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THE RECORDING INDUSTRY MAGAZINE

Mix[®]

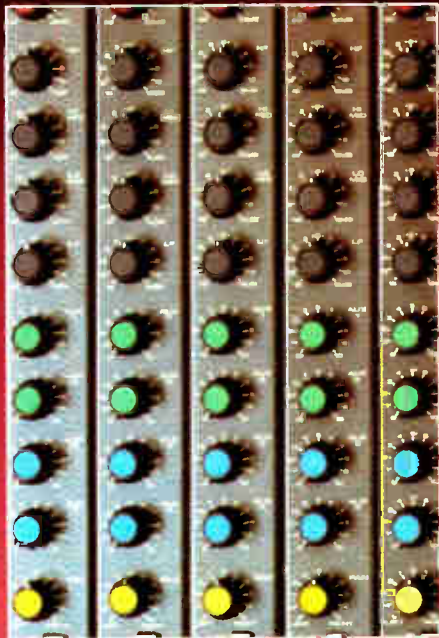
Interview: Herbie Hancock

Listings:
North Central Studios
Special Report:
Compressors/Limiters

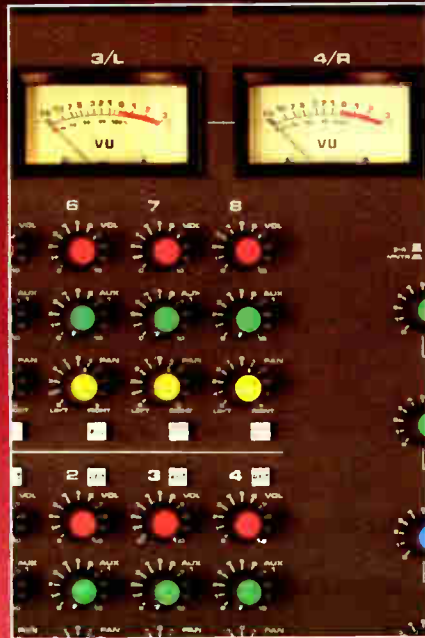
Canadian Recording
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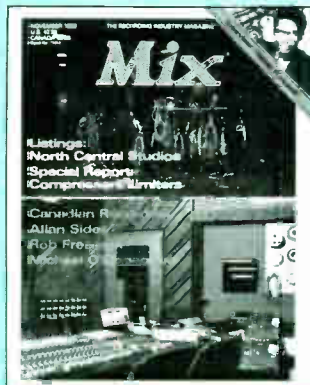
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World Radio History



Cover: (Top) Red Label Recording Studio in Winnetka, Illinois.

(Bottom) Chicago's Streeterville Studios
 Photo: David Kogan

Corner photo of Herbie Hancock by Barbara Matthews



Over the past few years, the Canadian music scene has grown by leaps and bounds. Our *Spotlight on Canadian Recording* checks in with some of our friends north of the border for some insight on this evolving industry. Page 54

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Allan Sides, audio engineer par excellence and longtime microphone collector, talks about the subtleties of recording the human voice in *Vocal Miking with Allan Sides*. Page 64



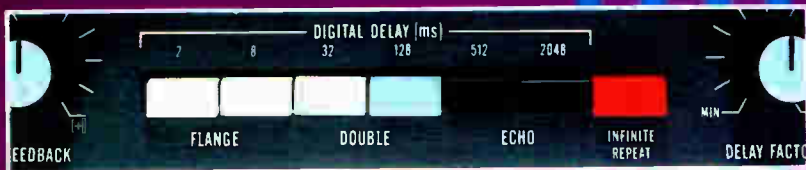
Our *Special Report: Compressor/Limiters* covers the theory of operation, practical applications, and the creative uses of these basic yet versatile studio tools. Page 68

In a revealing interview, keyboardist extraordinaire *Herbie Hancock* talks about his new album and the effect of synthesizers on his music. Page 84. Here pictured from left to right are Material's Michael Beinhorn and Bill Laswell, and Herbie Hancock.

Photo: Jim Britt

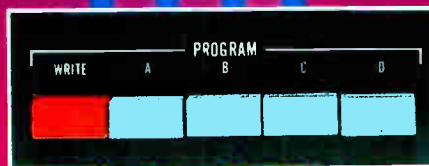


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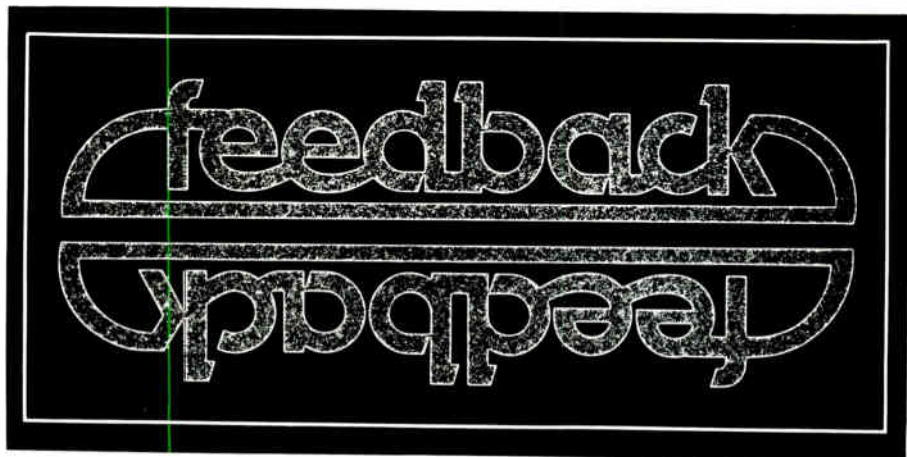
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Dear Mix,

In your Sept. 1983 issue, you printed an article on EFX Systems.

In the short "Spotlight" you incorrectly stated that the scoring for "Man With Two Brains" (Joel Goldsmith) and "Psycho Two" (Jerry Goldsmith) were done at EFX Systems.

In actuality, we did pre-production work, music and effects on both films, not the scoring.

Sincerely,
B.B. Cooper
Production Manager
EFX Systems
Burbank, CA

(Ed. note: This is in response to Mr. Jerry Jacob's letter in the September Feedback.)

Dear Mr. Jacob:

I am not unacquainted with your design of the Tres Virgos Studios, having read your article on the subject published in the April 1983 issue of the English magazine Studio Sound.

The concept of an LEDE control room was discussed by me in 2 articles published in db Magazine and in one published in Recording Engineer/Producer, and in 2 letters published in db Magazine representing pro and con arguments on the subject by Don Davis and myself in the Spring of 1980. I said that I had visited such a control room in Hollywood and had brought with me a violin virtuoso, and that our listening tests did not find the enclosure satisfactory.

Yours truly,
Michael Rettinger

Dear Mix,

There was an error in the listing for Village Recorders in our So. Calif. Studio Directory (Sept. issue). Joel Fein is no longer the manager. Kathy Konop is the current manager of Village. The new Traffic Manager is Micheline Kalfa.

Sincerely,
Kathy Konop
Village Recorders
W. Los Angeles

Dear Mix,

Are you turning into a video magazine? I've been in audio for a long time, I enjoy it, and I plan to stay in audio. Am I out of touch with reali-

ty because I haven't gotten into video? There must be others out there like me who are sound professionals and happy to stay that way. Please don't change your pro audio emphasis just because video happens to be "in".

Guy Hogan
Chatsworth, CA

Dear Guy,

Pro audio is near and dear to us, and always will be. We have as our continuing goal to explore and present the best information we can find on the past, present and future worlds of professional sound recording. So where does video fit in? Very simply. The rapid development of the video industry is opening up many opportunities for sound professionals. Beyond that, the evolution of video programming demands the attention to audio detail in order to grow from the 3" mono speaker world into the high fidelity sight and sound home entertainment environment of the Eighties. Because of these opportunities and needs, we feel a responsibility to promote an understanding of the video production realm, as it relates to audio. We know it might not be for everyone, but we'd like to stay in tune with those audio pros who increasingly find their jobs interfacing with the visual media forms. And as for the hardcore audio types, we're still with you. Rest assured that we are not turning into a video magazine.

—Ed.

Dear Editor,

I had to write you a letter, which is something I never do. I pick up your magazine every time I'm in the studio (I'm a musician) but I never realized that you ran a crossword puzzle. Your last issue was a thrill. I'm a crossword puzzle nut and I was surprised to find that I almost had to fight another guy in our band for the first chance at the puzzle!! We decided to go xerox it off at the local xerox place and leave copies for other musicians that are as crazy about good puzzles as we are. We put the extra copies inside the cover of the magazine. I must say, it was such a relief to do such a good and hard puzzle. Your "Armand E. St. Martin" is an intelligent puzzle maker and to that, I take off my hat both to him and to you as an editor who *knows!*

Ciao,
Steve Gentry
Redding, CA

NORTHEAST

The *Count Viglione Band* was at *Sound Design Studios*, Burlington, MA, to record their third LP for New Rose Records of Paris entitled "The Intuitive Element", with Jimmy Miller producing, Brad Szostek engineering. . . . Sessions at *Unique Recording*, New York City, include *Edgar Winter* recording and mixing "Frankenstein 1984" produced by Edgar Winter and *Tom Silverman* for Body Rock Records. *Frank Heller* engineering, *Cathy Gazzo* and *Steve Pecorella* assisting. . . . At *Normandy Sound*, Warren, RI, *Hersh Gardner*, former drummer with New England, has been busy producing demos for *Lenny Gardino* and *Axminster Molly* engineered by *Phil Greene*, assisted by *Joe Moody*. . . . *Michael Franks* is in working on his next Warner Brothers album at *Skyline Studios*, N.Y.C. with *Rob Mounsey* producing and *Marti Robertson* engineering. . . . *Roadway Recorders* mobile audio facility based in New Jersey has recently recorded a three-day festival, a Bluegrass and Old Timey Music weekend on location in Monticello, N.Y. . . . Recent activities at *Stillwater Sound Studio*, Stamford, CT, includes the recording of "Davey Crockett" by *The Factory for the Eccentric Actor* (FEX), produced by *Darrel Hanzalik* for Franklin Records, engineered by Dominick Costanzo. . . . At the *19 Recording Studio*, South Glastonbury, CT, *Melba Moore* is busy finishing her new album, while popular background vocalist, *Scott A. White III* is readying tracks for his first solo release, both being produced by *Rahni Harris*, chief engineer *Ronny Scalise*. . . . At *Celestial Sounds*, New York City, *Kenny G.* is mixing his new album for Arista. *Wayne Brathwaite* and *Kashif* producing. *Steve Goldman* engineering, *Ron Banks* and *Dean Cochren* assisting. . . . Activity at *Spectrum Recorders*, Lanesborough, MA, includes *Mason Adams* recording voice overs for the new Hickory Farms "Best Way" campaign from Ogilvy & Mather and Bank One of Ohio from Swink/Kight Haunty. . . . At *Kajem Studios*, in Gladwyne, PA, *Brace New World* is cutting an EP for independent release, and *Traveler* is also cutting an EP for independent release. *Joe Alexander* engineering. . . . At *Greene Street Recording*, Soho, NYC, *John Robie* producing *Jenny Burton* for Atlantic, *Rod Hui* engineering, *Joe Arnold* assisting. . . . Activities at *Sigma Sound Studios* in New York City include remix sessions of CBS recording artist *Billy Joel*. *John "Jellybean" Benitez* produced the remixes with *John Potoker* engineering and *Melanie West* assisting. . . .

SOUTHERN CALIFORNIA

Activity at *A&M Recording Studio* in Hollywood includes *Barbra Streisand* in Studio "A", with *Phil Ramone* producing, *Don Hahn* engineering, assisted by *Clyde Kaplan*. The project is utilizing both analog multi-track and Sony's new

24-track Digital Recorder. *Sergio Mendes* is in Studio "D", Sergio producing, *Bruce Swedien* engineering and *Benny Faccone* assisting. . . . At *Orange Entertainment Center*, Orange, CA, *Roma* is cutting new tracks for high velocity records. *Bob Heinlein* is producing and *Jim Melonakos* is engineering. The LP is slated to be released later this year. . . . Sessions at *The Village Recorder*, in West Los Angeles include *The Four Tops* doing album overdubs with producers *Willy Hutch* and *Harvey Fuqua*, *John Harrison* engineering and *Doug Williams* assisting. . . . At *Group IV Recording* in Hollywood composer *Pat Williams* laying vocal tracks on score for feature film "Me Two" for Old Time Productions and scoring new NBC series segment of "Mr Smith" for Paramount Pictures with engineer *Hank Cicalo*, assisted by *Andy D'Addario*. . . . At *Mars Studio* in Hollywood, *Curtis Nolen* is producing *Rockwell*, a new act for Motown Records with *Arne Frager* at the console. Also, *Dana Meyers* is producing *The Spinners'* new LP with *Scot Skidmore* at the console. . . . *Cameo* spend several days tracking and mixing an upcoming Mello Yellow commercial for the Coca-Cola company at *Larrabee Sound* in Los Angeles. Producing the spot is the Atlanta-based *Larry Blackman* with engineer *Tom Race*, assisted by *Sabrina Buchanek*. . . . Live/Arista recording artists *Q-Feel* are mixing the second single off their *Heroes Never Die* album at *The Complex* in West Los Angeles. *Martin Page* and *Brian Fairweather* are producing the project which *George Massenburg* is engineering. The single is being mixed on GML Research's newly-developed moving fader automation system, just installed in Studio C. . . . *John Bahler Associates* of Los Angeles invoked the wrath of King Neptune in commercial music for Activision's new Sequest video game and agency, J. Walter Thompson, San Francisco. The music for the television commercial was composed entirely on JBA's Synclavier II synthesizer. *Fred Schiller* produced for J. Walter Thompson; *Jon Hyde* was the associate creative director. . . .

NORTHWEST

Applewood Studios in Golden, Colorado, inaugurated their new Studer A800 MK III 24-track recorder with sessions by *First Born*, and *China Breaks*. Another Denver-based group, *Back Seat* has recorded a single, "Mayday" b/w "Last Chance", produced by Jeff Wood and engineered by Steve Counter. . . . *Ronnie Montrose* and *Michael Froom* have completed their new EP with *Roger Wiersema* behind the board. Also, *Murphy's Lawyers* have completed a six song project with *Tom Size* engineering. . . . Action at *The Automatt*, in San Francisco, includes *Stacy Lattisaw & Johnny Gill* recording a duet album for Atlantic. Records with *Narada Michael Walden* producing, *Leslie Ann Jones* engineering, and *Maureen Droney* assisting. . . . At *Montage Recording Co.*, Newark, CA recent

activity includes *Bill Christiansen* doing overdubs on an album for Motown Records, Bill producing and *Dave Hartzheim* engineering w/*Randy Spendlove* and *Alan Tomlinson* assisting; and EP's in progress for *Atom* and *CIA*, *Will Mullins* producing for Gypsy Productions. . . . Recent mastering sessions at *Sonic Arts Corp.* in San Francisco include *Fred Firth's* "Cheap as Half the Price", *Snakelinger's* "Picnic in the Jungle", and *Tuxedomoon's* "A Thousand Lives by Picture", all cut by *Leo de Gar Kulka*. . . .

NORTH CENTRAL

At *The Disc, Ltd.* in East Detroit, MI, sessions include *Ken Wilson*, produced by *Rickie Callier*, working on a gospel album, and *George Clinton* working on a new album for Capitol. . . . At *Universal Recording*, Chicago, IL, tracks are being cut for an upcoming *Chi Lites* album, with electronic drums by *Vince Gutman*, and engineering by *Danny Leake*. . . . At *Streeterville Studios*, in Chicago, sessions include the *Preservation Hall Jazz Band* cutting tracks for upcoming TV special and completing radio tracks for Budweiser Light. *Jim Dolan Jr.* at the board. . . . Activity at *The Chicago Recording Company* includes sessions for the new release by popular Chicago reggae/rock band *Heavy Manners*. Reggae star *Peter Tosh* co-producing with *Donald Kinsey*, his collaborator and guitarist. *Linda Mensch* executive producer, *Dennis Thompson*, engineering. . . .

SOUTHEAST

Recently activity at *Songbird Studio* has included Corporate Media Communications headed by producer *Jim Dellis* producing tracks for IBM's BOKA Show, AV Spectrum's Southern Bell program being done in-house at Songbird, *Wayne Howe* producing a Williams Bros. jingle and *Ernie Earnest* producing The American Fitness Center jingle. . . . Activity at *Disc Mastering Inc.* in Nashville includes *Joe Stampley* next Epic single, "Double Shot Of My Baby's Love" b/w "Penny". The project was mastered by *Randy Kling*, with Stampley and *Kent Lavoie* producing. . . . The *Oak Ridge Boys* are in *Woodland Sound's* Studio A cutting tracks for their next MCA album. Producer *Ron Chancey* is working with engineer *Les Ladd*. Assisting on the project are *Ken Corlew*, *Andy Benefield*, *Tim Farmer*, and *Ken Cribblez*. . . . *Mac Davis* and his producer, *Garth Fundis*, have resumed work on the album they began at Nashville's *Sound Emporium* for Polygram Records last spring. *Gary Laney* is engineering. . . . At *Bullet Recording* in Nashville, *Donna Wyant* is producing a jingle package for CBN, the Christian Broadcast Network with *Jim Baird*, *Scott Hendricks* and *Danny Mundhenk* engineering. . . . At *Music Mill*, in Nashville, *Jim Ed Norman* producing tracks on *T.G. Sheppard*, *Kieran Kane*, *Eric Prestidge* and *Marshall Morgan* engineering. Also doing



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NORTH CENTRAL RECORDING

A Silent Storm Gathering Force

by Cary Baker and George Petersen

While the recording activity on the coasts continues to snare the headlines, a silent storm is gathering forces in the North Central region. Studios are booked, facilities expanding, services diversifying and markets are developing artistically. The astute Midwest studio owners are seeing a clearer economic picture of the '80s. It hasn't moved them to cower or to divest. The opposite, in fact, is true—new staff and equipment have been brought in to meet the growing demands of the Heartland music industry.

"It came down to looking at our marketplace and expanding to include audio services for film, A/V, feature films, TV scoring and multimedia shows as well as the original clients we've had in the music business," says Hank Neuberger, operations manager for the Chicago Recording Company (CRC), which commemorates its ninth year of operation with the construction of its ninth studio. "It's growth through diversification. We're expanding our client base so that we aren't as dependent as we once were exclusively on the music business."

Neuberger cites CRC's acquisition of such gear as time-code generators, 1-inch video recorders and multi-machine synchronizers as the studio's foundation for new growth.

"But," cautions Neuberger, "video equipment is expensive. You have to get into it slowly because you have to know you're going to be supported. As clients develop new needs, you don't want them to go to some post-production house or competing studio, so you learn along the way."

"By the time they find out you didn't know what you were doing," jests the seasoned audio engineer, "you'll have figured it out."

CRC conducts no digital master recording at the moment, "simply because no one single client of ours has expressed an interest in paying a premium for it. The ability to interface with video has been a much more sought-after service for which clients seem more than happy to pay whatever costs apply."

"Digital is almost a phantom issue—it seems to be of genuine interest to manufacturers and audiophiles at this time," Neuberger adds. "I'm sure that five to 10 years from now, there will be a new awareness among consumers. If clients did want digital and wanted to work in our studio, the gear is rentable and I'd bring it in for any client who's willing to pay."



Cincinnati's 5th Floor Recording

*Sound Recorders of
Kansas City, Missouri*



*Opus Recording and
Production Co., Gurnee, Illinois*



Speaking for the Chicago marketplace, Neuberger is optimistic: "The shakeout is over—I get a sense that everyone is working and everyone is selling time, both in small suburban demo/1-room studios and in large multi-media facilities. There seems to be renewed interest from all the different areas that audio clients come from. There's more interest from bands recording independent releases than ever before, with very high-quality product to show for it. And for Chicago not be-

ing a top center for national acts on major labels, we're seeing our share of that, too."

Universal Recording Company's history bears out Chicago's roller-coaster story as a recording center. Universal, like every other Windy City studio, took its lumps when labels like Mercury, Brunswick and Wooden Nickel left for bluer waters. But now, says Universal president Murray Allen, "Chicago has proven a pretty healthy town."

"Those who have moved into

Video Control Room at Sound Recorders in Kansas City, Missouri

the '80s have found that business is picking up. Talent remains the focal point, but now we have new and better ways of recording, and those who succeed are the ones who do it better than it's been done before. Everyone's got to improve their act.

Universal has significantly expanded in the '80s, having upgraded each of its rooms and added video sweetening, among other details. Allen estimates the studio has invested more than \$1-million in improvements since 1980.

"Everything here is computerized and software-oriented. Getting the sound is always made easier when all the cumbersome parts of the recording process are taken away.

"Also, when you have that kind of equipment, you have the tendency to upgrade your entire thinking in a synergistic way."

Speaking for the Chicago market, which runs the gamut from labels like Chi-Sound and CBS/Chicago International, to commercial music houses like Klaff-Weinstein and Joy-Art among some 35 others, Allen says, "We don't have the privileges of the West Coast where anything can be rented inside of an hour's notice. We have to maintain everything ourselves. Because of that, the quality of Chicago studios is a little higher than on the West Coast.

"What everybody in town seems to be doing seems to be in the right direction. Nobody's just going out and spending money foolishly for things that don't add to the sound. A while back, everyone was into glamour, perks, shines and polish. But now I see everyone getting back into the business of equipment, and that's where it should be."

Streeterville Studios in Chicago, featured on this month's Mix cover, have recently completed a major remodeling of their Music One studio. They also added a Neve 8108 48 x 32 console with NECAM custom modified for dual 24 track mixing. Audio for video has also become an important part of their operation, and they have installed an MCI 1" layback machine and an Audio Kinetics Q Lock 3.10 synchronizer into their dedicated remix room. The studio has audio and video tie lines to Optimus Inc., a video facility in the same building, an arrangement which works out quite well, according

—page 16

"LISTEN"

It is a well kept secret that **telcom c4DM** attains the dynamic range of digital recording techniques, yet clearly has a much better sonic quality. This exceptional compander, which has found application in recording studios, satellite transmissions, and video recording, is now available at the affordable price of \$ 650* per **telcom c4DM** card.

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—from page 14

to Streeterville manager Jim Dolan, Jr. Opus, in Gurnee, IL, has upgraded with a new MCI JH-24 24 track recorder, and a Soundcraft 1600 24 x 24 console. They have recently been involved in a variety of projects ranging from Providence on Gospel Light Records, produced by Jim Stewart and Tony Pettinato; to Rick Sacedo (produced by Lou Jones); to the H Men, produced by Fred Bergstrom. Robert Martens, of Solid Sound, Inc., in Ann Arbor, MI has noticed an increasing amount of business for Sasi Sound, the studio's in-house production company. Sasi's first album project was a Christmas record by Fat Bob Taylor of WJR radio; other productions have included a public ser-

vice soundtrack for the National Council on Alcoholism. A recent outside project at Solid Sound was Will Spencer producing Dave Barrett's "Surprise" album for Brothers Records.

United Sound Systems in Detroit has been involved with a wide range of projects over the past year, including a mixdown for a Mitch Ryder concert taped live in Texas and slated for later radio syndication; industrial soundtrack production for Ford Lincoln Mercury, and the mix of "I'm Here Again", the Four Tops single engineered by Mike Iacopelli and produced by Don Davis for the Reliant Entertainment Group, a new Detroit label.

At The Disc, Ltd., in East Detroit, manager Greg Reilly reports

—page 18

Red Label Studio



By Cary Baker

The Chicago area has no shortage of studios boasting extraordinary features. But let's talk for a moment of an eminent estate in Chicago's North Shore suburbs which contains (at least) the most extraordinary feature on its block—a full-service 24-track state-of-the-art recording studio.

But as Fred Breitberg, savvy studio manager and chief engineer of Red Label Recording Co. will tell you, "Come inside the studio—the house disappears."

He's referring to the world-into-itself studio, which occupies a portion of the house's basement. In close to two years of operation, Red Label has

developed a clientele diverse enough to have worked on Alligator Records' blues LP's by Big Twist & the Mellow Fellows, Lonnie Brooks and Albert Collins, as well as Kenny Rogers' recent "Lady" and "Gambler" campaigns for Jovan. The studio, Breitberg explains, was built for an entertainment company which utilizes it approximately three months out of the year. "We're here to service their needs," says Breitberg, "but they want to compete as a recording studio. And I came to the job with a number of regular clients."

His clients have been amassed over 14 years as a recording engineer in Chicago. Beginning at Universal in 1969, Breitberg became accustomed to

—page 20

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—from page 16, RECORDING

the studios investment into audio sweetening equipment (BTX synchronizer and Sony 5800 ¾" VTR) has paid off: "Sound for video was about 10% of our business last year, and it's growing every month." Some of their recent sweetening projects have included a training video disk for Ford, and a video tape produced for the Michigan Youth Corps.

Rustad/Wickhem Video, Inc., a Madison, Wisconsin-based production firm, recently went on line in their new facility, built into the old WISC television studios. According to president John Rustad, the studio is equipped with Ampex 1" VTRs, ADO, switcher, and the new Ampex "Touch Screen" editing system. The company also has both ¾" and 1" editing suites, a remote truck, and a large shooting studio with a 40' x 60' cyc. The audio sweetening studio is now in operation, and features a 2" Soundcraft 16 track recorder, a Ramsa 8816 console, and an Ursa Major 8x32 digital reverb, all from Full Compass Systems.

Randy Hammel, manager of Pinebrook Recording Studios of Alexandria, IN, reports their new facility will be on-line by the middle of this month. The building will house offices, small demo studios and two automated 24 track rooms, the largest of which can handle a full orchestra. The two story, Jack Edwards design incorporates a projection booth built over the control room for film scoring/mixing projects.

"To me, the studio's a big guitar," says Rich Goldman, who, with his wife, Ellen, owns Fifth Floor Studios headquartered in a rehabbed railroad warehouse built in 1887 that overlooks downtown Cincinnati. "I invest in people. Sure, we've done a lot of remodeling. But I believe that if something works, don't mess with it. We have a good, solid console that sounds real fat. But overall, I'm much more into people."

Goldman's artist-oriented approach has proved a winner. Ever since the Ohio Players put the Cincinnati archipelago on the map, recording artists have come out of the woodwork. Fifth Floor has hosted the likes of Fazo-O, Heat Wave, Midnight Star, Dayton, Platypus, William "Bootsy" Collins and Adrian Belew, representing more than six major labels.

How did a city like Dayton—50 miles north of Cincinnati with a population of 180,000, give rise to such a share of young funk talent?

"Basically because it is a small city," explains Goldman. "The Ohio Players made it big and didn't move away. All of a sudden, they were driv-

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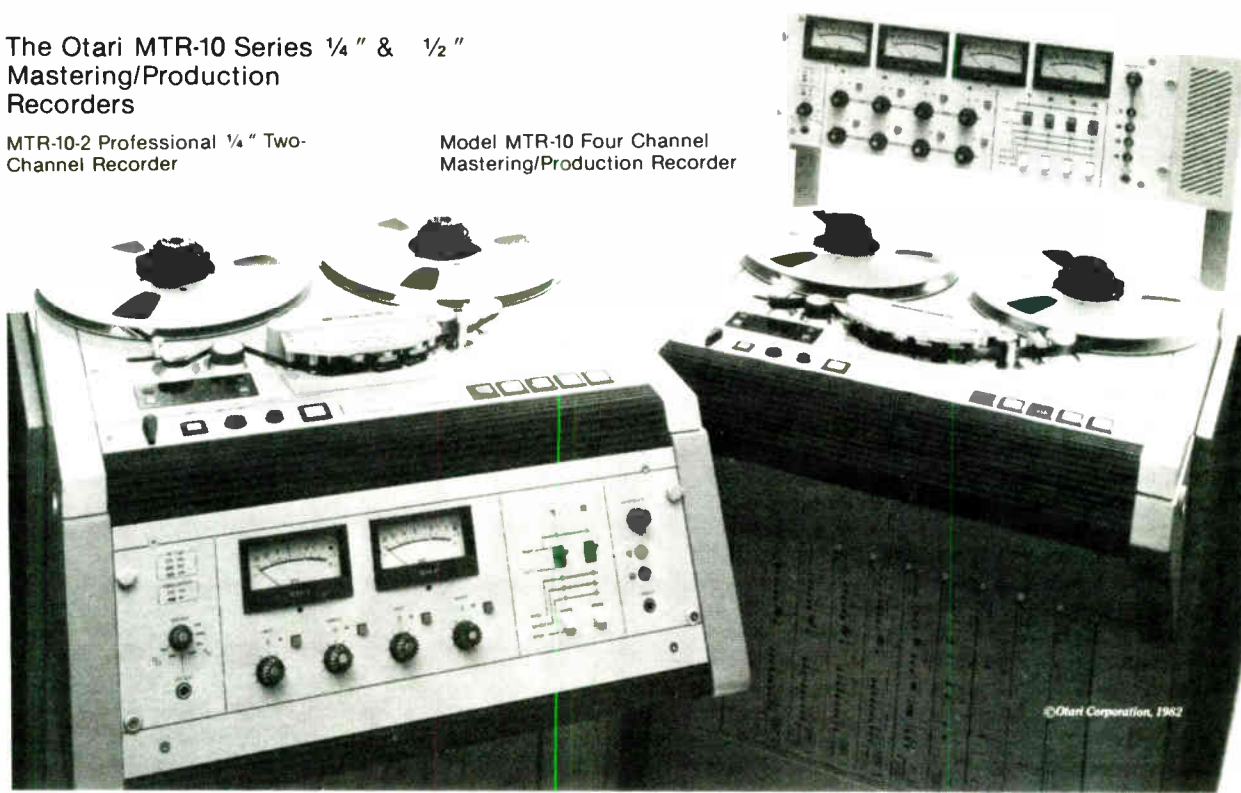
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—from page 16, **RED LABEL**

the high pace of a multi-facility record, jingle and A/V studio. Later, he had the opportunity to join the legendary Chess Studios on the city's South Side, where he worked with luminaries like Chuck Berry, Ramsey Lewis and Etta James. Breitberg even engineered a Neil Young session at the complex.

When the Chess label and studio were laid to rest in 1975, Breitberg moved over to Curtis Mayfield's Curtom Studios on the city's far north side. The sound was no longer "Hoochie Coochie Man" or "The In Crowd," though Curtom was one of Chicago's last label house studios with a house band. There Breitberg engineered innumerable hit records by Curtis Mayfield, the Impressions, Natalie Cole, Linda Clifford, Aretha Franklin and Millie Jackson.

"Once I'd gotten settled at Curtom, I found they had some available time so I started implementing a custom-client situation—their first," he says. Among his first clients was the burgeoning Alligator label, whose Grammy-nominated *Blues Deluxe* compilation was mixed by Breitberg at Curtom.

In a corporate split, Curtom was dissolved, and Breitberg returned to the Magnificent Mile (home of Universal, CRC and Paragon) to work at Streeterville Studios. Again, the demands were varied—jingles, records of all types (blues through "semi-classical")—and Breitberg arose to every situation. "I don't want to just be an R&B engineer or a rock 'n' roll engineer or a jingle engineer," he emphasizes. "I am a **recording** engineer so whatever is thrown at me, I can handle in a competent manner. A good engineer can inspire confidence that results in excellent product."

Breitberg had heard about Red Label Studio while it was still under construction. He was tapped for the job, and started to work as studio manager/chief engineer in February, 1982.

"It was a beautiful studio when I came to it, but it didn't exactly act like one. I changed that," he says. "I reworked every wall and did the ceilings over. The interior walls are covered with an attractive speaker cloth-like material. Sound blows through it and is affected behind it with this treatment.

"The control room underwent a spectacular change—it no longer required massive amounts of speaker EQ. In fact, only a few frequencies are used in the tuning. Acoustically, now, we have a low fatigue factor, and there's no

alteration of frequency response from position to position in the control room, as well as reliable translation to the outside world.

"I then began to work on the studio. First, I wanted to see what I had. So I brought in the Lonnie Brooks Blues Band—regular clients and friends of mine—and had them set up in the middle of the room with no baffles or anything. I recorded a particular song just to see what the room would do on its own. Then I applied the treatment to the studio, and the same band came back and cut the same song with the same mikes in the same spots. I observed the change. The room itself was brighter, yet the high-end frequency leakage was down by a factor of 9 dB and I gained an octave of bass and reduced that leakage by more than 5 dB. What happened? I'm not sure. But I needed it and I got it."

