chroma Digital Systems, Santa Clara, CA, have introduced the Chromafex 766 which provides digital effects, full frame store and infinite window time base correction in one package. The digital effects allow compression, repositioning, quad-split, invert, slide, freeze, strobe, posterization, mosaic tiling, and artificial coloring, a color background generator and external traveling key generator. All effects may be done alone or in any combination.

The frame synchronizer allows a frame, a field, or even a single line to be frozen. Built-in drop out compensation, full proc-amp control of luma, chroma, set up, chroma phase and y/c delay. Single-wire fed TBC eliminates the need for subcarrier and advanced sync connections to the VTR. The on-board RS-170A sync pulse generator can be gen-locked or stand alone. The full frame, infinite window correction will handle any velocity error as well as frame synchronization of remote feeds into studio switching systems. ENG, Microwave, satellite and network feeds can all be accommodated. The Chromafex 766 is designed to plug into most video systems. A con-

fact-closure interface allows any effect to be preselected and then triggered via most editing controllers.

The system consists of a rack mountable signal processing unit, 15.5" x 19" x 5.25", and a tabletop control unit, 10.5" x 18" x 4.25". Inputs include composite video, external reference, RF (for dropout compensator) and GPI (contact closure). Outputs include two video outs, black bursts and key. System consumes 85 watts.

Circle # 124 on Reader Service Card



Votan Speech Card for IBM PC

Votan, a leading supplier of computer speech recognition and voice response products has introduced the VPC 2000 Voice Card. The VPC 2000 is a hardware and software system that adds complete voice I/O and telephone management capabilities to the IBM PC and bus compatible personal computers. The Voice Card enables the user to speak in a natural conversational flow through a continuous speech recognition technique. With Votan's Voice Key Software, the user is able to incorporate voice capabilities into existing software packages without any modifications to the application soft-

INCREASE YOUR PROFITS

With State-of-the-Art Production and Post Production Capabilities

Synchronize your multi-track audio tape recorders along with your video tape recorders to the SMPTE standard.

Our salespeople and engineers will work closely with you through evaluation, design, and final testing of your production facility.

We represent the leading manufacturers including IKEGAMI, SONY, JVC, MCI, OTARI, RAMSA, TASCAM, ADAMS-SMITH, and JBL.

WE'D LIKE TO HELP YOU WITH YOUR SYSTEM!

—The One-Source Supplier—

Peirce-Phelps, Inc.

2000 N. 59th Street
Philadelphia, PA 19131

PA 1-215-879-7236 (Audio)

PA 1-215-879-7171 (Video)

U.S. 1-800-523-4682

CLIP AND SEND
FOR FAST SERVICE

I'm interested in Audio Video

OUR PROJECT IS: _____

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TELEPHONE (____) _____

Circle #125 on Reader Service Card

ware itself. The Voice Card will provide continuous speaker dependent recognition which recognizes previously trained words from a user's library of word templates.

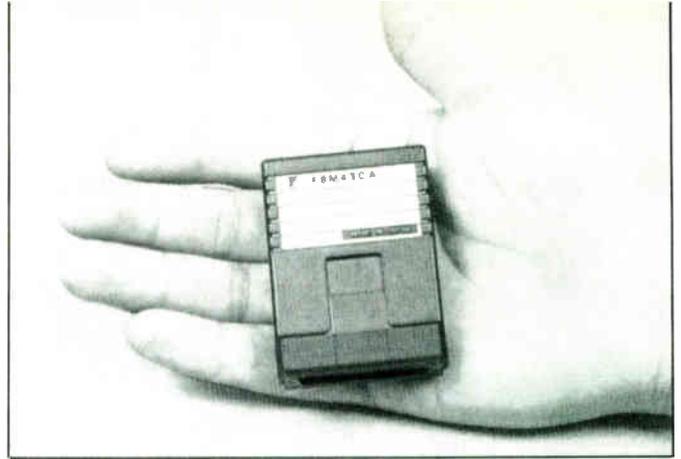
Training is accomplished by speaking the desired vocabulary into the microphone one or two times, causing the voice processor to digitize and record the voice pattern. Using continuous recognition, vocabulary words may be spoken at runtime without pauses between words, or they can be picked out from a stream of untrained words with a word spotting feature. The Voice Card holds up to 64 double-trained words available for matching at any instant. With virtual swaps of vocabulary subsets to and from the voice card, the application's vocabulary can be any size. The card provides human sounding voice output for operator prompting, feedback, and messaging. Complete telephone interfacing capabilities are provided, including auto answer, auto dial, and call progress monitoring. All audio and control functions are operable over standard telephone lines.

Circle # 128 on Reader Service Card

Bubble Memory Option for E-Flex DVE

NEC is offering a unique bubble memory option with the E-Flex DVE system. The system uses storage cartridges which are small enough to fit inside a shirt pocket. Each cartridge has a memory capacity of 128 x 4 memory registers. Sequences stored in the bubble memory can be randomly accessed and fully edited. The memory is not subject to wear, dropouts, or the handling problems common to disks or tape. Bubble memory makes no noise and can be placed in the post-production environment for easy access by the editor.

Each cartridge can hold up to four times the contents of the E-Flex' on-board memory. The keyboard contains a



control section for assigning Bubble cartridge pages and for off-loading and on-loading data from the bubble. When data is transferred, a copy of the original is maintained on the master medium. Off-line storage permits repeatable sequences such as opens, closes, and transitions to be safely stored for future use without occupying the capacity of the on-board buffer.

Circle # 129 on Reader Service Card

VLSI Speech Synthesizer & Control Chip

Gould/AMI Semiconductor has introduced a new version of its S3620 LPC-10 speech synthesizer which simplifies customization of the chip's speech synthesis capabilities and allows the addition of other control functions on-chip that were not previously available. The redesigned chip contains a macro cell core that performs speech synthesis using the linear predictive coding method. Since each application for speech synthesis has unique and varying requirements, the micro cell

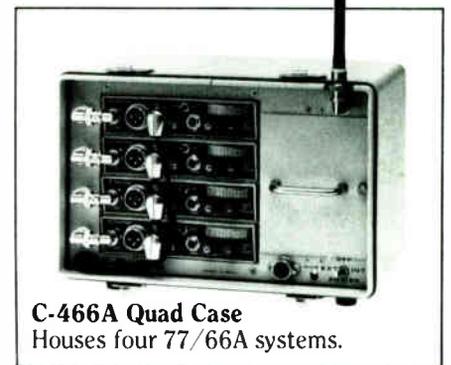
The best portable wireless.

The Model 66A PRO is the latest version of Cetec Vega's popular compact, battery-powered wireless microphone receiver. Features include:

- Lower power consumption for 8-10 hours continuous operation from four internal 9-V batteries.
- High signal-to-noise ratio and wide dynamic range (over 100 dB in Model 66A/DII with DYNEX™ II audio processor).
- True helical-resonator front-end filter and multiple-pole crystal IF filter for superb selectivity.

- External power capability for field and portable use, from a 12-V camera belt pack or other +10.5 to +18 Vdc source.
 - Lightweight and compact (5.4 x 1.3 x 6.25 in.).
- Write or call for further information and location of your nearest dealer:
Cetec Vega, 9900 Baldwin Place,
EL Monte, CA 91731. (818) 442-0782.

 **Cetec Vega**
...the professional's wireless



C-466A Quad Case
Houses four 77/66A systems.



66A PRO

Circle # 126 on Reader Service Card

technique allows customization at a reduced unit cost with minimum development costs and short production times.

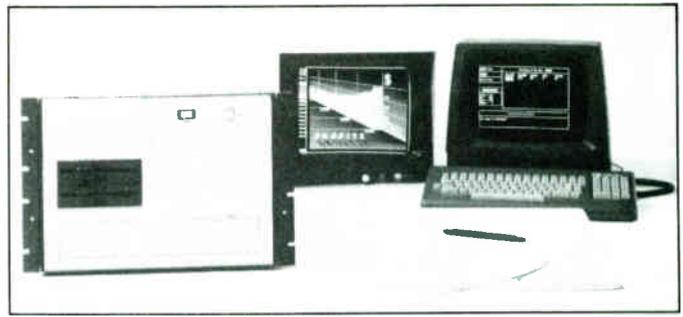
Located on the chip's periphery are input logic and output amplifier blocks that can be modified using computer-aided design without affecting the macro core cell's speech synthesis capabilities. The input logic block is a floating end that can be customized to perform various functions. Specially designed custom circuitry, standard cells and other macro cells which function as read only memory, random logic and control logic can be added so other external circuitry is not required.

The chip uses the LPC technique and a 10 stage analog switched-capacitor filter to synthesize speech. LPC offers high quality and intelligible speech at low data storage requirements of 1.2 to 2.0 k bits per second typically. Encoded speech data can be stored externally in read-only memory, erasable programmable ROM, random access memory or bubble memory. The S3620 can also be customized to include ROM to store speech data on the input logic section of the chip. The company offers a standard vocabulary of 307 pre-encoded words.

Circle #130 on Reader Service Card

3M BFA Paint System

3M Company offers the BFA Paint System, a moderately priced computer-generated video graphics system designed to be operated by an artist rather than an engineer or computer operator. The system is menu-driven with an interactive, user-prompting monitor giving a detailed explanation of any operational mode. The system contains 28 resident brushes plus airbrush and a brush design capability. Other capabilities include image brush (rubber stamping), rotation,



distortion, perspective, enlarge and reduce, all instantaneously. It can generate 16.8 million colors with a working palette of 256. Full color editing is provided for varying hue, luminance, or saturation values of any selected color. Color cycling is also possible providing special motion effects. A hand-held stylus and a 15" x 15" digitizing pad allows an artist to bring the brush style and color together. All images, color palettes, and brushes may be stored on standard 5¼" diskettes for later recall. Graphics can then be used for broadcast, video tape, 35mm slides, ink-jet print, 8 x 10 glossies and overhead transparencies.

The system will also input from a B&W camera with color separation filters for full color or an RGB color camera. Flat artwork, color photos, or 3D objects can be input. These images can then be reworked and manipulated. There is also a full library of high resolution type fonts available in various styles and sizes. Options include an RGB monitor, 46.3 megabyte hard disk storage, copy stand, high-resolution 8 x 10 film recorder, business graphics software, font composition software, and a second frame buffer.

Circle #131 on Reader Service Card

Portable diversity wireless.

Cetec Vega's Model 67A PRO portable diversity receiver provides improved effective operating range and virtually eliminates signal dropouts caused by multipath conditions.

Features include:

- True dual-receiver diversity.
- Low power consumption; operates from four internal 9-V batteries.

- DYNEX® II audio processing for over 100 dB dynamic range and high signal-to-noise ratio.
- True helical-resonator front-end filter and multiple-pole crystal IF filter for superb selectivity.
- External power capability for field and portable use, from a 12-V camera belt pack or other +10.5 to +18 Vdc source.

- Lightweight and compact (6.95 x 1.4 x 7 in.).

Write or call for further information and location of your nearest dealer:
Cetec Vega, 9900 Baldwin Place,
El Monte, CA 91731. (818) 442-0782.

 **Cetec Vega**
...the professional's wireless



67A PRO

Circle #127 on Reader Service Card



The Look (L to R): John Sarkisian, Sam Warren, Dave Edwards, Chuck Moses, Randy Volin.

The Look Looks to America

All it takes is a glance into Dave Edwards' personal vision of life and music to know that the American rock and roll dream is alive and well. Strap on a guitar, write some solid songs about love and loss, play night after night in bars and clubs, work the road until more than your hometown buddies know your name, and with a bit of luck success will come. For Edwards' earnest Detroit rock band, The Look, the big time is still around the bend, but a record deal with Fantasy and a significant tour beyond its midwestern homeland have refreshed the hard-rocking quintet's hopes.

Sitting in a top floor conference room at Fantasy Records in Berkeley, California, Edwards, lead singer and key songwriter, dreamily compares The Look to the classic singles band that virtually built the Fantasy empire, Creed-

ence Clearwater Revival. "I wish it would happen for us like it happened for them," he says. "It's such a legendary company and they should have a really big act."

Appropriately, The Look dubbed its early Summer trip to the West Coast "the Professional Tourist Tour," mixed as it was with sightseeing under Edwards' enthusiastic leadership. But with the release of its Fantasy debut LP, *Everybody's Acting* (their third album overall), the band hopes to move up from the ranks of onlookers into the pantheon of American mainstream rock and roll heroes. "We're a working-class rock and roll band," says Edwards of the group's roots in the bars and clubs around Detroit, "and so were The Faces and the Stones."

Formed in early 1977, the quintet (which includes Edwards and guitar-

ists Randy Volin and Sam Warren, bassist Chuck Moses and drummer John Sarkisian) earned a loyal Motor City following the old-fashioned way: they gigged continuously. "The music scene in Detroit is almost like an assembly line," Edwards explains. "You gotta beat your brains out." Because he was determined to earn his daily bread at rock and roll, Edwards adopted a fundamentalist work ethic about his music. "Like I don't eat if I don't play." But he and his mates could look to such persevering Midwesterners as John Cougar and Bob Seger for inspiration on the hard road to success. "I always use Seger as my guiding light," Edwards says. "He worked around the United States for 15 years before anyone really noticed. If we have to do that, that's what we're gonna do."

The Look's first step toward exposure beyond the industrial heartland was to record their 1981 debut album, *We're Gonna Rock*, produced by Johnny Sandlin for Bruce Lortel's independent Plastic Records. The second LP *Look Again*, was produced by Mark Stebbeds, engineer for Grand Funk Railroad and John Cougar hits, and featured the same guitar-dominated, heavy rock sound as the debut. Edwards, whose gruffly-edged vocals owe to Seger, names among his influences such disparate forces as the Motown sound, the legendary MC5, Tommy

—PAGE 169

—FROM PAGE 99, MASEKELA

There are no synthesizers on the album, but a Fairlight sampling system was used extensively. "We brought over a Sony PCM-F1 digital tape deck for all our sampling, and that was fabulous," says Levine. "The Fairlight is only as good as its samples; ours were exquisite, and that made all the difference."

In an effort to keep the sound as natural as possible, almost no equalization was added during the recording.

Masekela and Levine took the raw tapes to London and mixed the album at Jive's Battery Studios. During the mixdown, they again relied heavily on the Fairlight. "We changed the songs around a lot—especially the bass sounds—yet we kept all the original tracks," says Levine.

The album has two distinct sections—the North side (more Western) and the South side (more traditionally African). "To a certain extent, this album was intended to be a sampler of the types of music we can bring out of this area," Levine notes.

Techno-Bush has put Hugh

Masekela back on the road, back into critical favor, and back on the charts. "Don't Go Lose It Baby" rose to number two on the dance charts last summer, topped only by Prince. "It didn't cross over," says Levine with a broad smile, "but what the hell." The record has become a major hit in Europe, and Masekela, on tour with a band of South African musicians, is drawing rave reviews.

With *Techno-Bush* under his belt, Masekela plans to return to Botswana and begin the debut recording of Zambia's premier group, The Fire Family. "This is a new era for me," he says. "Now I can develop everything in the right direction with no pressure. The essence and the smell of the music is down there; that's why I live there and why I want to record there.

"I'm not going to wear a bone in my nose or parade down Broadway on an elephant. I'm just going to use all the musical wares that we have, and—now that the technology is also there—put it all together and aim it at the international market."

—Bruce Pilato

STEVE GOODMAN (1948-1984)

It's a shame Steve Goodman didn't live just a few days longer so he could have seen his beloved Cubs take their first championship since before he was born. The Chicago-born songwriter/guitarist, who wrote "A Dying Cub Fan's Last Request" and "Go Cubs Go" as well as "City of New Orleans," "You Never Even Call Me By My Name," and a wealth of warm, funny and enduring songs which he and dozens of others recorded, died September 20 at age 36 of complications following a bone marrow transplant.

Goodman's leukemia, diagnosed in 1969 and held in remission for nearly a decade, was a well-kept secret until a relapse in 1982 forced him to miss a performance and news of his hospitalization reached the public. He was hospitalized periodically for chemotherapy, but he refused to let his affliction color the optimism of his songs and performances. In the last few years he performed when he could and sold his records (released on his own Red Pajamas label) at gigs and by mail. Ironically, his third Red Pajamas release, *Santa Ana Winds*, was shipped from the pressing plant on the day he died. It is available (as are the first two, *Artistic Hair* and *Affordable Art*) from Red Pajamas Records, P.O. Box 233, Seal Beach, CA 90740, for \$8.00 each (postage included). They're wonderful records—that's the only reason Steve Goodman would have wanted you to buy them.

—David Gans

power TOBOR

computer jingle machine

Start time
0.03 sec

Spooling time
60 sec (cassettes C 60)

Frequency response
25 Hz/23 kHz
(± 3 db)
record + replay
(metal - 20 db)

S/N ratio
58.5 db A
(comp. off)
more than 80 db A
(comp. on)
reference 0 db (250 nW)

Wow and flutter
DIN 45507
less than ± 0.1%

Speed
4.75 cm



Programming
Jingles coding and
automated search
**Fast search and
automated cueing**
Random program play

Edit function
**TBR 01 module
(optional)**

- Cancellation
- Insertion
- By-Pass

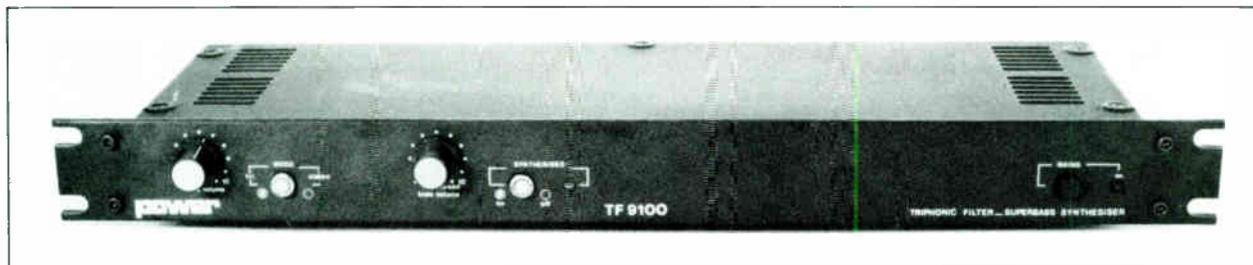
Real time features
TBX 310 (optional)
Coding/decoding interface
module provides for the
control of motion and play
commands of three spare
recorders

**RS 232 interface
(optional)**
TOBOR offers RS 232
interfacing facility to be
driven by any computer either
directly or remotely via modem

PWM
Audio Amplifiers

COMELTRIC
Electronic Crossovers

TRIPHONIC
Superbass Synthesizers



power
COMEL

Paris, France
Tel: 793.65.12
Telex: 630504 F

power U.S.A.
ALAGATRONICS INC. N.Y.C.

11 Avenue of the Americas
New York, New York 10013
(212) 219-0988

Circle #132 on Reader Service Card

WESTEC IS... Production Technology

SONY/MCI
Audio Consoles,
Tape Recorders

HEDCO
Routing Switchers
Distribution Amps

RTS
Intercom Systems

BTX
Synchronizers,
Time Code Products

INDUSTRIAL ACOUSTICS
Prefab Rooms,
Doors, Windows

Sales, Service,
Design, Installation,
Wireless Repairs

WESTEC
1841 Broadway
New York, NY 10023

Call for complete
line card,
(212) 586-1662
Dan Mazur,
VP Sales

Circle # 133 on Reader Service Card

—FROM PAGE 27, CHICAGO

says James in his deep voice. "I play beatnik music—simul stas!"

Saxophone James, 33, for some reason known as "Little Howlin' Wolf," produces his own records. He sells them one at a time from his saxophone case and plays his horn on Chicago's Michigan Avenue Bridge.

The rugged street performer with stringy blonde hair holds up his end of the recording industry all year round, whether its five below zero or 98 above. He's on the bridge every weekday afternoon.

"Kate Jackson, that girl from *Charlie's Angels* wanted me to be in a movie she was shooting here," says James. "The directors wouldn't let me talk, though. Its the same thing with the television crews. They all know me but they're afraid to let me talk on the air."

"I'm the keeper of the Zodiac!" he continues. "I make sure the other musicians invent new sounds."

"I used to get harassed," he points out. "But now nobody bothers me—not the police, mobsters or musicians. They know I'm just out here trying to put my life together."

James claims that he's never lost money on a record production. His grassroots outlook is reflected in his production and marketing strategies. "Where do I record?" he says "Right out here! I set up a little recorder that runs on batteries, turn it on and play my horn all day." After a little probing he admits to overdubbing at Hedden West Studios in Schaumburg, Illinois.

"Look" he says. "I'm talking to you and nobody's buying records. Nobody hears my music." Although, in the 20 minutes we've been talking, about seven dollars is thrown into his case by downtown office workers. "If you're interested in my best songs they're all on the album," he continues. "I sell it out here for \$15 but it would cost you \$30 in the store. It's a collector's item."

James has only about a hundred albums left. He originally pressed up five hundred but wants to reinvest in another record rather than do a second pressing. "I have to keep moving," he says.

In a way James is a recording industry executive and he surely typifies the ones in Chicago. He's bold and innovative, he knows where the royalties come from, and he looks his "target audience" in the eye every day.