"The band can play live with only a couple of baffles in use and I'm able to repair any mistakes," he says. "Music is made by musicians being near one another so they're able to feel the air pressure—not guys in separate rooms tied together only by headphones. Musicians like my room—it's a players' room."

The studio has handled LP projects by several 22-piece jazz bands. "And it doesn't **sound** like a small room," Breitberg adds. The ceilings aren't especially high, which is funny because I had an individual who's been in the recording business for 30 years hear one of my recordings and guess that I had 17-foot ceilings."

Hardware includes a Harrison transformerless console, a Studer 24-track recorder, two Studer 2-tracks, outboard limiters, digital reverb and plate reverb. Work is referenced both through the studio's UREI monitors, and through hi-fi and auto speakers.

Red Label has what it needs to compete in the Chicago studio jungle: a competitive design, its customization by Breitberg, a broad spectrum of clientele, and the commitment on the part of its owners to expand and upgrade. But central to anyone's perception of the studio is the magnificent estate on which it is located.

"When the clientele pulls into the driveway, they invariably get blown away. When the project is completed, they're even more blown away. The whole aura is inspiring. They're happy to be here and I've seen my groups do some of their best work at Red Label.

"Well," Breitberg ruminates, "I'd like to think I do a little better work out of here myself. And I've got the tools to work with." ■

—from page 18, **RECORDING**

ing around in Maserati's and Bentleys, and all the young kids went, 'whoa!'"

Many of those "young kids" are today's pioneers of black music, and have formed the core of Goldman's studio clientele.

In addition to audio recording for records, Fifth Floor has recorded and produced jingle music for many of the region's ad agencies (now funneled through the Fifth Floor/Wes Boatman Productions arm of the company). They've also originated live studio concerts for AOR radio; Goldman claims the house's favorable feedback from the labels has forged strong contacts in that arena, helping new acts developed under the umbrella of Richard Goldman Productions to get signed.

Concerning digital, Goldman has rented the JVC digital system, and has used it to mixed avail. "Some of the rock and roll doesn't sound good, yet R&B sounds great," he says.

In Columbus, Ohio, Rich Ivan has opened 3001, a unique facility which combines a 16 track control room wired to two rehearsal rooms. One of the rooms has live acoustics and the other room is dead, so the studio can accommodate a variety of recording projects. Another advantage offered by 3001 is that bands can rehearse in a room at a low cost, and later record in the same environment.

The Minneapolis market has taken on a more eminent profile in a shorter time than Southern Ohio. Perhaps that's the by-product of one artist in particular—Prince—who has taken measures to unit audiences of black and white, young and old, casual and aficionado alike. Unlike Cincinnati, Minneapolis has **many** state-of-the-art recording studios and comparably **few** signed artists (though the numbers are evening out).

Owen Husney is one man who doesn't need to be told of Minneapolis' creative-sparked music scene. After playing through the '60s in a top local band, the High Spirits, he helped one Prince Rogers Nelson to develop his act to the point of signing with Warner Brothers Records. The rest, as they say, is history—except for one notable footnote. Though best known at this point for its contribution to contemporary black music, Minneapolis/St. Paul claims no more than a 2% black population.

Husney, who now manages Columbia artist Andre Cymone, has constructed his American Artists Studios—the outgrowth of its namesake personal management concern—with artistry in mind.

—page 23

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—from page 20

"I wanted to create an un-intimidating atmosphere and a mutually-agreeable rate," says Husney. "We built the studio to allow the artists we manage, as well as others who seek us out, to spec an idea of work on a demo without having to watch the clock. The room is founded on my belief that there's no correlation between creativity and dollars.

Presently manager of Columbia artist Cymone and several other musical Minneapolitans, Husney can be found at the epicenter of the goldrush in the Twin Cities. "Whatever's going on here, I've been putting together since 1964," he says, referring to his involvement with the area's last hit explosion (the Castaways, the Trashmen, the Gestures, Dave Dudley, Soma Records). "Let's hope the second resurgence is stronger and lasts longer. Whether it lasts one, 10 or 100 years I can't say, but the best thing is that the business is coming to scout talent here. That's why Andre and Prince stay here.

"We'll see more single-room studios owned by artists. Prince has one in his house and Andre's going to want something where he can roll out of bed and record in the middle of the night. Artists have learned how to run it—not like in the old days when studios were big things with resistors and transistors. At the 1983 Midwest Music Exchange, (Universal's) Murray Allen made the point that so many Joe Schmoe's are going out and buying a 24-track machine and eating into a big-time studio's intake. We're a separate animal—a means to an end."

American Artists is perhaps anomalous in its market, which includes larger 24-trackers such as Sound 80, MPR, Sound Waves, Blackberry Way, Creation, Carriage House or 74th Street. None of the others, however, are adjunct to artist management, while many are integral contributors to Minneapolis' current musical prosperity.

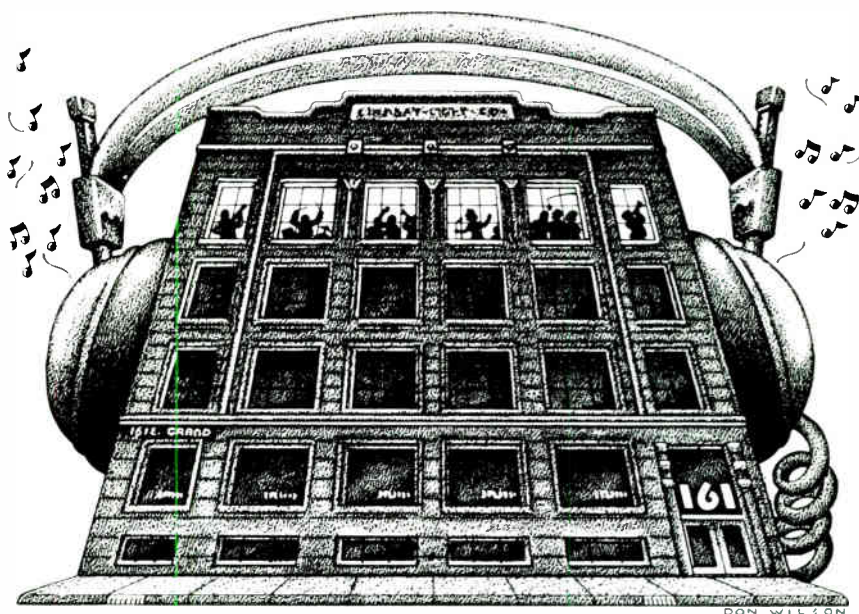
Apart from being a major corporate center (3M, Honeywell, Pillsbury, et al) and consequently one of the nation's unsung jingle music hubs, and apart from being what Husney calls "the cultural island of the North," Minneapolis is an attractive city, smack dab in the Land of Lakes.

"The only strike against its inhabitability," he says, "is the long, snowy winters. But that's what keeps the riff-raff out. It's even beneficial to creativity, because you're bound to stay indoors at the same time people in L.A. are out romping about."

At Sound Recorders in Kansas City, MO, manager Jim Wheeler reports they had to build a 1" layback

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—from page 23, RECORDING recorder (utilizing a ½" Scully transport with audio heads from a 1" video machine) to keep up with the demand for audio post-production jobs.

Throughout the north central states, studios have been upgrading, expanding and improving their facilities. Studios going from eight to sixteen tracks include Breezeway Recording Studio (Waukesha, WI), Group Effort Sound Studio (which moved to Crescent Springs, KY), and Harvest Productions of Holt, MI. A number of studios upgraded to 24 tracks, including Audiograph Productions (Okemos, MI), Chicago Trax, Pearl Sound (Ann Arbor, MI), Rainbow Recording Studios (Omaha, NE), Sound Impressions (Des Plaines, IL), Worldwide Sound Productions (Robinson, IL), and TRC Recording Studios in Indianapolis added a second 24 track room.

Henry Root, of Hy James Audio reports steady business in studio upgradings, and explains Neotek consoles, Otari MTR-90 24 track machines and Tascam 16 track recorders are selling well. The company moved to a new facility in Farmington Hills, MI, tripled their floor space, and added additional staff.

Flanner's Pro Audio also moved to a larger facility (in Waukesha, WI) earlier this year, and they are now a Sony/MCI dealer in addition to their other lines of pro gear. John Loeper of the firm has noticed an upsurge of new four and eight track studios being built in the area. One such studio is a private

studio designed for Paul Barry, of Barry's Truckers, a local band in Milwaukee. The facility features a Neotek console, Otari eight track recorder and Electro-Voice monitors.

In Chicago, Chris Kirby of AVC Systems reports an increase of artist owned studios being built and upgraded. Jingle producers Bonnie Herman and Tom Radke, of Bonnie Herman Inc., have equipped their studio with a Ramsa Console, Otari multitrack and two track machines, and a Lexicon 224x. Noted jingle singer Doug Bonnin has purchased an Otari MTR-90 and a Soundcraft console for his home studio in La Port, Indiana. Studio designer/engineer Gary Hedden has completely remodeled Steve Sperry's jingle facility, (The Mult Shop), doubling the studio size. The studio now has an Otari MTR-90 24 track recorder and a Soundcraft 2400 console, both from AVC.

"We're a turn-key operation," says Jerry Milam, president of Milam Audio, a prominent Midwest studio supplier/designer based in Pekin, Ill., a small community south of Peoria. "We can build you something from the ground up and you're ready to go turn the key."

Milam maintains a staff and freelance force of studio construction pro's, some of whom are given the assignment of translating an architect's blueprint into optimal sound quality. His firm is able to conduct special wood and metal work, cabling, training, even instructing clients on studio billing procedures. Milam remains in Pekin



Chicago's Streeterville Studios

(where he once, concurrently, recorded artists like Dan Fogelberg and REO Speedwagon in his Golden Voice Studios)—400 miles (maximum) to any major Midwest city by private company jet.

In the '80s, this 15-year studio consultant is observing "the re-emergence of 'turn-key project,' and upgrading existing facilities,' especially amidst lower interest rates. Just like the rest of the country, our business was victimized by high interest rates and a slow economy. Now it's springing back to where a lot of clients are building new rooms. We just completed two big ones, and will have two more in the Midwest by the end of the year."

Milam Audio has freshly completed recording facilities at the Denver Center for the Performing Arts and at

—page 26

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NORTH CENTRAL

—from page 25, RECORDING

Milliken University, in Decatur, Ill. Presently, the firm is constructing four large studios for evangelist Jimmy Swaggart, and a new one in Chicago, for a client whose identity he declined to reveal, with the capability for dual 24-track interface.

Milam projects that the record end of the recording business will undergo a renaissance in the Midwest, despite the polarization of label activity from New York and L.A.

"When groups leave the Midwest, budgets are whittled away by high studio rates there, and the high cost of living in general," he says. "The same project in the Midwest can be done for fewer dollars. Sure, a lot of acts like the initial thrill of going to the Coast and being able to do this and that. But after the dust settles, a lot of them come back and realize they could cut the same product here under much better conditions."

He cites Survivor and Styx as examples.

On his equipment sales, Milam is witnessing a "trend toward affordable upgrading by studios who felt it was time to elevate their 'economy class' format."

"There are great low-price consoles that have hit the market over the past two years—budget-priced consoles, but very capable of working with 16- and 24-track machines. What this has done is unlock a whole marketplace of people who would have stayed in 'economy class' before. Some are moving up to a 2-inch format, creating marriages between a heavyweight tape machine and their economy console. This makes for a real good studio—very professional, and at a good price."

Milam claims his organization is "busier than it's ever been," and feels that being a studio supplier in the Heartland is a highly safe business.

"If I have one grievance," he adds, "it's against pro-audio dealers who undercut our prices, yet offer no commitment to their product line—in other words, not the kind of company that maintains a staff of service and design people, but merely salespeople. Consequently, it's difficult for pro dealers to maintain ample profit structure."

"Plus, I've been at it long enough to have seen dealers come and go by the dozen. They really thought they had their act together, and six months later, they were bankrupt." ■



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The RED is a unit which stems from many years of research by its designers into psycho-acoustical engineering. The basic characteristics of the unit are its ability to produce a high quality of sound at very high levels from a small enclosure and to be virtually indestructible in use.

It is a self-powered loudspeaker unit combining carefully engineered electronics, speakers and their enclosure in one integrated system which requires nothing more than a power supply and a signal source.

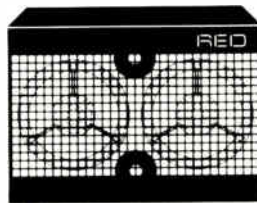
The RED is housed in a cabinet of 19" rack standard width having a total volume of 32 liters. The lower range of audio frequencies are handled by two 8" acoustic suspension loudspeakers built to RED's own design. They are mounted in separate acoustic chambers, each being powered by their own 100 watt rms amplifiers. Because of their cone excursion which is in excess of 15mm these drivers are capable of producing high levels of undistorted sound. The upper range of audio frequencies are provided by two angle mounted 1" dome HF radiators driven by a 50 watt rms amplifier.

The drive units have been positioned to provide optimum sound radiation and distribution. In addition an acoustical device (patent pending) is incorporated into the front of the 8" drivers eliminating the 'sound beaming' effect commonly found in the upper frequency range of conventional drivers. This provides an exceptionally smooth character to the important mid-range frequencies and results in a stable stereo image, largely unaffected by listening position.

The RED consists of two independent sections, each

with its own fuse protection and is, therefore, essentially fail-safe.

The inputs to the unit can be adjusted by a variable sensitivity control which allows for matching to any input from 300mv upwards. This means that the signal source could be anything from pre-amplifier, mixing desk, synthesizer or even another power amplifier output without risk of electronic overload.



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PHOTO: KIM KECK

CHAMPAIGN

by Cary Baker

"Anyone who gets a major working budget from a record company can put together a recording studio," says Michael Day, leader of Columbia act Champaign and one of three owners of Creative Audio Studios in Champaign, Illinois' twin city of Urbana. "For \$100,000 to \$150,000 you can fund or place a down payment and start gaining equity for yourself instead of spending it some place else."

The racially-mixed urban/contemporary octet have really never known it any other way. It's Creative Audio Studios—for years the hub of recording activity in Champaign/Urbana—that brought together a community. And that community begat the band Champaign.

Michael Day had previously worked as a producer for Coalkitchen, a group fronted by singer Paulie Carman. Percussionist Rocky Maffit had the opportunity to tour with Paul Winter, but "got involved in the studio and that was the end of my career." When Day opened his first studio, one of his first clients was a band called the Water Brothers, led by a resourceful key-

boardist named Dana Walden. All of these and other individuals eventually fell under the umbrella of the group Champaign.

Because it cost them nothing to go into Creative Audio, the group turned out some assured, unrushed demo tapes, which they circulated extensively. One callback came from University of Illinois alumnus Ron Alexenburg ("Everyone seems to know he went to school in Champaign," smiles Maffit), who inked them to his MCA-distributed Infinity label. Sadly, the label was less than infinite in its longevity, as the band soon discovered on its eastward foray to sign the papers.

Michael Day had been no stranger to the record business, having recorded and released an LP for Columbia in years past — one of Clive Davis' final signings to the label. "I was sort of their Elton John, but blacker," he quips. The deal was far from what Day now considers equitable ("They owned half of what I made") and he waited out a 5-year period. It was shortly thereafter that Coalkitchen made their Full Moon/ Epic LP with Day producing at Creative Audio.

Coalkitchen scattered to the four winds, and in its place was a new (if overlapping) cast of characters called Champaign. In the wake of Infinity's

brusque demise, they eventually pacted with Columbia. The first LP was to be produced by Leo Graham at Universal in Chicago. Because it all happened rather fast, there was no photo on the album — just illustrations. The inner sleeve consisted of song lyrics against a 60% halftone.

"We were still formulating what was going to be our image, and weren't honestly sure ourselves," explains Day, "and we decided not to make a statement until we were ready. But the photo served another purpose — a rather sad sign of the times ['81]."

"We'd taken the Coalkitchen LP to pop *and* black programmers, both of whom said, 'What is this?' And no one would play the album because we were a 'mixed' group. That's crazy. Since then—and it's a shame to say this—it's become *fashionable* to be 'mixed.'"

"As long as it doesn't go *out* of fashion," cautions Maffit. "It should never be 'unfashionable' for people to get along."

"We found it wasn't the audience or the market," adds Day. "There's no trouble with *them*. It's the people in the biz who are trying to protect what they perceive as 'the market.'"

For their second LP, *Modern Heart*, released 18 months after the first, things were done differently from the start. The cover depicts eight contemporary-looking people of mixed race and gender. The singles, "Try Again" and "Let Your Body Rock," made significant headway on the black charts. This LP was co-produced by the band with west coaster George Massenburg (veteran of Earth, Wind & Fire and early Little Feat) and cut at the group's studio. The process was in direct contrast to the first record, produced by Graham at Universal, "where *he* felt most comfortable." During that process, Creative Audio lay dormant.

"The first LP is basically Leo's record with us *on* it," says Maffit, who has no further complaints, seeing that the single, "How 'Bout Us," did achieve more than a modicum of commercial respectability.

Adds Day: "CBS wanted us to work with him again and we told them we wouldn't. We love Leo, but think he doesn't make records like we do."

In Massenburg, Champaign found "about the only guy willing to come out and work in our place," according to Day, who adds, "We don't exactly have a \$1 million control room, but we do have good, adequate gear."

ABOVE: (l. to r.) Michael Day, Rena Jones, Paulie Carman and Leon Reeder



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Champaign/Urbana, IL, despite the worldly influx of the state's major university, hardly gives the appearance of one of the nation's talent hubs. Yet it's spawned a large sector of artists and resource people: REO, Michael McDonald, Dan Fogelberg, Adrian Belew, MCA executive Irving Azoff and manager John Baruck. Most have left for points west. But Champaign and Belew, a good friend of theirs, have put down roots.

Says Maffit, "It's a nice little scene, which, in my estimation, centers around our studio."

"We support C/U," echoes Day. "There's no bitterness if someone chooses to work in a different place. What's important to us is that everyone in the community is working."

Creative Audio is located in an unmarked converted towel laundry in Urbana, and contains two recording rooms - Studio A, a 30' x 40' 24 track facility, and a 4 track room utilized primarily for voiceovers. The only consultant brought in was an acoustic specialist at the university. "And we spent most of our money in the control room because we do most of our work there," says Day. Creative employs a staff of three, one of them a band member. Studio clients furnish their own engineer and pay the studio a flat \$60 per hour for use of the facility.

The studio is equipped with an MCI 24 track transformerless recorder, a Neotek 20-8 console, Studer and Ampex mastering decks, JBL 4313 monitors, and old Neumann and AKG mikes. "Certainly everything you need to make a record," says Day.

Champaign's last LP cost them \$150,000 to make, which may seem puzzling when one considers that it costs nothing but their electric bill for the band to enter their own studio.

Reportedly, the band's incurred expenses included the cost of travel, and mixing and overdubbing in L.A., "because Massenburg is used to running in the company of certain musicians out there," says Day.

"But remember - a record company doesn't *give* money in advance. It's an advance on royalties, so it's in everyone's best interest not to compromise but to keep costs down. It may mean the difference between a label keeping you for a second album or not.

"Sure," he concedes, "I lust for that half million Solid State Logic console, but I try to come down to earth and realize I don't need all that stuff to make hit records.

"Besides, the man on the street doesn't know from all the high-end this or that console can get. He doesn't care if a record cost \$200,000 or a million to make. All he asks is: Does the music make him feel good?" ■



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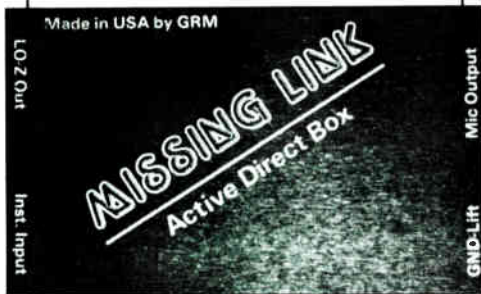
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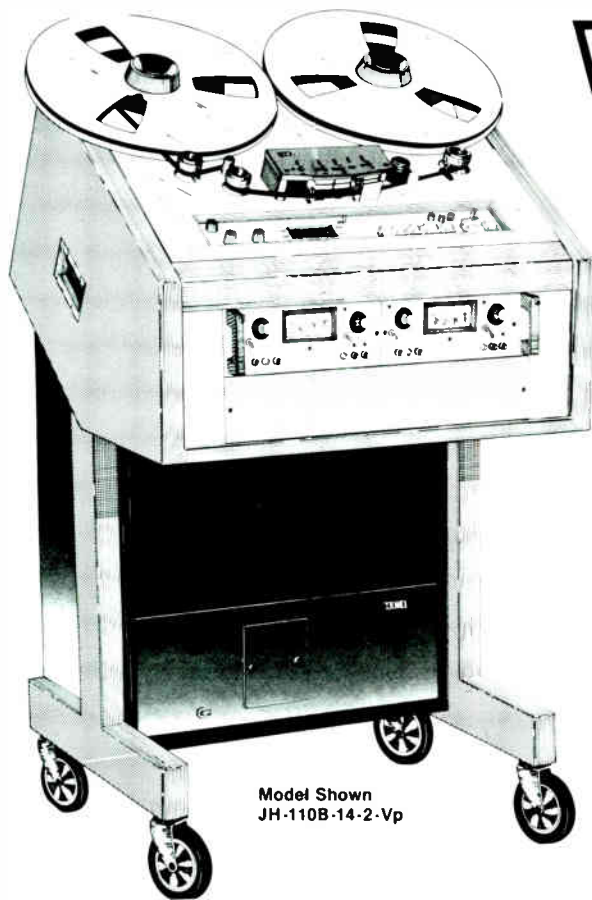
Creative Audio

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Engineers: Craig Harding, Colleen Watson, independents

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

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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; Lafayette 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 bins; Phase Linear Autocorrelator model 1000; Electro-Harmonix clone theory and chorus effect; complete headphone and monitoring systems; patch bays; Whirlwind 16 channel 100' snake; 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; Hofner Beatle bass guitar, 6-string bass guitar; 4 flutes; saxophone; clannet; 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 TV 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 GRAPHICS

also REMOTE RECORDING
1516 Ferris Ave., Royal Oak, MI 48067
(313) 544-1793
Owner: Edw. J. Wolfrum
Studio Manager: Susan Wolfrum

•• AUDIO HOUSE

also REMOTE RECORDING
Box 219, 307 E. Ninth St., Lawrence, KN 66044-0015
(913) 843-4916
Studio Manager: Bruce N. Liddel

•• AUDIO MIXERS RECORDING COMPANY, INC.

740 N. Rush St., Chicago, IL 60611
(312) 943-4274
Owner: S. Schwartz
Studio Manager: S. Schwartz

•• AUDIO TAPE PRODUCTIONS

also REMOTE RECORDING
P.O. Box 428, 413 W. Cherry St., Pottsville, 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

•• AUGGIE BOY STUDIO

12113 S. 72nd Court, Palos Heights, IL 60463
(312) 361-1590
Owner: Thomas M. Griffin
Studio Manager: Michael Phillips

•• BARWIG RECORDING CO.

5254 W. Agatite Ave., Chicago, IL 60630
(312) 283-2820
Owner: Roy E. Barwig
Studio Manager: Roy E. Barwig

•• BIRD-ON-FIRE RECORDING STUDIO

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

•• BGD RECORDING

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

•• B.M. RECORDING STUDIO

also REMOTE RECORDING
6936 S. Peoria, Chicago, IL 60621
(312) 846-9543
Owner: Bob Murphy Jr.
Studio Manager: Bob Murphy and Kirt Coleman

•• BODDIE RECORD MFG. & RECORDING

also REMOTE RECORDING
12202 Union Avenue, Cleveland, OH 44105
(216) 752-3440
Owner: Thomas R. Boddie
Studio Manager: Louise Boddie



• **BOULEVARD RECORDING STUDIOS, INC.**
641 Madison St., Oak Park, IL 60302
(312) 386-5388
Owner: Hal Kaitchuck & Eleanor Kaitchuck
Studio Manager: Hal Kaitchuck

• **BROWN & BROWN RECORDING AND MUSIC PRODUCTIONS**
also *REMOTE RECORDING*
P.O. Box 224, Portage, MI 49018
Call Information for new number
Owner: Kevin J and Deborah N Brown
Studio Manager: Kevin J Brown
Direction: Brown & Brown is a new facility in southwestern Michigan offering professional 1" 8 track recording plus full "in house" production packages for music themes, commercial jingles, demos, narration, and soundtrack from concept to the final product. Projects have already included NPR, area radio station Special Theme, and local television

• **BUCKEYE RECORDING SERVICE**
also *REMOTE RECORDING*
109 West Main Street - P.O. Box 126,
Van Wert, OH 45891
(419) 238-4793
Owner: Ray Tanner
Studio Manager: Ray Tanner

• **CAVE RECORDING STUDIO**
1275 East Miner Road,
Mayfield Heights (Cleveland), OH 44124
(216) 449-3511
Owner: Richard S Cohen
Studio Manager: Rick Cohen

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

• **DECIBEL BOUTIQUE**
544 N. Jefferson St., Huntington, IN 46750
(219) 356-6019
Owner: Keith Porter
Studio Manager: Keith Porter

• **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**
also *REMOTE RECORDING*
289 Main Place, Carol Stream, IL 60188
(312) 668-5300
Owner: Edward Elliott
Studio Manager: Pete Tumas

• **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

• **KEN EARL PRODUCTIONS, INC.**
P.O. Box 6323, Broadview, IL 60153
(312) 935-6381
Owner: Ken Earl
Studio Manager: Ken Earl

• **EDEN PRODUCTIONS**
9610 Vaughan, Detroit, MI 48228
(313) 836-0756
Owner: David Sanders
Studio Manager: David Sanders

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

• **FAITHFUL SOUND STUDIOS**
712 W. Clark St., Urbana, IL 61801
(217) 398-5055
Owner: Antipode Arts, Inc
Studio Manager: Mark Rubel

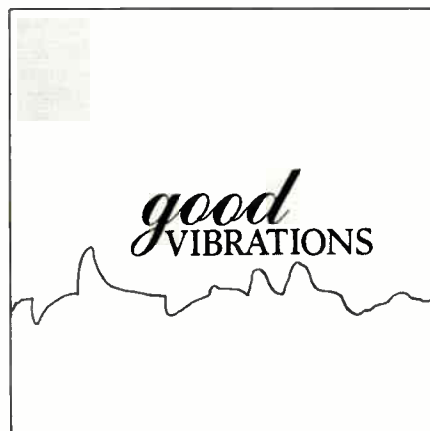


FIRE IN THE LAKES STUDIO
Minneapolis, MN

• **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 Studio: 18 x 20, 8 x 12
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, JBL 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, Beyers, Altec, EV
Instruments Available: Hammond M3, Gibson EB3, Fender Precision
Video Equipment & Services: Sony VO 5600 3/4" with RM580 remote, JVC CR6000U 3/4", 30' w x 50' d x 18' h video production space with lighting. Audio for video post production services
Rates: \$25 - \$50 per hour

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

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



GOOD VIBRATIONS AUDIO & VIDEO RECORDING
Kalamazoo, MI

• **GOOD VIBRATIONS AUDIO & VIDEO RECORDING**
also *REMOTE RECORDING*
3026 Hylle, Kalamazoo, MI 49007
(616) 385-1747
Owner: William and Luanne Allgood
Studio Manager: Luanne Allgood
Engineers: William Allgood
Dimensions of Studio: 12 x 24
Dimensions of Control Rooms: 6.5 x 15 (remote van)
Tape Recorders: MCI JH110C-8-UM 8 track, MCI JH110B-14-2 .UM 2 track, Sony 854-4, 1/4" half-track 2 ch or 1/4 tr 4 ch; Cassette decks: Harmon-Kardon HK-400XM 3 head, Aiwa ADWX11-OH dubbing deck, Akai GX-40D.
Mixing Consoles: Logex Sound Workshop LB/12, 12 in x 8 out
Monitor Amplifiers: (2) Hafler DH 220
Monitor Speakers: (2) JBL 4411 L-R (2) Electro-Voice Sentry 100s, (2) Jensen SG-300 in custom enclosures Auratones
Echo, Reverb & Delay Systems: Lexicon Prime Time II digital delay, Orban 11 b 2 channel sprung reverb
Other Outboard Equipment: Sony PCM F1, digital audio processor, (2) dbx 1654 comp/limiters Vector Research monitor EQ NAD stereo headphone amplifier, 19-input snake Conquest mike splitter, Lexicon Prime Time II digital delay
Microphones: AKG 414EB Neumann KM84 Sony C35P Sennheiser MD421, Shure SM57 Sony ECM22P AX-MAX direct boxes
Video Equipment & Services: (2) JVC CR 8250U 3/4" editing recorders, VE-92 edit controller with SMPTE time code generator/reader, JVC KM-2000 switcher/special effects generator, JVC HR-2650U portable 1/2" recorder, Panasonic NV-8500 1/2" editing deck (interfaces with JVC VE-92 controller), Sony TT2000 Beta deck, (2) Sony DXC-M3 3-tube cameras, JVC GZ-S3 camera, Zenith (Sony) VC-1800 camera, Panasonic BT-S1900N 19" color monitor, (2) NEC C12-202A 12" color monitors, Toshiba CA045 5" color monitor Smith Victor K-50 light kit, Synchronizer, BTX Shadow
Rates: Variable, quoted on a project basis

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

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

• **HARDIN RECORDING STUDIO**
also *REMOTE RECORDING*
824 Franklin Dr., Charleston, IL 61920
(217) 345-6006
Owner: Burton E. Hardin
Studio Manager: Burton E. Hardin

• **HARMONY RECORDING STUDIO**
also *REMOTE RECORDING*
2535 Buchanan St. N.E., Minneapolis, MN 55418
(612) 789-6580
Owner: Jon Ott/Bill Jason
Studio Manager: Jon Ott

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

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



KAGAN BROADCAST, INC.
Milwaukee, WI



•• **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

• **DuWAYNE KLOOS RECORDING**
WESTMARK CUSTOM RECORDS/CASSETTES
 8345 Duluth Street, Golden Valley, MN 55427
 Owner: DuWayne Kloos
 Studio Manager: Joann Kloos

•• **KNIEPKAMP PRODUCTIONS**
 31 N. Prindle, Arlington Heights, IL 60004
 (312) 398-1637
 Owner: Alberto Kniepkamp
 Studio Manager: Alberto Kniepkamp
 Extras: Custom music and sound effects; A.V. presentations; industrial films.

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

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

•• **LH PRODUCTIONS**
 223 Smith, Kirkwood, MO 63122
 (314) 822-8915, (314) 822-4915
 Owner: Eric Lindstrom and Ronald Hitschler
 Studio Manager: Ronald Hitschler

•• **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

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

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

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

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

•• **M.Y. RECORDING STUDIO**
also REMOTE RECORDING
 4519 South Hills, Cleveland OH 44109
 (216) 741-6453 or (216) 884-0650
 Owner: Dennis Yurch and Tom Meltzer
 Studio Manager: Dennis Yurch

•• **NORTHWESTERN RECORDING**
 # 6 Public Square, Lima, OH 45801
 (419) 227-4051
 Owner: Tim Stuckey
 Studio Manager: Dennis Frey

•• **PINNACLE SOUND**
 1155 Lincoln Ave. N.W., Carrollton, OH 44615
 (216) 627-5675
 Owner: Susan K. Ledford
 Studio Manager: John M. Ledford

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

• **PRO SOUND**
also REMOTE RECORDING
 1501 E. Main, Ottumwa, IA 52501
 (515) 682-2414
 Owner: Ron Besco
 Studio Manager: Pamela Besco

•• **PYRAMID RECORDING STUDIO**
also REMOTE RECORDING
 5637 Mayfield Road, Lyndhurst, OH 44124
 (216) 461-6337
 Owner: Ray Fister
 Studio Manager: Ray Fister

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

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

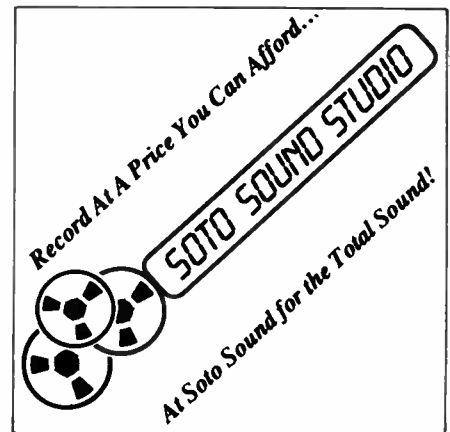
•• **R/J RECORDING**
also REMOTE RECORDING
 P.O. Box 302, Geneva, IL 60134
 (312) 584-4657
 Owner: Richard J. Peck
 Studio Manager: Richard J. Peck

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

• **ROCKINGHAM RECORDING**
also REMOTE RECORDING
 5857 Satinwood Dr., Columbus, OH 43229
 (614) 888-1053
 Owner: Michael R. Smith
 Studio Manager: John Burkhart

•• **RPM RECORDING & SOUND**
also REMOTE RECORDING
 6730 S. Pulaaki, Chicago, Illinois 60629
 (312) 735-9476
 Owner: Rich Morford, Mike Podgorny
 Studio Manager: Debra Morford

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



SOTO SOUND STUDIO
 Evanston, IL

•• **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/vocal booth
 Dimensions of Control Rooms: 15 x 25
 Tape Recorders: Tascam Series 70 8 track; two TEAC 2340 4 track, Otari MX5050 1/2 track; Ampex PR10 1/2 track; Pioneer RT710 1/4 track; TEAC & Sharp cassettes; two TEAC, two Hitachi cassette decks.
 Mixing Consoles: Tascam Model 10 12 in x 4 out; Tascam Model 5 8 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, OSC 5.1, Technics SU730, Altec 128B.
 Monitor Speakers: Altec Valencias, Bic Ventun 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: Guitar, keyboard & bass amps, Ludwig drums, Hammond B-2 organ (w/percussion), two Leslie speakers, Fender Rhodes, Moog Prodigy Synthesizer, Wuritzer baby grand, Space Drum, asst percussion, guitar voice-box, Gibson Les Paul "Gold Top," Epiphone bass, acoustic guitar, rhythm machine, click track, Roland organ/strings.
 Rates: 1: 4 trk: \$25/hr; 8 trk: \$30/hr or 6 hrs for \$160. Lyrics set to music: one song: \$175; 2 songs: \$300.
 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 Philips, Lefty Dizz, Eddie Clearwater and others. 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.

•• **SOUNDS GREAT ENTERPRISES**
also REMOTE RECORDING
 90 N. Court St., P.O. Box 292, Athens, OH 45701
 (614) 593-3781
 Owner: Clifton T. McCauley
 Studio Manager: Clifton T. McCauley

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

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



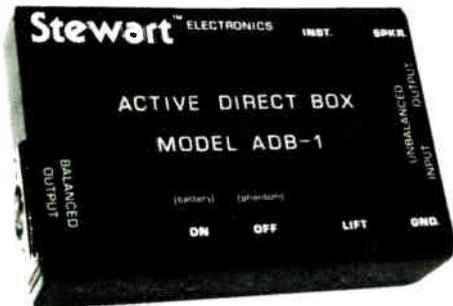
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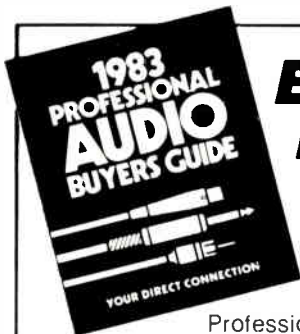


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•• **STUDIO G RECORDING**
also REMOTE RECORDING
214 S. Bemiston Ave., St. Louis, MO 63105
(314) 727-0770
Owner: Greg Glazier
Studio Manager: Greg Glazier

•• **STUDIO 66**
66 Sycamore, Wyandotte, MI 48192
(313) 281-6662
Owner: Al Bates and George Milkovich
Studio Manager: Mal Funk

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

•• **T.J. SOUND PRODUCTIONS, INC**
27040 Ryan Rd., Warren, MI 48092
(313) 751-7476
Owner: Jeff Briggs
Studio Manager: Jeff Briggs

•• **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.

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

•• **WILBUR SOUND PRODUCTIONS**
also REMOTE RECORDING
123 Indiana, Suite C, Salina, KN 67401
(913) 827-3009
Owner: Tom Wilbur and Roy Wilbur
Studio Manager: Dave Laune

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

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••• **APPLE RECORDING STUDIOS**

6159 Brandt Pike, Dayton OH 45424
(513) 233-7294

Owner: Jeff Gastneau

Studio Manager: J. Gastneau

Engineers: Curt Britton, Jeff Gastneau, Jeff Arnold

Dimensions of Studio: 20 x 25 plus drum booth

Dimensions of Control Rooms: 15 x 21

Tape Recorders: Tascam 85-16B 16 track, Tascam 80-8 8 track, Tascam 352B 2 track, TEAC 3300S 2 track, IVC KDD55 2 track cassette, Technics M222 2 track cassette

Mixing Consoles: Tascam M16, 17 in x 8 out, TEAC M2, 6 in x 4 out

Monitor Amplifiers: Phase Linear, SAE, BGW

Monitor Speakers: JBL 4411, EAW MS50

Echo, Reverb & Delay Systems: (2) Brck Audio Plates MICMIX XL210, ADA STD-1, DeltaLab ADM 1024, DeltaLab ADM 256, DeltaLab DL-5

Other Outboard Equipment: EXR SP-1 Exciter, Symetrix SE400 parametric EQ, Symetrix CL100 comp/limiters, MICMIX Dynatex noise reduction

Microphones: Shure, Sennheiser, Crown, AKG, Sony

Instruments Available: Sequential Circuits Prophet 10, Prophet 600, DK Synergy, Baldwin piano, Roland Jupiter 6, EMU Drumulator, Gibson Kramer Ovation and Alvarez guitars, amps (Legend, Crate, Fender, Marshall, Vox), Pearl and North drums

Video Equipment & Services: 1/2" VHS video taping

Rates: Low Please call

••• **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
Fargo, ND

••• **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: 12 1/4 x 17 1/2, Studio B: 23 1/2 x 33 1/2

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 1/2 track, (2) Otari 5050-B 1/2 track, Ampex 440 1/2 track, Tascam 80-8 8 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, Kexep (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, Mm; 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 Philip L. Ostrander

Studio Manager: Ashley Elliott

Engineers: Jeff Richards, Tom Whipkey, Chris Thronton, Andy Hensler, 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-Magnecord 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

Monitor Speakers: Electro-Voice PL15-3, 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 equipment. Telex high speed duplicator, Tapco 2200, 2201, 2202, 2300 graphic EQ dbx 502 monitor expander

Microphones: Top of the line Electro-Voice (RE-20s, condenser series, various cardioid dynamics), RCA, AKG, Crown PZM

Instruments Available: 6' Kawai grand, Rhodes 88, Ludwig drum set, Korg Poly-Six

Rates: 16 track \$45/hr, 8 track \$40/hr, 2 track and broadcast commercial production \$35/hr

••• **BREEZEWAY RECORDING STUDIO**

363 W. Main St., Waukesha, WI 53186
(414) 547-5757

Owner: Lee & Marylee Crooks

Studio Manager: Paul Wehriey

Engineers: Lee Crooks

Dimensions of Studio: 32 x 18

Dimensions of Control Rooms: 18 x 15

Tape Recorders: MCI JH-24/16 track, MCI JH-110A 1/2 track, Otari 5050B, 2 track, Technics RS-M85 cassette, Sony TC-D5M cassette.

Mixing Consoles: Sound Workshop Series 30, 22 in x 8 out

Monitor Amplifiers: AB Systems, UREI, Crown

Monitor Speakers: JBL 4311, UREI 813B, MDM-4, Auratone

Echo, Reverb, and Delay Systems: Ecoplate II, Lexicon Prime Time, DeltaLab DL-2, Electron ADM 1024

Other Outboard Equipment: dbx 165 limiters, UREI LA-4 compressor/limiters, Valley People "Dyna-Mite" comp/expand/noise gates, MXR flanger/doubler, Orban 674A stereo paraphoric EQ, Omnicraft GT-4 noise gates, Eventide 910 Harmonizer, Aphex Aural Exciter, EXR EX IV, UREI 1176 limiters, Dolby 361 on 1/2 tracks

Microphones: Neumann U 47 tube, AKG 414EB, Sennheiser 441s, 421s, Electro-Voice RE-20s, Shure SM81s, 57s, 58s, PZMs, Sony C-48, Beyer M500.

Instruments Available: Hammond B 3 w/Leslie, Rhodes electric piano, Sequential Circuits Prophet-5, synthesizer, Fender Precision Bass, Ludwig drums w/Zildjian cymbals, Young Chang baby grand piano, Simmons drums, Oberheim DMX drum Machine, various guitars and amplifier. We have a music store!

Rates: Please call for low rates

••• **BROWNWOOD STUDIOS**

1512 C.R. 90, Gibsonburg, OH 43431
(419) 665-2112

Owner: Robert Brown

Studio Manager: Robert Brown

••• **CLOCKWERKE SOUND STUDIO, INC.**

1328 Linda St., Rocky River (Cleveland), Ohio 44116
(216) 331-2210

Owner: Greg James, Tom Gaqen

••• **CORNERSTONE RECORDING STUDIO**

703 S. Second St., Milwaukee, WI 53204
(414) 643-0879

Owner: Rande L. Reed

Studio Manager: Dave Siebauer

••• **CROSSTOWN RECORDING**

601 East Crosstown Pkwy., Kalamazoo, MI 49001
(616) 343-7972

Owner: Brandon Wade

Studio Manager: Gene Boyd

••• **CRYSTALL RECORDERS**

333 Brewster, Lombard, IL 60148
(312) 495-9019

Owner: Partnership

Studio Manager: Chuck Prazma

••• **ELEPHANT RECORDING STUDIOS**

also REMOTE RECORDING

21206 Gratiot Ave., East Detroit, MI 48021

(313) 773-9386

Owner: Allen Abood, John Gaier

Studio Manager: John Gaier

••• **FUTURE SOUND**

P.O. Box 398, Beverly Shores, IN 46301
(219) 879-6436

Owner: Michael Franklin

••• **GATTUSO BROTHERS RECORDING**

also REMOTE RECORDING

1300 Market Ave., Canton, OH 44714
(216) 456-2806

Owner: Gattuso Music Center

Studio Manager: Michael Lamb

Engineers: Michael Lamb, Brad Dutton, Rick Gattuso

Dimensions of Studios: 26 x 22

Dimensions of Control Rooms: 18 x 22

Tape Recorders: 3M M-79 16 track, Otari 5050B 1/2 track, TEAC 3300 SX2T 1/2 track, Otari 5050B HC 8 track, Otari 5050 BQ-2 4 track

Mixing Consoles: Sound Workshop 24 in x 16 out

Monitor Amplifiers: Yamaha P2200, Phase Linear A30, BGW 100.

Monitor Speakers: JBL 4333 JBL 4311 Little David 500, Auratone 5C sound cubes

Echo, Reverb, and Delay Systems: Orban Parasound III B, Delta Lab DL-2 w memory module, Lexicon PCM41, Yamaha E1010 analog

Other Outboard Equipment: Symetrix dual noise gates; dbx 165 EXR Exciter, White 4005 equalizer, MXR Pitch Transposer, Eventide Harmonizer, White 4001 equalizers, MXR flanger doubler, MXR DDL

Microphones: Neumann U-87, AKG 414, Sennheiser 441 & 421, AKG D12, E-V PL20, Shure SM7, SM82, SM57



Instruments Available: Yamaha CP-80, GS-2, CS-80, Hammond B-3, complete drum kit, Hohner Clavinet, LP congas & percussion instruments, variety of amps and guitars

Rates: \$50/hr flat rate. Special package rates are negotiable.

Extras: Game room, studio musicians, video demos, cassette duplication, refreshments, 24 hr recording, arrangements, production, 45s, albums, radio jingles. Instruments are supplied for free.

Direction: Gattuso Brothers' Studio—the first professional 16 track 2" studio in the AkCan area. At Gattuso's you'll find a unique facility, a professional studio within a full service music company. Known throughout northeastern Ohio as "The Musician's Choice", the studio was designed for musicians by musicians. A fantastic selection of instruments, electronic effects, and synthesizers are provided absolutely free. An easy going atmosphere, professional people to work with, and affordable rates makes Gattuso Brothers' Studio your #1 choice for all of your recording needs. Call or write today for further information about this fine facility.

••• **GROUP EFFORT SOUND STUDIO**
2656 Crescent Springs Rd., Crescent Springs, KY 41017
(606) 331-7APE

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 33 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, 24x8x16
Monitor Amplifiers: Modified Phase Linear 400, JDM headphone system

Monitor Speakers: JBL 4430 bi-radials; Eastern Acoustic Works MS-50 Auratone 5Cs

Echo, Reverb, and Delay Systems: Audicon Plate, Orban 111B, (2) DeltaLab DL4s, one DL 2, one DL-5, Lexicon PCM-41; DL-5 Harmonic Computer, DeltaLab full complement memory module

Other Outboard Equipment: Modified Mu-Tron bi-phase Systech flanger, MXR auto-flanger, Intersound IVP, Alembic preamp, UREI 565 (2) UREI 550s, Fairchild de esser Model 600 (2) Orban 245Es, EXR SP 1 (2) Technics SH 9010 (2) Valley People DynaMites, Spectrasonics comp/limiter 610, (2) Technics SH-9010 parametrics, Sansui SE-9 Comp/qualizer, dbx 163, (2) MasterRoom MC-201 (2) MXR 1/2-octave EQs (3) 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: Ludwig drums, Zildjian cymbals, Hammond B-3 w/122 Leslie, Rhodes ARP Odyssey, Kora Crumar Orchestrator, Fender and Traynor amps, Ellington baby grand Washburn acoustic, Fender Jazz Bass

Rates: \$45 16 track \$40 6 hr block \$30 hr 8 track \$25 6 hr block. Record packages

••• **HARTWOOD RECORDING**
4607 Jeffers Rd., Eu Claire, WI 54701
(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, also freelance engineers are welcome

Dimensions of Studios: 30' x 20' w/ 12' x 6' booth

Dimensions of Control Rooms: 20' x 9'

Tape Recorders: Tascam 85 16B 16 track, Tascam 70-8 8 track, Tascam 32 2 track, Tascam 22-2 2 track, TVC cassette, Otari MTR-10 2 track

Mixing Consoles: Tascam model 15, 24 in x 8 out

Monitor Amplifiers: BGW 250E and (2) Symetrix headphone amps

Monitor Speakers: JBL 4311 and Auratones

Echo, Reverb & Delay Systems: Echoplite plate reverb, Ursa Major Space Station, tape slap and room echo

Other Outboard Equipment: 24 channels dbx, dbx 160 compressor, Symetrix compressor, Symetrix stereo parametric EQ, Ashly parametric EQ, MXR flanger/doubler, EXR Exciter, patch panel, dbx 900 rack, DeltaLab digital delay

Microphones: RCA 77DX, Sony C38, ECM23F; AKG 451, D12E, Shure SM81, SM57, E-V RE20, Sennheiser 421 and 441, Audio-Technica 813

Instruments Available: Grand piano and spinet piano, Hammond organ w/Leslie, Yamaha DX-7 digital synthesizer, Fender Stratocaster and Telecaster, anything available by way of rental
Video Equipment & Services: Please call for details of video services

Rates: Please call for rates

••• **IRISH SAXE SOUND PRODUCTIONS**
1719 W. Washington St., Appleton, WI 54914
(414) 735-0800

Owner: Keith Irish, Mitch Irish, Ed Saxe
Studio Manager: Connie Trok

••• **LAKE RECORDING**
418 Lake Street, Maywood, IL 60153
(312) 344-8760

Owner: Robert Kaider
Studio Manager: Robert Kaider

••• **LAUSCHE RECORDING STUDIOS**
also REMOTE RECORDING
9526 Winton Rd., Cincinnati, OH 45231
(513) 521-0015

Owner: Lou Lausche
Studio Manager: Bob Rowlette

••• **LITTLE NASHVILLE RECORDING STUDIOS**
Route 3, Box 212, Whipoorwill Lane, Nashville, IN 47448
(812) 988-2000

Owner: Don D. and Marti Mae Sheets
Studio Manager: Don D. Sheets

••• **LIVONIA SOUND RECORDING**
also REMOTE RECORDING
15018 Beatrice, Livonia, MI 48154
(313) 522-7274

••• **L.M. RECORDING ENTERPRISES AND PRAIRIE DREAMS PRODUCTIONS**
also REMOTE RECORDING

206 Locust R.R. #1, Americus, KS 66835
(316) 443-5181

Owner: Lee C. Muller
Studio Manager: Lee C. Muller

••• **MARITZ COMMUNICATIONS CO. SOUND**
also REMOTE RECORDING
1315 N. Highway Dr., Fenton, MO 63026
(314) 225-2768

Owner: Mantz 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, MCI 8 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, Hammond B3 organ, synthesizer available

Video Equipment & Services: 1/4" and 1/2" 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

—continued on next page

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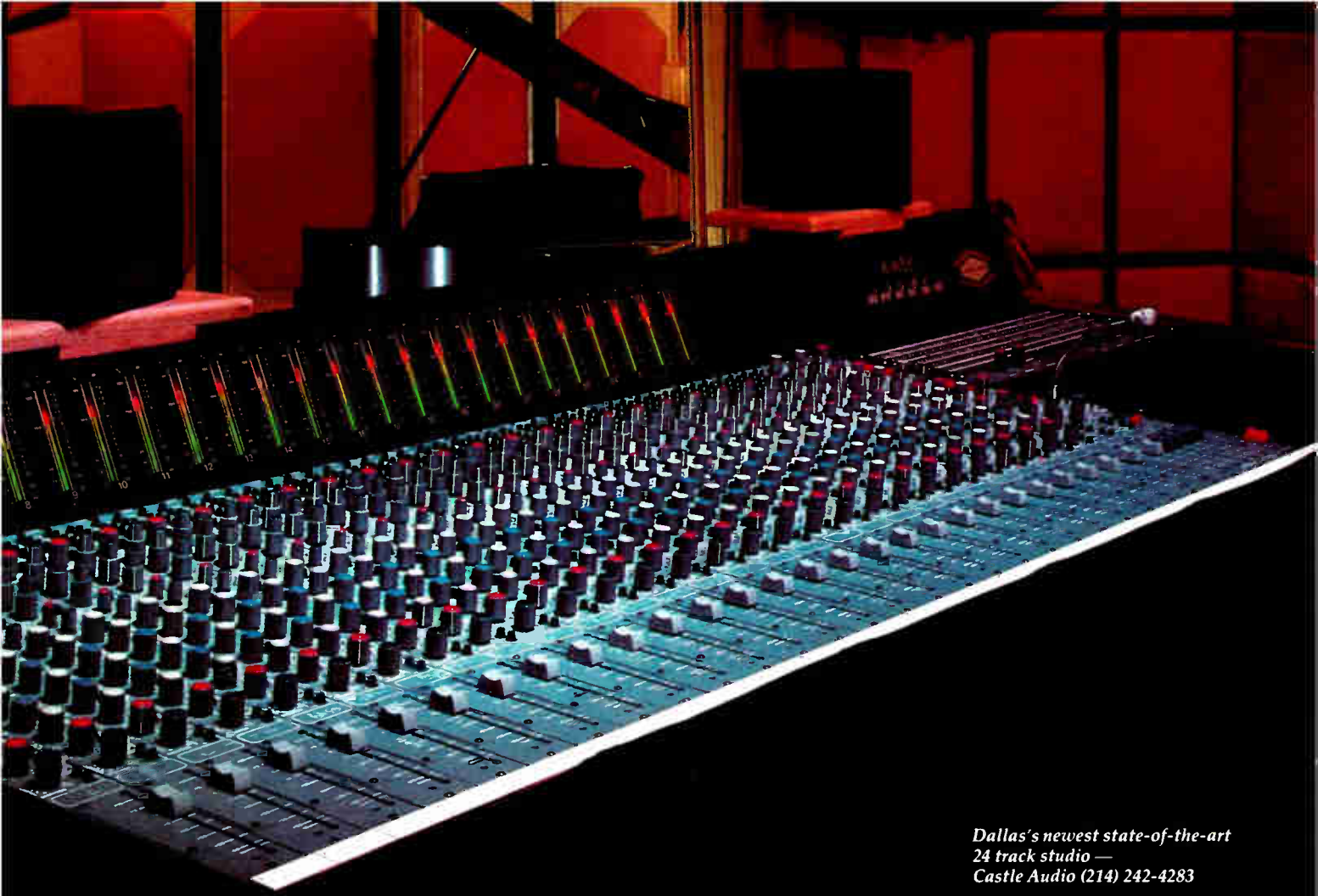
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Board, Gold Pin Edge Connectors, and her amplifiers are 5532-4s and TLO 74s and she has a Perfectly Rigid Carbon Steel Chassis. Sound appealing? To find out more about ANGELA or to arrange a personal demonstration, contact us at (213) 508-9788 for the name of your nearest AMEK dealer.

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- Frame sizes up to 56 inputs
- Additional VU and Phase Meters
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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.

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METRO MÖBILE LOCATION RECORDING

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 cassette, 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 1 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 Unconcert" featuring The Clash, Albert King, Squeeze, Lene Lovich, Dexy's Midnight Runners, and many others. From diverse places like Chicagofest, Cook County jail, and artists' practice lots, Metro Mobile provides economic, top-quality audio. Post-production mixing and record pressing are also available.

••• RICK MURPHY CREATIVE SERVICES

also REMOTE RECORDING

(formerly Full Compass, Inc.)

2984 Triverton Pike, Madison, WI 53711

(608) 274-2825

Owner: Rick Murphy

Studio Manager: Libby McHugh

••• PIONEER RECORDING STUDIO, INC.

also REMOTE RECORDING

4238 Ramagate, Bloomfield Hills, MI 48013

(313) 855-1466

Owner: G. 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

••• RADEX RECORDING STUDIOS

also REMOTE RECORDING

802 S. Chicago 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

••• THE REEL THING, INC.

3133 Chester Ave., Cleveland, OH 44114

(216) 696-3133

Owner: James L. Silver

Studio Manager: Fred Owen



RIGHT TRACK RECORDING STUDIO
Vincennes, IN

••• RIGHT TRACK RECORDING STUDIO

also REMOTE RECORDING

2015 Hart St., Box 632, Vincennes, IN 47591

(812) 886-4266

Owner: James Lane, Michael Chappell

Studio Manager: James Lane

Engineers: Chief engineer: Mick Chappell, second engineer: Van Gogh

Dimensions of Studios: 35 x 30 w/enclosed drum booth (30 x 50 office space also)

Dimensions of Control Rooms: 10 x 18

Tape Recorders: MCI JH-10-16 16 track, Otari MX5050B 2 track, Fostex A-2 2 track, JVC cassette, Nakamichi 680 cassette

Mixing Consoles: Tangent 3216, 16 in x 16 out

Monitor Amplifiers: Yamaha P2050 and P2200

Monitor Speakers: UREI 811A, JBL 4311, JBL 4301, Yamaha NS10, Auratones

Echo, Reverb & Delay Systems: Lexicon Prime Time, Master Room Studio B reverb, Lexicon PCM 42, Lexicon PCM 41, Fostex digital delay, Loft delay line

Other Outboard Equipment: Symetrix noise gates, (2) Symetrix 501 comp/limiters, Symetrix 10S comp/limiter, Eventide Harmonizer, dbx noise reduction, Symetrix stereo parametric EQ, EXR Vocal Exciter

Microphones: Sennheiser, Shure, Neumann, AKG, E-V, Audio Technica, Beyer, mini-cube transformerless direct boxes

Instruments Available: Your choice of over \$175,000 of inventory from Lane Music Center to use free of charge: Simmons drum kit w/sequencer, Oberheim dbx drum machine, Tama drums, 57" grand piano

Rates: Per single hour \$40. Block time available at \$35.

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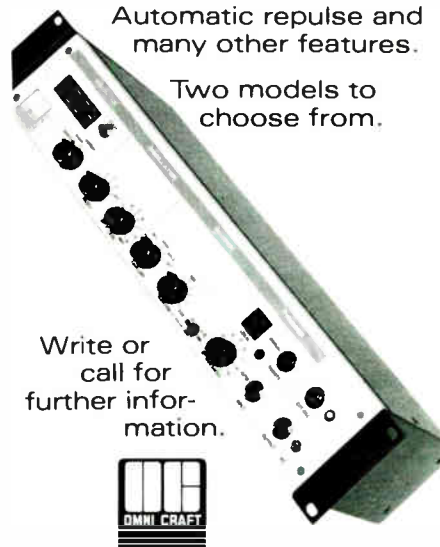
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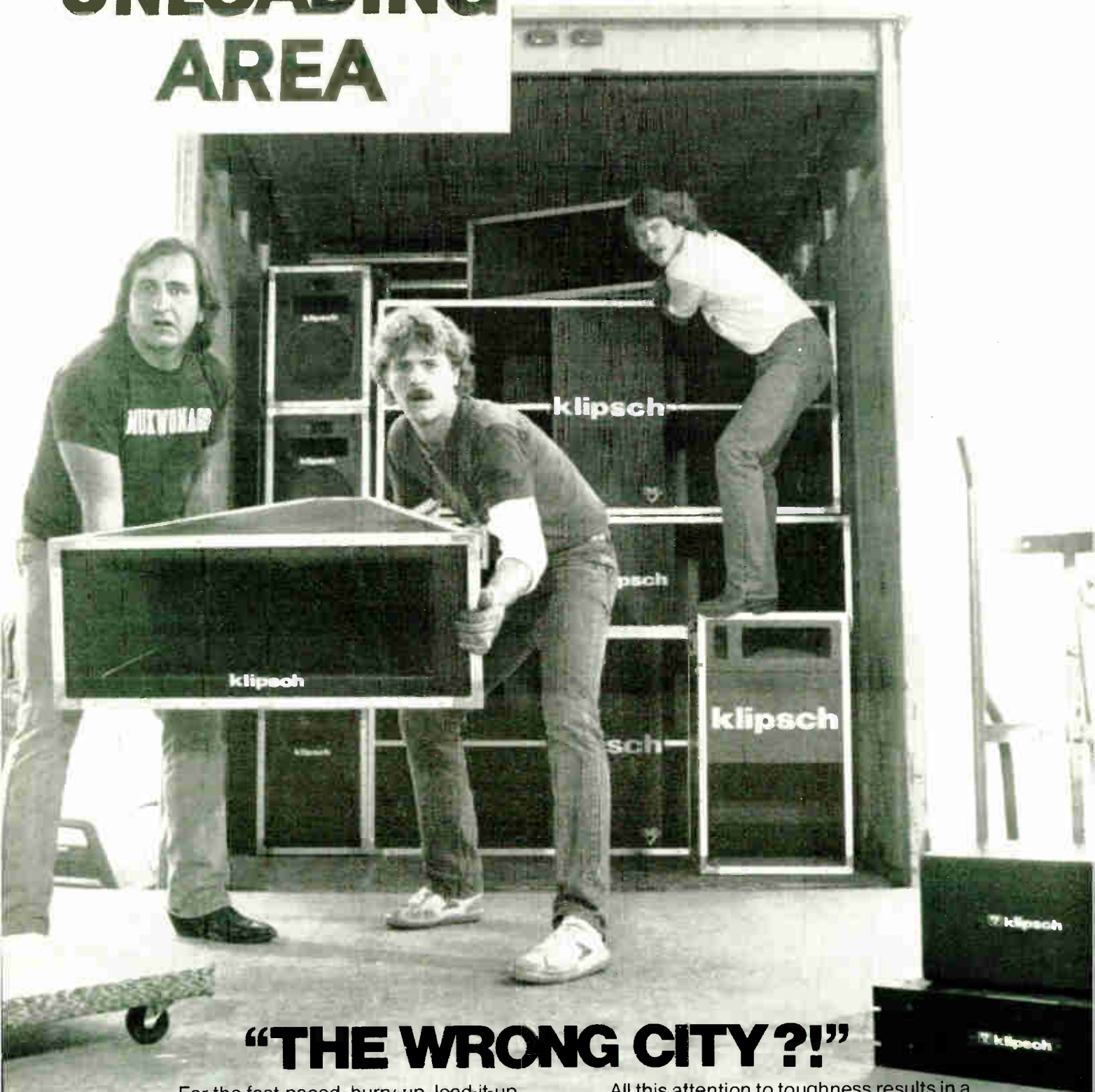
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••• ROME RECORDING CO.
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(614) 253-4418

••• SOUND HOUSE
424 W. Minnesota Ave., Willmar, MN 56201
(612) 235-6404
Owner: New Life Communications, Inc.
Studio Manager: Ron Husinga

••• SOUND IDEAS PRODUCTIONS
2001 Leach Ave., Sioux City, IA 51107
(712) 255-9911
Owner: Kraig Wall, Greg Wall, Lon Rochester, Jim Rosstter
Studio Manager: Kraig Wall
Engineers: Kraig Wall, Greg Wall, Tom Renfro
Dimensions of Studios: 23 x 20
Dimensions of Control Rooms: 15 x 13
Tape Recorders: Tascam 8516B 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 441i, Auratones 5C
Echo, Reverb, and Delay Systems: (2) MICMIX XL-305, Delta-Lab Effectron.
Other Outboard Equipment: dbx 155 noise reduction, dbx 162 stereo compressor/limiter, Symetrics stereo parametric EQ
Microphones: Crown P2M, 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
Rates: \$65/hr, \$50/hr 6 pm - 8 am and weekends. Block rates.