What's *his* current state? Saxophone James says he's survived the streets for ten years and the Michigan Avenue Bridge for two. "Some people don't like to see me out here," he says. "But I don't care. A lot of million dollar companies get loans and still go broke. I'm not a million dollar company. I play because I was born to play. I just sell a few records and make some change but at least I'm still here!"

OX-12



**A NEW
SLANT IN
LIGHTING CONTROL**

At Spectrum, we attend to detail. We think its the little things that set our OX-12 apart from the competition. Little things like adjustable control voltage for inter-system compatibility; externally accessible triacs for in-rack serviceability; or our toroidal filtering. Our modular design and many options enable the user to "build" the system that most effectively meets his design requirements and cost parameters. Three power input options, three output options, four circuit protection options, and three electrical input options provide over 70 different models and a flexibility like no other dimmer on the market. Performance, versatility, and economy have always been of paramount consideration in all of Spectrum's designs. We feel you'll find the OX-12 Series Dimmer Module a shining example of our commitment to these ideals. Comparable "Brand Name" dimmers may cost hundreds of dollars more—with the OX-12 you don't pay for the name, you pay for performance!

SPECTRUM
DESIGN & DEVELOPMENT, INC.

3420 Walbert Ave., Allentown, PA 18104

(215) 395-6934



**PROFESSIONAL
PERFORMANCE...
BANK ON IT!**

Circle # 134 on Reader Service Card

Video Events Calendar

NOVEMBER 1984

Oct 27- Nov 3 **SMPTE**. Society of Motion Picture and TV Engineers. 126th technical conference and equipment exhibit. New York Hilton. SMPTE, 862 Scarsdale Avenue, Scarsdale, New York 10583. Tel: (914) 472-6606.

Oct 30- Nov 2 **Atlantic Cable Show**. Atlantic City Convention Center. Atlantic City, New Jersey. (609) 848-1000.

2-9 **International Film and TV Festival of New York**. 27th annual. New York City.

7-9 **Television Bureau of Advertising** 30th annual meeting. Hyatt Regency. Chicago.

15-17 **Billboard Sixth Annual Video Music Conference**. Sheraton Premiere Hotel, Universal City, California.

16-20 **New York World TV Festival**. 6th annual. Symposia and screening of international award-winning television programs. Sheraton Museum of Modern Art. New York City. Tel: (212) 246-8750 Harvey Chertok.

17-20 **AMIP '84, American Market for International Programs** second annual program marketplace, organized by Perard Associates with MIDEM and National Video Clearinghouse. Fontainebleau Hilton. Miami Beach. Tel: (516) 364-3686.

19 **International Emmy Awards**. New York City. Tel: (212) 308-7540.

DECEMBER 1984

5-7 **Western Cable Show**. Sponsored by California Cable Television. Anaheim Convention Center, Anaheim, California. (415) 428-2225.

JANUARY 1985

5-8 **INTV**. Association of Independent Television Stations. Annual convention. Century Plaza Hotel. Los Angeles, California.

10-15 **NATPE International. National Association of Television Programming Executives**. Moscone Convention Center. San Francisco, California.

16-21 **COMMTEX**. The latest in audio-visual, video and microcomputer products for communications and information technologies. Anaheim Convention Center, California.

30-Feb 1 **25th annual Texas Cable Show**. Sponsored by Texas Cable TV Association. San Antonio Convention Center, San Antonio, Texas.

FEBRUARY 1985

1-3 **NAMM Winter Market**. The fifteenth Winter Show of new musical and sound reinforcement equipment. Anaheim Convention Center.

15-16 **Society of Motion Picture and Television Engineers** 19th annual Television Conference. St. Francis Hotel, San Francisco, California.

MARCH 1985

26-27 **Cabletelevision Advertising Bureau** fourth annual conference. Sheraton Center. New York City.

APRIL 1985

14-17 **National Association of Broadcasters**. Annual convention. Las Vegas Convention Center.

20-25 **MIP-TV**. 20th Annual Marche International des Programmes. International TV program marketplace. Palais des Festivals. Cannes, France.

MAY 1985

7-11 **American Women in Radio and Television Association**. Annual convention. New York Hilton. New York City.

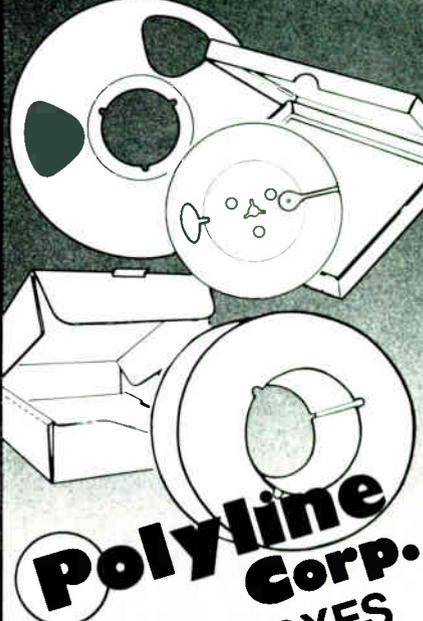
JUNE 1985

2-5 **NCTA. National Cable Television Association**. Annual convention and national cable programming conference. Las Vegas Convention Center. Las Vegas.

8-12 **American Advertising Federation**. National convention. J.W. Marriott. Washington, D.C.

Please submit all notices for industry events to:

Carole Berkson/Industry Events Calendar
Mix Magazine
2608 Ninth Street
Berkeley, CA 94710



Polyline Corp.
REELS & BOXES
FOR AUDIO AND VIDEO TAPE
PROFESSIONAL QUALITY
ALL SIZES
Shipped from Stock
(312) 297-0955
1233 Rand Road
Des Plaines, IL
60016

Circle #135 on Reader Service Card

audio for video
NO PROJECT IS COMPLETE WITHOUT
SOUND EFFECTS, MUSIC, NARRATION, OR
REPLACING BAD DIALOG. IN MONO OR STEREO
YOU CAN DO ALL THIS AND MORE

THE SYSTEM LTD.
1054 Cahuenga Blvd., Hollywood, CA 90038
P.S. 3/4" TIME CODE EDITING \$25/hr.

\$55/hr at

FULL SOUND EFFECT LIBRARY AVAILABLE

461-3000

Circle #136 on Reader Service Card

—FROM PAGE 28, CANADIAN RECORDING
adding another wing to the audio building so we can move the video in there. It will make it easier on us not having to run around everywhere. But the two sections will still have separate entrances. It's still going to be just as private for audio," Brandeis emphasizes.

With the parade of preferred-customer rock stars that frequent Le Studio, have they worked on any music videos? Not yet, says Brandeis. They're just getting up to speed with the video end of it. "We've got mostly local network work . . . the CBC French Network, TVA French Network . . . at the moment we don't have the time to go after all the videos we could be doing." (Meanwhile, Le Studio has enjoyed a reputation for being sought after by top-name recording artists. See the studio roundup for an update on who's been there this year.)

Eastern Sound in Toronto doesn't exactly have everything under one roof; to be precise, the audio studio is owned by VTR Productions, a video house just a couple of doors down on Yorkville Avenue. In effect, the company offers 24 track, album quality audio which can be recorded in conjunction with the broadcast quality TV productions that are being done next door.

Eastern divides their production schedule in a way one would expect of a major studio in the commercial hub of Canada: jingle and voice-over oriented commercial production, albums, and audio for major TV productions (with video being shot and edited at VTR Productions, or at various other facilities.)

Public relations director John Rowe says the two houses work together with the one 8 track and two 24 track studios on one side, and two production studios, and two on-line editing suites on the other. This way, a producer can "move in and work day-in and day-out for weeks," says Rowe, and finish up all aspects of a TV show. *Fraggle Rock*, a show that runs on the CBC in Canada and HBO in the United States, is an example of a project where tracks are laid down for all the original songs at Eastern, then tape is shot and edited at VTR, then the entire soundtrack is mixed-down and laid back onto one-inch tape to finish the job—all without leaving Yorkville Avenue.

(As with Le Studio, Eastern has attracted album projects for years. Details in the Roundup.)

STUDIO ACTIVITY

Le Studio again takes a banner headline this year. David Bowie spent May and June sequestered in central Quebec Province recording his newest album, *Tonight*, presumably enjoying the special pleasures of this environmental studio. Tina Turner also came up for a duet slated for the album, which was produced by David Bowie and Derek

—PAGE 150

—FROM PAGE 28, MOVING UP

for our self image—Bryan Adams as well. That gave confidence to artists who are just starting."

In 1983, some of the major labels that had been reserved began to express active confidence—most notably, WEA-Canada. For more than a decade that largest record conglomerate in the US had signed no Canadian bands. WEA (Warners-Elektra-Atlantic) A&R executive Bob Roper explains what changed things: "A new president came in two years ago, Stan Kulin. He brought me in. He'd been a 24-year veteran of the biz with many years of experience in the Canadian market. The first year, I signed seven Canadian bands. We built a roster from practically nothing." Roper accounts for 1984 as the follow through year when each of these bands has recorded its second album for WEA.

Roper has seen his share of live music as a major tour manager and during this three year stay at Canada's largest promotion company, CPI (Concert Productions International.) His eyes opened wide when he spotted Honeymoon Suite through a radio station home-grown contest. A year-and-a-half later he says, "I consider them my first success. They've just entered *Billboard* at 121 on the chart."

Images in Vogue is another Vancouver band he signed. "Vancouver has the most vibrant music scene in the country—but I wanted to balance the roster regionally and stylistically," Roger explains. A six-piece reggae band called Messinjah (composed of Jamaicans who live in Canada) would seem to weigh well against mainstream rock.

A&M signed nine Canadian

Honeymoon Suite

bands during the 1983 bonanza—the most of any major. But public relations person James Monico says, "Our commitment to Canadian music has always been disproportionately larger than the market share." (PRO Canada estimates that the country's music industry share of the overall world market constitutes a meager 4 percent.)

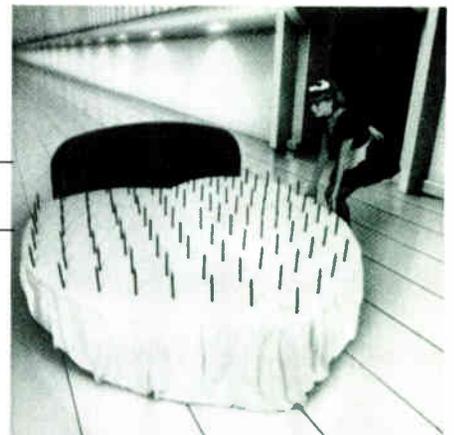
In addition to the Payolas (whose second album went platinum in Canada last year) and Bryan Adams (who will be releasing another album later this month), A&M took a chance on a Toronto band called The Arrows. This move paid off with a top 20 single domestically called "Stand Back." This fall, they're scheduled to open for The Fixx on an American tour. Among the other newer artists at A&M is Peter Pringle, who is unusual in that he writes and sings in both French and English. Canada's largest province, Quebec, is French-speaking.

The Canadian Music Show, 1984

Just four days after the New Media comes the Second Annual Canadian Music Show. Last year, 20,000 musicians and audiofiles attended concerts, seminars, and exhibitions by major manufacturers. This year, show manager David Hazan estimates conservatively that 30,000 people will attend. "It'll be four days this year, whereas it was only three last year. The promotional budget is doubled. . . really last year was a dress rehearsal for this year," says Hazan. Some of the seminar topics this year span new technologies from computers in music to Compact Discs.

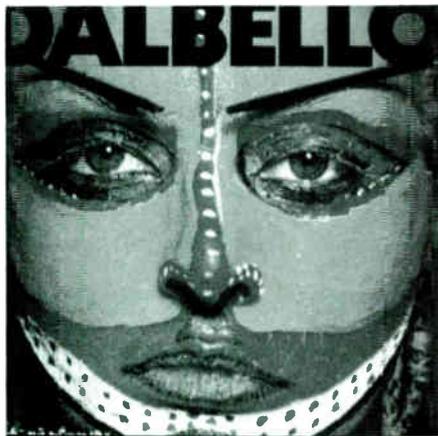
The Canadian Music Show is sponsored by Norris Publications, publishers of *Canadian Musician* and *Canadian Music Trade* magazines. Admission is \$5 per day, or \$9 for a full four days of concerts and seminars to be held November 8 through 11 at the Queen Elizabeth Building, Exhibition Place, Toronto. —E.R.

Some A&R executives write off Quebec Province as a market with no mass market potential. Geoff Burns of



CBS, who signed Loverboy out of Vancouver says, "It's a completely different market which sells, maybe, in France." Deane Cameron, eight-year A&R executive veteran with Capitol, not only offers a completely different opinion—but he's got a top selling North American single to back it up. Montrealer Corey Hart's "Sunglasses at Night" came out of nowhere and broke the *Billboard* charts. "I can't claim credit for finding Corey," says Cameron, "Billy Joel's saxophone player, Richie Cannata introduced me to him." While he continues to pay attention to the west coast, Cameron says the Van-

couver scene is pretty well picked-over. "I'm more of a believer in Montreal as an international force—it's a very sophisticated city." Some other Montreal artists he's signed include Dal Bello ("A cross somewhere between Grace Jones and Kate Bush"), and Rational Youth ("Simple Minds, Psychedelic Furs").



Dalbello

Toronto, the center of Canadian commerce, is not forgotten as a unique music market. Cameron says, "There's much more influence from Great Britain than the United States. For example, my biggest competitors are Virgin and Island. Toronto is very hip."

Capitol behaved very differently during the 1983 gush of enthusiasm for Canadian bands. "I only signed maybe two or three acts. You see, we already had 12 Canadian bands on the roster. Capitol has been in the A&R game here the longest of any other major," says Cameron. Perhaps the year-in-year-out success of Anne Murray has allowed the label to develop a more confident, open-minded attitude. Some other money-makers have been April Wine and Red Rider. Newer names include: Helix, Bamboo, Sherry Kean, and Luba.

CBS was blessed with the record-buying public's infatuation with Loverboy. The label did not prove to be a sucker for a regional formula, however. Geoffry Burns, A&R executive for CBS signed five Canadian bands last year—fewer than most of his counterparts. Burns takes a more hard-line approach: "CBS is pushing bands that are of international stature. If it's a good record, it'll sell. Canada is no different from the rest of North America. This stuff about Canadian identity is a crock. . . ." When asked about the CBS band Harlequin, which has sold four platinum albums in Canada, but has made no impact stateside, Burns says there is no rhyme or reason to this kind of pattern. Other acts on the CBS roster are Cindy Valentine, Gowers, and Platinum Blond—the great fair-haired hope of the new

crop of Toronto bands.

Independents

Independent labels have their work cut out for them, competing with multi-nationals who can entice young bands with visions of Hollywood, state-side tours and internationally-known producers. Walter Zwol, A&R executive for Canada's largest independent, Attic Records, perseveres. He has eight artists on his roster and does licensing from European accounts. Metal Queen goes over well in Europe, and Belinda Metz, "closer to Berlin than anything else," finds her biggest audience in Quebec, says Zwol. He says there is a pattern to Canadian tastes: "Maybe it's a European influence, but Canada seems to take on the new music more than America does. A band like Ratt from LA does amazingly well, or a Cyndi Lauper. But someone like a 38 Special—no." Zwol also notes the completely distinct market trends of

Quebec Province.

He says dance music, for example, has been popular there for more than ten years, and that other European influences are stronger there.

Solid Gold is the fastest growing independent label in Canada. Brian Allen, a musician himself, is temporarily filling the A&R slot. He says the label recently moved in on the US market with marketing people there. Some bands on the roster include Champion, and Holly Woods and Toronto.

Surprisingly, the thread that weaves in and out of conversations with all the A&R people in Canada is support for each other—not competitiveness. WEA's Bob Roper says he was just about to send off a congratulatory telegram to Capitol's Corey Hart for breaking the US charts, because "in this type of market we all have to stick together and pat each other on the back when somebody makes it." ■

More Videos, More V.J.'s... MuchMusic

If, at first glance, you mistook that colorful, bold logo above for the American MTV logo, that's understandable, but look again. The tiny red maple leaf which dots the "i" signifies Canada, and MuchMusic, launched on August 31st, is the country's first 24 hour music video network. Even though all the graphics in the MuchMusic promotional kit look as if they could have been designed by the MTV art department, there are actually many distinctions between the two networks.

Pay Cable

MuchMusic is not a basic cable service. It's a pay service which requires rental of a decoder box at \$4.00 a month plus a programming subscription fee of about \$2.50. When parent company City Music (a division of the CHUM Group) applied for a license from the CRTC (Canadian Radio, Television and Telecommunications Commission—equivalent to the U.S. FCC) they were not intent on winning pay status. It was the CRTC that ruled a music video service should not be foisted on all cable subscribers—Canada has about an 80 percent cable penetration rate. The Commission wants to keep this new genre of home entertainment a discretionary option. As MuchMu-

sic marketing director Ron Waters puts it: "They felt that the little old lady in Saskatoon who has cable shouldn't *have* to get music videos as part of the basic cable package she pays for. And maybe they're right."

Subscriber Base

But even if every little old lady from Vancouver to Halifax were to put down \$6.50 a month to rock out in her living room with Loverboy and Billy Idol, the subscriber base of MuchMusic would still be miniscule compared to MTV's 22 million households. The entire population of Canada is only 25 million. Ron Waters says there is a potential of 3½ million subs, and that as of late August, they'd signed on 350,000. Director of music programming John Martin has said he will be quite happy if at the end of five years MuchMusic has a million households.

Format

John Martin has been producing an eclectic syndicated show in Toronto for six years entitled *The New Music*. (City TV has also been producing a top video countdown show called *CHUM 30*, and an overnight clip show in Toronto called, *City Limits*.) He says this highly successful show was the original impetus for MuchMusic. *The New Music* blends all styles and trends in music with little heed to album oriented rock format restrictions. "We'll be playing everything from reggae

—PAGE 152



Bob Clearmountain and Bryan Adams at Le Studio (Morin Heights) October 1982.

—FROM PAGE 148, CANADIAN RECORDING Bramble. Hugh Padgham, who engineered and co-produced the Police *Synchronicity* album at Le Studio, was behind the board. It was mixed on the JVC BP 90 digital system, but since then, Yael Brandeis, co-owner and studio manager, says they have acquired the updated model BP-900.

Some other bands who've recorded there are Rush ("They come and go every year," says Brandeis) April Wine, and Asia. In October Loverboy made the switch from Vancouver to Quebec, and started a new album for CBS at Le Studio.

The concept of the environmental studio where the artist can work at his own pace in a rural setting, far from the intrusions of the outside world, has spread beyond Le Studio. Outside the charming town of Elora, Ontario, Bill Mather had a 16 track studio which he "tore apart, and just started redoing from scratch." About a year ago, Elora Sound opened with 24 tracks housed in a refurb-

ished 100 year-old barn, with a little stone farm house next to it to lodge clients (Mather refers to them as "guests.") "The Stone walls make the sound especially good for brass," he comments. "Our biggest advantage is we're very private, the security is good, no one knows who's recording there at the time." Elora concentrates almost exclusively on album work.

How's the idea catching on? "We're getting more response from England and Europe and the States. Canadians don't know what to think of an environmental studio," says Mather.

Recently, a Yugoslavian heavy metal band, The Warriors, recorded their second album at Elora. This band presented a particular challenge to the studio manager/concierge. "They're all about 6-foot-6—keeping them in food alone was quite a project," says Mather.

Le Studio Vert is another new spot for recording in Central Quebec Province. Owner Pierre Tremblay, a Montrealer, says he moved up to St.

Ubalde and opened "Vert" because he could not have provided the same caliber of equipment and services in the more expensive urban setting. Tremblay emphasizes his extensive sound effects li-

—PAGE 152

Trebas Institute Expands in '84

Although the international recording industry generates more than 10 billion dollars in annual sales and produces some of the most ingenious artists and scientists of our culture—it is curiously free of institutionalized standards of initiation. While a diploma from Harvard or Stanford hangs on the wall of the corporate esquire, the hit record producer's wall is covered, not with sheepskin, but with platinum records. It would seem that, not only is experience the best teacher... but the only one.

Dave Leonard, president and founder of the Trebas Institute, believes that the entire music industry can benefit by some formal education for its young initiates. Since its inception in 1978, this non-profit organization has opened four schools (in Montreal, Toronto, Ottawa, and recently, in Vancouver) to teach three disciplines: artist management, audio engineering and technology, and record producing. "We're aiming to keep standards high not only by giving students the chance to experiment with the actual state-of-the-art equipment in real studios before they enter the work force and have the pressures of a real job—but we aim to instill a sense of professionalism and pride," says Leonard.

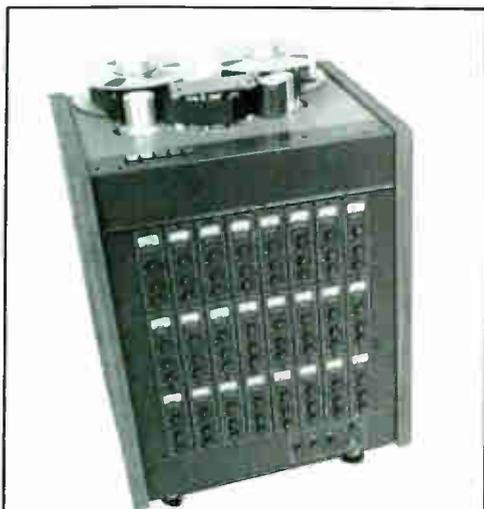
1984 was a big expansion year for Trebas. The fourth school opened in Vancouver, and the Montreal campus introduced a new "Commercial Music Program." Leonard says this course is designed for musicians. Staging, choreography, lighting, and performance study are some topics in the curriculum. Studio musicians will benefit from the emphasis on reading and synthesizer training. Composition courses will be offered for those who want to refine popular music writing skills.

Perhaps the most interesting statistic in the Trebas catalog is that 80 percent of the school's graduates are employed in jobs in the recording industry. For more information, write: Trebas Institute, 1435 Bleury St. #301, Montreal, P.Q., Canada H3A 2H7. ■

The crew at Studio Vert in Quebec.



THAT BRITISH SOUND



ACES TR-24: 2" 24 track Recorder/Reproducer **\$20,000.00**
(2" 16trk., pre-wired 24trk. available)

BOTH TAPE MACHINES FEATURE: +4dbm IN/OUT • 15/30ips • Full-function 9 cue position remote-autolocator • Stand • 50% range vari-speed •



ITAM #1610: 1" 16 track Recorder/Reproducer **\$13,000.00**
(1" 8trk., pre-wired available)



ACES ML24: I/O console, 32 in x 24 buss, Integrated part-wired patch bay. **\$16,100.00**

ACES SM16: Split console, 32 in x 16 buss **\$16,200.00**

BOTH CONSOLES FEATURE: Fully modular • +4dbm IN/OUT • 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

**PROFESSIONAL
AUDIO SERVICES
AND
SUPPLY CO.**

99 East Magnolia Blvd., Suite 215, Burbank, CA 91502 (818) 843-6320

Circle #137 on Reader Service Card

Time-code-based EVENT/EDIT CONTROL for audio-for-video



two more
SYSTEM 2600
building blocks

Two new complementary products which expand **SYSTEM 2600** to full television sound editing capability.

Use them to both rehearse and record audio-for-video edits. Save audio tracks. Reduce cut-and-try time. Synchronize audio and video cues with sub-millisecond precision. Turn "wild" sources on and off. Cue talent. Cue automated switchers and mixers. And more!



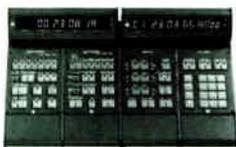
EVENT EXECUTIVE MODULE

SMPTE/EBU time-code-based with LTC reader and six user-settable event commands. Pre-sets each event to 1/100 of a TV frame, with ten pairs of time code addresses — 120 on-off commands in all. Compensates for erase head offset and record command delays with sub-millisecond-adjustable advance operation of each output. Uses your computer, terminal or keyboard for control, or our new Event/Edit Controller.



EVENT/EDIT CONTROLLER

Modular remote control panel. Sets, trims and controls events. Captures addresses from incoming time code. Use to both rehearse and record edits.



Building-block design. Use EE and E/EC alone, or to add precision audio-for-video event editing to any **SYSTEM 2600** synchronizing configuration.

FOR DETAILS ABOUT
SYSTEM 2600 BUILDING BLOCKS,
CALL, WRITE OR WIRE:

ADAMS•SMITH



34 Tower Street
Hudson, MA 07149 USA
Tel.: 617-562-3801
NYC.: 516-352-2341
TWX: 710-347-0096

Circle #138 on Reader Service Card

—FROM PAGE 149, MUCHMUSIC

to mainstream rock to rhythm and blues," Martin guarantees, standing fast in his programming philosophy as he transposes it to MuchMusic.

The amazing thing about *The New Music* is that almost everyone in the music business seems to like it. A & R executives from the major and independent labels take no potshots; studio owners, video directors, and musicians alike go on and off the record as applauding it. As Doug Hill, co-owner of Phase One Recording in Toronto put it, "That John Martin is a bright boy."

Youthful in his approach, perhaps. A boy, no. He might have been when he moved to Toronto from Manchester, England in 1969 as a self-admitted failed musician. A start in Canadian Broadcasting Corporation (CBC) Radio, and then ten years as a producer for CBC Television, however, have paved his road to a successful middle-age.

This is another contract to MTV, whose very young hot-shot executive echelon was selected from the ranks of radio, not television.

Look Out—There Could Be One In Your Own Backyard

The VJs Christopher Ward and J.D. Roberts also have the unusual advantage of experience as actual VJs; they've been working with Martin and City TV on *The New Music* and *City Limits* for years. But MuchMusic is going to expand soon, and it has issued an all-points bulletin for two more VJs. (At launch date, the service offers only a six-hour live programming block which is repeated four times daily.)

Martin says one difference between MTV and MuchMusic is that there will be "more value added to the VJ's role." He goes on to explain that there will be more local color, that stringers will report from clubs in such places as Halifax, and from radio stations all over the country.

The six years of producing *The New Music* has provided a gestation period for MuchMusic. The stringer network, the VJ's, the video library, have all been tested before the curtain goes up nationally.

If It Plays in Peoria, It Still Might Not Keep 'em Happy in Halifax

Canadians simply have their own tastes in music and video, and this must come out in the playlist. This is a country striving to establish more firmly its own music industry identity, and although Much-

—PAGE 154

—FROM PAGE 150, CANADIAN RECORDING
brary on floppy disk, cassette, and disk, as well as his composition services and array of synthesizers. He has recorded projects with as many as 70 Moog modules, a Synclavier II, a Roland synthesizer—all in-house equipment—and a Mellotron.

Again, long term projects are best suited for the environmental studio, which is usually removed from the commercial flurry of advertising and casting agencies. Tremblay has his hopes pinned on film scoring and sound effects work. He mentions the plan for La Cite Internationale du Cinema et de la Television (The International Film and TV Center). This agreement, signed August 20 in Montreal between the Canadian Federal Government and a consortium of private businesses, will finance a 36 million dollar film and video studio in the Old Montreal section. (22 million from the government and 14 million from the private sector.) At press time no formal schedule of development has been announced.

Wayne Wilkins, owner of Studio West Canada, doesn't call his an environmental studio—but a "retreat studio." It's located on 40 acres of rolling prairie about an hour south of Saskatoon. Studio West is the only 24 track in Saskatchewan Province, and Wilkins has carved a special niche in the regional market. The international rock star is not his target client, although Wilkins says two-thirds of their work is on albums. "We didn't start our business thinking we were going to get the national urban acts. We provide a service to our area, producing custom records distributed only in the prairies... but we keep our own music scene healthy and happening out here," says Wilkins. He and his brother Blaine actually go on junkets all over the area searching for new talent. Soon they hope to start their own label and publishing company. Studio West's 16 track mobile recording vehicle has been instrumental in recording many of the 113 albums they have produced since they opened in 1978.

MAJOR STUDIOS IN THE EAST

Toronto is the commercial center of Canada and the home base for A&R executives of the major labels. Top flight 24 track studios specializing in album, film and TV, and commercial production abound.

The Master's Workshop enjoys a superb reputation throughout North America mainly for location, and television and film soundtrack recording and posting. Credits include two concerts on the Police Synchronicity tour (Montreal and Atlanta) directed by Godley and Creme. Producer Sean Ryerson now works for Concert Productions International and is producing the Juno Awards

live broadcast this year. He says Master's is the best: "Everything we've done there has been spot on." In the past year, Master's has put to good use their Foley stage, sound effects library, tape lock

The Juno Awards: More Music, Less Talk; Less Spandex, More Hip

On December 5th the 20th annual Juno awards will be broadcast live throughout Canada to celebrate the same high caliber of musical achievement for which Americans award Grammys. This year, however, the show may look different from the previous 19. For the first time, the government-run Canadian Broadcasting Corporation (CBC) will not be producing the Juno's, but rather a private production company, Concert Productions International. CPI is the largest promotion company in Canada, famous for staging major shows from the likes of the Police and the Who.

Producer Sean Ryerson is quick to point out that the change stems from a government mandate. "The government decided the CBC should be more open to the private sector. It has nothing to do with who could do a better job. We're still working closely with the CBC on this. We submitted bids, and CARAS (The Canadian Academy of Recording Arts and Sciences) decided in favor of CPI and the CBC approved it too," Ryerson explains.

But as long as they're in the drivers seat, why not take a spin around the block? "It's going to be more of a TV show, less of an industry pat-on-the-back. We're going to get rid of a lot of clap-trap. The object is to get more music in there instead of long speeches," says Ryerson, a man of refreshing candor. "Time to do away with the spandex. We're trying to make it as non-sexist as possible. The dance sequences will be closer to a break-dance style—popier...hipper—getting away from the 12 long-legged dancers in spike heels."

Ryerson envisions a variety of celebrity segment hosts to announce the 20 categories. The Junos will be staged at the Queen Elizabeth Building of the Exhibition Place, Toronto, Canada.

—E.R.

and automatic dialogue replacement system. Some projects have included a CBS network production, "Nightbeat," a wildlife show called, "Profiles in Nature" with stereo sound (effects recorded on a Sony Digital PCM), and an IMAX feature film, "Skyward," the first to be mixed in an IMAX theater. Live concert recordings include: The Band, Supertramp, Johnny Winter, and Saga.

McClea Place Recording in Toronto echoes the increase in audio for video theme. Studio manager Suzanne Raynor says, "What we've really been doing more of lately is postproduction for film and video projects—you know, audio for video... a lot of work for the CBC—the 'Concerts in the Park' series." Follow That Bird, a Nashville production company, has chosen McClea Place to do their overdubbing and mixing for the newest Sesame Street film. McClea Place has laydown and layback facilities, including a BTX Shadow synchronizer for three-quarter and one-inch formats (but no actual video decks). Another service they're doing more of is digital audio editing and mastering on both the PCM-100 and PCM-1610 formats. "All the major record labels eventually come through here for cutting and pressing of the Canadian material—Capitol, RCA, CBS..." says Raynor. Analog and digital mastering is one of the principal fea-

tures on which McClea has established their reputation.

As for albums, McClea does little pop, but mostly jazz. The Trebas Institute's Toronto campus uses their studios to hold labs. In fact, two of their engineers, Peter Norman and David Belan, are instructors with this highly acclaimed school.

As mentioned before, Eastern Sound in Toronto concentrates heavily on audio for video, since their parent company, VTR Productions, is a video studio and post house. But they also cut a large volume of radio and TV commercials in their 8 track studio, and jingles are frequently produced in 24 track Studio 2. Public relations director John Rowe says, Studio 2 is really the one that can do it all for us—full-up video interlock and music recording."

Studio 1 was originally designed for music recording, and this year, Eastern has worked with such major artists as Anne Murray and Gordon Lightfoot. Solid Gold Records, and independent label, has had three bands there this year: The Puckka Orchestra, Toronto, and Champions.

Sounds Interchange's Studio One is featured on the cover this month. Like many other major Toronto studios, their business has recently grown to include audio for video. A BTX Shadow synchronizer, Foley pits and 35/16 mm

—PAGE 154

Have you read

THE BEST BOOK ON SOUND?



We're the number one book in MIX's *Best On Our Bookshelf* listing — their best selling recording techniques book.

Why?

You learn a lifetime of sound engineering expertise, and secrets of the world's best engineers from our book. That's why!

Schools teach our custom curriculum. Students study our world-wide correspondence course.

Invest in your own future — be great at what you do.

Practical Techniques for the Recording Engineer

The \$29.75 book that's worth a fortune!

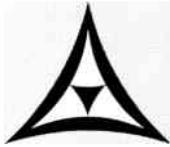
Order From

MIX BOOKSHELF

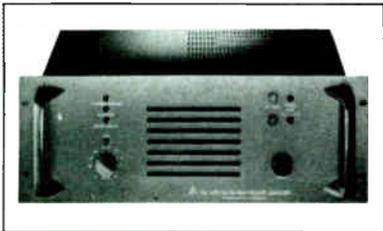
2608 Ninth Street • Berkeley, CA 94710

Please add \$2 postage. Add \$1.94 tax if in California. You can order by phone using VISA or MasterCard by calling (415) 843-7901

Circle #139 on Reader Service Card



FM ACOUSTICS LTD.



**distributed in Canada
exclusively by**

**PERSPECTIVES
AUDIO P.A. INC.**

**23 Chatel
Lorraine, P.Q.
Canada J6Z 3C4
(514) 621-4087**

Circle #140 on Reader Service Card

SOUND SYSTEM

BUZZ

**ITS TOO BAD YOU
CANT ALWAYS KEEP IT CLEAN**

**BUT NOW
ITS ONLY TEMPORARY
INTERFERENCE WITH
A**

MODEL PS-1



In addition to reducing RFI the PS-1 can also protect your sound reinforcement equipment from:

**HIGH VOLTAGE TRANSIENTS
UNEXPECTED POWER UP TRANSIENTS
IMPROPER LINE POLARITY**

**linear & digital
systems, inc.**
46 marco lane
centerville, oh.45459

Circle #141 on Reader Service Card

—FROM PAGE 152, MUCHMUSIC

Music has chosen to dress up in the same clothes as its American cousin, MTV, to get a headstart, the fact that it exists separately at all helps the industry tremendously. "There hasn't been much point in making a video here in Canada because there's been no way really to get any mileage out of it. Now there is, so people are going to start making videos and that will start the industry to build," says Martin.

When City TV and the CRTC negotiated the license to MuchMusic, they came up with a Canadian content clause which requires the playlist include at least 10 percent Canadian originated material, with that figure jumping to 30 percent in five years. (The content figure hovers at 30 percent in most Canadian radio formats.) Both the government and the licensee have considered the specific conditions of not only the advertiser base, but the industry which will supply programming...not to mention the audience.

VideoFACT

MuchMusic has thrown \$100,000 into a kitty, plus the promise of 2.4 percent of their advertising revenues to fund Canadian music video production budgets. If the seven-member VideoFACT administrative panel selects a band, it may receive 50 percent of its video budget—up to \$10,000—from MuchMusic. For the first year this money will be given unconditionally—interest free, and non-refundable from artist royalties, etc. This rule may change after the first year, however. The Network also offers their own Basement Tapes competition to help expose talent that may be lying fallow in the hinterlands.

MuchMusic is clearly banking on MTV's relative success as it directly plucks American viewing statistics and market trends and places them inside their own sales package. They have not taken an obstinate, separatist stand, but a more pragmatic attitude as they try to launch an industry independent of New York and Los Angeles. But the executive movers seem to have built their own scale model to suit the unique needs and character of their own culture and economy. Thinking back three years ago, MTV was fancied the flamboyant hero who arrived just in time to save young America from Album Oriented Rock robotic doom. Its image and playlist will change. And so will MuchMusic.

—Elizabeth Rollins

—FROM PAGE 153, CANADIAN RECORDING

mag high speed with tape lock are available. Audio postproduction for many of the Second City TV shows is done at Sounds Interchange, as well as all the music for two CBC shows, "Seeing Things," and "New Wilderness." This past year New York producer Michael Beinhorn selected Studio One to record Toronto band Parachute Club. Producer Terry Brown mixed tracks for Rough Trade on True North Records. The Nylons and the Spoons both from Toronto, recorded third albums there as well.

Manta Sound in Toronto installed a new MCI 538 automated console at the end of last year. Traffic coordinator LuAnne Leonard says Manta devotes 50 percent of their time to commercials and jingles. Bruce Cockburn and Rough Trade on True North Records cut tracks at Manta this year, as well as James Siberry and Hanover Fist. Asia also overdubbed there after laying tracks at Le Studio. Film soundtracks offered a new and exciting balance to Manta's production schedule this year with Lorimar Productions *The Guardian*, and *Between Friends* both having been scored there.

In Montreal, Le Studio Tempo has recently installed a BTX Shadow synchronizer because, as studio manager Dawn Corbett puts it, "We had to—that's where it's at." Corbett says a major studio has to acknowledge the need for video interlock capability to stay competitive. Tempo did entire scores for three films, and parts of the score for a CBS theatrical production, "American Dreamer." When actress Sally Kellerman dropped in to do some voiceovers in August, Corbett says that was unusual—and fun—for a Montreal facility (Kellerman was on location in Montreal filming the sequel to *Meatballs*). On the album front, Luba on Capitol Records, and Gino Soccio (the single, "Turn it Around") are a couple of artists who have recorded at Tempo. Again, Corbett stresses the bread and butter still comes from commercials, which she estimates as absorbing 75 percent of the business.

ALBUM WORK

But not all Canadian studios choose to jump into the commercial fray with their BTXs blasting. Some want to be known as album houses. Doug Hill, owner of Phase One Recording in Toronto says, "Somewhere along the line—I don't know why—but we got a name for strictly rock album work." And he likes it. Hill says he doesn't like to fool with hourly rates, but finds block recording is much more suited to his clients. Rockers Helix, Strange Advance and Dal Bello on Capitol Records, Honeymoon Suite on WEA, and Black Sabbath produced by Bob Ezrin are some who have worked at Phase One this year. Hill likes to stay

involved with the Canadian recording industry on many levels. He's served on the FACTOR board—a foundation which assists unsigned Canadian musicians. If an artist is selected, he may receive 50 percent of his recording budget—up to \$10,000—from this organization. If he is signed to a label and earns royalty payments later, the artist must pay back the loan. If he is not signed, the money need not be returned. Doug Hill says he's seen many bands profit from the program, which is largely funded by the CHUM Group (a radio and television conglomerate) and other organizations in the Canadian music industry.

The Metalworks is another Toronto album studio. Originally, it was built as a private studio for the band Triumph, "but when they realized they only spent an average of three months a year recording, they decided to open it to the public," says Alex Andronache, who was hired at that juncture two years ago to manage the studio. Although the Metalworks only offers one studio, they've been busy enough to "turn a small profit last year—that was the turnaround point," says Andronache. This year some clients have been: Harlequin and Platinum Blond on CBS, Red Rider, Strange Advance (mixing) and David Wilcox on Capitol, and Reckless on the British label Heavy Metal Records. Of course, Triumph recorded their most recent album there as well.

Deane Cameron, A&R executive for Capitol Records, says he likes to use the Metalworks because they have the latest outboard equipment, but also because they have no staff senior engineers. "Frequently I'll bring my own producer and engineer from England or from the States for a particular project . . . someone like a David Tickle. That way I get what I want in some cases, and the senior engineer from a studio doesn't have to sit at home."

Out west in Vancouver, Little Mountain Sound's owner Bob Brooks has a major announcement: he says he'll have a new Solid State Logic 4000E series mixing console by the time this magazine hits the stands in November. He adds that he expects to be fully booked with it into next year, however. The 12 year-old four-studio facility has established a high profile by recording hot acts such as Loverboy and Bryan Adams. Some other bands who've been to Little Mountain in the past year are Krokus on Arista, and Nazareth on A&M. Little Mountain doesn't restrict itself entirely to album work, however. The BTX Shadow synchronizer in Studio A allows audio for video posting, and the two 8 track studios can be used for a number of commercial and narrative oriented projects.

Bob Brooks is active in the recording industry. He currently sits on the VideoFACT board, which selects bands

who will receive up to 50 percent—(no more than \$10,000) of their video budget from the foundation. (See MuchMusic).

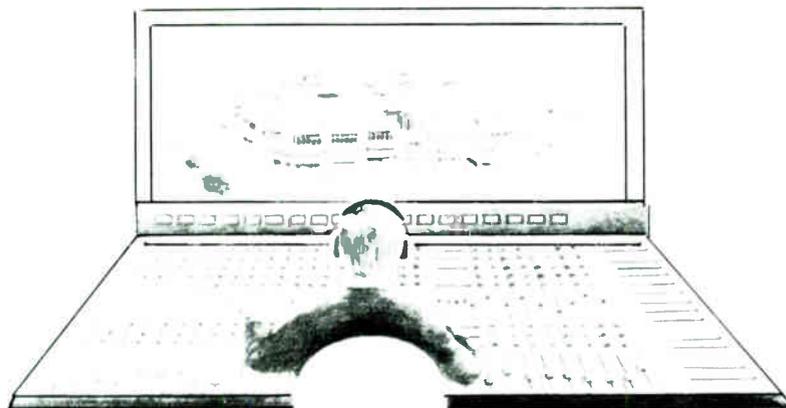
Pinewood Recording in Vancouver doesn't concentrate as much on the album production. Owner Geoff Turner says, "We do everything. We can't afford to specialize." The one-inch Q-lock system in Studio A takes care of audio for video projects. Pinewood has two studios now, and Turner plans to build another this year.

CUSTOM PRESSING SERVICES

Once a producer has a master in his hand, where does he go for pressing or duplication? World Records in Bowmanville, Ontario is the largest custom record manufacturer in Canada. Managing director Bob Stone says the news this year is that World has switched to a high grade chromium dioxide tape for all duplication jobs. "We've done 2,100 to 2,200 independent projects . . . and 85 to 90 percent have been music, while the others have been ranging from Eskimo throat songs, to the sounds of birds in the African rain forest," says Stone. He's noticed a trend in the custom business this year . . . "people are dropping disk and going to tape, but because of our expansion, the two sides, disk and tape, are running neck and neck for us at World." For 1984, Stone has no complaints. He says he's shipping into cities all over North America, "We ship into LA once a week," he says. ■

MIDEM EQUIPMENT '85

Palais des Festivals
Cannes, France
January 28-February 1, 1985



For more information about exhibiting or participating at the *International Record and Music Publishing Market*, contact Chuck Gelini or David Jacobs at 516-364-3686 or write to MIDEM, 100 Lafayette Drive, Syosset, NY 11791.