••• SOUND MACHINE STUDIOS
also REMOTE RECORDING
Detroit, MI
(313) 864-6690
Owner: Bryce & Ginger Roberson
Studio Manager: Ginger Roberson

••• SPECTRUM PRODUCTIONS
914 "L" Street, Lincoln, NB 68508
(402) 474-3111
Owner: Steve Demma and Steve Hall
Studio Manager: Steve Demma and Steve Hall

••• SUNSET STUDIO
also REMOTE RECORDING
117 W. 8th, Hays, Kansas 67601
(913) 625-3496
Owner: Mark Meckel
Studio Manager: Mark Meckel

••• SWEETWATER SOUND
also REMOTE RECORDING
2350 Getz Rd., Fort Wayne, IN 46804
(219) 432-8176
Owner: Chuck Surack
Studio Manager: Dick Swary

••• TANTUS STUDIOS
also REMOTE RECORDING
18461 West McNichols, Detroit, MI 48219
(313) 533-3910
Owner: Tanis Tramontin
Studio Manager: Mary Ann McGrath

••• TAPE TRACKS RECORDING STUDIO
2275 Yargerville Road, La Salle, MI 48145
(313) 243-1623
Owner: Bill Cuson
Engineers: Bill Cuson
Dimensions of Studios: 30 x 41, including two large isolation booths
Dimensions of Control Rooms: 23 x 15
Tape Recorders: Ampex MM1000 16 track; Ampex 440-C 2 track, Ampex 351-2 2 track, Tascam 122 cassette deck

Mixing Consoles: Tangent 3216 24 in x 24 out.
Monitor Amplifiers: BGW 750, 300, Phase Linear 400
Monitor Speakers: Sentry III, JBL 4312, Auratones
Echo, Reverb, and Delay Systems: Echo-Plate, DeltaLab D-D line, Lexicon Prime Time
Other Outboard Equipment: UREI 1176LN comp/limiters, Pultec filters, (2) dbx 900 mainframes with 903 comp/limiters, 904 noise gates, 905 parametric EQ 906 flanger, B-795 Revox turntable.
Microphones: AKG; Shure; EV; Sennheiser; Neumann
Instruments Available: Baby grand piano, Hammond B3, drums, Fender Precision bass (1959 model), Peavey bass amp, Fender Super-reverb (pre-CBS).
Rates: \$50/hr



TECHNICAL MAGIC RECORDING, INC.
Athens, OH

••• TECHNICAL MAGIC RECORDING, INC.
also REMOTE RECORDING
18½ West State St., P.O. Box 1074, Athens, OH 45701
(614) 592-1939
Owner: Technical Magic Recording, Inc.
Studio Manager: Louie Stevens

Engineers: Louie Stevens
Dimensions of Studios: 12 x 15 (vocal booth and drum booth)
Dimensions of Control Rooms: 12 x 12
Tape Recorders: Tascam 85-16B w/Autolocator 16 track, Tascam 52 2 track; TEAC A3300SX 2 track, TEAC A-510 cassette.
Mixing Consoles: Tascam M16, 24 in x 24 out.
Monitor Amplifiers: Phase Linear 400, Marantz 1060
Monitor Speakers: JBL 4430 bi-radials, JBL L-110, Auratones.
Echo, Reverb & Delay Systems: Echoplate, Lexicon Prime Time digital delay, DeltaLab Effectron digital delay.
Other Outboard Equipment: Autolocator for 16 track, dbx noise reduction for all tape machines, (2) dbx 165 compressors, (4) dbx 903 comp/limiters, (3) dbx 904 noise gates, dbx 902 de-esser, MXR graphic EQ, variable speed control on tape machines, electronic click track.
Microphones: Neumann U87, AKG C414, (2) C451s; Sennheiser 441, (3) 421s; (2) E-V RE-20s.
Instruments Available: Baldwin studio piano, ARP Odyssey synthesizer, Casio keyboard, various percussion instruments.
Video Equipment & Services: Video monitor. Produce videos as well as post-video audio sweetening.
Rates: 16 track flat rate: \$45/hr includes engineer. Package rates, including album and 45 package prices available upon request.
Extras:
Direction: We specialize in high quality production. Dozens of projects have been written, produced and recorded with us this year, including the McDonald's jingle "Family Night Specials." Comments from our clients: "An immediate and dramatic increase in sales with Technical Magic's jingle." - McDonald's owners. "Until I got the jingle I didn't know what profit was" - Dr. Burton Lewis, President, Lendon Limited Optical, Columbus. "With Technical Magic's jingles our clients have enjoyed an increase in sales." WXTQ Radio, Athens, Ohio. "We gave Technical Magic the facts - they put it to music" - Robert Hutchison, president, Hutchison Advertising, Columbus

••• TOBY'S TUNES, INC.
2325 Girard Ave. S., Minneapolis, MN 55405
(612) 377-0690
Owner: Harley Toberman
Studio Manager: Ms. Piggly

••• UNITED ENTERTAINMENT/GRAPHIC RECORDS
4024 Stateline, Kansas City, KS 66103
(913) 262-3555
Owner: David McQuitty
Studio Manager: Dick Brown

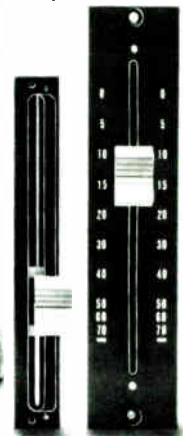
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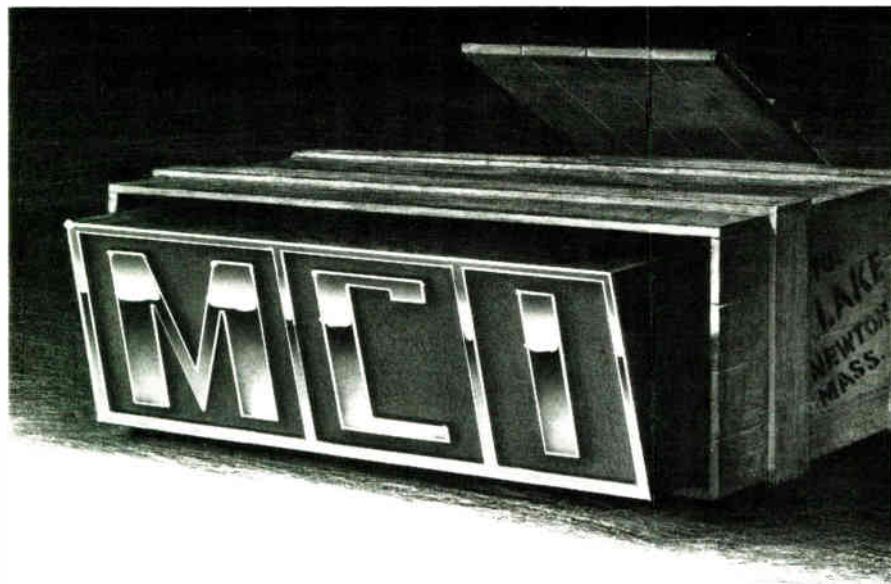
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(802) 223-6159

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57 Westmore Dr., Rexdale Ont., Canada M9V 3Y6
(416) 746-0300

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LAKE
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CORPORATION

capabilities are there to serve you whether you need a microphone or a full turn-key system. Call the pro audio people at Lake Systems Corporation, 55 Chapel Street, Newton, Massachusetts 02160 (617) 244-6881. Leasing plans are available.

Circle #032 on Reader Service Card



... WHITE HORSE RECORDING
also REMOTE RECORDING
620 15th St., Moline, IL 61265
(309) 797-9898
Owner: Ron Spencer and Jeanne McKirchy Spencer
Studio Manager: Ron Spencer

... ZEM RECORDING STUDIO
3709 South 60th Court, Cicero, IL 60650
(312) 656-1544
Owner: Ed and Sue 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: Tascam 85 16 16 track, Ampex ATR 102 2 track, Otari 5050B 2 track, Nakamichi 582 cassette deck
Mixing Consoles: Tangent 3216 24 in x 16 out
Monitor Amplifiers: Yamaha P 2200 (2), Crown D75
Monitor Speakers: IBL 4343s, 4313s, Yamaha NS 10Ms, Auratones B & W 802s
Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb system, Eventide Harmonizer H949, Lexicon Prime Time (2), Delta Lab DL 2 Acousticcomputer
Other Outboard Equipment: 18 channels dbx type I, 2 channels dbx type II, Dolby A system #61, High-Com II noise reduction, UREI 1176 (2) comp., dbx 160 (2) comp., dbx 900 rack, Orban parametric, EXR Exciter (2), Aphex Exciter
Microphones: Neumann AKG Sennheiser Shure, Electro Voice, Sony
Instruments Available: Yamaha Electric concert grand, Ludwig drums ARP 2x00
Rates: Upon request
Extras: No extra charge for all available equipment or musical instruments
Direction: We are a fully equipped studio using a 1" tape format. Our main goal is to get the best sound on tape at the lowest cost to the client. Music production and assistance are also available. We encourage our clients to experiment with new techniques and equipment as it becomes available to bring a new dimension to the musicality of their production.



The video magazine you've been hearing about is available now. Write to Mix Publications, 2608 Ninth St., Berkeley, CA 94710 for details and order forms.

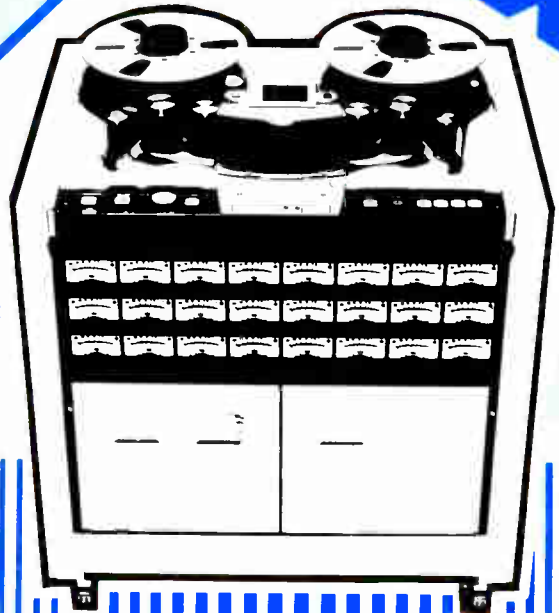
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Circle #033 on Reader Service Card



NORTH CENTRAL

Studio Manager: Doug Monson
Engineers: Glenn Brown, Mark Gavulirk, Marvin Hall
Dimensions of Studios: A: 27 x 30, B: 17 x 19
Dimensions of Control Rooms: A: 17 x 14, B: 12 x 10
Tape Recorders: Studer A 80 Mk III, 24 track TEAC 8008 H track, Studer A810, 2 track Otari MX5050B, 2 track
Mixing Consoles: Neotek Series II, 32 in x 24 out, Tangent custom, 20 in x 8 out
Monitor Amplifiers: McIntosh 2100, 2105, Crown DC 300A, OSC BGW
Monitor Speakers: JREI 813A, Time Align JBL 43.1, 43.0, Auratones Genesis
Echo, Reverb & Delay Systems: EchoPlate II, live chambers, Lexicon Prime Time, Eventide Harmonizer H910
Other Outboard Equipment: UREI EQ, Valley People Kepex Dyna Mites, Gain Brains, Orban, Jessor, Ibx compressors, JREI compressors, Roland Vocoder
Microphones: Neumann, Sennheiser, AKG, Shure, E.V., Sony
Audio Technica, Beyer
Instruments Available: Oberheim, JBX A, DSX, DMX, trum computer, Kimball, baby grand, Hammond B3, Marshall stacks, vintage Fender, Fender concert, Fender Princeton, Fender Champ, Gibson, Vinton, Gibson, Suitcase, 45, 2 heavy backstage, 2 trum sets
Video Equipment & Services: Very soon, J-lock system, Hi-Matic, Sony Beta

**** ADVANCED AUDIO/VISUAL CORP
also REMOTE RECORDING
 1730 E. 24th St. (Above the Agora Ballroom)
 Cleveland, OH 44114
 (216) 771-1315
 Owner: Elias Cassioff
 Studio Manager: Ted Cassioff

**** ALPHA RECORDING CO.
 515 W. Harrison, Lombard, IL 60148
 (312) 495-2241
 Owner: Bonnie Thomas
 Studio Manager: Jonnie Karpak

**** AMBIENCE RECORDING INC.
also REMOTE RECORDING
 27920 Orchard Lake Road, Farmington Hills, MI 48018
 (313) 851-9766
 Owner: Jerome A. Silecchia, President
 Studio Manager: Gerard Smerek

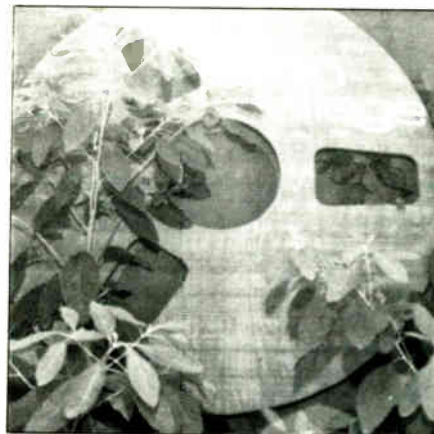
**** AMERICAN ARTISTS
 430 Oak Grove #110, Minneapolis, MN 55403
 (612) 871-0715
 Owner: Owen Husney
 Studio Manager: Peter Martinsen

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

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

**** AUDIO TRAK INC.
also REMOTE RECORDING
 1965 Harlem Rd., Rockford, IL 61111
 (815) 654-7771
 Owner: Joe Guanno
 Studio Manager: Joe Guanno

**** 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
Engineers: Wayne Gunn, Bryan Haggerty, Bob Estrin, independents welcomed
Dimensions of Studios: Live room 15 x 15, dead room 12 x 15, iso 10 x 12, dead booth 10 x 10, live drum room 10 x 20 (825 sq ft total)
Dimensions of Control Rooms: 12 x 25
Tape Recorders: MCI JH114 24 track, MCI JH110B 2 track, Nagra IV-S 2 track, Ampex ATR 700 2 track, Nakamichi, BIC, Sony cassette decks
Mixing Consoles: Allen & Heath Brenell Syncon, 28x24x4, Carvin 1602, 16 in x 4 out, Tascam Model 3, 8 in x 4 out
Monitor Amplifiers: Crown



*There's a lot of growth at
 AUDIO VILLAGE in Bloomington, IN*

Monitor Speakers: ADS 900 II, Altec/UREI 604 HG, ADS 300 Auratones
Echo, Reverb & Delay Systems: Ecoplate II, MICMIX XL 305, DeltaLab DL 2 Acoustic computer
Other Outboard Equipment: Valley People, Kepex II, Gain Brain II, Maxi Q parametric (2 each), QL2 mike preamps, Dynamic noise filter, dbx noise reduction
Microphones: Neumann SM69, SM2 stereo tubes, KM84s, AKG 414s, Crown PZMs, Altec, E.V. RE 20s, HCA 77DX, the usual assortment of dynamics and electrets
Instruments Available: Young Chang 6' grand, 11980 wide complement of rental instruments are available locally at reasonable rates
Video Equipment & Services: Beta and VHS color camera, fluid head tripod (available through associated firm)
Rates: \$30 to \$60/hr. Demo rates available
Extras: Kitchen, country atmosphere, real time cassette duplication and custom loading, graphic arts services, large local pool of musicians, arrangers, producers, 3 studio cats, Studebaker, Boscendorfer, Jessie, garden with picnic area, telephone and monitor feed, pottery studio
Direction: Audio Village has gained a reputation for high quality at very low rates, particularly on classical, jazz and film projects. This tradition of sonic craftsmanship was attained with old and semi-pro equipment, but slowly and surely, mikes, peripherals, a new console (warm sounding Allen & Heath discrete "Syncon" 28 x 24) and a 24 track machine are replacing the original system. The emphasis is towards state of the art analog, with a growing assortment of vintage tube mikes. Five different studio rooms in a comfortable setting complement the technical facility.

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

**** AUDIOGRAPH PRODUCTIONS, INC.
also REMOTE RECORDING
 2810 Bennett, Okemoo, MO 48864
 (517) 332-3272
 Owner: Doug Monson, Glenn Brown, Bob Parkhill



*BISON RECORDING
 Columbus, OH*

**** BISON RECORDING
 394 Mt. Vernon Ave., Columbus, OH 43215
 (614) 228-2228
 Owner: JD Blackfoot
 Studio Manager: JD Blackfoot
Engineers: Gary Hedden, Robin Gulcher, Robin Jenny
Dimensions of Studios: 57 x 34
Dimensions of Control Rooms: 21 x 21
Tape Recorders: Otari MTR 90-II 24 track, (2) Otari MTR 10-2 2 track, 3) Aiwa 3800
Mixing Consoles: Sound Craft 2400 28 in by 24 out
Monitor Amplifiers: n. Haller
Monitor Speakers: Fostex LS3, Fostex LS2, MDM 4, JBL 4435 Auratone
Echo, Reverb, and Delay Systems: 8 Echo plate, 2 Lexicon PCM 4., Eventide H-910, dbx 906 flanger
Other Outboard Equipment: dbx 400 rack includes 902 and 903, Omnicraft GT-4
Microphones: Neumann U-89, KM 84, Sennheiser 421, AKG 414 and 452EB, Shure SM 57, SM 2
Instruments Available: Yamaha piano, 74' Ludwig drums, Hammond B3, Crate guitar and bass amps
Rates: Please call

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

**** CHICAGO RECORDING COMPANY
 528 North Michigan Avenue, Chicago, IL 60611
 (312) 822-9333
 Owner: Alan S. Kubicka
 Studio Manager: Jo Sturm & Susan Divita
Engineers: Chris Sabold, Hank Neuberger, Dentus Anderson, Phil Bonnano, Tommy Hanson, Mike King, Tim Butler, Bill Kovach, John Titak, Gary Hedden
Dimensions of Studios: A: 27 x 45, B: 23 x 35, 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: MCI 24, 8, 4, 2 track and mono
Mixing Consoles: Cadac Series E 36 in x 32 out, MCI JH-532C



CHICAGO RECORDING COMPANY
Chicago, IL

36 in x 32 out, Neve 8068 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

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 String.

Video Equipment & Services: Complete audio/video sweetening utilizing Sony & Panasonic 1/4" video cassette recorders with BTX SMPTE Time Code Readers, generators, synchronizers, and controllers.

Rates: Studio A & D: \$205/hr; Studio B: \$155/hr; Production Studios: \$55-\$110/hr; rates available for block booking.

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 highest. 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 jingles to our credit include hundreds of spots for McDonald's, Coke, Unilever, Lines, Wingle's Gum, Schlitz, SunKist, Kellogg's, 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, Tom Kee, Al Ursini

Studio Manager: Reid Hyams

Engineers: Al Ursini, Chief Engineer; Harry Brotman, Ian Burgess, Don Mueller, Larry Sturm, Paul Klingberg, Peter Leonardy

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 JH116 w/Autolocator 16/24 track, Tascam 80-8 w/dbx noise reduction 8 track, Otari MTR-10 2 track, Otari 5050B 2 track.

Mixing Consoles: Soundcraft 1624, 24 in x 24 out.

Monitor Amplifiers: Crown, UREI

Monitor Speakers: UREI 813s, MDM 4s, JBL 4313s, JBL 100s, Auratones.

Echo, Reverb, and Delay Systems: Ecoplate reverb, Lexicon Prime Time digital delay, Orban stereo reverb.

Other Outboard Equipment: Eventide Harmonizer; Roland

stereo flanger, Gair, Brans, Kepexes, Dyna-Mites, dbx and UREI comp/limiters, UREI parametric and graphic EQ, Pultec program EQ, Orban stereo synthesizer

Microphones: Neumann U-87s, KM84s, AKG 414s, Crwr, 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 wood drum kit w/ast snares, Fender Rhodes Moog Model 900 synthesizer, ast guitar amps and Synclavier II upon request

Rates: 24 track recording from \$40/hr

CLOUD BORN PRODUCTIONS

also **REMOTE RECORDING**

18000 Mack Ave., Grosse Pointe, MI 48224
(313) 882-0566

Owner: Gary Praeg

Studio Manager: Gary Praeg

Engineers: Mike DeMartino, Gary Praeg

Dimensions of Studios: Main 35 x 45, sub-rooms 8 x 10 and 20 x 12

Dimensions of Control Rooms: 15 x 25

Tape Recorders: MCI JH-114 24 track w/Quor automation system, MCI JH 110 16 track, MCI JH 100

Mixing Consoles: MCI 428LM, 28 in x 24 out

Monitor Amplifiers: Bryston 4B, Crown 75, 150, McIntosh tube

Monitor Speakers: JBL 4313, 4311, E-V Sentry 100, Auratone.

Echo, Reverb & Delay Systems: Lexicon 224, AKG BX-20, Clover, Lexicon Prime Time, DL-2, Harmonizer 949, Ursa Major Space Station

Other Outboard Equipment: Dolby & dbx noise reduction, UREI LA2A, (2) UREI LA3A, Omnipressor, (2) ADR Vocal Stressor, ADR sweep EQ, EXR

Microphones: AKG 414, 451, D12, Neumann U87, Shures, E.V. Sony, Crown PZM

Instruments Available: Steinway B 7' grand piano, Fender Rhodes, Clavinet, Hammond B3, Ludwig drums, LP congas, DMX drum machine

Rates: Upon request

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
Urbana, IL

CREATIVE AUDIO

705 Western Ave., Urbana, IL 61801
(217) 367-3530

Owner: Michael Day

Studio Manager: Roger Francisco

CYBERTEKNICS

1953 East Third Street, Dayton, OH 45403
(513) 258-2463

Owner: Philip Mehaffey

THE DISC LTD.

14611 E. Nine Mile Rd., E. Detroit, MI 48021
(313) 757-8129

Owner: Robert Dennis, Greg Reilly, Tom Gelardi

Studio Manager: Greg Reilly

Engineers: Greg Reilly, Robert Dennis, Dave Baker, John Jaszczyk

Tape Recorders: Ampex MM1000 24 track, 3M M59 16 track.

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Soundcraft 24 Channel Console

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3-Lexicon Digital Delays

2-Neve Compressors

2-DBX Compressors

2-4 Band Parametric EQ's

2-10 Band Graphic EQ's

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24-Noise Gates

EXR Excitor

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Peoria, Illinois 61604

Circle #035 on Reader Service Card

—continued from previous page

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: DLC design 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, Loft 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.

Video Equipment & Services: ¼" Sony BVU 800, BTX synchronizers and tape controller, BTX 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: Formerly Superdisc, we have changed our name to Disc Ltd. Having seen the industry adapting itself to the video medium, we have decided to install a video post production audio system. We also are associated with video production companies and are now offering video-audio packages. Our latest credits include Roger Troutman's "He and It Through the Grapevine" and George Clinton's "Atomic Dog."

•••• 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 & Ellen Goldman

Studio Manager: Bob Craig

Engineers: Gary Platt, Robin Jenney & Bob Craig, freelance engineers welcome

Dimensions of Studios: 20 x 25

Dimensions of Control Rooms: 20 x 15

Tape Recorders: MCI JH 114 24 track, Studer B67 2 track, Ampex 44B 2 track, Scully 280 2 track, Sansui SC1110 cassette 2 track, Tascam cassette deck.

Mixing Consoles: Sphere Eclipse A 28 in x 24 out

Monitor Amplifiers: BGW 500 BGW 250

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

Echo, Reverb, and Delay Systems: Lexicon 224 digital reverb Ecoplate, Lexicon Prime Time Digital Delay, Marshall Time Modulator, Cooper Time Cube

Other Outboard Equipment: Orban 622B Parametric EQ, UREI 1176 LN Limiters, UREI LA3A limiters, dbx 160 limiters, dbx 160 De-Esser, dbx noise reduction 26 channel, Audiotronics EQ, Aphex cxl Expander compressors, Aphex EQF-2 Equalizers LA2A limiters

Microphones: Neumann tube U47s, U87s, KM 84s, KM 96s, Shure 57s & 58s, EV RE-20, RE-16, 666, RCA 77s, Beyer M500, Schoeps, AKG 414s

Instruments Available: Steinway 7' grand, Fender Rhodes, Rogers drums, LinnDrum, synthesizers available by appointment

Rates: Available upon request.



•••• HEDDEN WEST RECORDERS

1200 Remington Road, Schaumburg, IL 60195
(312) 885-1330, 885-9378

Studio Manager: Michael Freeman

•••• HIGH FIDELITY RECORDING, INC.

also REMOTE RECORDING

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

Owner: corporation

Studio Manager: James Strattan

Extras: 2-track half-inch ATR 102, dbx 700 (check availability), 16-track (2-inch)/30 tracks using two 16-track machines, sync with video productions in one inch "C" format as well as ¾", video duplication in VHS and Beta from ¾" or 1" masters, audio duplication in cassettes and reel to reel

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•••• HUBBARD STREET STUDIOS

also REMOTE RECORDING

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

Owner: Fred Reynolds/Jim Poulsom

Studio Manager: Fred Reynolds/Jim Poulsom

•••• JAY SOUND STUDIO

4300 Watertown Rd., Maple Plain, MN 55359
(612) 475-3152

Owner: James Johnson

Studio Manager: James Johnson

•••• JEWEL RECORDING STUDIOS

also REMOTE RECORDING

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

Owner: Rusty York

Studio Manager: Rolin Bennett, Jr

Engineers: Jr. Bennett, Rusty York

Dimensions of Studio: 46 x 30

Dimensions of Control Rooms: 16 x 16

Tape Recorders: MCI JH 114, 24, MCI JH 110 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, Electro-voice, Sentry III

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

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

Microphones: Neumann U-47 '72, U-97, 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

•••• K & R RECORDING STUDIO

also REMOTE RECORDING

29111 Greenfield, Southfield, MI 48076
(313) 557-8276

Owner: Ken Glaza

Studio Manager: Bob Gajewski

•••• LANSING SOUND, INC.

2719 Mt. Hope Rd., Okemos, MI 48864
(517) 351-6555

Owner: Bob Baldoni

Studio Manager: Phil Klintworth

•••• MIDWEST RECORDERS

(formerly Traum Recording Studio)

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

Owner: Rick Singer

Engineer: Dave Neitzke

Dimensions of studios: Studio A - 650 sq. ft. with 3 isolation

booths, Control room - 360 sq. ft., Studio 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

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St. Louis, MO

•••• GATEWAY RECORDING STUDIO INC.

also REMOTE RECORDING

2180 Buttercup Dr., St. Louis, MO 63033
(314) 831-7706

Owner: Howard W Myers

Studio Manager: Howard W Myers

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2-track, Sony PCM 2-Channel digital, Tandberg 3004 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, Banner, AB systems, monitor speakers.
Echo, Reverb, and Delay: Lexicon 224X with L.A.R.C., Lexicon model 93 Eventide FL201, Eventide H910, ADA D640.
Other outboard equipment: UREI, Eventide, Audioarts, Orban, DBX expanders, gates, and limiters.
Microphones: Neuman U-87's and tubes, AKG, Sennheiser, Shure, Studer, Crown, Electrovoice, RCA.
Instruments Available: Linn, Memory Moog, Yamaha GS2, Pearl drums, 6' Steinway grand piano, a collection of vintage guitars, selection of tube and transistor amplifiers
Rates: Please call for rates

**** MONTAGE
 2657 N. Mildred, Chicago, IL 60614
 (312) 883-1600
Owner: Jeffrey L. Palmer
Studio Manager: Jeffrey L. Palmer

**** MULTI TRAC RECORDING STUDIOS INC.
 25533 Five Mile Rd., Redford, MI 48239
 (313) 531-5353
Owner: Nick Canzano, Rick Canzano and Breck Watt
Studio Manager: Nick 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, Free-
 lance: 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 1, 2, 4 tracks, Musicol M-R/8
 B track, Ampex 300 1 track, (3) Ampex 351 1 track, Ampex 351
 2 track, 3M 56 16 track, 3M 79 24 track, (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, Orban 111B, (2) custom built plates, Tape
 delay, Hammond oil-filled reverb unit.
Other Outboard Equipment: Kepex, UREI 1176s, Gain Bran,
 L.H. Clarifier, Pultec IA3, 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 mod-
 ified, 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
 tune 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 nomi-
 nated for Dove Awards. Been in business at present location since
 1968.

**** OMNISONND 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

**** OPUS
 also REMOTE RECORDING
 18653 W. Pamela, Gurnee, IL 60031
 (312) 356-7069
Owner: Tony Pettinato
Studio Manager: Bonnie
Engineers: Tony Pettinato, Neil Mathews, Jim Grosman
Dimensions of Studios: 25 x 25 main room (live end - dead
 end), (2) isolation rooms 14 x 15 and 8 x 9
Dimensions of Control Rooms: 16 x 15
Tape Recorders: MCI JH24 24 track; Ampex ATR 102 2 track;
 Technics RU-1520 2 track; TEAC 6600 2 track; (2) Onkyo
 cassette 2 tracks.
Mixing Consoles: Soundcraft 1624, 24 in x 24 out.
Monitor Amplifiers: BGW, McIntosh, Soundcraftmen.
Monitor Speakers: JBL 443, Auratones, Infinity, Klipsch.
Echo, Reverb & Delay Systems: (2) stereo plates, (3) Lexicon



OPUS
 Gurnee, IL

delay.
Other Outboard Equipment: EXR Exciter, noise gates (2) N-v
 compressors, (2) dbx compressors, Countryman direct boxes,
 parametric EQ, (2) graphic EQs
Microphones: Neumann, AKG, Sony, Shure, Countrymen, E-V,
 Sennheiser
Instruments Available: Hammond B3, ARP strings, Moog syn-
 thesizer, Fender Rhodes, grand piano, Marshall and Fender
 amps, Ludwig drums, congas, percussion
Video Equipment & Services: 3/4" and 1/2" video producer
Rates: \$30 - \$55 per hour. Block booking and packages avail-
 able. Location recording

**** PAC-THREE RECORDING STUDIO
 also REMOTE RECORDING
 7106 Greenfield Road, Dearborn, MI 48126
 (313) 581-0520
Owner: Richard Becker
Studio Manager: Kevin Wright Secretary: Julie Mont

**** 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.
 2705 Provincial, Ann Arbor, MI 48104
 (313) 971-2414
Owner: Ben Grosse and Geoff Michael
Studio Manager: Ben Grosse
Engineers: Geoff Michael, Jon Michelson, Ben Grosse, David
 Baker and various independents
Dimensions of Studios: Ann Arbor location: 25 x 15 and 14 x
 20 (2 rooms). Canton location: 30 x 50 x 20 and 15 x 25 iso
 room
Dimensions of Control Rooms: Ann Arbor: 10 x 10; Canton:
 22 x 16 (Sierra Design)
Tape Recorders: Studer A80 Mk III 24 track, Studer A80 Mk III
 2 track 1/2" format; MCI JH100 16 track; Otari MTR10 2 track;
 Otari MX5050B 2 track, Otari MX5050 2 track
Mixing Consoles: Neotek custom modified Series II w/Allison
 VCAs, 40 in x 24 out, Quantum Gamma A, 26 in x 26 out
Monitor Amplifiers: UREI 6500, UREI 6150, Crown DC300,
 Crown D150, various McIntosh
Monitor Speakers: Sierra TM-8, JBL 4311, Auratones, etc. Any-
 thing on request.
Echo, Reverb & Delay Systems: Lexicon 224X, Lexicon Super
 Prime Time, Lexicon Prime Time, Ursa Major Space Station,
 Audicon 8" plate reverb
Other Outboard Equipment: Eventide Harmonizer, Eventide
 phaser, Eventide flanger, Loft delay/flanger, Valley People Kepex
 IIs and Gain Bran IIs, EXR Exciter, Teletronix LA2As, and a
 whole bunch of other neat stuff!
Microphones: Neumann U87, U47 (tube and FET), KM84, AKG
 414, 451, D12, Sony C37A (tube), RCA DX77, Shure SM57,
 Sennheiser 421 and 441, Crown PZM, E-V RE20, Mr. Micro-
 phone.
Instruments Available: Tama drums, Sunnons electronic drums,
 Yamaha pianos, Hammond M3 and Leslie, Marshall and Fender
 amps, etc., guitars and basses
Video Equipment & Services: Please call for details.
Rates: Ann Arbor location: 24 track: \$70/hr; 16 track: \$60/hr.
 Canton location: 24 track: \$100/hr; 16 track: \$90/hr.

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•••• PEPPERMINT PRODUCTIONS CORP.
 also REMOTE RECORDING
 803 East Indianola Ave., Youngstown, OH 44502
 (216) 783-2222
 Owner: Gary L. Rhamy
 Studio Manager: Brenda Circle
 Engineers: Gary Rhamy
 Dimensions of Studios: A 40 x 30, B 20 x 15
 Dimensions of Control Rooms: A 30 x 10, B 20 x 7
 Tape Recorders: Scully 284 8, 12, 16, 24 track; Ampex 440A 2, 4 track; Ampex 351 1 track, Technics 1500.
 Mixing Consoles: Custom containing UREI-Automated Processes components 24 in x 24 out, Custom Universal Audio components 12 in x 4 out.
 Monitor Amplifiers: Crown, McIntosh.
 Monitor Speakers: JBL 4320's and custom, Altec Voice of the Theatre.
 Echo, Reverb, and Delay Systems: Loft 440 DDL, Eventide Instant Flanger, Acoustic Echo Chamber, Sound Workshop, Tape Echo, DeltaLab delay.
 Other Outboard Equipment: Eventide Harmonizer; variable speed on all machines interlock between studio A & B.
 Microphones: Neumann U87, U67, KM86, KM84; Telefunken 251; Shure, Sony; EV, RCA, Sennheiser 421, EV RE 20, Crown PZM, etc.
 Instruments Available: Steinway piano, Hammond C-3 organ, string ensemble, tympani, xylophone, misc. percussion instruments; some instruments available upon request.
 Video Equipment & Services: Movieola editing table; Cannon 16mm camera with crystal sync; Nagra tape recorder; Magna-sync dubbers; Betamax VTR with time code read-out; music library.
 Rates: 24 trk: \$75/hr; -16 trk: \$65/hr; -8 trk: \$55/hr; -4 trk: \$45/hr.