Circle #142 on Reader Service Card



STUDIOS

4 & 8 TRACK

The information in the following listings was supplied by those listed. Mix claims no responsibility for the accuracy of this information. Please verify critical information directly with the studios.

•• **ACCUSONIC**
299 Queen St., W. Ste 509, Toronto
(416) 598-1873

Engineer: Paul Gallienne
Dimensions of Studio: L-shaped 30 x 15 x 30 x 15
Dimensions of Control Rooms: 18 x 23 x 11
Tape Recorders: Otari 2800 one-inch 8 track; Ampex AG440 4 track; Studer B67 2 track; 20 Luxman cass. deck for Real Time dubs; Nakamichi 1000 MK II master cass deck; Akai ¼ track; Sony high speed cass. duplication
Mixing Consoles: Studiomaster and others
Monitor Amplifiers: Nakamichi, Sony
Monitor Speakers: Altec, Bose, Auratone, and others
Echo, Reverb & Delay Systems: Lexicon Prime Time, DeltaLab DL4, Quad Eight variable delay reverb, Roland tape echo
Instruments Available: Valley People DynaMite noise gates, (3) UREI 1176 LN limiters, dbx 663 compressor, (8) dbx 158 noise reduction, Moog phaser, (2) UREI 527A graphics
Microphones: AKG, Beyer, Sennheiser, Sony, Shure
Instruments Available: Rhodes & Acoustic pianos, Tama drum kit, a variety of guitar and bass amps

•• **AIRWAVES AUDIO, INC.**
175 Bloor St. E., Toronto, Ontario M4W 1C8
(416) 925-2422
Owner: A Staruch / B. Larter
Studio Manager: Catherine Onyskiw

•• **AJAX SOUND**
62 Parker Crescent, Ajax, Ontario LIS 3R5
(416) 686-3075
Owner: Mr R. Arbour
Studio Manager: Mrs N. Arbour (Nancy)

•• **ALBATROSS RECORDING STUDIO**
11,870 Jean-Masse ST., Montreal, Quebec H4J 1S3
(514) 332-1317
Owner: Richard Murray
Studio Manager: Ambrose Dufresne

•• **CARLETON PRODUCTIONS, LTD.**
1500 Merivale Rd., Ottawa, Ontario K2E 6Z5
(613) 224-1313
Owner: Standard Broadcasting
Studio Manager: Vice Pres.: Wayne Hicks; Sales: Bill Graham

•• **CCMC MUSIC GALLERY**
30 Patrick St., Toronto, Ontario M5T 1V1
(416) 598-2400
Studio Manager: Paul Hodge

•• **COONEYTUNES**
1070 Bleury St., Ste. 301, Montreal H2Z 1N3
(514) 875-5908
Owner: Ian Cooney
Studio Manager: Janet Norman
Engineers: Jan Cooney, Janet Norman, Robert Heaney
Dimensions of Studio: 40 x 32
Dimensions of Control Rooms: 20 x 16
Tape Recorders: Scully 280B 8 track; Scully 280B 2 track; Ampex 351 2 track; Ampex 350 mono, Nakamichi cassette.
Mixing Consoles: Neve BCM 10:2 10 x 2
Monitor Amplifiers: Crown DC-300, McIntosh 2100
Monitor Speakers: Altec 604E, "Manta Ray", JBL 4311, Auratones
Echo, Reverb & Delay Systems: Live echo chambers, Master-room XL305, MXR digital delay
Other Outboard Equipment: UREI LA3A pair, UREI 1176, dbx 162 stereo limiter
Microphones: Neumann, AKG, Shure, Beyer, Audio Technica, Sennheiser, E-V
Instruments Available: Yamaha CP-70B Electric grand piano, Fender precision bass, Pearl drums, Fender Bassman amp, Korg synthesizer, various percussion instruments
Rates: \$50/hr. Block booking discounts available

•• **CURRENT PROJECTS**
also *REMOTE RECORDING*
51 Mac Donell Ave., Toronto, Ontario M6R 2A3
(416) 533-6829
Owner: Ian Murray
Studio Manager: Ian Murray

•• **EAST END AUDIO RECORDING STUDIO**
139 Virginia Ave., Toronto, Ontario M4C 2T3
(416) 421-7791
Owner: Dennis Brunet & George Corcoran
Studio Manager: Dennis Brunet

•• **E.B.A. SOUND STUDIOS**
also *REMOTE RECORDING*
156 Mercier, Chateauguay J6J 2H1
(Located 15 miles from downtown Montreal)
(514) 698-1341
Owner: Eric Albrant
Studio Manager: Eric Albrant

•• **E.M.A.C. RECORDING STUDIOS**
(Electronic Media Arts Corporation)
also *REMOTE RECORDING*
343 Richmond St., 3rd floor, London, Ontario N6A 302
(519) 433-6533
Owner: Joseph Vaughan / Robert Naton
Studio Manager: Robert Naton

•• **HANSHAW SOUND**
also *REMOTE RECORDING*
RR#4 Omeme, Ontario KOL 2W0
(705) 799-6630
Owner: Carl Hanshaw
Studio Manager: Carl Hanshaw

•• **HORIZON AUDIO CREATIONS**
108 Oakland Ave., Hudson Hts, Quebec JOP 1J0
(514) 458-7973
Owner: Craig W. Cutler
Studio Manager: Douglas Price / Marguerite Blas

•• **IMAGINASON**
9215 Joseph-Melancon, Montreal, Quebec H2M 2J8
(514) 381-1668
Owner: Mario Gagnon
Studio Manager: Mario Gagnon

•• **K&G RECORDING STUDIO**
also *REMOTE RECORDING*
91 Ross St., Barrie Ontario L4N 1G5
(705) 722-0477
Owner: Ken & Gladys Sollory
Studio Manager: Ken Sollory

•• **KIRKLAND SOUND RECORDING**
9 Summit Ave., Kirkland Lake, Ontario P2N 1M6
(705) 567-3847
Owner: B. May
Studio Manager: B. May

•• **LITTLE ROCK RECORDERS**
also *REMOTE RECORDING*
P.O. Box 2247 Jasper, Alberta, TOE 1E0
(403) 852-4197
Owner: Thomas R. Price / Priceless Music
Studio Manager: Thomas Price

•• **MIDNIGHT NEWS MUSIC**
Box 90 Rainier, Alberta T0J 2M0
(403) 362-3972
Owner: Ohama
Studio Manager: Ohama

•• **MUSIC ROOM PRODUCTIONS**
also *REMOTE RECORDING*
50 Chatfield Dr., Ajax, Ontario L1T 1G2
(416) 683-3031
Owner: Carman Guernsen
Studio Manager: Carman Guernsen

•• **MYSTIC SOUND STUDIO**
544 Marksburry Rd., Pickering, Ontario L1W 2S6
(416) 831-4526
Owner: Brent Alan Plain
Studio Manager: Brent Alan Plain

•• **PALINDROME RECORDING SERVICES**
200 University Ave. W., Waterloo, Ontario N2L 3G1
(519) 886-2567
Owner: CKMS-FM
Studio Manager: Bill Wharrie

•• **PEEKUBE PRODUCTIONS**
also *REMOTE RECORDING*
P.O. Box 2168, Dalhousie, New Brunswick E0K 1B0
(506) 684-4231
Owner: Peter P. Perkins (P³)
Studio Manager: Peter P. Perkins

•• **PERCEPTIONS RECORDING STUDIO**
11 Canvarco Rd., Toronto, Ontario M4G 1L4
(416) 423-9990
Owner: 450564 Ontario Limited
Studio Manager: Peter Akerboom

•• **RIVER STREET MUSIC, LTD.**
also *REMOTE RECORDING*
1285 Dalhousie Dr., Kamloops, B.C. V2C 6G3
(604) 374-7752
Owner: Grant Vogt and Scott Rear
Studio Manager: Grant Vogt and Scott Rear

•• SOUND IDEAS

86 McGill St., Toronto, Ontario M5B 1H2
(416) 977-0512
Owner: Brian Nimens
Studio Manager: Brian Nimens & Mike Bell

•• SOUND LAB SOUND STUDIOS

7330 Silla Rd., Malton, Ontario L4T 2K1
(416) 676-9127
Owner: Mr Francis R Nand
Studio Manager: Mr. Kenneth Denniss

•• STEPPINGSTONE PRODUCTION HOUSE

350 Ioco Rd., Port Moody, B.C. V3H 2V7
(604) 461-3692
Owner: Donn and Diane Tarns, Dougg MacCaulder
Studio Manager: Don Tarris
Engineers: Don Tarris
Dimensions of Studios: 10 x 16; 8 x 8
Dimensions of Control Rooms: 13 x 13.5
Tape Recorders: Tascam 80-8 8 track; Studer-Revox G36 2 track; Sanyo RD 540 cass. stereo
Mixing Consoles: Custom Tarns-Scott 18 x 4; Universal Audio Tube Type 610-1961 version 12 x 3
Monitor Amplifiers: Quad 405 main; custom tube headphones
Monitor Speakers: Tannoy 12" monitor golds
Echo, Reverb & Delay Systems: Tarns-Scott full size plate reverb, Korg SDD 3000 digital delay, tape delay
Other Outboard Equipment: Ashly compressor/limiters, custom parametric EQ, Langevin graphic EQ, Universal audio EQ, Symetrx noise gates, Langevin filters, Yamaha CT 810 tuner
Microphones: Sony, Calrec, Shure
Instruments Available: Yamaha DX9 synthesizer, Mason-Risch 54" upright grand piano, Ovaton acoustic guitar, Vox tube amplifier, E-mu Drumulator, Epiphone bass, Rickenbacher 320 guitar, various percussion
Rates: Write or phone for current rates.

•• STUDIO B RECORDING

also REMOTE RECORDING
Bluewater Beach, Wyevalle, Ontario L0L 2T0
(705) 361-2460
Owner: Greg Beacock
Studio Manager: Greg Beacock

•• STUDIO L'OCTAVE

293 Place des Ormes, Pincourt, Quebec J7V 6M3
(514) 453-4945
Owner: Pierre Campeau
Studio Manager: Pierre Campeau

•• STUDIO PLACE ROYALE, INC.

141 St. Paul Street West, Montreal H2Y 1Z5
(514) 844-3452
Owner: Stanley Brown & Normand Rodrigue

•• VENTURE TEAMS INTERNATIONAL

Box 7430 Station E, Calgary, Alberta T3C 3M2
(403) 286-3422
Owner: Venture Teams International
Studio Manager: Brian Delamont
Direction: Specializing in complete media services for evangelical and missionary organizations, including music recording, soundtracks for audio/visual presentations, radio production, and consulting. Also offering complete in house multi-image production "Producing vital media for a paramount purpose."

•• WESTRACK COMMUNICATIONS

#610 2424 4th St., S.W. Calgary, Alberta T2S 2T4
(403) 228-2950
Owner: Paul Andrews
Studio Manager: Amin Bhatia

16 TRACK

•• A.R.P. TRACK PRODUCTIONS

28 Valrose Dr., Stoney Creek, Ontario, Canada L8E 3T4
(416) 662-2666
Owner: Nick Keca
Studio Manager: L. Sayers, L. Fachin

•• BEAVER MOUNTAIN PRODUCTIONS, LTD.

4175 Boundary Rd., Yarrow, B.C. VOX 2A0
(604) 823-4492
Owner: Ron Lengert
Studio Manager: Ron Lengert

••• BRIDGE RECORDING

530 5th St., South, Lethbridge, Alberta T1J 2B8
(403) 320-6784
Owner: Vic Klonin
Studio Manager: Vic Klonin

••• BROCK SOUND PRODUCTIONS

576 Manning Ave., Toronto, Ontario M6G 2V9
(416) 534-7464
Owner: Brock Fricker
Studio Manager: Brock Fricker

••• BULLFROG RECORDING STUDIOS

also REMOTE RECORDING
Analogue or Digital
2475 Dunbar St., Vancouver, B.C. V6R 3N2
(604) 734-4617
Owner: Bullfrog Recording Company, Ltd.
Studio Manager: Frederic Koch
Engineers: Alan Rempel, Bart Gurr, Gerry Gagnon
Dimensions of Studios: Main Studio: 17 x 20; Iso. booth: 10 x 12
Dimensions of Control Rooms: 13 x 16
Tape Recorders: Ampex 1100 16 track; Otari (2) MX 5050 8 track; Otari MX 5050 2 track; Teac 25-2.2 track; Studer/Revox A700 2 track; Sony PCM F-1 2 track (digital)
Mixing Consoles: Soundcraft 1624 16 x 16 x 2
Monitor Amplifiers: Phase Linear/Quad Tri-amplification with Crown cross-overs
Monitor Speakers: JBL custom designed 4-way; Electro-Voice Sentry 100s; Auratones
Echo, Reverb & Delay Systems: AKG BX 10 (modified), Lexicon Prime Time
Other Outboard Equipment: Roland Compu-Editor (provides 15 channels of automated mixing); Audio Design and Recording SCAMP System; UREI 1176 limiters; dbx 160 compressors; Orange County equalizers, compressor/limiters, vocal stressor/de-esser; Nova systems (Aphex) Aural Exciter; Omni-Q tape lock system (TL2) for time code synchronization.
Microphones: Neumann U-87s; Sennheiser 421s, 441s; AKG C-34 stereo; Sony C-37; Shure SM-57s
Instruments Available: Yamaha grand piano; Klingerman upright piano; Pearl drums; Roland HP 400 electric piano (MIDI equipped); Roland IX 3P and other MIDI equipment.
Rates: \$50/hr. Discounts available for block bookings.

••• CIRCA SOUND STUDIOS

1310 Centre St., South, Calgary, Alberta T2G 2E2
(403) 269-7270
Owner: Bruce Thompson Music Corporation, Ltd.
Studio Manager: Bruce Thompson

••• db SOUND

92-100 Maple Ave., New Glasgow, Nova Scotia B2H 2B4
(902) 752-7712
Owner: Doug Freeman
Studio Manager: Doug Freeman

••• EK SOUND

Bay 17, 920 28th St., N.E. Calgary, Alberta T2A 6K1
(403) 273-8949
Owner: Ernest Klumpp
Studio Manager: Ernest Klumpp

••• GREAT SHAKES PRODUCTIONS

37 Gloucester Grove, Toronto M6C 2A2
(416) 789-5856
Owner: Dennis Hill
Studio Manager: Dennis Hill

••• KEYE RECORDINGS LTD.

also REMOTE RECORDING
1209 Quadra St., Victoria, B.C. V8W 2K6
(604) 382-5232
Owner: Lorne Ball, Michael Grieve, Brian Davies, Ron Meuse
Studio Manager: Michael Grieve

••• KINCK SOUND

128 Manville Rd., unit 22, Scarborough, Ontario M1L 4J5
(416) 751-8163
Owner: Fred Kinck Petersen
Studio Manager: Fred Kinck Petersen

••• LEGACY PRODUCTIONS, LTD.

735B Market St., Victoria, B.C. V8T 2E2
(604) 382-2542
Owner: Tony Moskal
Studio Manager: Tony Moskal

YOURS FREE!

The essential planning & price guide for all of your custom record and tape needs

It's quick • convenient • easy-to-use



Now available throughout the United States, WORLD RECORDS Canada's largest exclusive custom record and tape manufacturer and packager gives you the audiophile pressings, glossy board jackets, chromium cassettes and service you've been searching for.

And we can ship them all to you prepaid, to your door, in as few as 3 weeks! Hassle free!

WORLD RECORDS delivers.. each and everytime, fully guaranteed to your original masters because we know how much you depend on them to promote your image. See what we've got to offer you. Then see just how fast we can deliver it.

STATE OF THE ART MASTERING

Neumann VMS 80 Lathe/Digital, 1/2" & 1/2 Speed/Full metal protection

ULTRA GLOSS BOARD JACKETS

Quantities as low as 500/ true colour reproduction

CHROMIUM CASSETTES

Full frequency response on Cro, tape/ Non-abrasive head cleaning leader

VIRGIN VINYL PRESSING

Audiophile grade/" Assured Excellence Guaranteed"

IN-HOUSE CREATIVE SERVICES

Typesetting/Graphic artists/ Colour scanner

AIR DELIVERY

Prepaid air freight delivery to over 200 cities/ No Customs hassles

call or write for our planning guide & price lists



WORLD RECORDS

Baseline Rd. W.
BOWMANVILLE, ONTARIO
L1C 3Z3
416-576-0250

Circle #143 on Reader Service Card



**Custom Length
BASF
Chrome
Cassettes**

AMPEX
Blank Recording Tape



Authorized Distributor

**UNITED TAPE
COMPANY**

10746 Magnolia
N. Hollywood, CA
(818) 980-6700
Ask for Steve

Authorized Reseller
Information Processing Media **BASF**

Circle #144 on Reader Service Card

Storer Promotions

Recording

Record pressing

Promotion

**209½ Emming Street
Cincinnati, Ohio 45219
513-621-6389**

Circle #145 on Reader Service Card



S T U D I O S

••• **LES STUDIOS JACASSON, INC.**
4450, rue St.-Denis, ste. 202, Montreal, Quebec H2J 2L1
(514) 844-6667
Owner: Jean-Jacques Bourdeau
Studio Manager: Jean-Jacques Bourdeau

••• **LIVING ROOM RECORDING STUDIOS, LTD.**
Calgary, Alberta
(403) 236-3920
Owner: Richard Harrow
Studio Manager: Lynn Harrow

••• **MISE-EN-SON**
3471 39th Ave. P.A.T. Montreal, Quebec, H1A 3Y6
(514) 642-9988
Owner: Claude Daze
Studio Manager: Francois Pion

••• **NOVA SOUND STUDIO LTD.**
210 Don Park Rd., Unit #5, Markham, Ontario L3R 2P7
(416) 475-3679/2035
Owner: Steve Ducas, John Ebata, Rory Slater
Studio Manager: Steve Ducas

••• **NUMBER 9 SOUND STUDIOS**
10593 Yonge Street, Richmond Hill, Ontario L4C 3C5
(416) 883-0272
Owner: Jim Zolis, Chrs Warren, George Rondina
Studio Manager: Chrs Warren
Engineers: Jim Zolis, George Rondina
Dimensions of Studios: Studio 1: 324 sq feet; Studio 2: 120 sq feet
Dimensions of Control Rooms: 230 sq feet
Tape Recorders: Tascam 85-16 B 16 track; Studer-Revox PR-99 2 track; Studer-Revox A-77 2 track; Sony PCM 701 2 track (digital)
Mixing Consoles: Sound Tracs 16x8x16
Monitor Amplifiers: SAE 2300
Monitor Speakers: JBL 4311s
Echo, Reverb & Delay Systems: Yamaha R100 digital reverb; PCM 41 Lexicon digital delay, DeltaLab "Echotron" digital delay
Other Outboard Equipment: (4) Ashly noise gates; "Black Box" sonic exciter; (2) dbx 160 compressor/limiters; Loft Parametric EQ; (4) Loft Parametric EQs; (2) Ashly SC 50 compressor/limiters
Microphones: Neumann U89, U87; AKG 421, E-V RE20; (3) Sennheiser 441, (4) Sennheiser 421; Shure SM 57.
Instruments Available: LinnDrum, Yamaha DX 7 digital keyboard, Jupiter 6 polyphonic synthesizer, Alembic Dshlate bass guitar
Rates: \$25 per hour.

••• **RAINBOW RECORDING STUDIO**
8407 Stanley Avenue, Unit 5
Niagara Falls, Ontario, Canada L2E 6X8
(416) 356-2234
Owner: Warren Parker
Studio Manager: Danielle Parker
Engineers: Vince Nyuli, Kirk Caseley, Janet Birch
Dimensions of Studios: 20 x 30 x 15, isolation room 8 x 8
Dimensions of Control Rooms: 15 x 15
Tape Recorders: Scully 100 16 track; Ampex AG 440 B 2 track; Ampex AG 445 B 2 track; Sony TC 854-4 4 track
Mixing Consoles: Audiotronics 400 24 in/8+8 out
Monitor Amplifiers: Crown DC 300, Crown D150
Monitor Speakers: UREI 811As, Auratones 5CS, JBL 4311s.
Echo, Reverb & Delay Systems: EMT 240 Goldtol, Eventide H949, Eventide FL201, Ursa Major SST-282 Space Station, Master Room MR 111 Spring, custom echo tape delay.
Other Outboard Equipment: Orban 622B stereo parametric equalizer, Orban 245E stereo synthesizer, UREI LA-4 compressor/limiter (2), UREI 1176 limiter, Valley People model 410-limiter/compressor/noise gate (2), dbx 155, Panasonic M85 cassette deck.
Microphones: Assortment of over 50 mikes including: Neumann, Shure, AKG, Sony, Electro Voice, Beyer, RCA.
Instruments Available: Heintzman baby grand piano, various guitar amps.
Rates: Available upon request.

••• **REEL TIME RECORDERS, LTD.**
also **REMOTE RECORDING**
2037 Hammonds Plains Rd., Bedford, Nova Scotia B4A 2W9
(902) 835-9379
Owner: Chuck O'Hara, Mary O'Hara
Studio Manager: Chuck O'Hara

••• **(ARAGON) AL REUSCH ENTERPRISES**
3195 Colwood Drive, North Vancouver
B.C. Canada V7R 2R5
(604) 988-8816
Owner: A.V. Reusch

••• **SENECA SOUND**
27 Seneca Hill Drive, Willowdale
Ontario, Canada M2J 2W3
(416) 493-2243/493-0100
Owner: Lorne Grossman
Studio Manager: Lorne Grossman

••• **SOUND PATH**
1100 Invicta Drive, Unit 21, Oakville
Ontario, Canada L6H 2K9
(416) 842-1743
Owner: Bill Drew
Studio Manager: Bill Drew

••• **STUDIO 'B'**
983 Victoria Park, Ave., Toronto M4B 2J4
(416) 757-4891
Contact: William Aldred or William Petre

••• **STUDIO 12 SOUND PRODUCTIONS**
12-12840 Bathgate Way, Richmond
B.C. Canada V6V 1Z4
(604) 273-1267
Owner: The Tosoff Brothers
Studio Manager: Lloyd Tosoff
Engineers: Ted Tosoff
Dimensions of Studios: 22 x 16 x 9'6" plus isolation booth.
Dimensions of Control Rooms: 12 x 11 x 8.
Tape Recorders: Tascam 85-16 B 16 track; Tascam 52 2 track; Nakamichi BX 100 2 track.
Mixing Consoles: Tascam M-16 20x16.
Monitor Amplifiers: BGW 250 B, Tapco CD 120.
Monitor Speakers: Tannoy SRM 12B, Auratone 5C.
Echo, Reverb & Delay Systems: Roland 3000 DDL, DeltaLab DL4, 2-Yamaha R1000, Tapco 4400.
Other Outboard Equipment: Tascam PE40, Ashly SC-50 comp/lim, dbx 160X comp/lim, MXR Doubler/flanger, Soundcraftsman RD2212, (4) Valley People #810, Kepex II noise gates.
Microphones: Sennheiser, AKG, Shure.
Instruments Available: Studio drum kit, acoustic and electric guitars, baby grand electric piano.
Rates: \$30/hour.

••• **SUITE SOUND STUDIOS**
Box 1207, Three Hills, Alberta, Canada TOM 2A0
(403) 443-7859
Owner: Heritall Holdings Ltd
Studio Manager: Steve Heritall

••• **SUMMIT SOUND, INC.**
Glen at Whalen St., P.O. Box 333, Westport, Ontario K0G 1X0
(613) 273-2818
Studio Manager: David A.W. Daw, President

••• **TRACK ONE AUDIO**
127 Manville Rd., Toronto, Ontario M1K 2H5
(416) 759-6559
Studio Manager: Bob Docherty

••• **WELLESLEY SOUND STUDIOS**
316 Wellesley Street East, Toronto
Ontario, Canada M4X 1H1
(416) 968-0940
Owner: Jeff McCulloch and Roger Sleinin
Studio Manager: Roger Sleinin

••• **WHITE RABBIT PRODUCTION**
114 Braemar Ave., Toronto
Ontario, Canada M5P 1L4
(416) 486-6265
Owner: Christopher George Leech
Studio Manager: Christopher Leech

••• ZEBRA PRODUCTIONS
12 Sonneck Square, Scarborough
Ontario, Canada M1E 1A9
(416) 266-3720/266-2905
Owner: John Andrews
Studio Manager: Henry Jesiak

24 TRACK

•••• Adb STUDIOS INC.
3880 de Courtrai Avenue, Suite 200
Montreal, Quebec, Canada H3S 1C1
(514) 340-1994
Owner: Al Di Buono
Studio Manager: Al Di Buono
Engineers: Mike Fedenko, Al Di Buono
Dimensions of Studios: 350 sq. ft.
Dimensions of Control Rooms: 170 sq. ft.
Tape Recorders: MCI JH-16 24 track; Studer Revox B77 1/2 track;
Alpine AL 55 4 track cassette.
Mixing Consoles: Quantum Audio Labs QA 1010 26/24.
Monitor Amplifiers: Bryston 4B; Crown D150; BGW Systems
100B.
Monitor Speakers: Tannoy SRM 12B; Auratone 5Cs.
Echo, Reverb & Delay Systems: DeltaLab 1024, DeltaLab 256,
MasterRoom XL-305.
Other Outboard Equipment: UREI LA3A compressor/limiters;
UREI 527A graphic equalizers; Loft 401 parametric equalizer; Loft
400 noise gates/limiters; Aphex aural exciter; pitch transposer;
Fetish, Sub-Sonik II.
Microphones: AKG: (2) 414 EBs, (2) 452 EBs, CK1, D12E; (2) Electro-
voice RE 20s; Sennheiser: (2) MD421s, (2) MD 441s; Shure SM
57.
Instruments Available: Oberheim OBXA; Korg Poly-Six; Fender
Rhodes; Double Rodgers; Premier; Tama-Kits; Marshall amp; Fane
cabinets; percussion, etc.
Rates: \$50/hour-fixed rate.

•••• AMBER STUDIOS LTD.
735 Queen Street West M6J 1G1
(416) 362-6472
Owner: George Semkiw
Studio Manager: George Semkiw

•••• AMBIENCE RECORDING
350 Sparks Street, Suite 200 E, Ottawa, Ontario K1R 7S8
(613) 236-5282
Owner: Robert Libbey
Studio Manager: Phil Bova

•••• BLUE WAVE SOUND RECORDERS
34 West 8th Avenue, Vancouver, BC, Canada V5Y 1M7
(604) 734-3933
Owner: Tom Lavin
Studio Manager: Carlton Lee

•••• COMFORT SOUND RECORDING STUDIO
also REMOTE RECORDING
26 Soho Street, Suite 390, Toronto
Ontario, Canada M5T 1Z7
(416) 593-7992
Owner: Doug McClement
Studio Manager: Doug McClement
Engineers: Gabe Lee, David Hillier
Dimensions of Studios: 30 x 30, 10 x 10
Dimensions of Control Rooms: 19 x 19
Tape Recorders: Ampex MM1200 24/16; TEAC 80-8 8 track;
Studer 4 track; Technics RS/1500US 2 track; 10 Sony TCK-81
cassette decks for real time duplication; Sanyo 7300 Beta Hi-Fi.
Mixing Consoles: MCI 636 36 in/24 out.
Monitor Amplifiers: Amcron, BGW.
Monitor Speakers: JBL 4343, 4311; Auratones.
Echo, Reverb & Delay Systems: Ursa Major Stargate digital
reverb; DeltaLab Effectron 1024 DDL; Postex DDL.
Other Outboard Equipment: Omnicraft noise gates, (2) Sound-
craftsmen Graphic EQ, Mobile: 54 input 3 way transformer isolated
200-foot mike snake with ground lifts on each input (all equipment
used in studio is built for easy loading into our remote truck.)
Microphones: 1953 Telefunken tube U47, Neumann U87, (3) AKG
451s, (7) Sennheiser 421s, (3) Sennheiser 441s, (2) Sony ECM
22Ps, misc Shure, AKG.
Instruments Available: Baby grand piano, Hammond organ with
Leslie, Gretsch drum kit, LP congas, Fender and acoustic amps,
misc percussion, Roland rhythm machine, PPG 2.3 wavetern
synth, Yamaha DX-7, Oberheim OB-8, Roland JX-JP, Moog 55
modular synth, Simmons electronic percussion.

—LISTING CONTINUED ON NEXT PAGE

LtLMTN.

GOES

* SSL

The Little Mountain Sound Studios

* Solid State Logic
4048 Total Recall System

On Line in Studio B

201 WEST 7th AVE., VANCOUVER
BRITISH COLUMBIA, CANADA
TELEX 04-54247 TELEFAX VCR LTLMTN
(604) 673-4711



Circle #146 on Reader Service Card

Video Equipment & Services: JVC 3/4-inch U-matic recorder, Panasonic color camera, Sanyo Beta Hi-Fi recorder, Sony and Panasonic monitors. Can record single camera remotes. Adams-Smith 2600 SMPTE synchronizer
Rates: Not as much as you'd think!

•••• DAMON PRODUCTIONS LTD.

6846-76 Ave., Edmonton, Alberta
 Canada T6B 0A8
 (403) 465-1032

Owner: Damon Productions Ltd
Studio Manager: Garry McDonald
Engineers: Garry McDonald, Rick Erickson, Michael Molineaux
Dimensions of Studios: 20 x 30 x 18
Dimensions of Control Rooms: 20 x 15
Tape Recorders: Ampex MM 1200 24 track, Ampex ATR 100 2 track, Nakamichi and Sony cassette decks
Mixing Consoles: Neve 8108 w/Necam 32 in x 24 out
Monitor Amplifiers: Crown PSA 2, Crown DC 300, (2) Studer A 6H
Monitor Speakers: UREI 813s, Auratone cubes, Yamaha NS 10s
Echo, Reverb & Delay Systems: EMT Plate, Cooper Time Cube, Lexicon Prime Time Digital Delay
Other Outboard Equipment: Eventide 949 Harmonizer, (2) Neve Compressor/Limiters, (2) UREI 1176 Comp/Limiters, Valley People Stereo Dyna Mite, Eventide Instant Flanger, Eventide Instant Phaser, Pultec EQ (2) Klark Teknik 1/3 octave EQ
Microphones: Neumann, AKG, Sennheiser, EV, Shure, PZM, Beyer
Instruments Available: 7 foot Baldwin, Hammond C3 organ, Hohner Clavinet. Other instruments/equipment available upon request
Rates: Available upon request. Also discount Block and Producer rates

•••• EASTERN SOUND

48 Yorkville Avenue, Ontario M4W 1L4
 (416) 968-1855
 Owner: Frank Lorenowicz
Studio Manager: Peter Mann

•••• ELORA SOUND STUDIO

also REMOTE RECORDING
 RR #2, Elora, Ontario NOB 1S0
 (519) 843-4178
 Owner: William J Mather
Studio Manager: Wendy Miller
Engineers: William J Mather
Dimensions of Studios: 25 x 30 main room, 9 x 12 drum room, 8 x 8 iso booth 6 x 7 iso booth
Dimensions of Control Rooms: 20 x 10
Tape Recorders: MCI JH 24 track, Ampex ATR 102 2 track
Mixing Consoles: MCI (automated) 6 ch 2H/2B
Monitor Amplifiers: Bryston 4H, Quad
Monitor Speakers: JBC 4440, Auratones
Echo, Reverb & Delay Systems: AKG Bx20, Yamaha digital
Other Outboard Equipment: dbx 162 stereo compressors, UREI 1A4As, Lexicon and DeltaLab DDLs, Symetrix noise gates, MCI noise gates, Nikko graphic EQ, AMS harmonizer
Microphones: UH7, U47, KM44, Neumann, RE20, 660, RE 15, ElectroVoice, Sennheiser 421, 441, Shure SM57, Assorted Beyer and other condensers and dynamics
Instruments Available: Kawai 7 foot 4-inch grand piano, Hammond M3 organ with 147 Leslie, Milestone drumkit, assorted drums and percussion

Video Equipment & Services: Video audio lockup and post-production services. SMPTE time code. 2 video monitors, 3/4 inch Sony video recorder

Rates: \$750 (Canadian)/day 24 track

Extras: Elora Sound is built in a century old stone barn surrounded by over 100 acres of open fields. Meal service and accommodations are available in our renovated victorian farmhouse. Limousine service to and from Toronto International Airport for our foreign guests

Direction: We are an environmental studio specializing in long term album projects. We offer total privacy and security to our guests as well as a comfortable relaxed atmosphere in which to work

•••• ESP STUDIO

RR #2 Gormley, Ontario, Toronto, Canada L0H 1G0
 (416) 477-8909
 Owner: John Jones, Dee Lona
Studio Manager: John Jones



•••• GOLDRUSH RECORDING COMPANY
 1234 West 6th Avenue, Vancouver, B.C. V6H 1A5
 (604) 733-4012
 Owner: Simon Garber
Studio Manager: Phil Posner

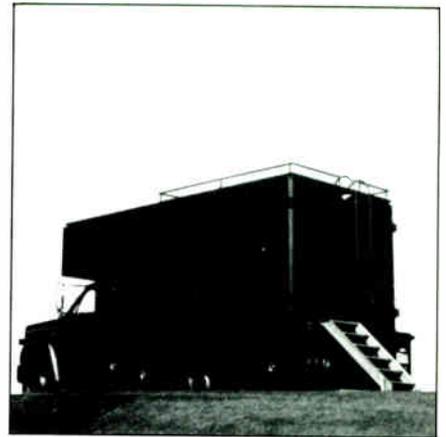
•••• GRANT AVENUE STUDIO
 38 Grant Avenue, Hamilton, Ontario L8N 3X5
 (416) 522-5227
 Owner: Mr Bob Lanois
Studio Manager: Bob Lanois

•••• INCEPTION SOUND STUDIO
 3876 Chesswood Dr., Toronto, Ontario M3J 2W6
 (416) 630-7150
 Owner: Chad Irschick and Jeff Wolpert
Studio Manager: France Tetreault

•••• INSIDE TRAKS STUDIOS, LTD.
 7490 Edmonds St., Burnaby, B.C. V3N 1B4
 (604) 525-3422
 Owner: Partnership
Studio Manager: Rick Picard

•••• LE STUDIO (MORIN HEIGHTS) INC.
 201 Perry, Morin Heights, Quebec J0R 1H0
 (514) 226-2419
 Owner: Andre Perry & Yael Brandeis
Studio Manager: Yael Brandeis
Engineers: Paul Northfield
Dimensions of Studios: 1,300 sq ft hexagonal walls
Dimensions of Control Rooms: 284 sq ft
Tape Recorders: Studer A-800 Mk II 24 track, Studer A-80 Mk III 24 track, Studer A-80 2 track, Studer B-67 (3) 2 track, JVC BP-900 2 track
Mixing Consoles: Solid State Logic 4000E 37
Monitor Amplifiers: Studer A-68, BGW 750A, McIntosh MC2105, McIntosh MC2505, McIntosh MC 2300, BGW 250B
Monitor Speakers: UREI 813 (main monitors) Playback monitors Tannoy, Altec, Philips, Baby Reds, KLIH, Advent, Acoustic Research, Yamaha
Echo, Reverb & Delay Systems: Lexicon 224X, EMT 140S, EMT 140M Live echo, Master Mix
Other Outboard Equipment: (4) Pultec EQ, Klark Teknik, analogue time processor, NTP Phase Scope, (2) Loft 440 DDL/flanger, Eventide DDL, Eventide Harmonizers, Eventide flanger, UREI digital metromone, (3) RCA tube limiters BA6A, (2) dbx 161, Orban Parasound stereo synthesizer, Orban Parasound de-esser, Survival automated panner, Vocoder synton 222, Altec dual compressor, (2) UREI LA3A, (2) Orange County vocal stressors, (2) DeltaLab Effectron, Lexicon PCM-41 (DDL), AMS-DMX harmonizer, and 30 channels of Dolby
Instruments Available: Yamaha 9 foot concert grand, Hohner clavinet, Fender Rhodes 73, Hammond direct injection Leslie, Gon Bop congas (set), Latin percussion bongos (set), Roland SH1000 synthesizer, various amps, snares and drums. Instruments easily available from Montreal and NY
Video Equipment & Services: Under separate division, same complex, a state-of-the-art, on-line video editing suite
Rates: Please call for information

•••• LE STUDIO MOBILE
 179 Laurier St. E, Montreal, Quebec H2T 1E8
 (514) 273-6861
 Owner: Guillaume Bengie, Normand Fortier
Studio Manager: Guillaume Bengie, Normand Fortier



LE STUDIO MOBILE
 Montreal, Quebec

•••• LISTEN! AUDIO PRODUCTIONS LTD.
 308 Place D'youville, Montreal, Quebec H2Y 2B6
 (514) 842-9725
 Owner: George Morris
Studio Manager: Carol Akazawa

•••• LITTLE MOUNTAIN SOUND STUDIOS
 201 West 7th Avenue, Vancouver, B.C. V5Y 1L9
 (604) 873-4711
 Owner: Bob Brooks
Studio Manager: Bob Brooks, Roger Monk
Engineers: Roger Monk, Bob Hock, Dave Slaater, Pat Glover, Ron Obvious
Dimensions of Studios: Studio A 66 x 38 x 22 semi live, 1 (isolation room) Studio B 38 x 38 x 22 live amb, 2 (isolation rooms)
Dimensions of Control Rooms: Both are 20 x 18 x 10
Tape Recorders: Studer A80 Mark III 24 tracks, Studer A80III 1/2-inch track
Mixing Consoles: (A) Neve A2069 (spitfire) 24 x 8 24, (B) Solid State Logic 4000 (total recall) 48/48
Monitor Amplifiers: Studer A68, McIntosh 2120, BGW
Monitor Speakers: UREI 813 time aligned, Yamaha NS 10, JBL 4311, AR 18
Echo, Reverb & Delay Systems: Lexicon 224XL, EMT 140s (2), EMT 240s (2) AKG Bx20, prime time, Loft DDL, UREI, LA 3 (2), Trident para EQ, GML para EQ, etc etc
Microphones: 86 mikes total including Neumann, AKG, Sennheiser, Shure, PZM, ElectroVoice
Instruments Available: Marshall, Fender, Mesa Boogie-GTR Amps, Mini Moog, Fender pre bass, Camco and Pearl drum kits
Video Equipment & Services: BTX video lock, with JVC 8200 3/4 inch deck, SMPTE generator, etc
Rates: \$180/hr Canadian

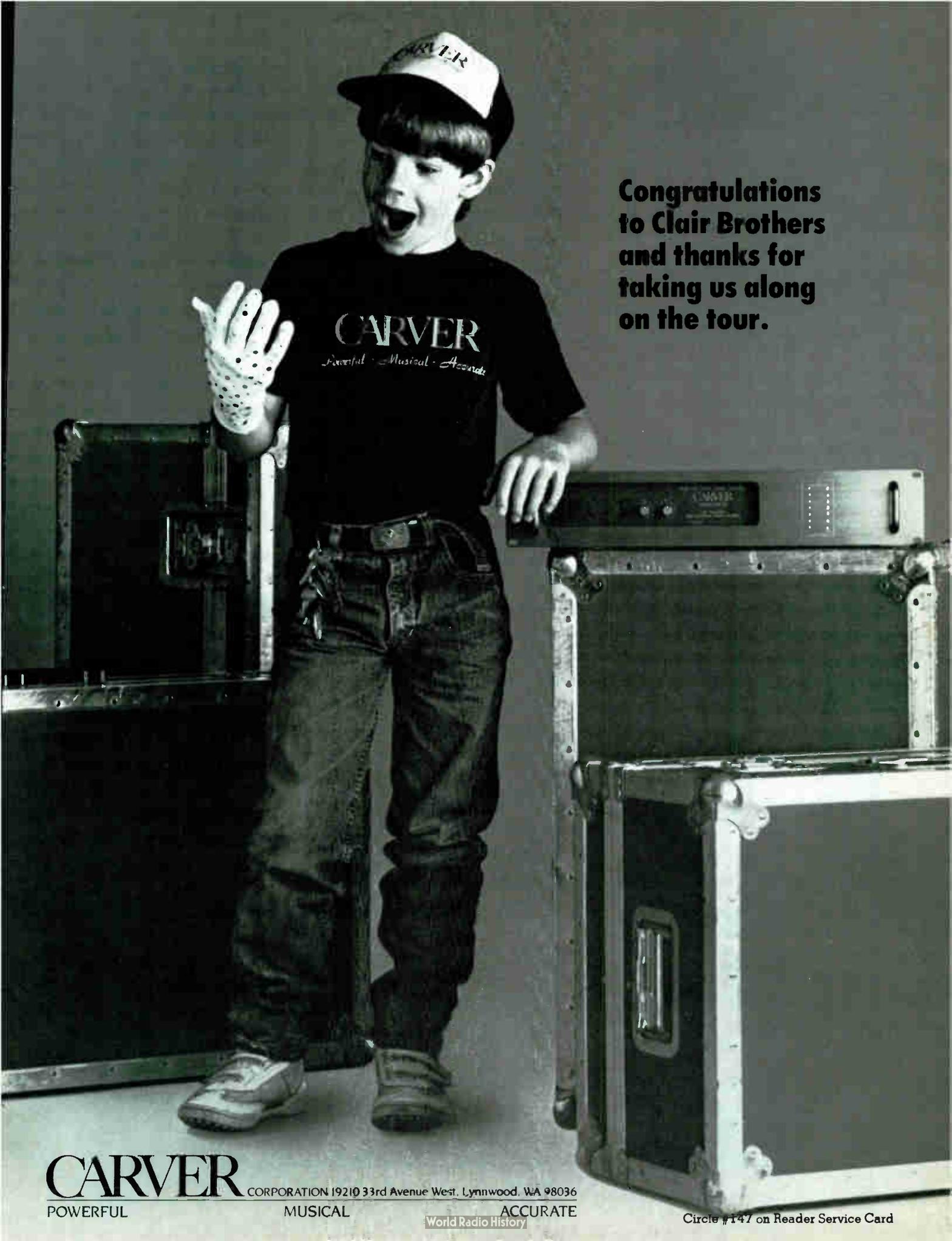
•••• MANTA SOUND COMPANY
 311 Adelaide St., East, Toronto, Ontario M5A 1N2
 (416) 863-9316
Studio Manager: Lu Ann Leonard