Pinebrook Recording Studios

PINEBROOK RECORDING STUDIOS
 Alexandria, IN

•••• PINEBROOK RECORDING STUDIOS
 also REMOTE RECORDING
 P.O. Box #146; State Road #9 South,
 Alexandria, IN 46001-0146
 (317) 724-7721
 Owner: Bill Gaither, Randy Hammel, Everett Daniels
 Studio Manager: Randy Hammel

•••• PRISM RECORDING STUDIOS (PYRAMID AUDIO, INC.)
 16036 Union Ave., Harvey, IL 60426
 (312) 339-8014
 Owner: Rob Vukelich
 Studio Manager: Rob Vukelich

•••• PUMPKIN RECORDING STUDIOS
 6737 W. 95th St., Oak Lawn, IL 60453
 (312) 598-3045
 Owner: Gary Loizzo
 Studio Manager: Gary Loizzo and Will Rascati

•••• PYRAMID AUDIO INC.
 450 W. Taft Dr., South Holland, IL 60473
 (312) 339-8014
 Owner: Rob Vukelich
 Studio Manager: Bill Mullin

•••• QCA RECORDING STUDIOS
 2832 Spring Grove Ave., Cincinnati, OH 45225
 (513) 681-8400
 Owner: QCA, Inc.
 Studio Manager: Jim Bosken

•••• 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

•••• THE RECORDING CONNECTION, INC.
 also REMOTE RECORDING
 23330 Commerce Park Dr., Beachwood, OH 44122
 (216) 464-4141
 Owner: Arnie Rosenberg

•••• RED LABEL RECORDING STUDIO
 552 Lincoln, Winnetka, IL 60093
 (312) 446-1893
 Studio Manager: Fred Breitberg
 Tape Recorders: Studer A80 Mk III 24 track; Studer B67 2 track; Studer B67 2 track.
 Mixing Consoles: Harrison transformerless 2824, 28 in x 24 out.
 Monitor Amplifiers: Biamp
 Monitor Speakers: UREI, MDM 4, Auratone
 Echo, Reverb & Delay Systems: 224 Lexicon, Ecoplate, PCM 41, Harmonizer.
 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.

•••• RON ROSE PRODUCTIONS, LTD.
 29277 Southfield Road, Southfield, MI 48076
 (313) 424-8400
 Owner: Ron Rose
 Studio Manager: Don Wooster

•••• S.Y. RECORDING
 7876 N. Lincoln, Skokie, IL 60077
 (312) 982-9693
 Owner: Sargon Yonan
 Manager: Paul Berolzheimer

SELLER SOUND
 2175 Michael, Warren, MI 48091
 (313) 758-7620
 Owner: Gary Spaniola
 Studio Manager: Gary Spaniola



SOLID SOUND INC.
 Ann Arbor, MI

•••• SOLID SOUND, INC.
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**** SOLID SOUND RECORDING STUDIO, INC.
2400 W. Hassell Rd., Suite 430, Hoffman Estates, IL 60195
(312) 882-7446
Owner: Judd Sager
Studio Manager: Judd Sager, Gary Whitson and Mike Fraser

**** 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 Nevin, 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, Eddcor.
Monitor Speakers: UREI 811A, JBL 4310, Altec A-7, Auratone.
Echo, Reverb, and Delay Systems: AKG BX20, Eventide Harmonizer, Eventide flanger, MICMIX XL-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 impulsive, 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.

SOUNDS INTERCHANGE LTD.
506 Adelaide Street East, Toronto, Ontario
Canada M5A 1N6
(416) 364-8512
Owner: Salim Sachedina
Studio Manager: Karen Guluche

SOUNDSMITH RECORDERS
also REMOTE RECORDING
5210 E. 65th Street, Indianapolis, IN 46220
(317) 842-4905
Owner: Mark Copenhagen and Mark Dood
Studio Manager: Mark Copenhagen
Engineers: Mark Copenhagen and Mike Graham
Dimensions of Studios: 20 x 30
Dimensions of Control Rooms: 22 x 18
Tape Recorders: Studer A80VU 24; 3-M M56, 16; Scully, 280B, 2; Scully, 280B, 1; Otari, 5050B, 2.
Mixing Consoles: Nectek Series 3 28/24
Monitor Amplifiers: H/H V800, BGW 600.
Monitor Speakers: JBL 4430, Auratone 5C, Klipsch Heresy
Echo, Reverb & Delay Systems: EMT 1405, Echoplate II, Lexicon Prime Time 93
Other Outboard Equipment: UREI 1176 LN limiters (3), dbx 160 limiter, Symetrix 501 limiters (2), Eventide 910 Harmonizer, Eventide Flanger, Audio Design and Recording Scamp rack with Expander/gates (6), De-Esser, Auto-Panner, and Parametric EQ (2).
Microphones: Neumann U-87 (4), KM 84 (4), U-64 (3), AKG 414 (2), 452 (4), D-12 (1), Sennheiser 421 (5), Shure 57 (5), EV RE-20, Beyer M500 (2), M69 (1), M-88 (2), M-201 (2), Sony ECM 50
Instruments Available: Steinway grand piano, Fender Rhodes, Hammond B-3, Mini-Moog, Pearl drum set
Rates: 24-track, \$110/hr.; 16-track, \$75/hr.

**** SOUND PATTERNS DXM
also REMOTE RECORDING
38180 Grand River, Farmington Hills, MI 48018
(313) 477-6444
Owner: Dan D. Dallas
Studio Manager: Pelly Dallas
Engineers: Dan Dallas, Jeff Miller
Dimensions of Studios: Studio A: 31 x 42 asymetrical; Studio B: 19 x 36
Dimensions of Control Rooms: Studio A: 15 x 26 asymetrical; Studio B: 15 x 19
Tape Recorders: Auto-tec custom made 16/24 track (2"), Ampex

A644 8 track; Ampex 351-2 2 track; Scully 280 2 track; Tascam/TEAC/Revox and TEAC 1/2" and 1/4" formats.
Mixing Consoles: Custom built w/parametric equalizers (Studio A) 32 in x 24 out; Audio Designs (Studio B)
Monitor Amplifiers: McIntosh (3).
Monitor Speakers: Speaker Lab (custom), Cizek, DXM Tone Cubes, Altec 604E, Altec A-700, AR3-A.
Echo, Reverb, and Delay Systems: EMT 140S, Loft, Fairchild, Orban, tape.
Other Outboard Equipment: Eventide Phaser, flanger; Loft, DeltaLab, EXR Exciters, UREI 1176LN limiters, Teletrox LA3A, UREI filter, dbx limiter, outboard parametrics, Orban De-Esser.
Microphones: AKG 414, Neumann KM86, PZM (8), AKG 451, EV RE-20, Shure SM81, Sennheiser, Beyer, RCA, Altec, and more.
Instruments Available: Poly Moog, Minimoog, Kanabe grand piano, Hohner D6 Clavinet, Deagan marimbas, Slingerland drum set, Hammond B3 w/Leslie and tone cabinet, amps: Ampex B15, Fender, Music Man, and Peavey.

**** SOUND RECORDERS, INC.
also REMOTE RECORDING
3947 State Line, Kansas City, MO 64111
(816) 931-8642
Owner: Don Sears
Studio Manager: Jim Wheeler (Wheels)

**** SOUND RECORDERS INC.
also REMOTE RECORDING
206 So. 44 St., Omaha, NE 68131
(402) 553-1164
Owner: Don Sears
Studio Manager: John Boyd

**** SOUND STAR RECORDING STUDIO
1704 West Lake St., Minneapolis, MN 55408
(612) 827-2565
Owner: Tab Baden
Studio Manager: Robin Goldstien

**** SOUND TREK INC.
3727 Broadway, Kansas City, MO 64111
(816) 931-8735
Owner: Ron Ubel
Studio Manager: Ron Ubel

**** STAR TRAX RECORDING
15602 70th Ct., Orland Park, IL
(312) 429-2760
Owner: Frank Luf
Studio Manager: George Luf
Engineers: George Luf, Jeff Luf
Dimensions of Studio: 40 x 27, 14 ceiling
Isolation booth: 6 x 6 x 8 ceiling
6Drum booth: 8x 10 x 8 ceiling
Dimensions of Control Room: 20 x 18, 14-sided with complete bass trapping.
Tape Recorders: 24 trk Otari MTR-90II, 2 trk Otari MTR10, Teac & Pioneer Cassette decks, Auto-locators on 24 trk & 2 trk.
Mixing Console: Neotek Series III 28 in - 24 out custom designed with extra echo returns.
Monitor Amplifiers: BGW, QSC, Eddcor
Monitor Speakers: Control room - EV Sentry 500, Studio - JBL 4313 modified.
Echo Reverb and Delay Systems: Stereo Echoplate, Lexicon PCM-42, Delta-lab ADM 64 & 1024, ADA-TFX, ADA Stereo Tapped Delay.
Other Outboard Gear: Orban stereo synthesiser, DBX 160X (3), EXR exciters, Click track, Kepex, Symetrix signal gates, Orban De-esser.
Other Outboard Gear: Orban stereo synthesiser, BSX 160X (3), EXR exciters, Click track, Kepex, Symetrix signal gates, Orban De-esser.
Microphones: Neuman U-87, KM84's, AKG 414s, Sennheiser MD421s, EV-RE20s, Shure 57s & 58s.
Instruments Available: Young Chang, Pearl 9/ply 5 piece drum kit w/Zildjian cymbals, Marshall 50 w amp. Various electronic keyboards available.
Extras: Very low pressure studio w/spacious control room.
Rates: Our rates are very flexible depending on the individual situation. Best area rates are on 45 rpm packages. We are dedicated to giving the best possible product for your money!

**** STREETERVILLE STUDIOS
161 E. Grand Ave., Chicago IL 60611
(312) 644-1666
Studio Manager: Jim Dolan, Jr.
Engineers: nine
Dimensions of Studios: 1: 47 x 22 x 14; 2: 37 x 27 x 12; Suite: 14 x 15 x 12
Tape Recorders: MCI JH 24 track recorders (4).
Mixing Consoles: Harrison 4032B console, Harrison 4032C console, Harrison 2824 console.
Other Outboard Equipment: Lexicon, UREI, Kepex, Gain

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STREETERVILLE STUDIOS
Chicago, IL

Brains, dbx, Teletronix, MXR and Eventide Harmonizers, Lexicon 224X (3)
Microphones: All types AKG, Neumann, Sony, Sennheiser, E-V Shure, old and new vintage
Instruments Available: Steinway and Yamaha grand pianos Sonart Signature drums (2), Tack piano, Hammond B3 organ, Fender Rhodes 73 and 88, Celeste, Polymoog, tympani (4) xylophone, marimba, vibes, orchestra bells, various percussion toys
Video Equipment & Services: Video sync, 24 track to 24 track transfers, post session production, mass duplication 1/4" tapes; video shoots, audio tie lines direct to 2" 1" 3/4" video

•••• **STOKES SOUND SERVICE**
ONLY REMOTE RECORDING
 398 Stokes Lane, Hudson, OH 44236
 (216) 636-2169
 Owner: A J & Allan Stokes
 Studio Manager: A J Stokes

•••• **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
 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
 Mixing Consoles: MCI JH-528 fully automated 28 in x 28 out
 Monitor Amplifiers: Phase Linear #200, Nikko 120, 220
 Monitor Speakers: JBL 4311, Auratone 5-C
 Echo, Reverb, and Delay Systems: Ursa Major 8x32 digital reverb, Lexicon Prime Time #93, 2 track delay
 Other Outboard Equipment: Eventide Harmonizer Stereo Chorus, phasers flangers, graphic EQ, noise gates, compressor 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-35 & 615, Crown PZMs
 Instruments Available: LinnDrum II computer, 1936 7' Steinway 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

•••• **SUMA RECORDING STUDIO**
also REMOTE RECORDING
 5706 Vrooman Road, Cleveland, OH 44077
 (216) 951-3955
 Owner: Kenneth Hamann
 Studio Manager: Michael Bishop

•••• **TANGLEWOOD RECORDING STUDIOS**
also REMOTE RECORDING
 9520 47th St., Brookfield, IL 60513
 (312) 485-0020
 Owner: Larry Millas, Rick Swin, John Paventic
 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

•••• **TRAX 32 RECORDING STUDIO**
also REMOTE RECORDING
 11249 N. Riverland Rd., Mequon, WI 53092
 (414) 242-9010
 Owner: Paul Edwards
 Studio Manager: John Walsh

•••• **TRC RECORDING STUDIOS**
also REMOTE RECORDING
 1330 N. Illinois St., Indianapolis, IN 46202
 (317) 638-1491
 Owner: TRC Corporation
 Studio Manager: R G Schatzlein
 Engineers: Andrew Symons chief Alan Johnson Ray Maxwell Matt Boughton, Michael Bryant, engineers, Gary Schatzlein, exec producer, Nancy Milam, office manager
 Dimensions of Studios: Studio A 25 x 37 x 12, Studio B 37 x 40 x 14
 Dimensions of Control Rooms: Studio A 18 x 12, Studio B 14 x 14
 Tape Recorders: (2) MCI JH-14 24/16 track, (3) MCI JH-110B 2 track, Studer A80 2 track, Studer A 80 4 track
 Mixing Consoles: A Harrison 3232, 26 in x 24 out, B MCI 528, 28 in x 24 out
 Monitor Amplifiers: A Crown PSA-2, B Acoustal MOS-FET 200, Crown D150s on all foldback systems
 Monitor Speakers: JBL 4435s, JBL 4311, Auratones, MDM-4
 Echo, Reverb, and Delay Systems: Lexicon 224, EMT 140, Lexicon Super Prime Time, AKG BX20 (2), Cooper Time Cubes (2), Eventide Harmonizer 910 (2), Eventide phaser, Eventide flanger, DeltaLab DL-2
 Other Outboard Equipment: UREI 1176 limiters (8), UREI LA3A compressors (2), UREI LA4 compressors (2), Eventide Harmonizer 910 (2), ADR noise gates (8), ADR auto panner, ADR stereo compressors (2), ADR De-essers (2), ADR parametric EQ (2), Omnicraft GT-4 noise gates (4), Allison Gain Brain 1 (2), Kepex 1 (2), UREI metronome, Allison 65k automation (A), MCI JH50 automation (B)
 Microphones: Neumann U-87s, U-47s, KM-84s, KM-85s, KM-88s, Shure SM 57s, SM 58s, Beyer M-101, M-500, EV RE-20s, RE-16s, RE-55s, AKG C414EBs, Sennheiser MD 41s, 421s, Schoeps CMT-55s
 Instruments Available: Memory Moog, Oberheim DX drum computer, Fender Telecaster, Gibson EB bass, (2) Ampeg B-15 amps, Ampeg A-10 amp, kazoo
 Rates: 16/24 tracks record-mix \$115 studio A-B bulk rates always available.

•••• **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
 Engineers: Joe Hudek, Mike Talanca and Garry "Edwards" Fedele and Gary Bogges
 Dimensions of Studios: 25 x 20, drum booth 10 x 9, live room 30 x 25
 Dimensions of Control Rooms: 23 x 15
 Tape Recorders: MCI JH-24 24 track, Otari 5050B 2 track, TEAC 80-8 w/dbx 8 track, Technics RS-1500 2 track
 Mixing Consoles: Highly modified and rebuilt Tangent 32i6, 28 in x 24 out
 Monitor Amplifiers: (2) BGW 500D, Crown DC 300, Crown DC 150
 Monitor Speakers: UREI 813-B Time Aligned, Taldek Pups
 Echo, Reverb & Delay Systems: Ursa Major 8 x 32 digital reverb, Ursa Major Space Station, Lexicon PCM 42
 Other Outboard Equipment: DeltaLab Harmonic computer Omnicraft noise gates, UREI compressor/limiter, MXR flanger/doubler, MXR Dual limiter, Moog 12 stage phaser EXR 4 Lexicon Prime Time
 Microphones: Neumann U87 AKG 414, 451 D 12 and D1000s, Shure SM81, 58 and 57s, E-V RE-20, RE-16, Crown PZMs
 Instruments Available: Yamaha CS-80 Polyphonic Synthesizer, Yamaha C-7 grand piano, MiniMoog Model D, Fender Rhodes, Hammond M 3, Roland TR-808 Ludwig 5 piece set, Fender and Yamaha guitar amps, EMU Emulator and Polyfusion modular synthesizer
 Rates: Hour rates and block rates Available on request We can work with any budget, 7 days a week and 24 hours a day
 Extras: We offer commercial music production, jingle writing music arrangement and composition, publishing and any other music service Studio musicians also are in-house
 Direction: TSI is a dedicated group of musical and technical individuals with limitless talents We have been featured on the Today Show interviewed by Jane Pauley Our facility is one of the finest in Northeast Ohio and number one in creativity Our motto is 'To be better than the best and bigger than the biggest and to always keep the love'

•••• **UNITED SOUND SYSTEMS, INC.**
 5840 Second Blvd., Detroit, MI 48202
 (313) 832-3313
 Owner: Don Davis
 Studio Manager: Pamela Riley
 Engineers: Mike Iacopelli, Greg Ward, John Bauer, Rufus Harris, Dave Baker, Tony Ray, Jim Vittu
 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: SAE 2400L, Crown DC 300A
 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, Teletronix 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 CORPORATION

UNIVERSAL RECORDING CORP.
Chicago, IL

•••• **UNIVERSAL RECORDING CORP.**
 46 E. Walton, Chicago, IL 60611
 (312) 642-6465
 Owner: Murray R Allen
 Studio Manager: Foote Kirkpatrick
 Engineers: Bill Bradley, Danny Leake, Bob Bennett, Richard Fairbanks, Mike Mason, Tom Miller, Bill Reis, Ed Golya, Jeff Palmer, Diane Haglund, Dave Lewis, Steve Wilke, Richard Chojnowski, 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, BR 20 x 12
 Tape Recorders: 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 4 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
 Monitor Amplifiers: Crown UREI Ashly Biamp
 Monitor Speakers: UREI 813, 811
 Echo, Reverb, and Delay Systems: (6) FMT plates, four rooms, (3) 224X Lexicon, 2016 Eventide, (3) Harmonizers 949, Lexicon-Eventide
 Other Outboard Equipment: 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, (4) Steinway grands, (3) Fender Rhodes, Celeste, Tympani, (2) Sonar drum kits, also Ludwig & Slingerland, tack piano, synthesizers, Hammond B3
 Video Equipment & Services: BTX multi-machine sync Controllers Shadow T, jam sync generators, house sync, 1", 3/4", 2" audio
 Rates: Studio A \$195/hr Studio B \$195/hr C \$95/hr, Backroom \$150/hr, Computer mix \$30/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, Dells, Styx, Manhattans, Champaign, Enchantment, Bobby "Blue" Bland, Buddy Rich, Tyrone Davis.

♦♦♦♦ **WEST MINISTR SOUND**

(Box 10) Otho, IA 50569
(515) 972-4475
Owner: Frank Wiewel, Kirk Kautman, Keith Brown
Studio Manager: Frank Wiewel, Kirk Kautman, Keith Brown

♦♦♦♦ **WILLOW WIND PRODUCTION**

P.O. Box 4189 - 7812 S. Jefferson, Bartonville, IL 61607
(309) 697-2434
Owner: Larry E. Wilson
Studio Manager: Larry E. Wilson

♦♦♦♦ **WORLDWIDE SOUND PRODUCTIONS**

also **REMOTE RECORDING**
202 West Plum, Robinson, IL 62454
(618) 544-7898
Owner: Ron Wheeler
Studio Manager: Ron Wheeler

♦♦♦♦ **ZENITH/db STUDIOS**

676 N. LaSalle, Chicago, IL 60610
(312) 944-3600
Owner: Coken & Coken Inc
Studio Manager: Richard A. Coken
Engineers: R. Coken, C. Field, C. Frisk, P. Gale, M. Linsner, M. Minuskin, M. Moats, J. Moore, L. Quiroz, C. Rapp, J. Sears, R. Sweetser
Dimensions of Studios: 1000 sq. ft., 700 sq. ft., 500 sq. ft., 300 sq. ft.
Tape Recorders: Ampex, MM 1200, 24, 8, Ampex, ATR 100, 4, 2, 1, Ampex, AG 440, 4, 2, 1, Scully, 280, 4, 2, 1, Scully, 280B, 8, MCI, JH16, 16; Nagra, 4 2 Sync, 1; Tascam, 122, 2
Mixing Consoles: Trident, Series 80, 24/24, ADM, RC 24/16, 24/16, Audionics, 8/4
Monitor Speakers: Crown, McIntosh, Altec
Echo, Reverb & Delay Systems: EMT 140's, Orban Reverbs, Cooper Time Cubes
Other Outboard Equipment: UREI, Allison, Allison Labs, Valley People, Magnatech, Pultec, Burwen White, Audio and Designs, Omnicraft, Orban, ERX, Teletronix, Autoametics, Kudelski, Kora
Microphones: Neumann, AKG, Sennheiser, Sony, RCA, Shure, EV, Altec, Crown (PZM), Pear,
Instruments available: Steinway piano, Hammond B3, Pearl, drums, Muzer vibes, Arp synth, Hutter clarinet
Video Equipment & Services: 24 track, 8, 4 or 2 track SMPTE lock to 1/4 video, BTX Shadows and controller, BTX SMPTE generator, readers, reshapers and SMPTE video display available for music and effects scoring and mix to picture. Iso booth for voice to picture or effects Foley.
Rates: \$50 to \$200/hr.

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The Peavey CS™ Series power amplifiers are well-known for their power and dependability, but not everyone realizes that each amp has a full complement of "intelligent" circuitry designed to meet the rigorous demands of today's sound reinforcement applications.

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There's also our exclusive DDT™ compression circuit that "senses" the onset of clipping and engages another special circuit that virtually eliminates the possibility of driving the amplifier into clipping.

Where the smart circuits end, the heavy-duty construction begins. Both the CS-400™ and CS-800™ feature massive cast front panels in fully rack-mountable packages built to give years of rugged, dependable service.

One look at the CS™ Series stereo power amps will convince any "thinking person." A glance at the price tag reveals the best part of all... the CS™ Series are affordable.

Get smart and check out the "intelligent" wattage your authorized Peavey Dealer has to offer.



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Canadian Recording

Canadian artists are recording in their homeland. The same can be said for film and video, as the country offers superb, state of the art scoring, sweetening and video post production services.

Interestingly, Canada's development into a major recording market has attracted an increasing number of European and American artists. Another factor in Canada's favor is an exchange rate advantage, which at press time resulted in a 22% discount for Americans. We checked in with some of our friends north of the border and found some very busy studios—several were booked well into 1984, and many others were involved in remodeling and upgrading projects.

Scorpio Productions, in Halifax, Nova Scotia, is a 24 track studio which opened October 1, 1983. Scorpio had been an in-house production company until owner/designer Peter Christakos expanded the facility for commercial use. The studio now features a 20' x 21' main room, with a 10' x 19' piano/isolation room. Audio gear includes an Audiotronics console, Studer 24 and two track recorders, and Meyer 833 monitors. Cristakos sees a developing musician market in the area, and expects a steady flow of business in the areas of album, commercial, and jingle recording.

PSM is a two studio facility in Quebec which has a 24 track main room (equipped with a Trident 32 x 24 console and a Studer multitrack), and an upstairs 16 track room (with a new



Sounds Interchange, Toronto

Ten years ago, the Canadian music scene could generally be characterized by artists who recorded their albums in Europe or the United States after being signed to a major record label. Today Canada boasts recording facilities which rival the best studios anywhere, and more and more

1983 SPOTLIGHT

by George Petersen

Le Studio: Growing with the Times

by George Petersen

1983 has so far proven to be a banner year for Andre Perry's Le Studio, in Morin Heights, Quebec. The music studio was enlarged from 800 to 1350 square feet, which was accomplished by moving its large glass windows closer to the lake, and a live echo chamber was also constructed.

Le Studio has also now completed their new video facility, which is known simply as Andre Perry Video. This 1" editing suite is housed separately from the music studio and is equipped with Ampex Digital Optics (ADO), an NEC E-Flex, a Super Edit 31 editor by Interactive Systems, a Ross RS 517-20 switcher with Ultra Key, four Ampex VPR 2B video recorders, a Laird character generator with 40 fonts, a Studer audio console and recorders, and a small insert studio with a Hitachi camera.

—page 61, *LE STUDIO*



Asia members John Wetton, Steve Howe, Geoff Downes and Carl Palmer during the recording of their second album "Alpha" for Geffen Records

PHOTO Y. BRANDEIS

Soundcraft board) that is used mainly for jingle production. PSM recently added a Sony PCM 1610 digital two track recorder to their ever-growing equipment list. Engineer Bruce Edwards talked about the acquisition: "We used the machine earlier this year working on the Daniel LaVoie album (produced by John Eden), and we were impressed with the machine." On the basis of that album project, the studio decided to make the investment into digital.

Les Studio Marko has been a continuing force in the Montreal recording scene since 1948. The studio's current location features four rooms: music studio A has Studer 24 and two track recorders, and its Harrison console has just been expanded to 40 inputs and 32 outputs; studio B is smaller, with a Sound Workshop console and an Otari MTR-90 24 track; studio C is set up for audio sweetening/production with interlocked 16/35mm and video; and studio D is equipped for radio and AV production. A recent session at Les Studio Marko was Stephen Tracy Eisenberg producing the Bill Rock Group's third album, and its first single, "Could It Be Love?" has already made the charts.

SNB Mastering, also in the Montreal area, celebrated their tenth anniversary last June. Owner Sabin Brunet, a former cutter at London Records, is one of three mastering engineers at SNB, and explained that independent custom record releases by local bands are on the upswing. However, most of SNB's work involves the remastering of the Deutsche Grammophon and Polygram releases for the Canadian market, as well as mastering

—page 59, CANADA

Canadian Music Show

The Canadian Music Show will be held November 25-27 at the Toronto International Centre. This annual consumer show will feature exhibits of musical instruments, recording and audio equipment, music books, sheet music, records, radio stations, music associations, and other related products and services. Also on the agenda are a variety of informative and educational seminars on topics of interest. Concert performances by Canadian artists in a wide variety of musical styles will take place continuously throughout this three day event. Adult admission is five dollars per day, with discounts available for three day passes, children, and senior citizens.

WE'RE VERY PROUD ANDRÉ PERRY'S LESTUDIO MORIN HEIGHTS

Survey For Week Ending 8/20/83

Billboard® Rock Albums & Top Tracks

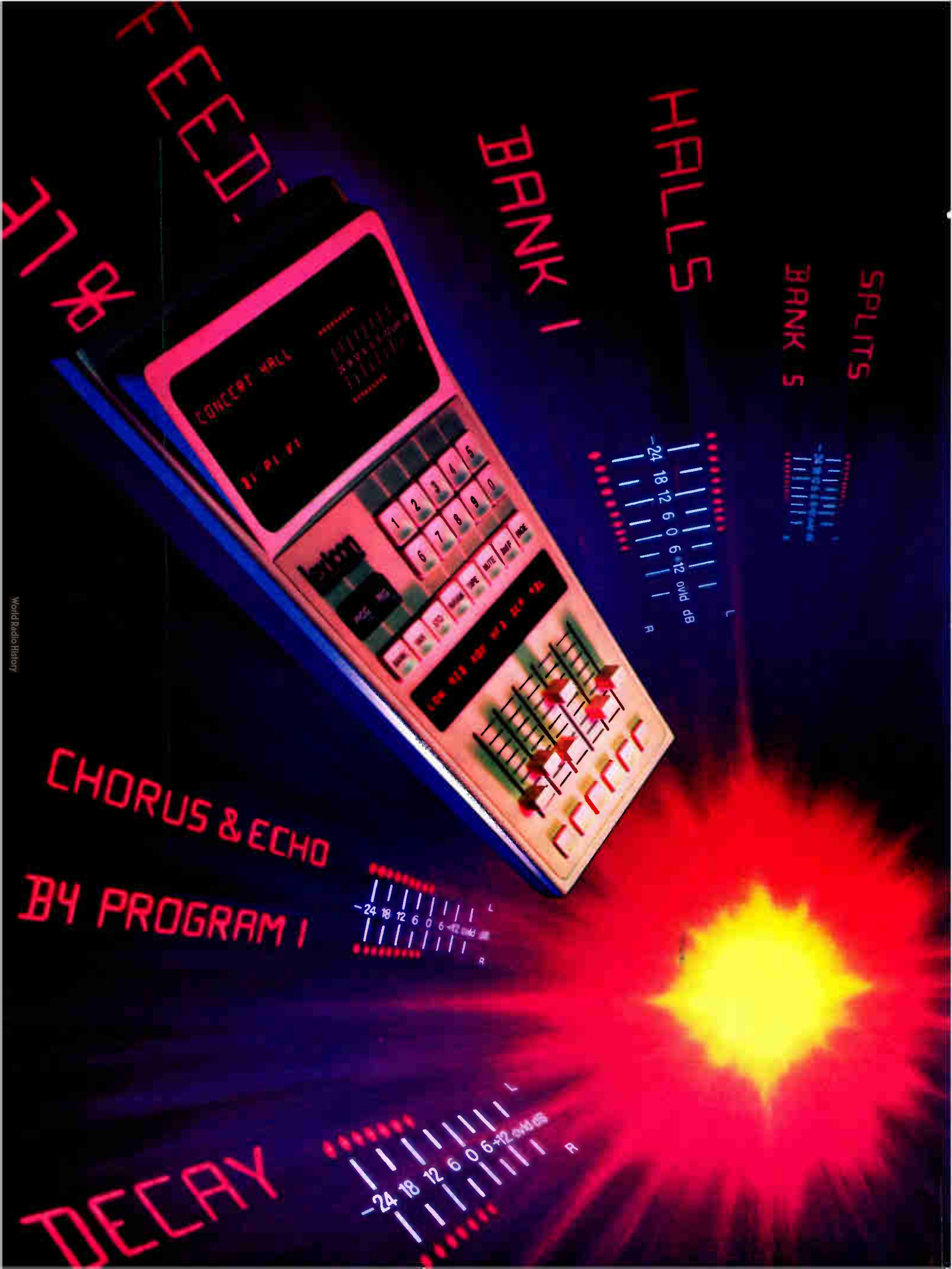
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Rock Albums		Top Tracks	
WEEKS AT #1	ALBUM	WEEKS AT #1	TRACK
1	THE POLICE—Synchronicity, A&M	1	THE POLICE—King Of Pain, A&M
2	ROBERT PLANT—The Principle Of Moments, Atlantic	2	THE POLICE—King Of Pain, A&M
3	LOVERBOY—Keep It Up, Columbia	3	THE POLICE—King Of Pain, A&M
4	ASIA—Alpha, Geffen	4	JACKSON BROWNE—Lawyers In Love, Asylum
5	JACKSON BROWNE—Lawyers In Love, Asylum	5	ROBERT PLANT—Other Arms, Atlantic
6	STEVIE NICKS—The Wild Heart, Modern	6	QUARTERFLASH—Take Me To Heart, Geffen
7	CHARLIE—Charlie, Mirage	7	LOVERBOY—Hot Girls In Love, Columbia
8	DAVID BOWIE—Let's Dance, EMI/America	8	TRIUMPH—All The Way, RCA
9	KANSAS—Drastic Measures, CBS Associated	9	THE FIXX—Saved By Zero, MCA
10	ZEBRA—Zebra, Atlantic	10	TALKING HEADS—Burning Down The House, Sire
11	STRAY CATS—Rant 'N' Rave With The Stray Cats, EMI America	11	DAVID BOWIE—China Girl, EMI America
12	QUARTERFLASH—Take Another Picture, Geffen	12	Z.Z. TOP—Sharp Dressed Man, Warner Bros
13	DEF LEPPARD—Pyromania, Mercury	13	THE POLICE—Wrapped Around Your Finger, A&M
14	TALKING HEADS—Speaking In Tongues, Sire	14	STEVIE NICKS—Fragile, Modern
15	Z.Z. TOP—Eliminator, Warner Bros	15	JOE WALSH—1 Can Play That Rock 'N' Roll, Full Moon/Warner Bros
16	DONNIE IRIS—Fortune 410, MCA	16	LOVERBOY—Queen Of The Broken Hearts, Columbia
17	JOAN JETT AND THE BLACKHEARTS—Album, Blackheart/MCA	17	KANSAS—Fight Fire With Fire, Epic
18	HEART—Passionworks, Epic	18	STEVIE NICKS—Nightingale, Modern
19	JOE WALSH—You Bought It—You Name It, Full Moon/Warner Bros	19	THE POLICE—Synchronicity II, A&M
20	BRYAN ADAMS—Cuts Like A Knife, A&M	20	ROBERT PLANT—The Heart of Things, Atlantic
21	DEF LEPPARD—Pyromania, Mercury	21	DFX 2—Emotion, MCA
22	STEVIE RAY VAUGHAN—Texas Flood, Epic	22	THE POLICE—The Struggle, A&M
23	PRISM—Beat Street, Capitol	23	THE POLICE—Every Breath You Take, A&M
24	IRON MAIDEN—Piece Of Mind, Capitol	24	STEVIE NICKS—Star Line, Modern
25	IRON MAIDEN—Piece Of Mind, Capitol	25	THE FIXX—One Thing Leads To Another, MCA
26	THE EURHYTHMICS—Sweet Dreams (Are Made Of This), RCA	26	DEF LEPPARD—Foolin', Mercury
27	THE EURHYTHMICS—Sweet Dreams (Are Made Of This), RCA	27	STEVIE RAY VAUGHAN—Pride And Joy, Portrait
28	BILLY JOEL—An Innocent Man, Columbia	28	ASIA—The Heat Goes On, Geffen
29	IAN HUNTER—All The Good Ones Are Taken, Columbia	29	THE POLICE—The Struggle, A&M
30	SHOOTING STAR—Burning Virgin/Epic	30	IRON MAIDEN—The Flight Of Icarus, Capitol
31	DIO—Holy Diver, Warner Bros	31	DONNIE IRIS—Do You Compute, MCA
32	FASTWAY—Fastway, Columbia	32	JOAN JETT AND THE BLACKHEARTS—Fake Friends, Blackheart/MCA
33	ELVIS COSTELLO—Punch The Clock, Columbia	33	RICK SPRINGFIELD—Human Touch, RCA
34	ELVIS COSTELLO—Punch The Clock, Columbia	34	ELO—Rock 'N' Roll Is King, Jet
35	MEN WITHOUT HATS—Rhythm Of Youth, Backstreet	35	ROBERT PLANT—In The Mood, Atlantic
36	CONEY MATCH—Dula Händ, Mercury	36	IRON MAIDEN—The Trooper, Capitol
37	ELTON JOHN—Too Low For Zero, Geffen	37	DAVID BOWIE—Modern Love, EMI America
38	TRIUMPH—Never Surrender, RCA	38	ASIA—True Colors, Geffen
39	RICK SPRINGFIELD—Living In Oz, RCA	39	ZEBRA—Zebra, Atlantic
40	DANNY SPANOS—Passion In The Dark, Pasha	40	JOAN JETT—The French Song, MCA
41	MEN AT WORK—Cargo, Columbia	41	DEF LEPPARD—Foolin', Mercury
42	GARY MYRICK—Language, Epic	42	BRYAN ADAMS—This Time, A&M
43	THE KINKS—State Of Confusion, Arista	43	DEF LEPPARD—Foolin', Mercury
44	DURAN DURAN—Duran Duran, Capitol	44	DAVID BOWIE—Modern Love, EMI America
45	KROKUS—Headhunter, Arista	45	DURAN DURAN—Is There Something I Should Know, Capitol
46	DAVE EDMUNDS—Information, Columbia	46	MADNESS—Our House, Geffen
47	R.E.M.—Murmur, I.R.S.	47	INXS—Don't Change, Atco
48	SPYS—Behind Enemy Lines, EMI America	48	THE KINKS—State Of Confusion, Arista
49	THE ANIMALS—Ark, I.R.S.	49	PETER GABRIEL—I Go Swimming, Geffen
50	INXS—Shaboo Shaboo, Atco	50	HEART—How Can I Refuse, Epic
		51	MICHAEL SEMBELLO—Maniac, Casablanca
		52	HILLY JOEL—Tell Her About It, Columbia
		53	LOVERBOY—Strike Zone, Columbia
		54	LOVERBOY—Strike Zone, Columbia

Top Adds

- 1 ASIA—Alpha, Geffen
- 2 THE ANIMALS—Ark, I.R.S.
- 3 JACKSON BROWNE—Lawyers In Love, Elektra

201, rue Perry, Morin Heights, Québec J0R 1H0 (514) 226-2419



HALLS

BRANK 1

HALLS

BRANK 5

SPLITS

CHORUS & ECHO
BY PROGRAM 1

DECAY



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LARC (Lexicon Alphanumeric Remote Console) tells at a glance where you're at . . . which *family* of programs you're into . . . the *specific* program selected . . . plus the variations *within* the program. They're all spelled out on LED displays. And, with LARC, you can now store your setups on audio cassettes.