•••• MARC PRODUCTIONS, LTD.
 1163 Parisen St., Ottawa, Ontario K1B 4W4
 (613) 741-9851
 Owner: Marcel Tessier
Studio Manager: Marcel Tessier

•••• MARIGOLD PRODUCTIONS, LTD.
 P.O. Box 87, Station K, Toronto, Ontario, M4P 2G1
 (416) 484-8789
 Owner: Richard B Dodson
Studio Manager: M.L. Dodson

•••• MARS RECORDING STUDIO
 96 Spadina Ave., Toronto, Ontario, 9th floor MSV 2J6
 (416) 366-4290
 Owner: Pierre Ouelette Enterprises, Ltd
Studio Manager: Pierre Ouelett
Engineers: Michael Jackson, Corby Luke, Keith Elshaw, Peter Jermyn
Dimensions of Studios: A 22 x 28 x 12 with iso room 15 x 15, B 15 x 10 x 12 with booth 10 x 12

—LISTING CONTINUED ON PAGE 162



**Congratulations
to Clair Brothers
and thanks for
taking us along
on the tour.**

CARVER

CORPORATION 19210 33rd Avenue West, Lynnwood, WA 98036

POWERFUL

MUSICAL

ACCURATE

World Radio History

Circle #147 on Reader Service Card



MARS RECORDING STUDIO
Toronto, Ontario, Canada

Dimensions of Control Rooms: A 20 x 20, B 18 x 15, C 24 x 15
 Tape Recorders: Otari MTR 90 24 track, MTR 10 2/4 track, 5050 B 2 track, MCI JH 110 8 track, JH 110 2 track, Technic 1500 2 track, Digital Sony PCM F12 track, Roland MSQ 700 8 track, MSQ 100 4 track
 Mixing Consoles: Sound Workshop 30 28x24 and 12x18
 Monitor Amplifiers: Bryston, Crown
 Monitor Speakers: Tannoy, JBL system, JBL 4411, Yamaha NS10, Boston Acoustic A1, Auratone 5C
 Echo, Reverb & Delay Systems: Lexicon 24, plate reverb, Roland Space Echo, Space Station, Roland SD9 3000, Roland SE 200
 Other Outboard Equipment: Valley People 619, Ashly Gates, UREI LA4s, Furman F-3 compressor/ de-esser, dbx 120 expander, Roland 21 band graphic EQ, NEI parametric EQs, Synth Ranger, Ibanez multi effects, Roland stereo flanger, Roland Dimension D, Roland compu editor console automation



S T U D I O S

Microphones: AKG, Neumann, Cairex, Sennheiser, Shure, Beyer, Schoeps, ElectroVoice
 Instruments Available: Yamaha 6 ft grand piano, Roland JP 8 JP 6, IX 3P, Juno 60, TR 909, Juno 106, MKB 1000, Yamaha DX7, OBX ARP Odyssey, Korg Poly 61, Mini Moog, Yamaha CP70 electric grand piano
 Video Equipment & Services: Audio Kinetics O lock, interlocking JVC 1/4 VCR, 24 track & 3 track with address start 2 track, BTX system with cypher interlocking, JVC 3/4 VCR, 8 track & 4 track
 Rates: Please call or write for brochure & rate card

•••• MASTER'S WORKSHOP CORP.
 also REMOTE RECORDING
 306 Rexdale Blvd. #7, Rexdale, Ontario M9W 1R6
 (416) 741-1312
 Owner: Doug J. McKenzie
 Studio Manager: Bob Predovich

•••• MASTERTRACK
 35A Hazelton Ave., Ontario M5R 2E3
 (416) 922-4004
 Owner: Ian Jacobson
 Studio Manager: Jeff White

•••• McCLEAR PLACE STUDIOS LTD.
 225 Mutual St., Toronto, Ontario M5B 2B4
 (416) 977-9740
 Owner: Bob Richards
 Studio Manager: Phil Sheridan

•••• MCGILL RECORDING STUDIOS
 also REMOTE RECORDING
 555 Sherbrooke St., West, Montreal, Quebec H3A 1E3
 (514) 392-8395
 Owner: McGill University, Montreal, Quebec, Canada
 Studio Manager: Dr. Wieslaw Woszczyk

•••• METALWORKS RECORDING STUDIO
 3611 Mavis Rd., Unit 5, Mississauga, Ontario L5C 1T7
 (416) 279-4008
 Owner: The Metal Works Recording Studios Inc.
 Studio Manager: Alex Andronache
 Engineers: Ed Stone (Sen. Enr.), Hugh Cooper, Noel Golden, David Dickson
 Dimensions of Studios: 22 x 50 (2 iso booths)
 Dimensions of Control Rooms: 22' x 19'
 Tape Recorders: (2) MCI JH 24 track, (3) MCI JH 110B (2) 1/4, (1) 1/2 track, Revox 1/4 track
 Mixing Consoles: MCI JH 652 1 M 56
 Monitor Amplifiers: CROWN
 Monitor Speakers: Main JBL 4450s (modified), JBL 4412s, Yamaha NS10Ms, Radio Shack, Auratones
 Echo, Reverb & Delay Systems: Lexicon Prime Time II, AMS digital delay/harmonizer, Marshal Time Modulator, Ursa Major Space Station, AMS phaser, Roland Dimension D Chorus, Lexicon FC M42, Sony digital reverb, (2) EMT 140 plates
 Other Outboard Equipment: (2) UREI LA-4s, (2) dbx 161s, (2) UREI 1176 L.Ns, Neve 2254/A compressor/limiters, UREI 1178 stereo limiter, Orange County vocal stressor, (4) Aphex county compressor/expander/gates, Allison Gain Brain, (4) Kepex gates, (2) Symetrix gates, Orban De-esser, (16) outboard Neve 1064 EQ strips, (4) Pultec tube EQs, (2) Trident EQs, Adam Smith Lock
 Microphones: INCL: Neumann U89, U87, U47, KM84, Shure SM58, SM57, SM56, Electro Voice Hc20, Hc15, Crown IZM, Sennheiser 421, AKG 567E, C5 35EB, C460B, C452EB, C451EB, C422, C414EB P48, 12224E, D190E, D12E, (Stereo), (Tube)
 Instruments Available: Yamahas grand piano, Fender Rhodes 88 electric piano

•••• MONTCLAIR SOUND
 91 Montclair Ave., Toronto, Ontario M5P 1P5
 (416) 488-0603
 Owner: B.W.M. Enterprises Ltd
 Studio Manager: B. McVicker

•••• MONTREAL SOUND
 5000 Buchan St., Montreal, Quebec H4P 1T5
 (514) 738-1300
 Owner: Bill Hill
 Studio Manager: Ken Haltam

•••• MUSHROOM STUDIOS
 also REMOTE RECORDING
 1234 West 6th Avenue, Vancouver, B.C. V6H 1A5
 (604) 734-1217
 Owner: Charlie Richmond
 Studio Manager: Linda Nicol
 Engineers: Keith Stein, Rolf Hennemann
 Dimensions of Studios: 50 x 30 x 20, piano room - 14 x 20 x 12, vocal booth - 15 x 11 x 8
 Dimensions of Control Rooms: 15 x 20
 Tape Recorders: Studer A80 II 24 (plus extra set of 16 tr. heads); Studer A80 II 16 track, Studer B67 2 track, Ampex ATR-100 2 track (1/4" & 1/2" heads); Revox A77 1/4 track; Nagra III film sync 1 track; Revox A77 1/2 track
 Mixing Consoles: Richmond Sound Design 48 in x 22 out x 8 VCA sub-groups with 30 Universal Audio tube pre-amps
 Monitor Amplifiers: (2) Richmond Sound Design APA-368 180 watt; (10) Richmond Sound Design APA-128 60 watt amps
 Monitor Speakers: Altec 604E with time-align horns and mastering lab crossovers, Yamaha NS-10M, Auratone SC Super Sound Cube, BIC Venturi Formula 5, Realistic Minimus 7, Visonik Ambassador 100 (Big David)
 Echo, Reverb & Delay Systems: EMT 240 "Gold Foil" plate reverb with remote, Eventide H910 "harmonizer" digital effects unit, Lexicon 224 digital reverb with 30 programs, Lexicon 93 "prime time" digital effects, RSD APA-120 echo chamber amps, Sound Barrier Concord live echo chamber loudspeakers, UREI Cooper Time Cube analog delay unit, 2 stereo acoustical echo chambers
 Other Outboard Equipment: Allison Research Kepex noise gates, Allison Research Gain Brain, Altec program EQ, Dolby 361 noise reduction, Furman PQ-3 parametric EQ, Langevin graphic EQ, Langevin high & low pass filters, MXR auto flangers, NEI 341 4 band parametric EQ, Omni-Q TL-1 time code sync unit, Orban Parasound 516EC de-esser, RSD graphic EQ, RSD VCA noise gates, RSD VCF noise gate/filters, Roger Mayer

INVEST IN A SOUND FUTURE
YOUR CAREER IN THE
MUSIC INDUSTRY
TREBAS INSTITUTE OF RECORDING ARTS
 WILL PUT YOU ON THE RIGHT TRACK

in a 2 year professional training program in the
RECORDING ARTS AND SCIENCES
 80 courses in

- RECORD PRODUCING • SOUND ENGINEERING
- MANAGEMENT

80% of graduates placed limited internships available
 For Day or Evening courses starting in January APPLY NOW!
 For application and FREE brochure describing courses, contact Admissions Director

TREBAS INSTITUTE OF RECORDING ARTS

547 Homer St. Vancouver, B.C. Canada V6B 2V7 (604) 669-2727	225 Mutual St. Toronto, Ontario Canada M5B 2B4 (416) 977-9797	290 Nepean St. Ottawa, Ontario Canada K1R 5G3 (613) 232-7104	1435 Bleury St. #301 Montreal, Quebec Canada H3A 2M7 (514) 845-4141
--	--	---	--

developing people and the music industry since 1979. member: Music Industry Educators Association, U.S.A.

TREBAS INSTITUTE OF RECORDING ARTS

Circle #171 on Reader Service Card

RM80X noise gates, Technics SH9010 10 band parabolic EQ, U.A. 175B tube limiter, U.A. 176 tube limiter, U.A. 550A high & low pass filters, UREI 1176LN compressor/limiters, IITL CDH-100 "Memory Pack" studio lighting controller
Microphones: ADG C-12, C-61, D-12E, D-24E, D-202E, D-224E, D-900E, Beyer MC-713, B&O 200, Electro-Voice RE-15, RE-20, 635A, Neumann KM-84, U-47 (original vacuum tube), U-87, MILAB CL-4, DC-63, DC-73, F-69, VM-41, PZM condenser, RCA 77BX, 10001, Sennheiser MD-421U, Shure SM-57, SM-58, Sony C-17B, C-37A, C-38B, C-57, C-220A, ECM-22P, ECM-377, Synchron/Fairchild AU-7A
Instruments Available: Yamaha C-7 7' grand piano, Fuehr & Stemmer upright piano, Marshall 4 x 12' loudspeaker cabinet, Polytone bass amplifier, Traynor Bass Mate amp., keyboard stands, Tama studio drum kit, miscellaneous percussion
Video Equipment & Services: Video monitors and cameras, video tape machines on request
Rates: Please call for rates

**** OCEAN SOUND STUDIOS
 also REMOTE RECORDING
 1758 West 2nd Ave., Vancouver, B.C. V6J 1H6
 (604) 733-3146
 Owner: The Ocean Sound Corporations
 Studio Manager: Landa McCann

**** PHASE ONE RECORDING STUDIOS, LTD.
 3015 Kennedy Rd., #10, Scarborough, Ontario M1V 1E7
 (416) 291-9553
 Owner: Doug Hill, Paul Gross
 Studio Manager: Michele Thon

**** PINWOOD RECORDING STUDIOS, LTD.
 1119 Homer St., Vancouver, B.C. V6B 2Y1
 (604) 669-6900
 Owner: Geoff Turner
 Studio Manager: Curtis Staples

**** POLARIS RECORDING STUDIOS, LTD.
 also REMOTE RECORDING
 1151 Drouillard Rd., Windsor, Ontario N8Y 2R2
 (519) 973-4944

Owner: George W Hellow
 Studio Manager: Robin Spooner
 Engineers: Chuck Reynolds, Tom Lauzon, Staff Arranger-Producer Randy Leppink
Dimensions of Studios: 36 x 28 studio with Hex drum booth
Dimensions of Control Rooms: 24 x 28
Tape Recorders: MCI JH 114 24, Scully 100 16 track, Ampex 440 4 track; (2) Scully 280 2 track
Mixing Consoles: Quad Eight Compu Mix II 32 x 32 x 48
Monitor Amplifiers: Crown, Phase Linear, Pas
Monitor Speakers: JBL 4433, JBL 2045, JBL 100
Echo, Reverb & Delay Systems: EMT 240 Gold, AKG BX 20
Other Outboard Equipment: UREI Graphics, UREI compressors, Kepex 500, 701, MXR digital, Ibanez, EXR Exciter, other equipment on request
Microphones: U87s, KM85s, KM84s, AKG414s, AKG D12s, RE20s, AKG451s, Sennheiser 421s, Shure SM85s, 57s, 58s, RCA ribbons
Instruments Available: Keyboards Synergy, B-3, Helpinstill grand piano, Vose 6' acoustic grand, Fender Rhodes, Arp Odyssey, Omni II, Pro Soloist, Quartet, Chamberlin 4, Mini Moog, Hammond Organ (B3), Drums - Simmons SDS 7, Tymps, Pearl, wide selection of amplifiers
Rates: \$85/hr CAN, plus tape cost. Block prices negotiable.

**** QUEST RECORDING
 215 Toronto Ave., Toronto, Ontario L1H 3C2
 (416) 576-1279
 Owner: Paul LaChapelle
 Studio Manager: Paul LaChapelle

**** ROUND SOUND STUDIOS, INC.
 357 Ormont Dr., Weston, Ontario M9L 1N8
 (416) 743-9979
 Studio Manager: James Sutherland

**** SMOOTH ROCK
 #1 D 624 Beaver Dam Rd., N.E., Calgary, Alb. T2K 4W6
 (403) 275-6110
 Owner: Steve Graupe
 Studio Manager: Steve Graupe

**** SOLAR AUDIO & RECORDING
 6065 Cunard St., Halifax, Nova Scotia, B3K 1E6
 (902) 423-0233
 Owner: Russell Brannon
 Studio Manager: Harold Tsistinas



SOUNDS INTERCHANGE LTD.
 Toronto, Canada

**** SOUNDS INTERCHANGE LTD.
 506 Adelaide St., East, Toronto M5A 1N6
 (416) 364-8512
 Owner: Syd Kessler, Salim Sachedina
 Studio Manager: Karen Guluche
 Engineers: Mike Jones, Les Bateman, Kevin Doyle, Peter Holomb, Steve Convery, Mark Stafford, Vic Pyle, Paul Daley
Dimensions of Studios: 1- 56 x 32 (2 iso booths) 22' ceiling, 2- 45 x 30 (2 iso. booths)
Dimensions of Control Rooms: 1- 21 x 26; 2- 27 x 20
Tape Recorders: ANALOG. (5) Studer A80 24 track; (2) 8

—LISTING CONTINUED ON NEXT PAGE

USED RECORDING EQUIPMENT FOR SALE

MICROPHONES

AKG: C61, C28, C24 stereo, C12a, C414e, C29, C60, C535, D15, D19, D202, D24, D160, D30
 NEUMANN: KM54, KM53, KM64, KM66, KM56, U47, U67, U64, SM2, SM69 stereo
 SONY: ECM377, C500, C37a, ECM22p, ECM51
 RCA: BK5, 77a, 44a, 77dx, Skunk Mic
 SENNHEISER: MD211, MD413, MKH405
 BEYER: M101, M500

EQUALIZERS

API 550 • ITI Parametrics • Melcor GME 20 • MAP (replaces API) • Altec Graphic • Dalcon Custom EQs (5) • UA 550 Hi Low Filters • White 3400 Graphics

MIXERS

30 Input Trident B Range • 20 Input API • 24 Input Electrodyne • Teac Model 1 • 4 Input Pultec Mixer • 32 Input Trident series 80 **CALL FOR AVAILABILITY OF NEVE, TRIDENT AND HELIOS CONSOLES**

AMPLIFIERS

MacIntosh 2105 • MacIntosh MA230 • Marrantz 240 • Citation 12 • Symetrics Head Phone Amp

TAPE RECORDERS

Otari MTR-90 MK2 24 track • 3M M56 2 track • Scully 280-1 • Ampex 351-2 • Ampex/Haeco Playback Only 2 track/ full track • 3M M79 16 track

OUTBOARD GEAR

MXR Phaser Flanger package • Roland Stereo Phaser • Micmix Dyna Flanger • Marshall Time Modulator • Delta Labs DL1 DDL • Eventide Omnipresser

LIMITERS

Allison Gain Brains • Electrodyne Limiter • API 525 Limiter/De-esser

NOISE REDUCTION

Dolby Cat-44 cards • Dolby A 301 unit • Dolby A 361 frame (no Cat-22)

CROSSOVERS

Crown VFX-2a • Mastering Labs (for 604) • BGW

MISCELLANEOUS

API575 Oscillator • Stevens VSO (as is) • Stemco (Ampex) 8 track 1" • Urei 1109 preamps • API VU meters • Sennheiser Mic Power Supply • Lagnevein & UA Tube Mic preamps • Allison LX100 • MCI 16 track (play-head only) • 3M 8 track heads 1" (3) • Ampex 8 track head assembly • Neumann 66 lathe with 68 cutter head complete with all solid state computer and amplifiers

MUSICAL INSTRUMENTS

Fender 6 string Bass (pre CBS) • Gibson Les Paul 1970s sunburst • Martin M38 • Baldwin 9' Concert Grand • Fender Rhodes • Wurlitzer Electric Piano

We Will Entertain Any Reasonable Offer on ANYTHING!!
 Make Me An Offer I Can't UNDERSTAND.... PLEASE!