Unique Split Reverb/Effects

Achieve two levels of effects simultaneously—either two reverberations or reverberation combined with effects.

Each input can be processed independently, with different effects, and for each input there are stereo outputs. Split reverb puts the processing capabilities of two systems into one. Only Lexicon has it.

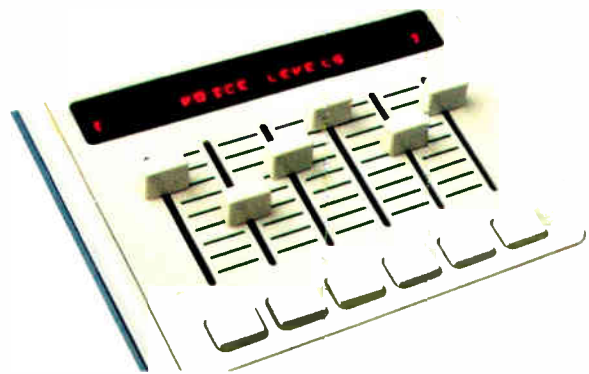
Unparalleled Sound Quality

Unquestionably the best! Lexicon digital reverberation programs are the most mature in the industry, repeatedly acclaimed by users and reviewers.

Full 15-kHz bandwidth, 84-dB dynamic range, and less than 0.07% distortion.

Unmatched Versatility

Hall, Plate, and Room/Chamber algorithms, including a Small Room program for subtle acoustic enhancements and film/video work. More than 30 preprogrammed variations (with more to come).



Superior controls. Decay time in two frequency bands . . . crossover . . . high-frequency rolloff . . . apparent listener position . . . predelay . . . internal chorus . . . diffusion. And early reflections provide exceptional control over the initial sound.

Dynamic decay. Special signal processing capabilities can change reverb time in response to program dynamics.

Comprehensive delay effects. The most extensive set of time-delay functions available. Put in a vocal track and get out six independent voices. Create phasing, flanging, and, repeats in a single pass. Put in a rhythm track and get out syncopated chords. Use up to six separately adjustable delay taps, with up to 1860-ms delay, each with high-cut and low-cut filters tunable from 170 Hz to 19 kHz.

36 nonvolatile memories. All parameters of setups can be stored in memory for instant recall—and can be archived on cassette tape.

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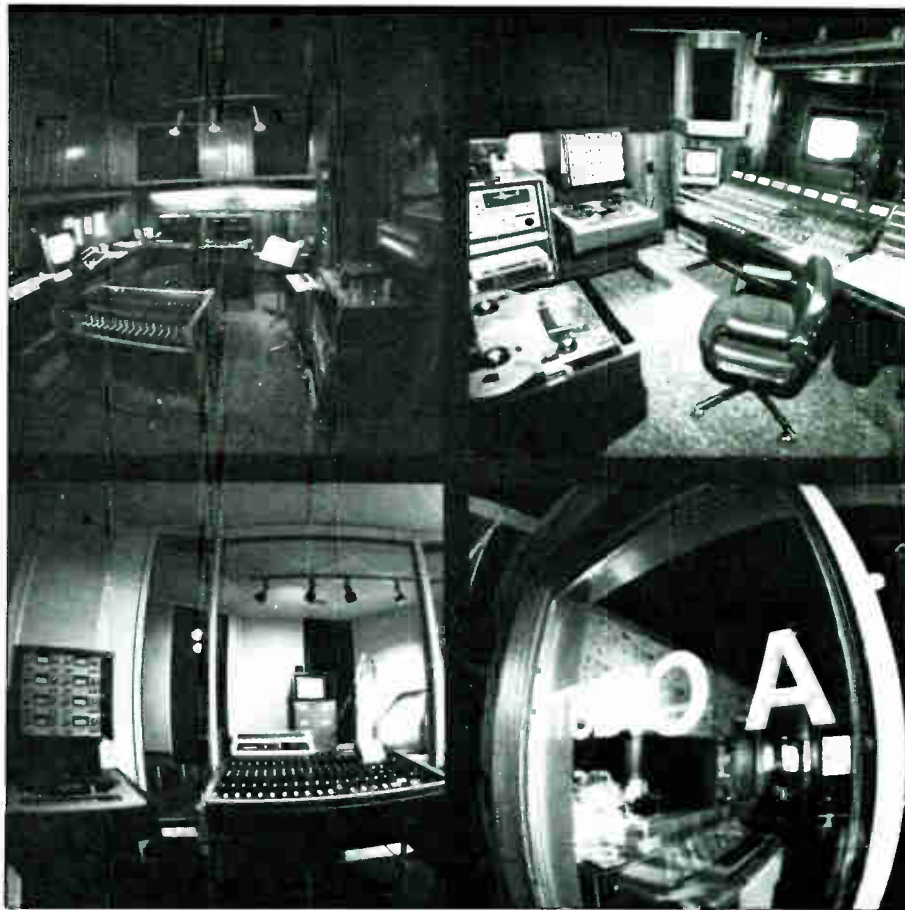
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—from page 55, CANADA

for the Kebec Disque label.

As in the United States and the rest of the world, cassette releases are also gaining a stronger foothold in Canada. SNB installed a real time, high quality cassette duplication system earlier this year. Owner Brunet added that "small runs of 100 to 3000 copies are ideally suited for the Canadian market" where the need for mass, high speed duplication is unnecessary.

Sounds Interchange, a new LEDE design studio in Toronto went on line this summer (for more information on the design, see the Studio Design Forum in the August 1983 Mix) and has been busy ever since. The first record production in its Studio 1 was the local group Arrows, produced by Dave Tyson, and a large number of jingle sessions (for Pepsi, Labatts, Yamaha, Tab, Hostess and Kellogg's (among others) have since been completed in the room. The month of October found the Toronto a capella singing group The Nylons in mixing their third album at Sounds Interchange.

Business at Phase One Studios in Toronto is "sensational" according to owner Doug Hill, who says 1983 is their best year yet, with a steady flow of rock album bookings. As of this writing, he reports Alice Cooper is working on his *Dada* album with producer Bob Ezedrin and engineers Ringo Hygemia and Lenny De Rose at the studio. Other sessions include Lisa Dalbello's new Capitol album (produced by Mick Ronson), and David Wilcox produced by Sadia, and Doug himself producing Killer Dwarfs for Attic Records.

In the past year, The Master's Workshop in Rexdale (Toronto area) has gone from a straight audio studio to one of the most sophisticated audio post production (video/film) facilities anywhere. Master's is divided into four areas, each having separate, unique capabilities: Edit One is a time code interlocked suite with ¾" VTR, 16 track recorder, and a 4 track SFX source machine; Studio B is set up for musical soundtrack assembly and/or dialog replacement; a completely equipped Foley stage; and Studio A, a 24/48 track recording/mixing studio with an automated transformerless console, up to five video machine interlock, and a video shuttling capability of up to 40x real time. Throughout the facility, an IBM computer driven by a custom program provides "operator ease" control of all machines and editing functions.

Some of Master's recent credits have included *Pygmalion*, a 90 minute teleplay with Peter O'Toole and Margot Kidder for 20th Century Fox's *A Case of Libel* with Ed Asner for Showtime;

—page 61, CANADA



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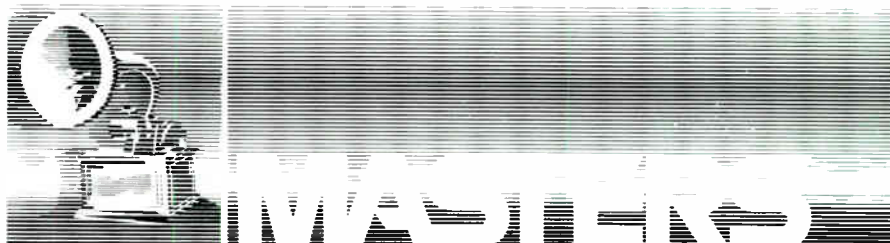
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—from page 59, CANADA

and a series of music specials for CPI/First Choice on a range of acts—The Police, Supertramp, The Band, the Guess Who, Stray Cats, David Bowie and many more.

Thunder Road Studios, in Calgary, has been involved with a good deal of film posting work lately in addition to their usual album projects. At press time, work was in progress on Richard Lester's new feature "Finders Keepers", starring Lou Gossett and Beverly D'Angelo. For the production, temporary editing stations were set up for syncing and rough cutting in the facility's offices. Thunder Road also offers their clients 16/35mm film processing and workprinting services.

"We've had a hell of a year!", says Bob Brooks of Vancouver's Little Mountain Sound, when asked about the recording market on the west coast. "This marketplace", he continued, "has really gotten together and captured the international market. We're already booked into next year." Bob reports the studio, which celebrated its 10th anniversary last April, has played host to a variety of artists over the past year: Loverboy, The Payolas, Nazareth, Bryan Adams, Chilliwack, and Headpins, to name a few. The studio has also ordered a new Solid State Logic console, which should be installed by the first of the year.

The Trebas Institute of Recording Arts, which offers intensive programs covering all phases of the recording industry, now has schools in Toronto, Ottawa and Quebec. David Leonard, the institute's executive director, remarked the program has found considerable acceptance within the industry: "We're placing over 80% of our graduates, and the major labels have been calling us to help them find people—especially in disk mastering." Leonard went on to announce that Trebas is planning a weekend seminar series in Toronto next spring which will include panels on song writing, publishing/copyright, record producing, production deals, video, artist management, record marketing, public relations, artist career planning, and the future of the industry.

Brian Robertson of CRIA, the Canadian Recording Industry Association, comprised of studios, major labels and independent record companies, summed up the evolving Canadian music scene: "What we're seeing is an industry that's matured," he explained. "It's been a wild up and down roller coaster ride since 1979, but the industry is finding a new level. The volume hasn't shrunk, but the companies are now more efficient—more aware of the business end. It's been a healthy readjustment."



PHOTO: Y. BRANDES

Geoff Downes, Asia's keyboardist and composer at Le Studio, July, 1983, during recording of "Alpha"

—from page 54, LE STUDIO

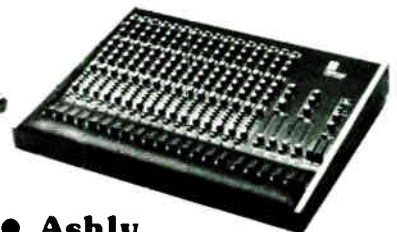
Andre Perry Video's credits already include electronic show openings for Les Beaux Dimanches, the Michel Jasmin show, Toute un Monde, and Galaxie; TV specials for Peter Pringle, Rene & Nathalie Simard, and Rock Express '83; and commercials for Uniprix, SAQ, Fromages Agro Pur, Sanka, and Banque du Canada.

However this flurry of video activity has not changed Le Studio's

commitment to excellence in the field of audio recording. Over the past 12 months the studio has been steadily booked with a staggering lineup of top artist: The Police, Asia, Bryan Adams, Rainbow, Rush, and April Wine. Even the artist accommodations have been upgraded with the addition of another lounge (equipped with a wet bar, espresso/cappuccino machine, manager's corner, and a library of films on videotape) ■



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Michael O'Donoghue

Heaven Knows Mr. Mike

by Mr. Bonzai



PHOTO: MR. BONZAI

Between sips of beaujolais, my host commented on the weather: "They don't change the air here in L.A. At least in New York they change the air every three days."

I would imagine that many people would find a lunching with Michael O'Donoghue—the notorious "Mr. Mike" of Saturday Night Live fame—to be an especially unappetizing event. We dined on a delightful smorgasbord of humor, social commentary and entertainment industry insights, but some of the dishes wouldn't be found in the NBC commissary.

The standard of decency is an ever-changing rulebook. As co-founder of *The National Lampoon*, O'Donoghue rewrote the book many times. As one of the original writers for Saturday Night Live he pushed the limits of acceptability with such skits as "Let's Kill Gary Gilmore for Christmas." He quit the show in the middle of the third season and began work on a program for late night television called *Mr. Mike's Mondo Video*.

Mondo Video was completed in 1979 and rejected by NBC. The show cost \$300,000 and starred Dan Aykroyd, Bill Murray, Jane Curtin, Laraine Newman, Gilda Radner, Deborah Harry, Sid Vicious, and had appearances by numerous "bankable" stars. It was recently released exclusively on Mike Nesmith's Pacific Arts Video Records and is pumping hard up the video charts.

Mr. Mike's career has recently reached surprising success in the country music charts with a hit he composed for Dolly Parton called "Single Women." The song began as a novelty number on the old SNL. "I have this idiot savant ability to write country music," he explained. "I had been writing all these novelty songs



and I asked myself, why write novelty songs when I could write real songs and collect *real* royalties?" The song has been expanded into a movie of the week for ABC. "We're running with the ball this time," he said. "We've learned a few things."

But Mr. Mike hasn't sold out for redneck glory. He has completed the script for a sequel to *Easy Rider* with Nelson Lyon and Terry Southern. Entitled *Biker Heaven*, the story takes Captain America and his pals into the 21st Century for a heroes and villains romp of vicious mayhem. Jack Nicholson has read it and given his snarling approval. Peter Fonda is reportedly a little nervous about the new image of Captain America. Other projects include a script about women in prison called *Kittens in a Can*, which he wrote with SNL staffer Marilyn Miller. He is currently working on a detective comedy for Universal with *Mondo Video* writer Mitch Glazer called *Arrive Alive*.

Bonzai: Does having a reputation as a weird, kinky and nasty person create any problems for you?

O'Donoghue: It helps me with the girls—they want to find out *more* about this guy. Indeed, it *does* create problems as a director and a producer, getting money for projects, but it's a problem anybody in comedy faces whether it's dark, kinky, or cute. People in a comedy are stereotyped as wacky and out of control, but it's actually a cold craft like anything else.

Bonzai: What will survive when you die?

O'Donoghue: As I understand it, just the fingernails. Don't they continue to grow? We all turn into Chinese Mandarins beyond the grave. Not much of my work is going to survive. I've always tried to write within my time about my time, so consequently, when the time goes, I go.

Bonzai: Why do people have pets?

O'Donoghue: They're warm and fuzzy and give you something to annoy. It's a lot of fun joshing other species. I talk to my cats and make fun of them. "Jeeze, Mittens, I just can't remember how many planets there are in the solar system. Could you remind me—oh, I'm sorry, I forgot you can't talk. Just tap with your paw—7? 9?" or "Here, Boots, could you light my cigarette—oh, I'm sorry, I forgot you don't have an opposable thumb."

Bonzai: What is the difference between animals and humans?

O'Donoghue: Well, Ed Bluestone wrote a wonderful thing for the *Lampoon* one time and he said that the main difference is that animals don't have an awareness that they are going to die, whereas men do. He wrote about how differently they would behave if they knew that they could buy the farm at any moment . . . and animals don't leave fingerprints.

Bonzai: They could be the perfect criminals—no fear of death and they don't leave fingerprints . . .

O'Donoghue: There's probably a lot of major crimes that are committed by animals and we just don't know about it.

Bonzai: Can you remember what first attracted you to comedy?

O'Donoghue: Well, my parents did a minstrel show with a local community

theater when I was very young. I was very taken with those classic American comedy forms. It was a turning point for me. For years afterward, I remember my parents saying "I wish we'd never done that damn minstrel show."

Bonzai: Have you ever pulled any good practical jokes?
O'Donoghue: I've never been one for practical jokes, but I do remember a spectacular one I played on a roommate in college: a very simple thing of tying his shoelaces together when he was asleep and then throwing cherry bombs under the bed. Simple but effective. It's an old trick, but it's a good trick. The panic as they leap out of bed and then the rising panic as they run and their little shoes are tied together always provides mirth and merriment for onlookers.

Bonzai: Who is the Ronald Reagan of humor?
O'Donoghue: Bob Hope.

Bonzai: The the Adolph Hitler of humor?
O'Donoghue: Me, he said without hesitation. Search and destroy—the scorched earth policy of humor.

Bonzai: What was your worst experience in a television studio?
O'Donoghue: Working with an educational channel that had hired the very worst technicians and the very smarriest of executives. That combination is really deadly. I loathe educational television because they've never supported American comedy. But they'll support these limeys in dresses—Monty Python—or anything English. Broadway is the same deal: if it's English they bring it over and idolize it. I certainly like Eric Idle, and John Cleese is a masterful performer, but essentially it's an extension of the Goon Show.

Bonzai: Are you proud of your *Mondo Video*?
O'Donoghue: Yeah, it's good. It's very raw; I like the raw stuff when it's freewheeling and twin-fisted. It sometimes works and sometimes doesn't work, but at least you're out there on the front lines. It was done for the late night TV slot. I took what Saturday Night Live was doing in the late Seventies and tried to predict what the next wave of humor would be. I made it fast and I made it very visual. I'm glad it's finally on video so people can see it.

—page 106

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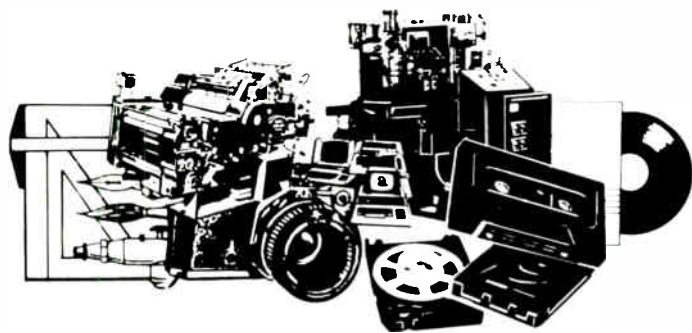
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by Mick Thompson and Bill Friday

knowledge unmatched by anyone else. The collection's 140 or so tube microphones (some are one of a kind and all operational) leads to perfectionistic mike usage.

Our conversation with Allan about mikes and vocals shows that when it comes to recording he accepts no compromises to quality. His talents and skills as an engineer are in demand not only in his own studio but all over town. His mikes are used to record some of the world's finest music. When it comes to the expertise of selecting mikes and their use, Allan is truly an "engineer's engineer."



Allan Sides

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Mix: Is it your belief that great recordings start with great microphones?

Sides: Absolutely.

Mix: What are your favorite mikes to use for miking vocals?

Sides: I go between the AKG C-12, a modified version of the Neumann M-49, a Telefunken 251, and a Neumann U-47. Sometimes I use an AKG C-12A. The C-12A is the tube version of the AKG 414. It has great low end response from a distance. If you have a singer and you want to get a little further away, say 2-4 feet away, that mike is wonderful. You tend to lose quite a bit of low end presence on the other mikes I mentioned at the 2-4 foot distance. With a C-12A if you're within 8 inches to a foot distance there is quite a bit of low frequency build-up. You get back 2-3 feet and it still has all the low end and richness of the voice.

Mix: Do you have any preference for certain mikes for male vocalists and others for female voices?

Sides: The thing is, you just never know. It is hard to say. You use one microphone and do an album and it sounds great and you pull it out for the next singer and it just doesn't work. Usually I put out three microphones. I'll just have them stand in front of them and sing and I'll put up faders 1, 2 and 3 and pick what I want in the first few minutes and that will be that. You can tell right away.

Mix: What do you do with background vocals and groups of singers?

Sides: On backgrounds usually I use one C-12. On the Tom Scott album we just finished we had 9 background singers and I used one mike for each 3 singers. It was a fairly small, somewhat dead, isolation booth—so that was the way we did it for that situation. What I like to do is get the singers in a semi-circle and use 2 C-12's overhead, and that is incredible. That really sounds much better, but you can't very well do that with a loud rhythm section going on. A lot depends on the room sound, too. If

you have a nice live room sound like we have here it's okay, but if the room isn't happening then you don't want to do that. The room sound becomes a part of your vocal sound and you might not want that. The room we have here is a nice live room with a linear decay, the voices just sound huge, much bigger! Most of the recording today is faking the ambience because there are not that many great sounding rooms. Probably 90% of the rooms in this town are small and dead. Or they will build what they think is a live room and it will have a slapback and funny decays. You should be able to go out in the room and clap your hands and hear a nice even decay, no weirdness unless of course you are looking for something as an effect.

Mix: We understand Lionel Ritchie has a favorite mike he uses here.

Sides: Cal Harris, Lionel's engineer, has fallen in love with the AKG C-12 and they have a particular one we put away just for them. They all do sound slightly different when they are com-

pared one to the next, and this one particular C-12 was the best for Lionel.

Mix: Your studio was used on the "Thriller" album by Michael Jackson. What work was done here?

Sides: They did drums here, strings and horns overdubs. Bruce Swedien comes here to do things like the Michael Jackson/E.T. album. For that he brought a 60-piece orchestra in here and did the whole thing live with Michael. Bruce uses a Shure SM-7 on Michael's vocals . . . Michael has a fairly soft voice and needs something I like to call the "dynamic urgency", which is something you get from dynamic mikes that you just can't seem to get from condensor mikes. You can get this presence with this mike. SM-7's are an interesting mike, they have a smooth top end. I think Bruce also used that on some of the songs on the George Benson album.

Mix: Do you use that mike yourself?

Sides: When I was recording George Benson, a voice with similar character to Michael Jackson's in that it is sometimes difficult to get the presence I want with my standard choices, I did find the SM-7 worked extremely well. You can make an SM-7 sound hi fi; some dynamic mikes, like an Electro-Voice RE-20, sound harsh if you boost the high end shelving. But the SM-7 doesn't sound harsh. It seems to bring up the harmonics much smoother, much more natural. It sounds more like a condensor mike, but with the presence of a dynamic. I could make that mike work very nicely. Still, I'd like to have a C-12. Once again it depends on the singer. Sometimes if you have a very busy track, with a lot of stuff going on, you have to be able to hear the voice through all of the music. Sometimes a Telefunken 251 and a singer who doesn't have tremendous presence on his or her voice, it'll get lost, it won't come through. The only way you would make it work would be to add quite a bit of mid range EQ, which can make it harsh and that I'd rather not do.

Mix: Have you had any singers that you have had a tough time getting a sound or mike for?

Sides: I had a difficult time on the Tom Scott album doing Maria Muldaur. I was using a C-12 and at first she was sounding very good but then, the guy who was leading the backgrounds said why don't you move in a little and move back a little so we have more dynamics. We're trying to do a session with around 30 musicians live to 2-track digital with 9

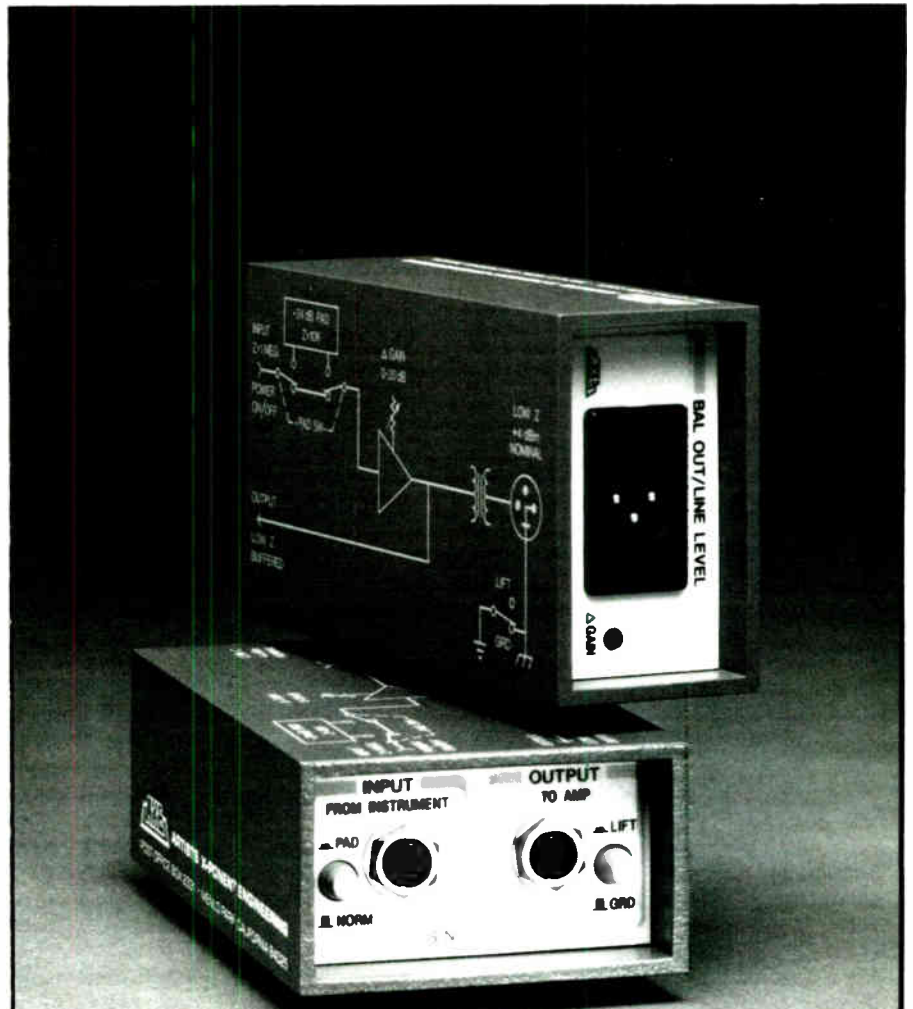
background singers, full horn section, percussionist, 3 keyboard players, 2 guitar players, the whole thing live on the spot. I had some difficulty with her because it was beyond the range of limiting . . . I had to make some fairly dramatic fader changes to get all the words. And so I had to do that while I was trying to mix the entire song . . . You couldn't just put a limiter on it and smash it, as it wouldn't sound right; it wasn't what we were going for. I had to use a fair amount of equalization to get the presence through because of the way she was using the mike. Doing all of that was difficult. We did the entire album in 2 days.

Mix: Do you use any EQ on your mikes or just take them as is and add it later?

Sides: Oh no, whatever it takes . . . I'm definitely not adverse to using EQ. If you are recording 24-track 30 ips non-Dolby it is certainly better to have whatever high frequency you want on the tape (rather than do it afterwards). I mostly stay with shelving, broad band shelving, and I try not to screw around with the mid-range too much.

Mix: The EQ would come after you decided on a mike rather than try to use the EQ to compensate for the wrong mikes . . .

Sides: Oh, absolutely, and with voices



The image shows two pieces of audio equipment. The top one is a black rectangular box with a white circuit diagram on its top surface. The diagram includes components like a transformer, capacitors, and resistors, with labels such as 'INPUT', 'POWER', 'DAMP', 'LIFT', 'GND', 'LIFT', 'GND', 'LIFT', 'GND'. The front panel of this box has a vertical scale labeled 'BAL. OUT/LINE LEVEL' and a small 'AXE' logo. Below it is a smaller white-faced box with a black top. It has two large knobs labeled 'PAD' and 'LIFT', and two smaller knobs labeled 'NORM' and 'GND'. The text 'INPUT FROM INSTRUMENT' and 'OUTPUT TO AMP' is visible on the top of the white box.

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(l. to r.) Telefunken 251, Telefunken U-47, AKG C-12, Neumann M-49

it is different with each situation. If you have a singer with a dull voice, and alternate mikes don't change that, you will have to do something to make it work. Whatever it takes, I try to stay with shelving so everything is handled uniformly. So let's say I go for a 5K shelf, I'd boost it 2 dB and 15K would automatically go up 3 dB and 18K up 4 dB. Just a nice broad

band shelf so all the harmonics come up evenly. What I hate to do is peaking, where I'd boost say 2 dB at 10K and let the rest of the harmonics end up getting further and further away. You start losing the width and that's not nice.

Mix: Do you ever use a limiter or compressor on your vocals?

Staes: I love to get away without a limiter wherever possible. Sometimes I can't, it depends on the singer, how they work the mike and how they approach it. Like yesterday I did a Woody Herman album with Rosemary Clooney. Put up a U-47 and she was about 2 feet away from it and she just sounded incredible. Unbelievable. I just worked a little hand limiting here on the fader and it was fine. Same thing with Ella Fitzgerald; put up a U-47 and she sounded great. I was familiar with the material and I knew what was coming and I was able to do that. With Neil Diamond, a Neumann M-49 is his microphone. I tried other mikes and they really didn't sound as good as the M-49.

One time I was here with Bruce Botnick recording Kenny Loggins. Kenny has the kind of voice that gets a little harsh; we wanted to get something that had nice presence on the low end but didn't get harsh on the top. I pulled out my old Universal Audio tube console and took a Neumann M-269 and with that console it was remarkable sounding. That console has great sounding pre-amps.

I really don't see anything against using EQ, limiting, or whatever you need. You do whatever it takes to make it work and sound fantastic. ■



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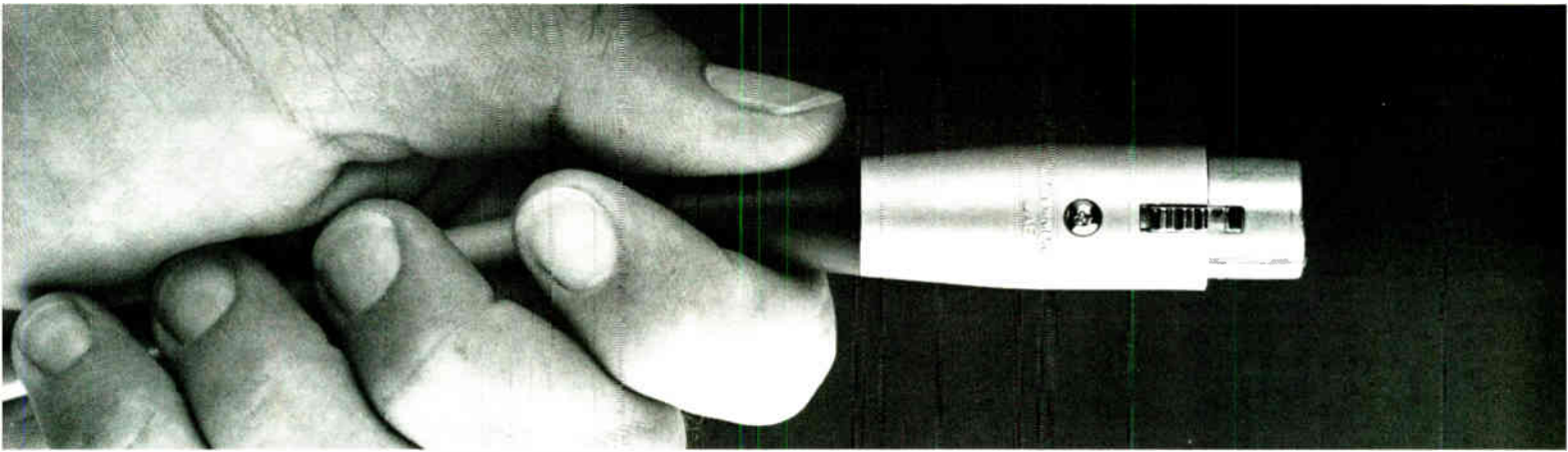
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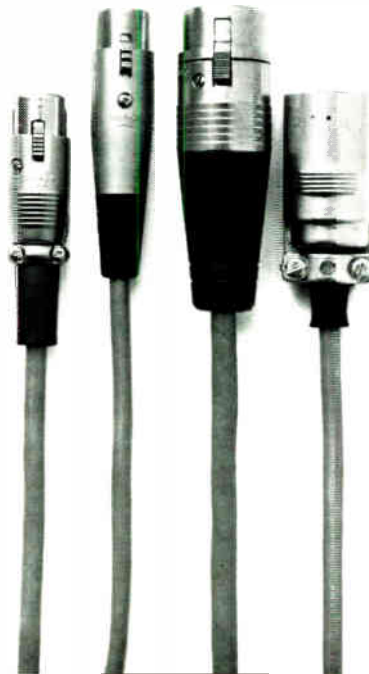
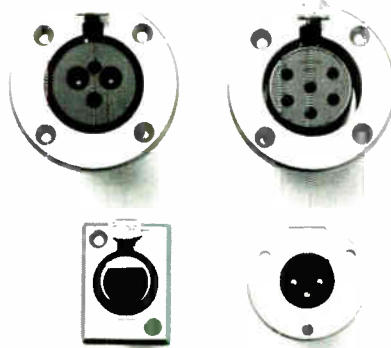


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Compressors & Limiters:

Applications and Advice

by Tom Lubin

Compressors, limiters, and noise gates are basic tools in the outboard arsenal of any well-equipped studio. While their applications in the fields of disk mastering and broadcasting are well known, the creative and practical uses of such devices in the recording studio deserve some attention. Basically, a limiter/compressor (or noise gate) consists of a variable gain amplifier which alters the dynamic range of the signal (sounds) passing through it.

Limiter/compressors incorporate a level detector which senses the loudness of a certain input signal. If the signal measured by the detector is below a certain threshold, the gain of the limiter/compressor amplifier will not change, and the signal loudness will remain constant. When the input signal exceeds the threshold sensitivity of the detector, the detector causes a reduction in the amplifier gain of the limiter/compressor. The result is signals which dynamically exceed the input threshold are not amplified as loudly as those portions of the signal below the input detector threshold.

While the gain of the amplifier decreases, the limiter/compressor output continues to go up, although at a lesser rate than when the input signal is below the threshold. The sound heard coming from the output will have dynamic range, but will not be as dynamically broad as the signal which is connected to the input. A noise gate (expander) also has a level detector, but in its case the amplifier gain is reduced when the signal drops below the detector's threshold. Essentially, the decay of the sound is accelerated. The degree of gain reduction is usually adjustable so the noise gate can be set for varying amounts of gain reduction when the signal drops below the threshold.

Some limiter/compressors can be directly connected between an instrument or microphone and the board, if the source has a fairly high output, such as a guitar with an internal preamp, or a synthesizer. However, most of the time, the variable gain amplifier is connected or inserted in the console's signal path between the microphone preamplifier output and

the fader/equalizer input. The preamp gain should be set before the limiter/compressor is inserted and interrupts the signal flow.

Since each input fader is electrically located after the compressor/limiter, fine adjustment of this control will not affect the operation of the limiter/compressor. However, changes in the mike preamp gain will affect the limiter/compressor response and sensitivity as the mike preamp comes before the limiter/compressor. If the preamp gain is not established before the limiter/compressor is placed in the circuit, microphone preamplifier overload is likely when a peak signal occurs, even though all of the amplifiers after the limiter/compressor are operating within their normal head room (as indicated by the recorder and mixer meters).

When making changes in the sound source, disconnect the limiter/compressor and re-establish the peak levels for the preamplifier, then reconnect the limiter/compressor. Re-adjusting the limiter/compressor will likely be necessary for any new source, i.e. changing the synthesizer patches or presets, or using different vocalists on the same microphone.

THE BASIC WORKINGS OF A LIMITER/COMPRESSOR- NOISE GATE EXPANDER

Many sound sources have extremely broad dynamic ranges which at times can cause frustration for the engineer trying to record it. When record levels are set for the loudest peaks, lower level signals may not be loud enough. The leading edge of the wave (or the transient of the envelope) will often be disproportionately loud compared to the sustain and decay of the envelope. In some cases, sounds toward the end of the envelope cause a lingering low level ring or sustain which continues past the desired sound.

By reducing the gain of the limiter/compressor amplifier when a peak level occurs, the output level of the peak will be less compared to the rest of the signal; hence, the overall average signal level can be increased, and the dynamic difference between the loudest portion of the envelope and the quieter ones will not be as great. A

noise gate can be used to eliminate the unwanted lingering ring.

ATTACK TIME: Because the transient or leading edge of the sound wave provides much of the definition and recognition of a unique sound, it is desirable to have an adjustable attack time. A very quick attack time will diminish the gain almost immediately after the input signal exceeds the threshold of the limiter/compressor. By making the attack time slower (increasing the attack time) a certain amount of the transient will pass before gain reduction begins to occur. Thus, some of the sound's "attack" is retained, depending on the desired transient of the program output.

For a noise gate/expander, the attack time will determine how quickly the gate "turns on" when the threshold is exceeded.

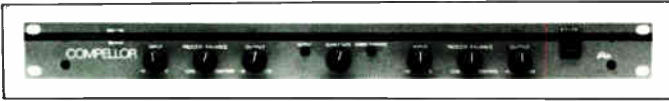
COMPRESSION RATIO: The other factor affecting the apparent attack of the sound is the compression or limiting ratio. If the ratio is high (20, 50 or 100:1 are limiting ratios), once the input signal exceeds the threshold, the output level will not appreciably increase. On the other hand, if the ratio is not great, (2, 4 or 6:1 are compression ratios), then the output will continue to increase as the input signal goes above the threshold, but at a lesser rate. For example, given a compression ratio of 4:1, a 4 dB peak above the threshold setting will cause an output increase of 1 dB. If the ratio is 100 to 1, 100 dB above the threshold will generate a 1 dB increase in output. Generally, compression ratios are preferred when a limiter/compressor is being used for music recording.

RELEASE: For a sound with a quick transient and smooth sustain, a quick release is often preferable. This returns the amplifier to unity or normal gain as soon as the input signal drops below the threshold. Thus the sustain is not affected by the gain reduction caused by the peak. On the other hand, if the sound envelope does not have an even sustain, but drops in level fairly quickly and more sustain is needed, then a slower release time might be a better choice. The time required for the gain

—page 70



The Altec 1612B is a two input device which functions as a limiter or as a line amplifier. Designed primarily for sound reinforcement applications, the 1612B offers selectable "fast/slow" attack-release times and a "limit/line balance" control which allows the limiting to be switched off without shifting the average preset output level.



The Aphex Compellor is a computerized processor which simultaneously combines the parameters of compression, leveling and peak limiting. This "smart" two channel unit features smooth compression with attack and release times governed by the program material itself. Other features include a "silence gate" and a "stereo enhance" mode.



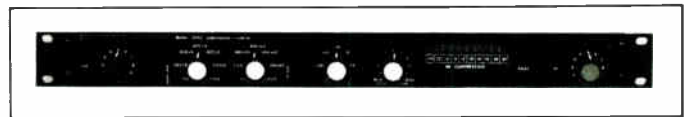
The API Model 525D compressor/limiter by Datatronics is a compact module designed to fit into console mainframes or into an optional powered rack enclosure. The unit features a ceiling control, a de-sibilant function, four selectable release times and a side chain EQ patch.



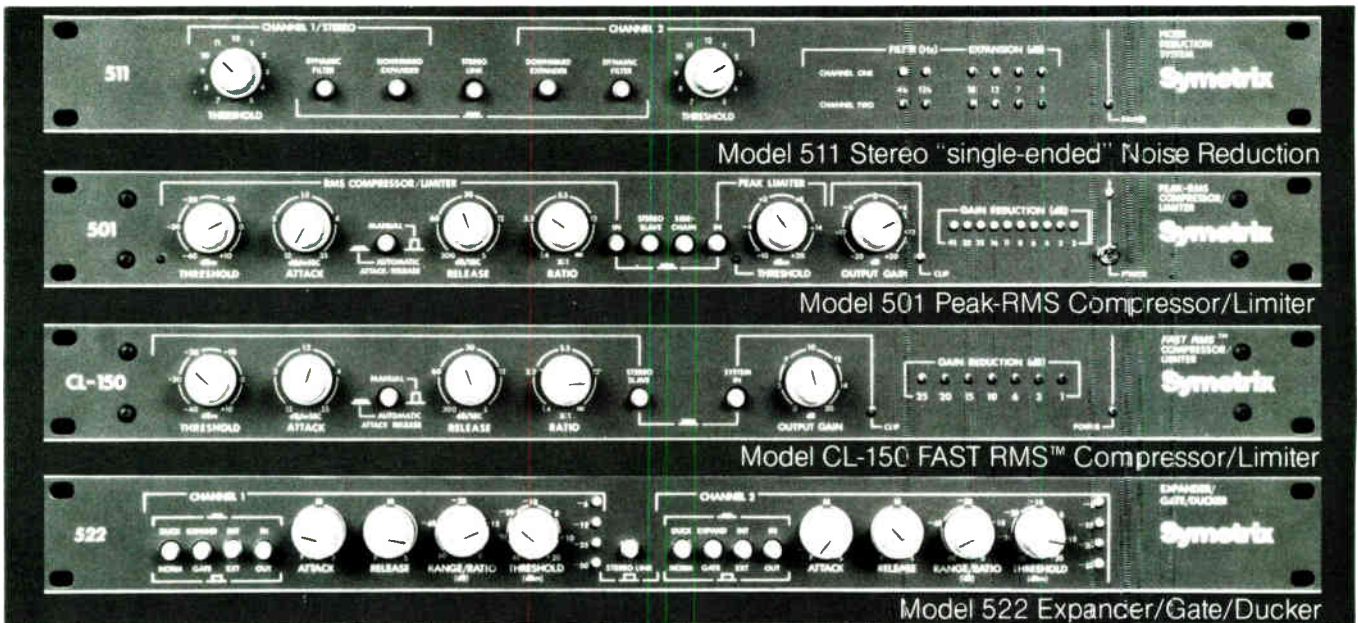
The Ashly SC-50 is a single channel peak limiter/compressor. Front panel controls include bypass, input gain, limiting ratio, attack and release times, and output. Back panel connectors feature balanced and unbalanced inputs/outputs, a stereo tie patch for tracking two SC-50s, and a detector loop for frequency selective limiting.



The Emph'a Sizer by Audio Technologies Inc. offers the combination of an input noise gate, compressor/limiter, and a four-preset parametric equalizer in a single unit. The equalization mode can be selected to operate either pre- or post-compression, or in side chain applications.



The Audioarts 1200 compressor/limiter is a single channel unit allowing full manual control of attack and release times, threshold, and compression ratio. Other features includes a de-ess mode, an automatic release mode, and an LED compression meter.



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reduction display to return to zero gain reduction will give a visual indication of the release time. The release control can be fine tuned so the gain recovery rate (release time) coincides with the decay of the sounds envelope. Hence, as the input signal is decaying, the gain of the limiter/compressor is increasing so the sustain of the output signal is louder in relationship to the initial attack.

PRACTICAL APPLICATIONS

There are few records made today which do not use some compression on the bass guitar. The finger pluck of the string is almost always significantly louder than the sustain of the note. Though a strong attack is important, some of this peak needs to be reduced in relationship to the sustain. For compression, a starting point might be between 3 and 6:1. The attack is set between 2 and 4 ms., and the input control is adjusted so approximately 4 to 6 dB of gain reduction (compression) is occurring to the signal. The release time should be adjusted so the gain returns to normal just before the next note is plucked.

Keeping in mind that there is no right or wrong way of achieving a particular guitar sound, a compressor/limiter can be an extremely useful tool. For instance, to get more sustain out of a guitar, set the controls similar to that used for the bass. A greater compression ratio will increase the sustain of the notes. The threshold can be lowered so compression occurs almost continuously. If the attack time is shortened until very little of the transient passes, the strum attack and sustain of the guitar chord will have only slight level changes from one note (or chord) to another. The result will be a "wall of sound" type guitar that is used more as a "pad" than lead guitar. Very little of the leading edge or transient will be allowed. When a great deal of signal compression occurs, there will be a considerable gain increase when the input signal goes below threshold for a prolonged period (for instance, during the bridge when the guitar doesn't play). With this gain increase, all the hum, finger, and other non-musical fret noise will be boosted. To eliminate this problem a noise gate can be used after the compressor. Set the noise gate so when the guitar isn't playing, the output the limiter/compressor will automatically shut off until the beginning note of the next entrance.

A limiter/compressor can improve the overall sound and protect a sound reinforcement system by providing blowout protection from peak

—page 72

COMPRESSORS

AND LIMITERS



Audio + Design's F601-RS is a stereo/dual mono unit with a dynamic range of 100 dB (referenced to optimum limit threshold). Features include extensive voice over circuitry, controls for gain, threshold, attack and release and a meter calibrated with VU and gain reduction scales.

cast, disk cutting and duplication applications. The 266 incorporates a delay of 0.3 mS so the gain computer can interpret the signal before the control stage. An adaptive pre-emphasis control option for FM applications is available.



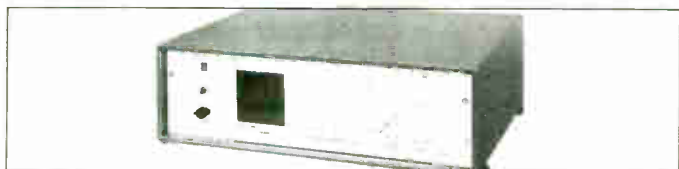
The Eventide 2830 Omnpressor is a single channel device which combines compression, limiting, expansion and noise gating in a single unit. The 2830 includes a dynamic reversal feature which reverses the attack/decay envelope of the signal.



The dbx Model 165A is a single channel unit (strappable for stereo) which offers manual or automatic controls for attack and release times. The 165A can be used as a peak, average, or RMS limiter. A "PeakStop" feature allows moderate compression with full transient overload protection.



The Fostex Model 3070 is a stereo/dual mono compressor/limiter which incorporates a noise gate function on each input. Other features of the 3070 include patch points for external VCA access, and an LED gain reduction display for each channel. A rack mount kit is optional.



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levels to the speakers. Set the attack and release control to the shortest possible time, and the ratio of compression fairly high so when an instantaneous peak occurs, gain reduction will act quickly and will allow very little increase at the output. The threshold should be set fairly high so limiting occurs on just the loudest (and most damaging) peaks.

For lead vocals, a gentle compression ratio of 2 or 4:1 should be used with a fairly quick attack and equally fast release. The idea here is to restrict just the loudest passages. The continuous use of high ratio limiting on a lead voice will tend to make it sound lifeless and lack transparency. In conjunction with a compressor, the most natural vocal sound can be captured when the vocalist moves away from the microphone on loud passages and closer on quieter sections. The distance will vary with the microphone. This way, the compressor doesn't have to handle all the dynamic changes electronically, but works with the vocalist's mike technique.

For background vocals a different approach might be taken. Generally the desired sound can be achieved with a fairly slow attack, 6 to 8 dB of compression, and a ratio of 6 or 8:1. With these settings, the background vocals will have attack at their entrances and smoothed-out sustains (which in many cases are "oohs and aahs"). By restricting the dynamic range of the background vocals, their presence in the mix will stay constant throughout the entire song. During mix-down a noise gate can "turn off" the background tracks when the vocalists aren't singing so earphone leakage, throat clearing, foot tapping, sniffing, grunting or counting between entrances can be eliminated.

BACK TO THE ATTACK: There are times when the sound coming from the tape, microphone, or pickup doesn't have enough transient attack. To create this edge, set the threshold of the compressor/limiter until the gain reduction meter indicates 8 to 12 dB of gain reduction occurring on the leading edge of the sound. By setting the attack and release fairly slow, the first few milliseconds of the envelope will pass and exceed the threshold before the gain reduction of the amplifier begins to occur. When the gain reduction begins, the level of the sustain will drop in relationship in the first few milliseconds of unrestricted signal. When the input signal drops below the compression threshold, the release will begin to return the gain to normal level. Once again a noise gate can be used so the amplifier turns off before the compres-

sor audibly raises the hum and pickup noise as the amplifier gain increases.

MORE ON GATES (i.e. EXPANDERS): Generally a gate is set with the attack control at its fastest speed. The input threshold should be adjusted until the sensitivity is such that the gate has normal gain when the louder desired signal is played, and reduces gain when the lower level undesired leakage is present. For instance, the sound of hand claps can be "tightened up" by eliminating the background leakage between the claps.

A noise gate is frequently used on the kick drum or snare to eliminate the leakage between the beats from the rest of the kit. By eliminating this leakage between kick and snare beats, the sound of the entire kit can be "tightened." Further, by eliminating the leakage, the sound of the individual drums can be separately treated more uniquely with delays. Harmonizing, slapback echo, equalization, etc. None of the undesired leakage enters the processing chain and the clarity of the individual instruments and effects is improved.

By shortening the gate's release time, the amount of snare which lingers after the beats can turn off immediately after the drum is struck. If the release time is increased, the decay time will also increase. A gate (expander) set on a fast attack time allows the gate to turn on instantaneously so none of the leading edge or transient is cut off. Similarly, the high hat sound that is a bit too "splasy" can be made more staccato if the gate turns off quickly between each tap on the hi-hat cymbal. (This is particularly useful for changing the hi-hat envelope of drum machines.)

Most noise gates also have a range control which varies the depth of expansion. Expansion gates, when used to get rid of leakage, are usually adjusted so they have a great deal of gain reduction range and in effect turn off completely when the input signal goes below the detector threshold. Basically, variable range allows the alteration of a sound's dynamics so the difference between the loudest and quietest sounds is increased. The range can be set so the reduced gain is only a few dB below the normal gain of the expander gate. The variable range capability can be useful in creating different envelopes for synthesizer sounds.

Noise gates can also be used to alter the decay of a reverb. By setting the expander gate so it turns off when the reverb signal drops below a certain point, the decay time of the reverb can be shortened, yielding explosive reverberation which lingers for just a short time. This sort of effect is often used with snare drums. In most cases, a

—page 74

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—from page 72

gated reverb sound works best if the reverb is being used for one instrument so the sound can be equalized, compressed, or otherwise effected for that particular instrument. For this reason, you might want one reverb just for the snare drum (and possibly handclaps), another reverb adjusted for the voice, and another for other instruments or sounds.

The effectiveness of a noise gate/expander is very much dependent on the ability of the detector to discriminate between the loudest desired sound

and the quieter undesired sound or leakage. When the desired signal is dynamically too close to the undesired leakage the detector will become confused and the gain will change in sympathy with the leakage as well as the desired sound. Another problem relates to the input envelope if either the attack or decay of the input signal has too gradual a slope or oscillates dynamically. The detector circuit will then cause the gain of the expander/noise gate to flutter as the input signal oscillates past the threshold level. This type of dynamic oscillation generally occurs

as a function of signal decay. The sound of an oscillating gate can be controlled by increasing the release time so the natural decay of the input signal falls below this critical threshold point slightly ahead of the amplifier's gain reduction release.

Where the leakage and the desired sound are dynamically close, another solution can be tried. For instance, when the kick drum track has a great deal of cymbal leakage it is possible to equalize out the cymbal sound and accentuate the kick drum before the signal enters the gate. Unfortunately, in most cases this will adversely affect the kick drum sound. An alternative solution is to switch the gate/expander to the external key mode (almost all gates have an external control input), and connect the kick drum track to both the input of the gate, and to an equalizer. The output of the equalizer is connected to the external key input. The equalizer effects the sensitivity of the gate but does not change the sound going through the gate. The equalizer should be adjusted for a very narrow but substantial boost in the frequency range of the kick drum's attack, while cutting all other frequencies so the gate trigger sees a much louder kick drum pulse compared to the leakage. A similar setup can be used on the snare drum gate.

Let's say the kick drum doesn't have the proper tonality. Take the kick drum and gate it. The output from the noise gate should go to two places. One should be connected to the mixing board so it can be added to the stereo mix, and other output will be used externally to "trigger" a second gate. This second gate will be set so that it will turn on and off with the keyed drum from the first gate. Now feed into the input of the second section (that which is being externally controlled by the kick drum) a low frequency square wave or some other suitable tone or synthesizer note. The output from this second unit is mixed with the rest of the stereo program. The balance between the kick drum and the kick drum-controlled low frequency tone should be such that the actual kick drum is louder than the keyed synthesizer note. The result will give the kick drum a defined musical tonality.

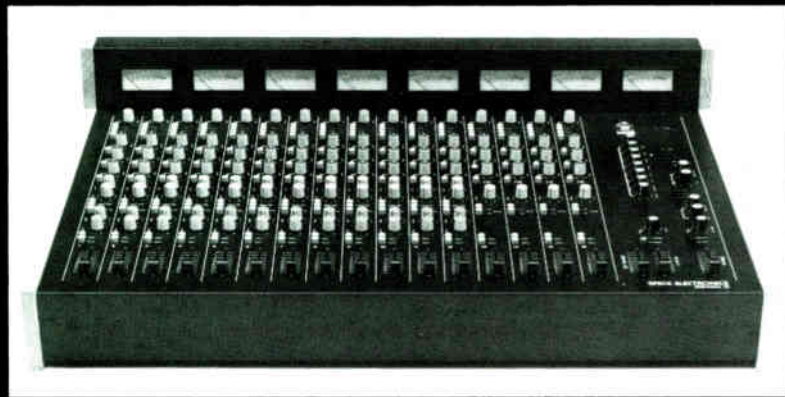
A similar procedure can be used on a gated snare drum. An effective synthesizer sound to be keyed by the snare might be pink or white noise. Unique background vocals, piano or bass, can also be made by having them externally modulated by another instrument such as kickdrum.

Gating a piano will shorten the natural sustain of the instrument. The

—page 83

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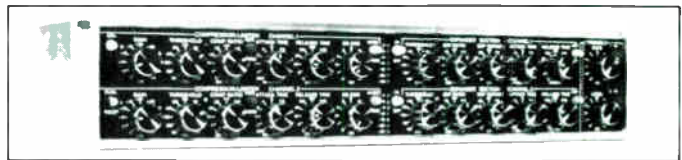
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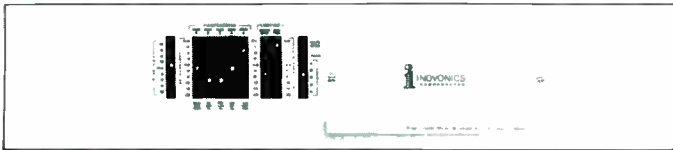
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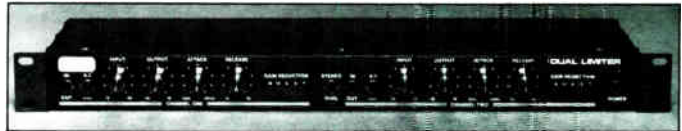
The Furman Sound LC-3 is a single channel compressor/limiter. Features include de-ess and side chain functions, as well as attack, release and compression ratio controls. A stereo link jack is provided, and balanced and unbalanced inputs/outputs are standard.



The LT Sound ACC-2 Amplitude Control Center offers independent mono or stereo compression/limiting, de-essing, noise gating and a separate, full expander section. Other features include tremolo, knee-type/normal compression selection and an LED gain reduction display.



The Inovonics 250 is a multifunction stereo unit incorporating a slow gain-riding A.G.C., a five band equalizer/compressor, and a split band peak controller. An RS-232 interface is provided for programmed control of the unit's functions for automated mixing, disk mastering or broadcast applications.



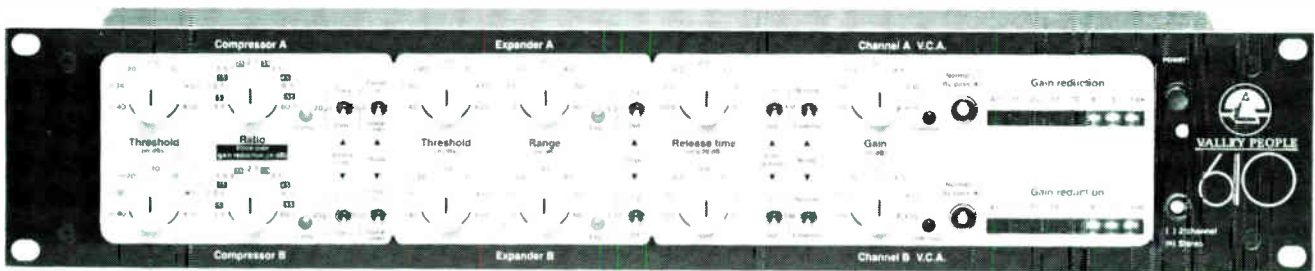
The MXR Dual Limiter Model 136 is a dual mono/stereo unit. The 136 features slope selection, variable attack/release, and detector access jacks for de-essing, ducking and side chain processing.



The Loft Model 400 contains four noise gate/limiters in a single rack mount package. Front panel controls include gate threshold, limiter threshold and attack/release time. A phase reversal switch is provided on each channel.



The Neve 33609, the top of their limiter/compressor line, is a two channel unit which can be linked for stereo operation. Separate limiting and compression sections are provided, as are dual gain reduction meters.



Nothing else is Quiet as good!

To reduce dynamic range while enhancing signal-to-noise ratios and apparent loudness, compression is the answer. But, compressors are not without fault. They "pump up" or accentuate noise levels during quiet passages or pauses in program material.

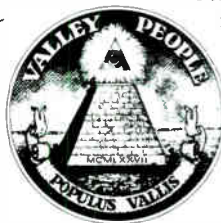
Gating the output of a compressor begins to cure the problem. However, this method typically replaces elevated noise levels with a new problem, gate "turn on" noise.

The Model 610 Dual Compressor/Expander offers two independent channels consisting of a compressor and an expander, both of which control a common channel VCA, the patented Valley People TA-101. A special release coupling circuit provides symmetrical release

characteristics for both the compressor and expander, making interactive processing possible.

Expanded Compression with the Model 610 allows the audio signal to be compressed for reduction in dynamic range, while automatically eliminating noise level recovery through interactive expansion. The unique coupling employed in the VCA release circuit makes transitions between compression and expansion imperceptible.

Once you've tried the 610, you'll know that nothing else is quiet as good.



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 - K XB112 All-Tube 1-12" "X" amp w Celestion — start at \$449
 - L B215-M Dual 15" MagnaLab Bass Enclosure — \$249 List \$495
 - M PB150 Bass Head w Compressor & Parametric — \$399 List \$795
 - N V412-M Lead Stack w 4 12" Celestion spks — \$399 List \$795
 - O X100-B British 100W "X" Amp head — \$579 List \$1195
- JBL speakers optional on most models.

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MX-43

Rob Freeman

Not locked into patterns

by James Riordan

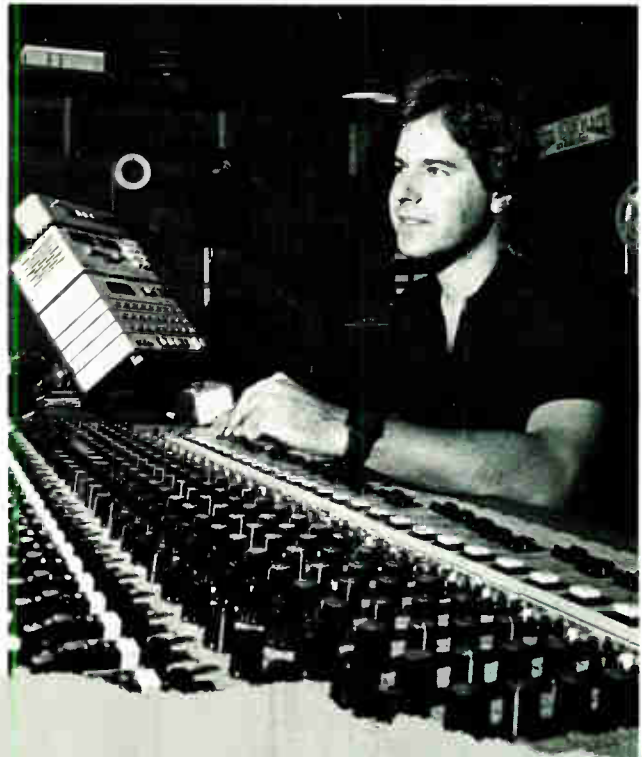
Rob Freeman began his music industry career playing keyboards and writing songs for various bands. But as an alternative to life as a struggling musician, Freeman decided that engineering might give him some form of security and still provide the link with music.

Freeman's first album project was as a member of the group Rmi-Tmi (Rummy Tummy) which recorded an album in 1972. The group was very progressive with a lot of weird ideas. "We did a lot of experimentation and sound effects. I became very involved in what was happening on the other side of the glass. That was really when I got interested in the whole production process."

The Rmi-Tmi tapes proved to be so innovative that they led to Freeman being offered a full music scholarship to Columbia College in Chicago. His desire to be actively involved in record making soon led him to a job at a Chicago studio.

Unlike many producers, Freeman didn't turn in a quick apprenticeship at engineering and then get into producing. "Everything I do, I take very seriously. I had been a professional engineer for 8½ years when I decided to go freelance as a record producer. A lot of guys use engineering as a quick stepping stone to producing, figuring that after a couple of years of engineering they should become a producer. I really explored what there was in the engineering field and learned it well before I decided to apply it to producing."