Dan Alexander Audio
 965 Hilldale
 Berkeley, CA 94708
 by appointment only

415/441-8912 • 415/527-1411

track, (2) 4 track, (1) 1/2" 2 track mastering, (4) 2 track mastering, (4) A810 2 track (4) speed, plus 3rd track t/c), (3) A80RC mono/stereo (butterfly heads), A80RC stereo, (2) A80RC mono/pilotone, A80HC mono/pilotone w/ resolver, Ampex AG 440C 4 track, Ampex ATR 100 stereo/mono, DIGITAL Sony PCM 100 2 track digital mastering, Mitsubishi & JVC systems available upon request

Mixing Consoles: MCI JH532 32x24, Neve 8028 24x16x24 monitors, MCI JH 636 24x24, Neve 8014 16x4x16 monitors, Neve BCM10/+8 10x2x8 monitors with EQ

Monitor Amplifiers: H & H Mos-Fet, Crown, BGW, McIntosh, Bryston, Phase Linear, Harmon Kardon

Monitor Speakers: 4-way custom made time aligned, Custom JBL, JBL, UREI, Super Reds, Auratone, Yamaha N510s

Echo, Reverb & Delay Systems: (2) EMT Plates 140, (3) EMT gold 240, AKG BX-20 echo, AMS RX-16 digital reverb w/remote, AMS DMX 15-80s harmonizer, Eventide H910 harmonizer, (2) Eventide 949 harmonizer, (3) Space Stations, Lexicon Prime Time, Delta-T, (2) Eventide 1745 digital delays, Eventide phaser, (2) Marshall time modulators, Eventide flanger

Other Outboard Equipment: Pultec EQ (program mid range), UREI limiters (LA 2A, 3A, 4A, 5), Ashly limiters, Innovonics limiters, (2) Pye limiters, Telefunken LA 2A limiters, Aphex compeller, API 550A, EQs, scamp rack, Flickenger EQ, Klark DN 27A graphics, UREI 527A graphics, White 3rd octave EQ, Quad 8 gates, (2) 24 track dolby racks, Dolby 361s, UREI digital metronomes

Microphones: Neumann U87, U67, KM 86, KM 84, Telefunken U47, SM2, AKG 451E, 452E, 414, 224E, D20D, D12E, C24, C12A, Shure SM58, SM57, SM53, SM81, SM76, SM7, SM54, SM60, 300 Sennheiser 421, 441, Crown PZM Studer (Schoeps) SM5, SKS 501B, CMC5, Sony C-500, C-37, C-38, ECM 22P, Electro-Voice RE16, RE20, RE15 Beyer M 160N

Instruments Available: Petrol concert grand, Yamaha C-3 grand, Heintzman tack, Hammond B-3 organ with Leslie, Fender Rhodes, Yamaha DX 7 synth, Oberheim OBX-A synth, LinnDrum, Jupiter 6, Roland MSO 600, Dr. Click, Simmons Drums, Fairlight

Video Equipment & Services: Audio Post production for video, computerized SMPTE 1" 1/4" video to audio, audio to audio interlock, MCI/Sony JH-110B 1" C format audio restripe, Ampex VPR 80/TBC 2 1" C format video recorder, Sony BVU 200 1/4" VCR, JVC 8250/6650 1/4" VCR, Magna Tech 2000 series 35/3track Master pickup recorder, (3) Magna Tech 2000 series 16/35 reproducers

Rates: Available upon request

Extras: Studio one new LEDE™ concept, designed by Chips Davis Complete sound effects and stock music library High speed and Real Time audio dub and cassette duplicating and distribution. All studios fully interlocked by computer Information regarding hotel accommodations, etc. for out of town clients available upon request Kitchen and lounge with color TV, pinball Central location with free parking

Direction: We provide a wide range of services with a complete recording and mixing service to the music, radio, television and film industries, from simple voice over, jingle work, demo and album production to complex interlock recording for video and film Our fully supportive and efficient technical and creative staff help to provide an appropriately comfortable atmosphere for creating an award winning project Please phone for quote



STUDIO 306 INC.
Toronto, Canada

•••• **STUDIO 306 INC.**
306 Seaton St., Toronto M5A 2T7
(416) 968-2306
Owner: Brian T. Mitchell
Studio Manager: Brian T. Mitchell

CANADIAN STUDIOS



STUDIO VERT, INC.
St. Ubalde, Quebec, Canada

•••• **STUDIO VERT, INC.**
199 St. Denis, St. Ubalde, Quebec GOA 4L0
(418) 277-2514
Owner: Pierre Tremblay, Michel De Blois
Studio Manager: Pierre Tremblay, Michel De Blois
Engineers: Quentin Meek, Pierre Tremblay, Assistant: Peter Frame
Dimensions of Studios: 3 separate rooms Midi equipped
Dimensions of Control Rooms: 17 x 23 x 12
Tape Recorders: Ampex MM1200 24 track; Ampex ATR102B 2 track, Technics U1500 2 track; Teac Z-5000 2 track cassette
Mixing Consoles: Soundcraft 2400 bargraph 27x24
Monitor Amplifiers: Bryston, Roland
Monitor Speakers: UREI 813B, JBL4333, JBL4411, Tannoy Gold 12", Auratones

Echo, Reverb & Delay Systems: Yamaha REV-1 digital reverb, Lexicon 224, Roland RSS reverb springs, Publison audio computer 90, 2x Roland digital delay 2000, (3) Roland prog digital delay 3000, Roland RSS stereo phaser, Roland dimension D Also available on request: AMS digital reverb

Other Outboard Equipment: UREI 1178 ST comp/limiter (2) UREI LA-3A, (2) dbx 165 comp/limit, Teletronix LA-2A, (2) DynaMite, (4) MCI noise gates, Eventide TRS-80 spectrum analyzer

Microphones: Neumann, AKG, Electro-Voice, Sennheiser, Beyer, Audio Technica, Shure

Instruments Available: Yamaha concert piano, Fender Rhodes, Emulator II, Roland Jupiter 8 Midi, JX3P with Dynamics, Moog series 900 modular synth, Roland sequencer, Vocoder, pitch to voltage converter, Oberheim voices, Roland GR-300 synthesizer, Yamaha FM rack DX7s, Roland master keyboard 1000, Roland Midi voice rack, IBM PC computer Midi equipped, Apple IIE computer Midi equipped, Commodore 64 Midi

Video Equipment & Services: SMPTE generator and reader to Midi synch, 60Hz
Rates: \$800 CAN. per 10 to 12 hours per day plus tape and extras, including one engineer. Lodging available

Extras: Over 12,000 sound effects, 15ips quality Gibson ES 345, Martin D-35, Beneteau Custom, 12 string acc. cutaway, Ovation nylon acc./E1, Reichenbacher bass, Fibes drums, Paiste cymbals, percussion instruments, mellotron with 7 series of tapes, LinnDrum computer, drum tracks, synclavier II with terminal, sampling and Midi interface available at extra cost
Direction: Latest recordings: UZEB You Be Easy album, Belgazoo Fly album, offering musical composition services, specializing in electronic music and sound effects for visuals, offering translation to French for software and videos, special rates on long term products.



STUDIO WEST CANADA, LTD.
Saskatoon, Saskatchewan

•••• **STUDIO WEST CANADA, LTD.**
also REMOTE RECORDING
P.O. Box 39, Saskatoon, Saskatchewan S7K 3K2
(306) 244-2815

Owner: Wayne Wilkins
Studio Manager: Wayne Wilkins
Engineers: Chief Engineer: Mitch Barnett; Staff Engineer: Clarence Deis

Dimensions of Studios: 25 x 50 x 18 one iso booth
Dimensions of Control Rooms: 20 x 30 x 12

Tape Recorders: MCI JH114 24 track; MCI JH114 8 track; MCI JH110 2 track; Otari MX 5050 II 2 track

Mixing Consoles: Soundcraft 2400 24x24, Allen & Heath System 8 16x16

Monitor Amplifiers: H&H V800 Mosfet, H&H 100D, Bryston 2B
Monitor Speakers: UREI 813 "Time Aligns", JBL 4312, Auratones

Echo, Reverb & Delay Systems: Audicon "The Plate", (2) Masteroom B, AKG BX 10E, (4) DeltaLab digital delays

Other Outboard Equipment: (2) Valley People model 610 dual compressor expander, Roland dimension D, Eventide instant flange, UREI 535, Klark Teknik DN3030, Klark Teknik DN60 Real Time Spectrum analyzer

Microphones: Neumann, AKG, Electro-Voice, Sennheiser, Shure, Crown PZM

Instruments Available: Yamaha Grand, Ludwig drum kit, other instruments available on request

Rates: \$115/hr (CAN funds) Special package rates available on request

Extras: 40 acre country location just 15 minutes south of Saskatoon Cooking facilities, lounge, fireplace, etc. Also complete mobile recording facilities (16/8 track)

Direction: Located 15 miles (25 kilometers) south of Saskatoon on the Pike Lake Highway

•••• **SUNDOWN RECORDERS LTD.**
10534 109 St., Edmonton, Alberta T5H 3B2
(403) 426-1362

Owner: Wes Dakus
Studio Manager: Caryl Dakus

Engineers: Staff and independents
Dimensions of Studios: 36 x 24

Dimensions of Control Rooms: 22 x 21
Tape Recorders: MCI JH24 24 track, JH 110 2 track 1/2" heads, JH 110 2 track 1/4" heads, JH140 4 track

Mixing Consoles: MCI JH428-24 28x24
Monitor Amplifiers: Crown DC300A

Monitor Speakers: JBL 4350, Auratone
Echo, Reverb & Delay Systems: EMT 140, AKG BX 20E, Acoustic chambers

Other Outboard Equipment: Eventide harmonizer, flanger, phaser, digital delays, de-esser, vocal stressers, compressors, UREI limiters, Prime Time, equalizers, filters, Kepex, Pultec

Microphones: Neumann U47, U67, U-87; Sennheiser, AKG, Shure, Electro-Voice

Instruments Available: Baldwin grand piano, concert harp-sichord, Rhodes piano Other equipment and instruments available on rental basis

Rates: Available upon request

•••• **THUNDER ROAD STUDIO**
2748 37th Ave., N.E. Calgary, Alberta T1Y 5L3
(403) 291-1500

•••• **TRITON SOUND STUDIO**
3886 Cheswood Dr., Toronto, Ontario M3J 2W6
(416) 638-3869
Owner: Steve Dell'Angelo and Jody Ellis
Studio Manager: Steve Dell'Angelo

•••• UNITED MEDIA STUDIOS, LTD
121 Doncaster Ave, Thornhill, Ontario L3T 1L6
(416) 881-3701
Studio Manager: Trevor Jefferson

•••• WATER STREET SOUND AND FILMWORK
Penthouse 342 Water St., Vancouver B.C. V6B 1B6
(604) 689-4333
Owner: George McNiell
Studio Manager: Marty Hasselbach

•••• WAXWORKS RECORDING STUDIO, INC.
P.O. Box 299, Spring St., St. Jacobs, Ontario NOB 2N0
(519) 664-3311
Owner: Jim Evans
Studio Manager: Steve Morns

•••• WEXFORD STUDIOS
28 b Howden Rd., Scarborough, Ontario M1R 3E4
(416) 757-8775
Owner: Stephen Duncan
Studio Manager: Stephen Duncan

•••• THE WYCHWOOD STUDIO
644 Christie St., Toronto, Ontario M6G 3E7
(416) 651-1260
Owner: Stan Meissner
Studio Manager: Stan Meissner

•••• ZAZA SOUND PRODUCTIONS
also REMOTE RECORDING
322 Dufferin St., Toronto M6K 1Z6
(416) 534-4211
Owner: Paul James Zaza
Studio Manager: Paul Zaza

START THE YEAR RIGHT WITH MIX!

JANUARY

Northwest Studio Listings
Independent Record Labels
Super Bowl Sound
Ad Closing: November 7, 1984
Materials Due: November 15, 1984

FEBRUARY

NAMM Show Issue
Independent Engineers & Producers
Computers in Music Forum
Ad Closing: December 7, 1984
Materials Due: December 15, 1984

MARCH

Southeast Studio Listings
Nashville's New Sound
Loudspeaker Technology
Ad Closing: January 7, 1985
Materials Due: January 15, 1985

For advertising rates & information, call (415) 843-7901

LEARN THE ART OF RECORDING



The Recording Workshop

The leader in training tomorrow's music professionals. For over a decade, hundreds of engineers, as well as producers and recording artists have made their start at The Recording Workshop—a practical, hands-on approach where the studio becomes a working classroom.

- ▶ No previous experience necessary
- ▶ Lectures by top music pros
- ▶ The largest and most equipped recording school/facility of its kind
- ▶ Extensive hands-on experience in 24, 16 and 8-track music recording and mixing
- ▶ Training in commercial production, editing and tape machine alignment

- ▶ Seminars on the newest technologies—digital recording, the Digital Disk, MIDI interface and computer drums
- ▶ On campus housing available
- ▶ Licensed by The Ohio State Board of School and College Registration #80-07-0696T
- ▶ Sessions are 5 weeks long with an optional 6th week of maintenance training

- ▶ Choose from 7 sessions per year:

Winter '85	Jan 7-Feb 8
Early Spring '85	Feb 25-March 29
Late Spring '85	April 15-May 17
Early Summer '85	June 10-July 12
Late Summer '85	July 29-Aug 30
Early Fall '85	Sept 16-Oct 18
Late Fall '85	Nov 4-Dec 6

ENROLLMENT IS LIMITED—FOR FREE BROCHURE, CALL OR WRITE TODAY
(TOLL FREE) 800-848-9900 (OHIO + NON U.S.) 614-663-2544
THE RECORDING WORKSHOP—455-X MASSIEVILLE RD. CHILLICOTHE, OHIO 45601

NAME _____ AGE _____
ADDRESS _____

Circle #149 on Reader Service Card

Business Opportunities

Seeking investor for partnership purchase of real estate with complete recording studio, two residences, pavilions, and hot tub on a half acre ocean view lot on the west shore of Maui near the beach. Write: "The Studio" at Modelia, 553 Mikioi Place, Wailea, Kihei, Maui, HI 96753, or call 808-879-2485.

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.

Equipment For Sale

FOR SALE: Factory sealed Roland Compu-editor CPE-800 w/full function SMPTE and matching VCA-800 (16) channel VCA pack, Crown PSA-2 power amp, Scully 280B 4 track. (212) 242-1996. Leave message, RPM Sound.

NEW!!! Stereo Wireless Headsets. 35-foot range studio quality. (5) headsets, (1) transmitter. ONLY \$249 pp. Send MO to: WINDROSE, Box 2262, So. Vineland, NJ 08360.

New, Used Demo Equipment Soundcraft 1600, Lexicon 200, Otari MTR 90 Mark II, Ampex MM-1100 16-trk, ADR Vocal Stressor, BTX 5400 SMPTE gen., many 1/4-inch 4-trk machines, E.A.R. buys and sells new and used equipment at competitive prices.

E.A.R. Pro Audio
(602) 267-0600

Neotek, Soundcraft, ADR, Otari, Clear Com, Eventide, Crest, dbx. Best prices on all the best gear, new, used, and demo. Also, like new, Otari MX-7800 w/remote \$6,500. Soundcraft 800 18x8 \$8,995. Tascam 8516 w/dbx \$7,500. ADR Scamp rack system. Call **Pyramid Audio Inc.** (312) 339-8014. 450 W. Taft Drive, So. Holland, IL 60473. **Call us last!**

Looking for Eventide SP-2016 or H949? Space Station Banner RTA ADR Scanner. Need AKG, BGW, dbx, EV, Neumann, Orban, Sennheiser, Shure, Technics, UREI or White products? Call UAR for the best quote: (512) 690-8888, 8535 Fairhaven, San Antonio, TX 78229.

Platesound Plate Reverb now available. The finest built units using today's technology. Adjustable decay. 1/2 second to 6 seconds. Frequency response: 80-20,000. One year full guarantee. \$995. Send or call for bro-

chure and specs. 1-(813) 996-4707. Call collect. **PLATESOUND**, P.O. Box 1500, Land-O-Lakes, Florida 33539.

DANBURY ELECTRONIC MUSIC CENTER, 84 Federal Road, Danbury, CT, 06810, (203) 792-2794. New England's oldest and most experienced Tascam dealer. All professional recording equip. and supplies from stock plus widest selection of electronic keyboards including Yamaha DX-PF.

(2) Studer A80 II 24-trk, 4-trk, 2-trk, (2) B-67, (1) Ampex 1200 24-trk, (1) 440-B 4-trk, (1) 2-trk, (1) Scully 280-B 4-trk, (2) 2-trk, Neve 8068 w/Necam 40/32 API 40-32 (1) Dolby M-24 w/dbx K-9 Cards (4) Dolby 361, (3) EMT 140 ST, Q-LOCK 310. Call or write w/offer to: RCH, Mat Co. 445, W. 45th NY, NY 10036, (212) 408-1630.

LOW OVERHEAD MEANS LOWEST PRICES. We carry most major lines of pro audio & recording equipment. **Get your best price, then call me.** 3M Tape and accessories at factory prices.
S.C.M.S.
East U.S. Toll free:
(800) 438-6040
West & N.C.: (704) 889-4509

Sam Ash Music Store Mail Order Service. Deal with the professionals. N.Y.C.'s largest inventory and best prices on musical instruments, sound and recording gear. 1-800-645-3518. N.Y. State 1-800-632-2322.

Reliable Music
The Finest in Professional Audio With Service to Back It Up!
Crown, JBL, Tascam/TEAC, Yamaha, Biamp, Technics, Orban, Gauss, Eventide, dbx, UREI, Neumann, AKG, Sennheiser, Beyer, Sony, Shure, Otari, MICMIX, MXR, RTS, Revox, Cetec-Vega, E-V, Omnicraft, Symetrix, Sescam, Ursa Major, Whirlwind, Audio-technica, Ramsa, Lexicon.

(704) 375-8662
1001 S. Independence Blvd.
Charlotte, N.C. 28202

SYNTHESIZER BLOWOUT! Tired of impersonal service? You think you're getting your best deal? Try Starsound Audio for free! 1-800-354-7252. Fluid synthesis spoken here. Most major lines in stock. Roger, Tom, Scott or Bill.

NEW API PRODUCTS
Modules—Equalizers—Parts
Factory Warranty! Immediate delivery at CLOSEOUT PRICES! For further information call: RAATA AUDIO SYSTEMS, INC.
1446 N. Cherokee Ave.,
Hollywood, California 90028
(213) 469-9593 Telex 910-321-4465

SIGMA SOUND STUDIOS GREAT EQUIPMENT BUYS:
24, 2 tr recorders, console automation, synchronizers, hi speed dupe equip plus lots of audio processing gear.
Call or Write:
212 N. 12th St., Phila., PA 19107
(215) 561-3660

NEOTEK 26x24 transformerless console, 4 band parametric eq, light meters, 4 sends, 6 returns, lighted assigns, large patchbay, 6 years old, excellent condition. \$17,500. Bob (312) 932-1984.

Telefunken 251 \$2,500; AKG C12 \$1,900; C12A \$900; Neumann M49 \$1,500; U-67 \$1,100 & U-47 \$1,200; KM54/64 \$500; KM56 \$700; VF14 Tubes, \$300; Scully 280B 2-trk in console \$1,250; JBL 4341 4 way \$1,200 a pair; Sony C500 \$600; ECM 377 \$150; 22P \$100; Hammond B3 w/Leslie \$1,300; Fender twin reverb \$225; Assorted CLS PA horns; Eventide 1745M ddi \$750; (212) 977-4498.

Infonics 200 "A" cassette and reel to cassette duplication system. Factory reconditioned. Finest quality chrome dups. 3 3/4 to 15 ips. Bargain. Audio Craft Co., 2701 E. Sunrise Blvd., Ft. Lauderdale, FL 33304, (305) 563-0553.

THE AUDIO/VIDEO PROFESSIONALS FOR ANY PRODUCTIONS
Shop for Pro Audio and Video from America's oldest, most experienced Professional—no matter where you live. Expert advice, in-depth parts and a wide selection of Otari, Soundcraft, EECO, UREI, Ursa Major, BTX, Fostex, Tascam, Hafler Pro, Sony, JVC, Perreaux, Allen and Heath, Symetrix, White Instrument, Ampex, etc., and many more for Recording Studios and Audio/Video Post Production facilities.
Harvey Electronics Pro Division
25 West 45 Street
New York, New York 10036
(800) 223-2642
(212) 921-5920

TUBE MIKES FOR RENT CHEAP! \$15 to \$30 a day Telefunken 251. AKG

C12 & C12A. Neumann 49, 47, 67, 66, 56, 54 & 64. Large arrays avail. Teletronics LA2A's & Pultecs. JM Communications LTD, 231 W. 58 St., NYC, (212) 977-4498.

CALL DIRECT CONNECTION for the highest quality mic cables, snakes, patch panels, multi-pins, splitters, adapters, video and digital cable. Discuss your interconnection problems with experienced custom cable designers and receive factory direct pricing on our large inventory of cables, connectors and accessories. Call (800) 638-8027 toll free. In Maryland (301) 459-1959.

For sale: Neotek Series 3C custom modified console 36x24 w/4 stereo subgroups, patch cables included \$36,000. (215) 923-4443 Dave Johnson.

FOR SALE: QUANTUM Gamma Console—26 in/28 mainframe, P&G faders, ideal for 16 and 24 track recording; Panasonic 8x2 portable mixer—battery powered w/load case; Ramsa 8150 condenser mikes; EXR SP-1 exciter; more. (313) 455-7606.

(2) 3M M79 24 tracks each with select take two, spare signal card, updated electronics, and new turn around idlers. \$16,000 each or 31K both—FIRM. 16 track head stack also available with purchase \$1,500 negotiable (612) 935-3373. Ask for Jon.

Pulsar Labs 32x8x2 Console with full 5 way Sweep EQ and built in compressors. New and still in crate. \$14,500. Dyna Might Sound & Lighting, 3119 S. Scenic, Springfield, MO 65807. (417) 883-4549.

Used equipment bought & sold. In stock: 3M 16 track—low cost, Ampex 1" 8 track—very good, TEAC 80-8 with varispeed & test tape—new cond., Neumann & AKG vintage mikes, 1908 Steinway 9' beautiful. Much more (812) 332-7475.

YAMAHA M1516 Console 16x4x4 + 4 aux sends, 16 freq eq, solo + mute/CH, outbd pwr, roadcase \$5,500 or B.O. Call Chip (617) 891-6790 (D), 623-8132 (N).

FOR SALE: Used Ashly Audio 24x6x2 mixing console modified for monitor use, quasi parametric input EQ, full parametric output EQ. \$2,250 w/case. Sound Image, 1945 Diamond St., San Marcos, CA 92069, (619) 744-8460.

MCI JH-16 track with autolocator, variable speed oscillator & 8 track 1" heads \$7,000; Sound Workshop 1620 16x16 Console \$7,000. Contact George: (916) 392-5640 or (916) 395-0443.

24 channels of dbx 158 NR, very mint \$6,000 or offer. Also 3-Nakamichi model 581 cassette decks \$500 each. For offer call: (313) 851-9766. EMT 930 turntable, best offer.

MCI JH 100, 16 track, wired for 24 track w/auto-locator II. \$11,000 or best offer. Call Michael or John at (313) 273-3000.

Ampex AD15 RtoR duplicators master plus 4 slaves—1/4" stereo. Very good condition. Makes excellent copies. All documentation included. Asking \$5,500. Call Omega Studios (301) 946-4686 10-5 weekdays.

(6) Beautiful Neumann M-49s \$1,650 each. Also, many small capsule tube mikes \$800 a pair. Call (312) 751-1216 (leave message).

NEUMANN MASTERING SYSTEM Including tape machine, SC68 head, VG66 Amplifiers Rack, level sets, HF limiters, Elliptical Equalizer and variable pitch and depth. Make offer. Dolby. \$8,500. Call Jim at (513) 681-8402.

16 track Tascam 85-16 w/AQ-85 auto-locator, alignment tapes 1" editing block \$9,500 or b.o. Tim Stanton Audio (512) 477-5618.

3M 79 Series 24 track, 5 years old, re-built transport, lots of spare parts, capstan and reel motor defeats. Includes Audio Kinetics loc, and Dolby trigger harness excellent condition, \$19,500 (215) 423-7300. Ask for Mal or Mark.

API 3288 console, Harrison 4032C console. EMT 140S tube stereo echo plate w/remote, Studer A-80 VU 4-trk, Studer A-80 VU 2-trk, Audicon 26x8 board in 10' walnut console-transformerless, AKG C-24 stereo tube mic, Stein 9' concert grand piano, BTX 4500 Synchronizer, BTX 4600 Synchronizer, Dolby M-16, UREI 815 time align monitors, Mastering Lab monitors w/604 E's, 3M M79 2-trk, 3M M79 24-trk w/select take II, 3M M79 16-trk head assembly xInt, Studer A-80 VU electronics, Magnatech 3 stripe 35MM film recorders, JVC 6600U 1/4" VCR, BTC code generator, 3M Sync generator, JVC 1/2" VCR HR7650, TEAC C1 cassette, BE triple cart player 5301B, Neumann M49 tube mic, Neumann U67 tube mic, White 4001 1/2 octave, 3M 79 resolver, Magnatech counter 9D, Over 100 more items. Best Offer. BRIAN (213) 461-3717.

Ampex 440B 4 track mounted, very good condition \$3,500. Days (203) 655-8911, ask for Mr. Cohen, Evenings (914) 667-1846.

CLEARANCE

New SWITCHCRAFT 1600 TT patch-bays assembled \$185 each; TT patch cords, TT 124.2 ft \$9.50 each; TT 127.4 ft., \$1.50 each; TT 164 dual, 2 ft \$16 each; CPC 102K TT to phone connector 5 ft \$19.50 each, quantities limit-

ed, \$25 min. New AMEK-TAC SCORPION 16-8-2, less than \$5,950, TASCAM 38, SHURE 57 & 58. Call for great prices, used Neumann U-47 Fet (1 left \$450), CSE Audio, Rochester, NY (716) 227-7763 or new showroom (716) 325-4530.

NEW Studer A80 24 Trk Rec.; Mark III w/full R/C, locator & locator stand \$29,000.00. 8) MCI 416 Modules -\$4,250.00. Tascam 8516 16 trk rec. w/dbx - \$8,000.00. Tascam 8516B 16 trk rec. w/dbx - \$8,750.00. Tascam 70 8 trk rec. - \$1,700.00 negotiable. MCI JH110A 1" 8 trk rec., only 200 hrs use - \$6,000.00 negotiable. Tascam 15, 24 in, 8 buss out, 16 mon., new IC's - \$6,500.00. MCI JH-24-24 trk rec., w/ALIII - \$21,000.00. MCI JH10 AL1 - \$7,500.00. ALL Available Immediately. B.A.E., Randy Blevins (615) 361-8429 and 361-6768.

Employment Offered

Audio console test/service technician. Send resume to: Wheatstone Corporation/Audioarts Engineering Division, 5 Collins Road, Bethany, CT 06525

ELECTRONIC TECHNICIAN

Cassette tape mfg. plant is in need of an experienced electronic technician to troubleshoot and maintain high-speed duplicating equipment. Must have good background in electronics. Send resume to: ElectroSound LA, 9545 San Fernando Rd., Sun Valley, CA 91352.

Instruction

BE A RECORDING ENGINEER!
New classes quarterly.

INSTITUTE OF AUDIO/VIDEO
ENGINEERING
1831 Hyperion, Dept. E
HOLLYWOOD, CA 90027
(213) 666-3003

I.C.A. INSTITUTE OF COMMUNICATION ARTS

Chief Administrator: Niels Hartvig-Nielsen, Shannon Barker. A one year "Communications Media" program and/or part-time courses available. Audio Engineering, Video Production, Entertainment Business, Synthesizers/Modern Electronic Music, Music Theory, Music Arranging, Communications, Record Production, Sound Reinforcement, Systems and Sound. 700 hours of "in-studio." Financing available. For more information please call or write: I.C.A. Institute of Communication Arts Assoc., 2nd floor, 1730 Burrard Street, Vancouver, BC, Canada V6J 3G7, (604) 734-5474.

LEARN FROM THE PROFESSIONALS

ELECTRIC BASS

By Carol Kaye:
How to Play the Elec. Bass . . . \$4.95
Elec. Bass Lines #1 3.95
Elec. Bass Lines #2 3.95

Personally Yours 4.95
Elec. Bass Cassette Course . . 35.00
Elec. Bass Lines #3 3.95
Elec. Bass Lines #4 4.95
Elec. Bass Lines #5 3.95
Elec. Bass Lines #6 3.95
How to Play Elec.

Bass Chords 4.95
and:

Easy Elec. Bass (Carroll/Kaye) 4.95
Jazz Improvisation - Bass Clef (Most) 5.95

GUITAR

Joe Pass Guitar Style 6.95
J. Pass Guitar Style
Cassette 9.00
Jazz Guitar Solos (Pass) 4.95
J. Pass Guitar Chords 3.95
J. Pass Chord Solos 4.95
Jazz Duets (Pass/Ellis) 5.50
Jazz Duets Cassette 7.95
Laurindo Almeida Guitar 6.00

Foreign postage: \$2.00 1st book, \$1.00 ea. additional. \$1.50 for cassette. \$8.50 C.K. Bass Cassette Course - \$13.50 to Australia, N.Z. & Asia.

Sorry, no CODs. Colorado add 6% tax.
Good store discounts.

GWYN PUBLISHING CO.
5555 D.T.C. Parkway, Suite 1017
Englewood, Colorado 80111
(303) 699-7928

GOOD MUSIC MAKES
A HAPPY WORLD

Free Catalog

Maintenance Services & Repair

HIGH SPEED TAPE DUPLICATORS

COMMERCIAL AUDIO PRODUCTION'S Technical Service Division provides factory-authorized service and parts for Ampex, Electro-Sound, Gauss, Grandy, Trayco, Otari and other high-volume tape duplicators. We can repair, rebuild, or expand your system in-plant at great savings over purchasing new equipment. Speed and format conversions our specialty. STUDIOS & PRESSING PLANTS: Expand into tape duplicating with a rebuilt machine from us. Complete consulting services available. Write or call: C.A.P., Inc., 33B Hillside Terrace, White Plains, N.Y. 10601. (914) 997-8221.

AUTHORIZED DEALER API PRODUCTS

Wolff Associates is now an authorized dealer for all API/Datatronix audio products. Give us a call for new API modules or for factory spare parts. Wolff Associates will repair older modules, etc. We do on location console/studio trouble shooting. Wolff Associates, 1378 Northgate Sq., Reston, VA 22090, (703) 689-0448.

AMPEX

Parts - Tape - Recorders
Northwestern Inc.
1-800-547-2252

Record & Tape Services & Supplies

AUDIO CRAFT CO.
Audio Cassette Duplication
Real Time
Demo Cassettes Improved
Fr. Res. 20 to 20k Hz ± 2
"Satisfaction Guaranteed"
WHILE-U-WAIT SERVICE
AVAILABLE
2701 E. Sunrise Blvd.
Ft. Lauderdale, FL 33304
(305) 563-0553
Toll free: 1-800-432-0405 (FL.)

BLANK AUDIO
& VIDEO CASSETTES
20TH ANNIVERSARY
CHEAPEST PRICES IN TOWN
• Audio cassettes • Video cassettes
• Mastering tapes • 8 tracks
Don't delay - call today!!
For more information
Andol Audio Products, Inc.
4212 14th Avenue
Brooklyn, NY 11219
Call Toll Free
(800) 221-6578
N.Y. Res. (212) 435-7322

REAL-TIME

Cassette Duplication C45 as low as 98¢. 4-color printing, foil labels, shrink wrap. Send for complete price list & services inc. bulk price on AGFA & chrome tape. CAT, 3005 W. Glendale Ave., Phx, AZ 85021 (602) 246-4976

EXXEL
PROUDLY PRESENTS
AGFA AND MAGNETIC MEDIA
PREMIUM AUDIO CASSETTES
PRICE EXAMPLE
AGFA 612 **C-60 74¢**
High Speed Duplicating Too:
(Discounts to recording studios)
ANY CUSTOM LENGTH
FULLY GUARANTEED
VIDEO CASSETTES. TOO
EXXEL
102 NORTH DITMAR STREET
OCEANSIDE, CA 92054
619-722-8284

BASF & AGFA chrome & normal bias cassettes. Also AGFA master tape in case quantities at dealer cost. Send for wholesale price list.

WORLD CLASS TAPE
Box 7611 Ann Arbor, MI 48107
(313) 662-0669

HRC MAGNETICS AUDIO & VIDEO TAPE MANUFACTURERS

12th year servicing the audio/video tape industry. Custom cassette bin loop duplication, 4 color liner printing, custom loaded BASF "Pure" Chrome cassettes: C-60 69¢ for 1M,

C-90 95¢ for 1M, 3M & Ampex Reel Tape, ¼"-2". Norelco & Poly Boxes, recording supplies. ¾" U-matic video loading/reloading. Free complete brochures available upon request. Write or call: HRC Magnetics, 1611 Herring, Waco, TX 76708, (817) 756-5303.

FACTORY DIRECT PRICES ON 3M TAPE.

We can save you money.

We ship from stock. Small quantity orders O.K.

STUDIOWORKS

(800) 438-5921

PROFESSIONAL RECORDING SUPPLIES

We are a major distributor of Ampex, Agfa & 3M bulk & reel master tape from ¼" to 2". We also stock empty reels, boxes, video cassettes, Norelco boxes & other recording supplies. We manufacture custom length bulk cassettes using top quality tapes. Cassette duplication service available. Please call or write for our FREE catalog.

Advance Recording Products

7190 Clairmont Mesa Blvd., San Diego, CA 92111

In Calif.: (800) 858-1061

CA Phone No: (619) 277-2540

Outside Calif.: (800) 854-1061

RECORD PRESSING

Midwest's newest & finest record plant specializing in custom pressing. 7", 9", 10", 12", colored vinyl, picture disks, custom packaging, premium work, competitive prices, fast turnaround. For more info: Contact Lenny Eames, Precision Record Labs Ltd., 521 W. 26th, Chicago, IL 60616, (312) 225-9117.

REAL-TIME CASSETTE DUPLICATION

from analog or digital masters, we are the finest, most elaborate facility in the world. Complete packaging, price competitive. Call MIRROR IMAGE (303) 751-2268.

—FROM PAGE 144, *THE LOOK*

James and the Shondells, Grand Funk, Ted Nugent and Iggy Pop. And, being an ardent Anglophile, he cites Mick Jagger and Rod Stewart as lead vocalist role models.

For the current Fantasy album, *The Look* hooked up with producer Phil Kaffel, who steamed in the group sound and made guest artist Tim Gorman's keyboards prominent in the mix. The shift carried certain commercial implications which Edwards is quick to admit. "I listen to the pop stations a lot and try to get a feel for the Top 40 songs, 'cause as a writer you gotta target yourself for radio.

GET IN ON THE ACTION

How to Place a Mix Classified

Please print or type in CAPITAL LETTERS and lower case. There are 8 lines to the inch and approximately 24 CAPITAL letters per line or 30 lower case letters. \$60 per inch — 1" minimum. Additional lines \$10 per line. **Bold type** \$10 per line. Black border or gray screen \$10 extra. Logos or display advertising up to 4" will be charged at \$75/inch. Multiple insertion rates at 10% discount.

Deadline is 6 weeks preceding issue date. Multiple insertion categories available (check one).

- | | | |
|---|---|---|
| <input type="checkbox"/> Employment Wanted | <input type="checkbox"/> Equipment Rentals | <input type="checkbox"/> Equipment Wanted |
| <input type="checkbox"/> Instruction | <input type="checkbox"/> Recording Services | <input type="checkbox"/> Rehearsal Space |
| <input type="checkbox"/> Employment Offered | <input type="checkbox"/> Miscellaneous | <input type="checkbox"/> Equipment for Sale |
| <input type="checkbox"/> Record & Tape Supplies | <input type="checkbox"/> Maintenance Services | <input type="checkbox"/> Business Opportunities |

Name _____

Address _____

Phone _____

If paying by: VISA MASTERCARD

Card #: _____ Expiration Date: _____

Name on card: _____

Payment by check or money order must accompany ad.

Mail to: **Mix Classified, 2608 9th St., Berkeley, CA 94710 (415) 843-7901**

AUDIO DISC MASTERING

Midwest's newest Neumann transfer system is now open for your highly specialized needs. Call or write for details. Precision Disk Works, 932 W. 38th Place, Chicago, IL 60609, (312) 225-9117.

DISC MASTERING - Cut from your tapes at low cost - Plating, Pressing, Labels & Jackets - LPs, EPs & 45s. Write for free information:

THE CUTTING EDGE

Department M
Box 217, Ferndale, NY 12734
(914) 292-5965.

Studios For Sale

TOP RECORDING STUDIO FOR SALE OR LEASE. Centrally located in Manhattan. Top equipment and installations, established business. Principals only. Write or call: RCH Management Co., 445 W. 45th St., NY, NY, 10036, (212) 408-1630.

House With Recording Studio

for sale West LA Area - Canyon view setting near Malibu beaches. Architect designed redwood with decks, hot tub, tile, 3 bedroom, 220 sq. foot control room, 280 sq. foot studio with air cond. & elec. per Westlake Audio specs. \$279,000. Call Marty (213) 652-4830.

Major Hollywood Recording Studio For Sale: Real Estate, building and state-of-the-art equipment, 48 trk capability. For information call Coldwell Banker, Commercial Real Estate Services, 9858 Wilshire Blvd., Beverly Hills, CA 90210, (213) 550-2500.

Miscellaneous

Free sample copy . . .

of **GOLDMINE**, the world's largest record collector's publication! Thousands of records for sale in each issue. All types of music, all eras. Plus articles on recording stars past and present, record & music book reviews, discographies. Free sample or send \$22 for 13 issues.

GOLDMINE

Circulation Dept. AGU
700 E. State St., Iola, WI 54990

Need a Hit?

The Song Brokers
3262 Central
Alameda, CA 94501
(415) 523-9876

AKG-SPECIAL IN STOCK-IMMEDIATE SHIPMENT

FACTORY FRESH U.S. WARRANTY

C414EB-P48 \$560

C460B \$245

(Shipping \$3.00-C.O.D. OK)

MICROPHONICS

PO Box 37

BROOKLYN, NY 11204

(800) 431-3232

(212) 438-6400

AUDIO REFERENCE BOOKS

All the best are available through the Mix Bookshelf. See page 167.

—FROM PAGE 93, *STONES*

plicated from the actual film transparencies. The Artbook also has a section, "Recording the Rolling Stones," featuring exclusive interviews with key producers and engineers. Also included in the package is MFSL's Geo-Disc cartridge alignment tool (with instructions).

As an additional incentive, the company is offering a limited-edition poster of the "censored" original version of the *Beggars Banquet* cover, which can be obtained by returning a postcard which is enclosed in the *Collection* box.

List price of the Original Master Recording Collection of the Rolling Stones is under \$250.00. ■

All in all, the album shot with Fantasy, the experimentation with new sounds and the expanded schedule of touring have rejuvenated Edwards' never-say-die rock and roll spirit. "For awhile there," he recalls, "I was getting so frustrated and so bored, nothing was happening. That's when you think, 'Well, fuck, what did I do? I shoulda went to college and become a lawyer or a draftsman.' And then you say, 'No, you're wrong, dummy. You're having fun at this. Just keep thinking positive and something's gonna happen.' Then you get a deal with Fantasy and then you start feeling better again."

—Derk Richardson

ADVERTISERS INDEX

PAGE ADVERTISER

- 132 AB Systems
- 152 Adams • Smith
- 92 Akai/IMC
- 163 Dan Alexander Audio
- 111 Allen & Heath Brenell USA
- 124 Alpha Audio
- 171 Ampex
- 115 ANT Telecommunications
- 91 Aquarian Accessories
- 103 Audio Centron
- 43 Audio Digital
- 59 Audio Graph
- 129 Audio Intervisual Design
- 172 Audio Kinetics
- 104 Audio Vision
- 44 Auteri Associates
- 57 AVC Systems
- 60 Beachwood Studios
- 85 Berklee College of Music
- 45 Beyer Dynamic
- 15 Biamp Systems
- 110 Billboard
- 90 Bonneville Media Communications
- 84 Bryston Vermont
- 108 Carleton Productions
- 161 Carver
- 98 Center for the Media Arts
- 142,143 Cetec-Vega
- 128 Charlex
- 99 Countryman Associates
- 117 Crawford Post-Production
- 26 Crown International
- 23 dbx
- 93 Decillionix
- 9 Digital Entertainment Corporation
- 101 DOD Electronics
- 90 Dyna-might Sound & Lighting
- 87 E.A.R. Professional Audio
- 94 East Coast Sound Specialties
- 80 Emilar
- 29 Flanner's Pro Audio
- 73 FM Acoustics
- 82 Fostex Corporation of America

PAGE ADVERTISER

- 41 Full Compass Systems
- 63 GHL Audio Engineering
- 98 GLI Integrated Sound
- 125 Alan Gordon Enterprises
- 121 GRD
- 50 GRM
- 2 Harrison Systems
- 64 High Fidelity Recording
- 83 Hill Audio
- 60 HRC Magnetics/Hix Recording
- 37 Hy James Audio
- 97 Ibanez
- 33 JBL
- 22 Jensen Transformers
- 99 JRF Magnetic Sciences
- 153 Sherman Keene Publications
- 81 Klark-Teknik
- 138 LaSalle Music
- 64 LD Systems
- 106 LEMO USA
- 11 Lexicon
- 154 Linear & Digital Systems
- 159 The Little Mountain Sound Studios
- 135 Master Digital
- 66 Media International
- 155 Midem
- 65 Midwest Custom Record Pressing
- 21 Milam Audio
- 133 L. Matthew Miller Associates
- 137 Music Masters
- 52,53 Neotek
- 131 Orban Associates
- 4,123 Otari Corporation
- 50 PAIA
- 79 Peavey Electronics
- 154 Perspective Audio
- 141 Pierce Phelps
- 72 Plantron
- 147 Polyline Corporation
- 145 Power USA
- 127 ProAudio Systems
- 47 Professional Audio Services & Supply

PAGE ADVERTISER

- 151 Professional Audio Services & Supply/Aces
- 19 Professional Audio Services & Supply/Zetka
- 44 QCA Custom Pressing
- 95 Rane Corporation
- 165 The Recording Workshop
- 84 Renkus-Heinz
- 139 Rockamerica
- 89 RolandCorp US
- 65,73 Saki Magnetics
- 119 Samson Music Products
- 113 San Francisco Production Group
- 104 Sennheiser
- 91 Simmons
- 35 Sound Summit
- 27 Sound Technology
- 7 Soundcraft Electronics
- 146 Spectrum Design and Development
- 93 Sprague Magnetics
- 158 Storer Promotions
- 31 Streeterville Recording Studios
- 12,13 Studer Revox
- 69 Studiomaster/IMC
- 125 Swintek
- 170 Symetrix
- 34 Synchronous Technologies
- 147 The System
- 102 Tama
- 17 Tascam
- 77 Telex Communications
- 137 Peter Tempel Audio
- 67 Toa Electronics
- 75 Trident USA
- 162 Trebas Institute of Recording Arts
- 158 United Tape
- 61,72 Universal Recording
- 146 Westec Audio/Video
- 80 White Instruments
- 10 Wireworks Corporation
- 157 World Records
- 25 Yamaha International



WE'RE EXPANDING!

That's right! We're Expanding and Compressing and Limiting and Gating and

Ducking and Reducing Noise. Listen closely and you'll hear that our line of dynamic range processors is the most versatile in the industry. Not only can we boast of unbeatable specs and competitive pricing, but most important, our processors sound great... which means

they make you sound great! If audio is a part of your life, then we can make life easier for you! Call or write for details.

Symetrix

109 Bell Street
Seattle, Washington 98121, USA
Telephone (206) 624 5012
Telex 703282

AMPEX GRAND MASTER® 456

Confidence is what you buy in Ampex Grand Master® 456. Confidence that lets you forget about the tape and concentrate on the job.

That's because we test every reel of 2" Grand Master 456 Professional Studio Mastering Tape end-to-end and edge-to-edge, to make certain you get virtually no tape-induced level variations from one reel to the next. The strip chart in every box of 2" 456 proves it.

No other studio mastering tape is more consistent. No other mastering tape is more available, either. With Ampex Grand Master 456 you have the confidence of knowing we stock our tape inventory in the field. Close to you. So we're there when you need us.

Confidence means having the right product at the right time. That's why more studios choose Ampex tape over any other studio mastering tape.

AMPEX

Ampex Corporation • One of The Signal Companies



Circle # 169 on Reader Service Card

Ampex Corporation, Magnetic Tape Division, 401 Broadway, Redwood City, CA 94063, (415) 367-3809