As an engineer Freeman has worked with Blondie, Kiss, Rupert Holmes, The Ramones, Robert Gordon, John Miles, Link Wray and many others. The line between the engineer and producer is not always clear in the studio and Freeman was a frequent contributor of musical ideas to the acts he engineered. "I was very active in suggesting little hooks or other musically related input like the footstomps on the first big Blondie single. I also sang background vocals on early records by the Ramones and



Blondie. I felt perfectly natural in doing that kind of thing, even though it went beyond the bounds of traditional engineering. The more I engineered the more I got these kinds of ideas and eventually I realized that I was already making production decisions and contributions without calling it such, so I might as well become a producer."

In 1979 Rob began working freelance as a producer and engineer and has since worked with such artists as Abba, Kiss, The Electric Blues, Twisted Sister, Single Bullet Theory, and did his best-known project, The Go-Go's first album, "Beauty and the Beat". He describes the role of a producer: "The producer is the focus of the musical and the technical aspects of making a record. The producer needs to understand what the artist is conceptually trying to say. When they come to me I try to pull it out of them. I become part of it. In many cases I become an extra band member. I may play a tambourine or a cowbell during rehearsal just to be part of the music being made instead of just sitting there and judging it. Through my experience there are a lot of ways I can optimize what they are trying to do. That's my goal."

Freeman has acquired a reputation for using unusual acoustics. He has gone to such lengths as building a complete 24 track studio in an abandoned building because of its distinctive ambient sounds, running a microphone snake a quarter mile from the control room to an indoor swimming pool, and recording inside a 45' semi tractor trailer. "When I listen to an artist I try to project what his sound should feel like. Is it bright and punchy or dark and heavy? Does it sound like 1958 or 1987? I think one of the reasons that artists come to me is because I give special attention to the sound of their record. Most of the things I do entail very natural means of gathering the sounds. If it's in the right space you can just mike it and then shape it in

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Ronnie Montrose is known for his high technical standards. When he conceived of an acoustic isolation, direct device; he came to Harbinger. The result of Ronnie's requirements and Harbinger's engineering, is the Harbinger Iso-Box.

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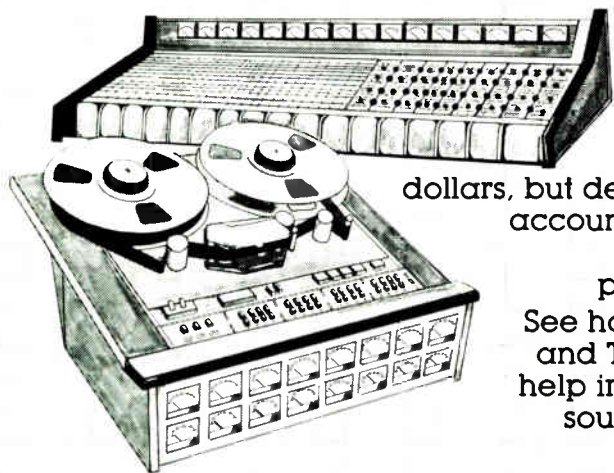
the control room with a little EQ and a little limiting. What happens is you've got a sound because it was recorded in the right space, not because you've added a digital delay to it. You shouldn't have to send the drum out through an Auratone and remike it. I'll go way out of my way to find sounds that are natural rather than try to produce them artificially."

The phenomenal success of the Go-Gos' first album has led to many questions about special techniques used by Freeman. The key was simplicity. "The Go-Gos were five girls from L.A., who were not the most amazing musicians in the world, but collectively had an energy and a certain vivaciousness about them that did get expressed in their music. What I did to help get that on record was allow it to breathe. I didn't overlayer it so that you couldn't get a sense of the performance. I didn't over-professionalize it and I didn't over-effect it, so that it was a very believable record. It was a fun record to make and it sounds that way. That was the source of its appeal and it was important not to lose that."

Freeman's criteria for an artist centers around his belief that any band that has been together for a couple of years has got something worth listening to. "Something kept them together which they got off on. If you look hard enough, you can find it. But often it is not enough. I look for bands that have a different twist to them. Like the Go-Gos. They were a pop rock band that viewed themselves differently and that came across in their music."


To those pursuing a career as producers or engineers, Freeman stresses experimentation, objectivity, and style. "Don't believe what you've heard about what's correct or right to do. Develop a strong sense of style not only in terms of expressing yourself in the studio, but also in working with artists and getting the most out of them. As a musician, I was never formally taught. While I sometimes wish I could read music because it would make my work easier, I know that I've gained a tremendous amount by having taught myself. I never played the way anyone else did. I didn't have the same fingering or the same chording. This allowed me to develop more freely. This is also what happened to me as a producer/engineer. I was always sort of out on my own. This really allowed me to be free of previous stereotypes. I encourage those people who want to be producers or engineers to take steps to prevent themselves from being locked into patterns that will stifle them in the long run. Don't be afraid to experiment one step at a time. Give yourself room to grow."

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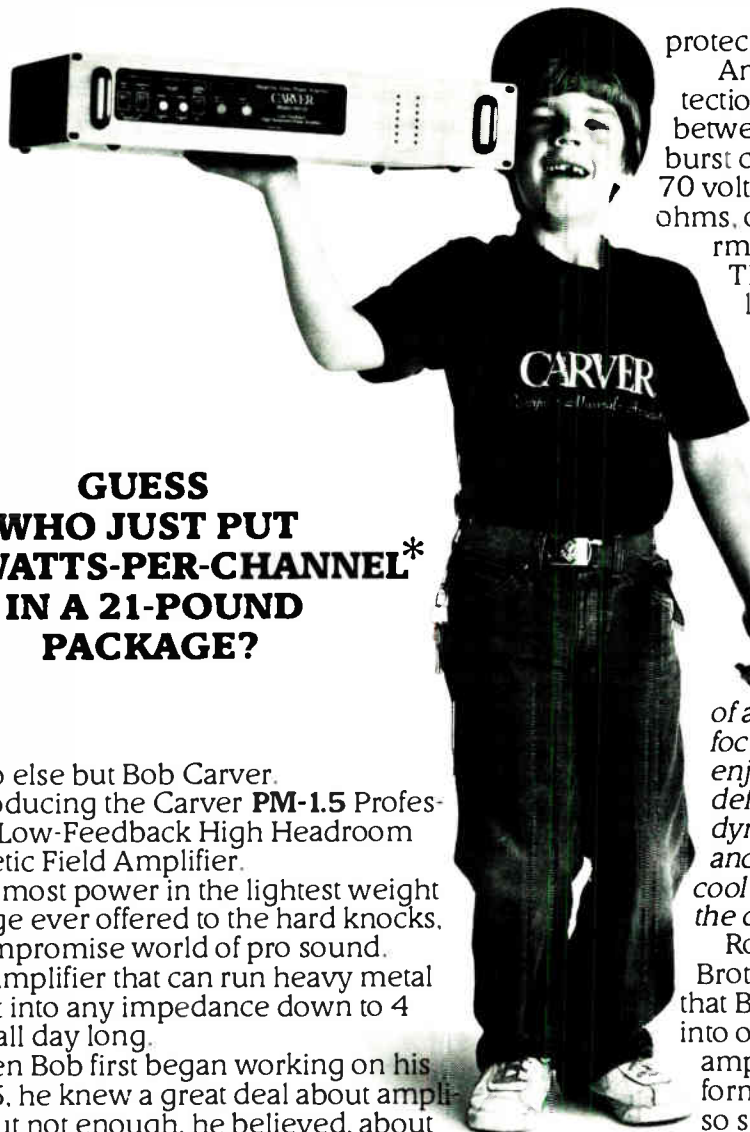
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Who else but Bob Carver. Introducing the Carver **PM-1.5** Professional Low-Feedback High Headroom Magnetic Field Amplifier.

The most power in the lightest weight package ever offered to the hard knocks, no-compromise world of pro sound.

An amplifier that can run heavy metal flat-out into any impedance down to 4 ohms all day long.

When Bob first began working on his PM-1.5, he knew a great deal about amplifiers but not enough, he believed, about the night-in night-out requirements (and wish dreams) of the pro sound world. And so he spent much time consulting with a large number of sound reinforcement professionals, including the "pros' pro," Clair Brothers.

Clair Brothers asked for lower input ac line current, greater transformer thermal capacity, dual modes of precision balanced inputs with 1% resistors, back-to-front cooling with a fully proportional fan system that can just tick over at idle or blast 1000 ft/min. to keep output transistor temperatures constant. They wanted greater noise immunity and unbelievable long-term, high-power operation, as well as a 3/16" front panel with deep-recessed controls.

Others wanted rear rack-mounts, adjustable protection circuit thresholds, front panel selectable clipping eliminator, and even a sequential, soft-start power-up mode.

Now that the PM-1.5 has undergone thousands of lab test hours and seven months of hard road testing, Clair Brothers, Bob, and you get all that and more.

The PM-1.5 is designed to run balls-to-the-wall, even into 4 ohms day and night without compromising itself or your drivers. Because the PM-1.5 has three special adjustable speaker

protection circuits.

An adjustable Short-Term Speaker Protection circuit adjusts dynamic headroom between 60 and 77 volts with a short term burst capability of 70 volts rms at 8 ohms, or 60 volts rms at 4 ohms.

The circuit locks-in to the control setting after 0.5 seconds.

An adjustable Long-Term Speaker Protection circuit matches the time constant of the output shutdown circuit to your PA or monitor system.

Finally, the Clipping Eliminator detects clipping lasting longer than 30 milliseconds and attenuates the input signal just enough to pull the PM-1.5 out of clipping.

As for sound quality, consider this quote from **The Audio Critic Magazine**, "...the equal of any power amplifier in transparency, focus and smoothness. We especially enjoy hearing spatial detail, instrumental definition and completely natural dynamics. At this level of sonic performance, the astoundingly small size and cool operation become icing on the cake..."

Roy Clair and Ron Borthwick of Clair Brothers said it this way, "We are amazed that Bob was able to put the same wattage into one-fourth the volume of conventional amplifiers without sacrificing audio performance. It's hard to believe that an amp so small and lightweight can put out so much clean power. But it does!"

Whether you run a megawatt sound company, a struggling bar band, or a recording studio gearing up for digital, the PM-1.5 will pay you. In increased portability and reduced freight costs. In freedom from expensive blown drivers. In sheer sonic excellence.

Write for a detailed brochure today or give your local pro store no peace until they order you 21 pounds of pure power.

***Power:** 8 ohms, 450 watts/chan. 20 Hz-20 kHz both channels driven with less than 0.1% THD. 4 ohms, 600 watts/chan. rms 20 Hz-20 kHz both channels driven with less than 0.1% THD. 16 ohms, 300 watts/chan. 20 Hz-20 kHz both channels driven with less than 0.1% THD. 2 ohms, 525 watts/chan. at clipping, 1kHz with less than 0.2% THD. Note: 2-ohm specification for information purposes only. Operation at 2 ohms is permissible but not recommended. **IM Distortion:** Less than 0.1% SMPTE. **Frequency Response:** -3 dB at 3 Hz. -3 dB at 80 kHz. **Damping:** 200 at 1 kHz. **Gain:** 26 dB. **Noise:** Better than 115 dB below 450W A-weighted. **Input:** Balanced to ground. XLR or phone. **Impedance:** 15k-ohm each leg, balanced to ground. **Bridging:** 1200W into 8 ohms, 1000W into 16 ohms, accessed through rear-panel recessed switch. **Dimensions:** 19 in wide, 3 1/2 in high, 10 1/4 in deep. Weight: 21 lbs.



Front-panel-adjustable protection circuits.



CARVER

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PREVIEW



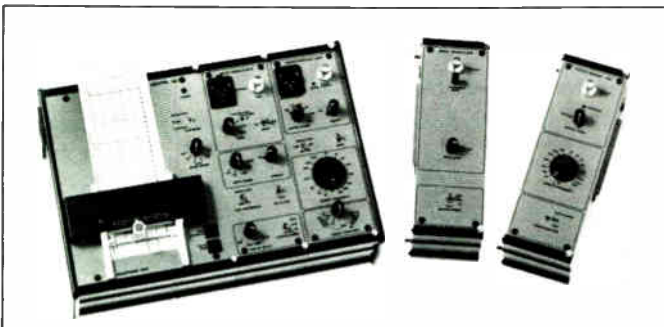
STUDER 2706 MONITOR

The Studer 2706 Professional Monitor is designed to serve as the primary audio monitoring system in small to mid-sized control rooms, as well as radio studios, television post-production suites, as a close reference monitor in larger recording studio mixing rooms.

A three-way system, the 2706 incorporates a 12.5" woofer, a 2" dome midrange, and a 1" dome tweeter in a bass reflex enclosure. Crossover frequencies are 720 Hz and 2500 Hz. Anechoic chamber frequency response (90 dB SPL at 1 kHz, sine wave sweep) measures 42 Hz to 20 kHz \pm 3 dB. The 2706 has four threaded holes on the bottom to facilitate free-space installation on floor stands or suspension brackets.

Nominal impedance of the 2706 is 4 ohms. Maximum output level is 104 dB SPL. Dimensions are 24" high, 15" wide, and 13½" deep. Available options include a wall mount bracket and a floor stand which is adjustable from 4' to 6½'. Price for the Studer 2706 is \$690.00 each.

Circle #064 on Reader Service Card



AUDIOGRAPH 3300

The Neutrik 3300 Audiograph system is a second generation, digitally controlled, precision audio analysis system. Its modular construction allows arrangement to suit specific functions, measuring tasks and level of sophistication. Data output is in

the form of permanent, "hard-copy" function plots (graphs). It is equally suited for us in portable applications such as systems set-up and maintenance, acoustical room analysis or noise-level logging as well as in laboratory, product design and production quality control applications.

Features and capabilities include: single or multiple plots in four colors or single-chart cards or continuously on multiple-chart rolls, servo-controlled writing (pen) system, automatic recording of frequency response and reverb time, digitally-controlled system-functions interlocked via data buss. (Users may also construct their own modules to interface with the 3300.) Basic frequency range is 20 Hz to 40 kHz, swept sine wave plus 1/3-octave capacity. Remote control facilities are available.

Circle #065 on Reader Service Card



FOSTEX B-16 ½" 16-TRACK RECORDER

The Fostex B-16 is the first commercially available 16-track recorder/reproducer using ½" tape. (Dolby C NR is standard).

Transport features of the compact (17" x 17" x 9", 66 lbs.) unit include: 3-motor design using all D.C. motors, 2 direct drive reel motors, 1 FG servo-controlled capstan motor, 15 ips with \pm 15% variable speed operation which has both coarse and fine controls and functions in both record and reproduce modes; on/off switch and flashing LED indication; and a real-time tape counter with search-to-cue function from any mode.

The electronics include: individual record/reproduce cards for each channel, LED bar graph metering system with peak ballistics on attack and VU ballistics on decay, simultaneous 16-track recording capability and full frequency response in sync mode (standard model has two heads).

Preliminary specifications: Record Level Calibration: 0 VU referenced to 250 nWb/m; Equalization: IEC; Frequency Response (Overall): 40 Hz to 18 kHz, \pm 3 dB; Signal to Noise Ratio: 72 dB with Dolby C NR; Erasure: -70 dB at 1 kHz; Wow & Flutter: \pm 0.06% peak weighted (ANSI); Crosstalk: -55 dB; THD: 1% at 1 kHz, 0 VU.

Tentative price: Basic B-16, with belt-drive capstan, Dolby C: \$5900.00.

Circle #066 on Reader Service Card

SHURE "MICROPHONE TECHNIQUES" BOOKLET

Shure Brothers, Inc. has announced the availability of "Microphone Techniques for Music," a 16-page booklet designed to assist musicians in developing microphone skills.

The booklet provides detailed descriptions of different

methods for miking various musical instruments, including guitar family instruments (plus amps and speakers), basses, pianos, drums and percussion instruments, wind instruments, strings, harmonica, and others. In addition, the booklet includes microphone placement suggestions for lead and background vocals.

For a copy, write Shure Brothers Inc., Customer Services Department, 222 Hartrey Avenue, Evanston, Illinois 60204.

Circle #067 on Reader Service Card

TASCAM LA-85 AND LA-40 LINE AMPLIFIERS

TASCAM's new LA-85 converts the 85-16 and 85-16B recorder/reproducers to accept and control a +4dBm balanced signal from three wire XLR type connectors. The LA-40 matches balanced and unbalanced circuits and serves as an adapter between mismatched line levels or impedances.

The compact, 4-channel LA-40 permits interconnection between +4dBm, -20dBm and -10dBV inputs and outputs. It also establishes instant compatibility between TASCAM or similar -10dBV unbalanced inputs and outputs and almost all other equipment. Both input and output circuits of the LA-85 are transformerless and fully balanced. The balanced output stage of the self-powered LA-85 delivers 19.5 volts into a 600 Ohm circuit that can drive long cable lines without suffering from signal loss.

Circle #068 on Reader Service Card

FURMAN LOW-PROFILE RACK—MOUNT AUDIO MIXERS

This Fall, Furman Sound will be introducing a line of



single-space rackmount audio mixers. The MM-4 is a 4-input mono mixer with effects send and receive, and features 4 high-impedance inputs suitable for use with a wide variety of signals; a switchable 100 Hz low-cut filter on each channel, a high output headphone amp with a separate level control and balanced and unbalanced outputs.

The MM-4B is the same as the MM-4 but has impedance balanced inputs. The MM-8 is a stereo mixer with all the same features as the MM-4 with the addition of a second main summing buss and pan pots to provide stereo (4X2) mixing. The MM-8B is the stereo version of the MM-4B.

Circle #069 on Reader Service Card

ADC JACKFIELDS

ADC's new split cylinder contact (insulation displacement) provides a highly reliable method of terminating audio circuits. ADC's Pro-Patch™ jackfields and Ultra-Patch™ interconnect panels eliminate wire stripping and allow connections to be established with one insertion of a wire termination tool. The color-coded field enables quick, accurate identification of termination points.

The unique design of the split cylinder displaces the wire insulation and cuts the excess wire during installation.

Matchless skill in equalisation

Klark-Teknik Research is setting a new standard for equaliser stability — and now the company's diverse experience of world markets has produced very different versions for very different needs, all using the same five-year warranted, state-of-the-art thick-film-engineered microcircuit filters.

Typical is the DN360 with thirty 1/4 octave filters to each channel for the most exacting applications, while the DN332, with sixteen 1/4 octave filters per channel, is a perfect match for many good modern sound systems — without outstretching most budgets.

Both are built to the same high standard with features such as electronically balanced inputs and subsonic filters as standard.

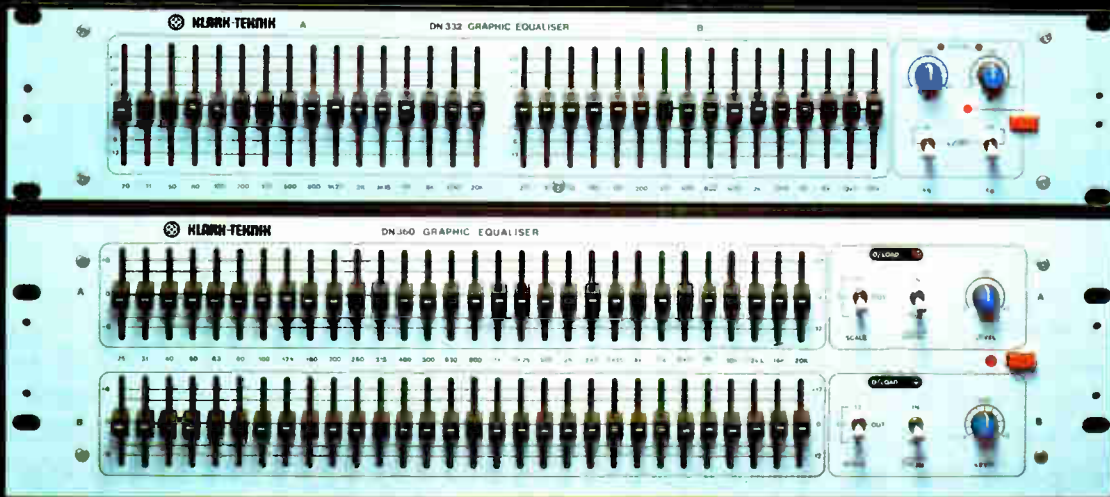
Frequency response $\pm 0.5\text{dB}$
20Hz-20kHz
Equivalent noise $< -90\text{dBm}$
Distortion $< 0.01\%$ THD @ 1kHz



KLARK TEKNIK



British designed, British made



*The reliability of MELT micro-electronic filters gains a 5-year solid-state parts warranty for all Series 300 equalisers.

For full colour brochure contact Klark-Teknik or your nearest distributor (list available on request).

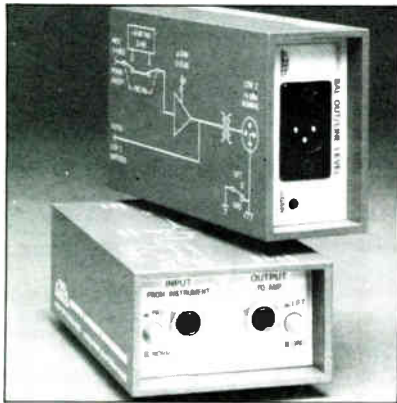
Manufactured by Klark-Teknik Research Limited
Coppice Trading Estate, Kidderminster DY11 7HJ,
England. Telephone: (0562) 741515 Telex: 339821

Klark-Teknik Electronics Inc.
262a Eastern Parkway, Farmingdale,
NY 11735, USA. Telephone: (516) 249-3660
Circle #070 on Reader Service Card

Omnimedia Corporation Limited
9653 Côte de Liesse/Dorval, Quebec H9P 1A3,
Canada. Telephone: (514) 636 9971

Recessed contact points virtually eliminate the possibility of shorting at the contact. The split cylinder contact will work with solid or stranded wire and accept two wires on each side. The contact is designed for use with 22, 24 or 26 AWG wires.

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AXE'S DI-100™ DIRECT BOX

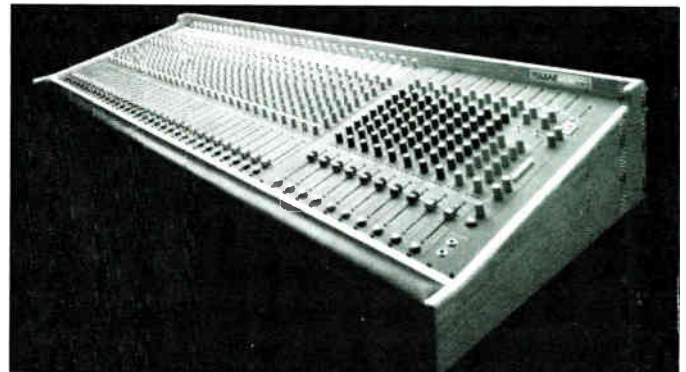
AXE's DI-100 Direct Box utilizes a low noise BI-FET buffering amp at the instrument input jack to eliminate the effects of loading, and provides a low impedance signal to the instrument amplifier allowing for long cable runs. The XLR output is a true balanced, transformer, output driven from the buffer preamp stage and utilizes a special line level output transformer made by Jensen Transformer Co.

A unique feature of the 17 oz. DI-100 is its adjustable gain, which allows one to optimize the instrument's level to the console for maximum signal to noise ratio. The DI-100 sends a

low impedance line level (+4dBm) signal down the line, thus eliminating the necessity to use the mic preamp in the console.

AXE's DI-100 can be powered either by its internal battery (battery life in excess of 500 hours) or phantom power from the console. Suggested retail price is \$179.95.

Circle #072 on Reader Service Card .



PULSAR MATRIX MIXING CONSOLE

Pulsar Labs has announced their 80 and 40 series matrix mixing consoles which allow the user option of adding signal processing modules. Full patching is accomplished by access in and out jacks on all modules.

Pulsar 80 and 40 series boards have flexible matrix mixing capability, allowing 8 independent mixes of 8 groupings of inputs simultaneously and independently of one another.

All Pulsar boards come with a solid oak frame with steel sub-frame and a three-year warranty.

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PULSAR LABS, INC.

Matrix Mixing Consoles

NOW AVAILABLE WITH 5-BAND SWEEP EQ

80 SERIES SPECIFICATIONS & FEATURES

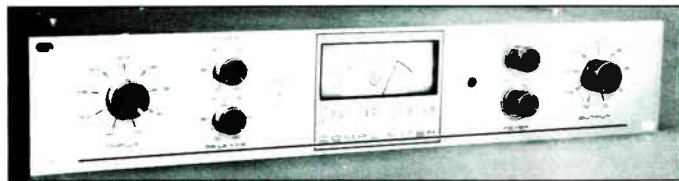
<p>INPUT Active balanced line in (XLR) Stereo 1/4" balanced line in Line/mic switch Phase reverse switch High pass filter EQ in/out switch Mute switch Variable gain (45 dB) Two monitor sends Two effects sends Direct out (1/4")</p>	<p>Access in & out (1/4") 3 level 3 LED Cue send 100 mm fader</p> <p>EFFECTS Two individual effects modules 5 band EQ dual peak reading meters (effects & monitors) Access in/out on effects & monitors</p>	<p>Cue send 100 mm fader Effects may be switched into the matrix LED metering on effects & monitors</p> <p>TALKBACK Priority interrupt cue system 48 volt phantom power Dual stereo headphone jacks LED dual peak reading meter on cue</p>	<p>Extensive headphone monitoring</p> <p>FEATURES Totally modular - no point to point wiring LED metering on all modules Active gain stages for low noise and extended dynamic range 5 band graphic or parametric EQ Total patching through access in/out on all modules Solid oak frame/steel sub-frame</p> <p>Optional on board signal processing, such as comp-limiters, etc. Frequency response 20 KHZ + or -.5dB EIN 20 - 20 KHZ - 129 dBV Distortion - less than .02% Crosstalk - 74 dB (odd pairs) Max. mic gain - 105 dB Max. line gain - 74 dB Max. output +26 dBV balanced Max. output +18 dBV unbalanced</p>
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PULSAR LABORATORIES, INC. 3200 GILCHRIST RD. MOGADORE, OHIO 44260 216/784-8022

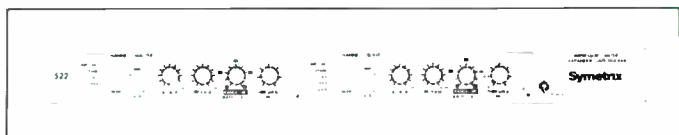
Circle #074 on Reader Service Card



The Orban 424A is a stereo/dual mono unit which features de-essing functions, as well as compression, limiting, and gating operations.



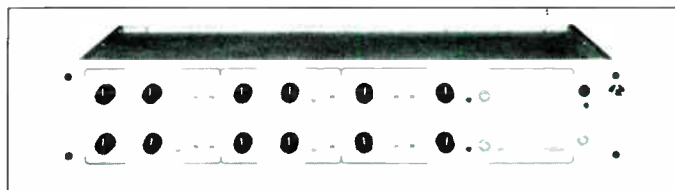
The Spectra Sonics Complimiter™ Model 610 is a peak-type compressor/limiter. This mono unit can be coupled for stereo operation, and features threshold attack and overload indicators.



The Symetrix 522 is a multifunction two channel unit which incorporates compression/limiting, expansion, a duck mode, and gating. These parameters are independently selectable on each channel, and side chain insertion is available in all modes.



The UREI 1176 LN is a single channel peak limiter with adjustable input, output, attack and release times, compression ratios and meter switching. Stereo coupling is also possible and the unit is available in a two channel configuration, Model 1178.



The Valley People Model 610 is a two channel compressor/expander, with each section controlling a common channel VCA. A special release coupling circuit allows symmetrical release characteristics of both compression and expansion functions for interactive processing.

If you would like additional information on any of the products in this report, drop us a note at Mix listing the specific units you're interested in and we will forward your requests to the manufacturers.

—from page 74

result will be very percussive and much like a clavinet. It can also make a grand piano sound more like an upright tack piano.

Sometimes after a stereo mix is completed, there may be a need to compress or limit the mix. For stereo limiting, two identical units that can be stereo interlocked should have their controls set pretty much the same. When the stereo interlock is connected, if there is an excessive level on one channel of the stereo limiter/compressor, the gain will be reduced equally for both sections. This solves the side to side shifting of center-panned sounds in a stereo mix when the gain of only one of the two sections is reduced. By reducing the gain of both channels (even though an excessive level only exists on one side) those signals which are equally loud on both the left and right track (i.e. positioned in the center) will be reduced equally; thus, their center positioning will be maintained.

Generally for stereo program compression, the ratio control should be set around 4:1. The attack time should be fast, as should the release time. The input control should be set so only an occasional peak will trigger gain reduction. The input/output controls should be set at approximately the same position for each channel so the output of each is balanced. (Ideally, one should record stereo balance tones at

the head of the two track master so the playback levels of the two tracks can be readjusted every time the tape is played.)

By interlocking two (or more) compressor/limiters, some very unusual effects can be created. For instance, as an overdub, the hi-hat microphone can be fed into one unit adjusted for fairly radical compression (about a 10:1 ratio). The other unit is fed a microphone able to handle someone blowing into it. This microphone is placed in front of the drummer's mouth. The compressor/limiter connected to the voice microphone is set for a very low threshold, and an extremely severe limiting ratio (50 or 100:1). The drummer plays hi-hat while listening on earphones to what is coming into the hi-hat microphone. In effect, the compressor/limiting on the hi-hat is controlled by the drummer while playing so the effect can be a musical part of the hi-hat overdub.

DE-ESSER OR SIBILANCE CONTROLLER: It is sometimes desirable to have a compressor or limiter which reduces gain only when certain frequencies are excessive. There are devices which are specifically designed for this application. Limiter/compressors providing an access to the threshold detector's signal path can also be used for this purpose by connecting an equalizer in the detector "side chain." When the equal-

izer is set for a substantial high frequency boost in the area between 1500 and 5000 Hertz, the compressor-limiter can be adjusted to reduce gain when just these frequencies exceed the detective threshold. Depending on what effect is desired, the frequency (or frequencies) selected for the detector's side chain equalizer will determine which part of the audio bandwidth will be most sensitive. It should be noted that when the compressor-limiter does reduce the gain as a result of an excess signal at a particular frequency, the entire audio signal will reduce gain until the excess of those frequencies have passed. Several units have circuitry which compensates the signal level for those frequencies not selected for procession in the side chain.

Lastly, as firstly, a compressor-limiter noise gate/expander will allow you to change the dynamics of any sound. What you use it on, and how you set the controls, is up to you, and is only limited (not compressed) by your imagination. ■

Tom Lubin presents recording and production clinics sponsored by personal multi-track Fostex dealers all over the country, and teaches at the Institute of Audio and Video Engineering in Los Angeles. This article is an excerpt of a Fostex application note on variable gain amplifiers.

ANOTHER DEPARTURE FOR

H

ERBIE ANCOCK

by Josef Woodard



PHOTO: JEFFREY MAYHE

First impressions will steer you wrong in the case of *Future Shock*, Herbie Hancock's maiden voyage into purely digital funk. Notwithstanding the allusions to impending global doom in the lyrics of Curtis Mayfield's title cut, the album is not at all about pessimism. It's about possibilities—the possibilities lurking in the realm of digital synthesis, the possibilities of bicoastal artistic collaboration, and the possibilities for making peace within a shiftless music scene. After riding effortlessly on the crest of modern thinking in jazz piano for two decades, Hancock is surprisingly receptive to fresh input, greeting the future as friend rather than as foe or unwelcome upstart.

Future Shock also sends out clear signals as to the degree to which Hancock has become content with the double life he leads. Earlier this year Columbia Records issued a double Herbie Hancock Quartet album cut in Japan and featuring the mighty pianist blowing mainstream jazz with Ron Carter, Tony Williams and the kid

trumpeter of the season, Wynton Marsalis (whose classical/jazz foundation mirrors Hancock's own).

Hancock's concept and cohorts for *Future Shock* are of a contrary stripe. Synthesist Michael Beinhorn and bassist Bill Laswell, together constituting the brains behind Material, have fleshed out their nuclear musical notions with the aid of various jazz, funk and unclassifiable figures. The results, as evidenced by their two Elektra/Musician releases, have most often consisted of an electronic, ruffian brew referred to as "avant funk."

Longtime admirers of Hancock's eclectic can-do, Beinhorn and Laswell arranged to work—by mail—with Hancock. They concocted rhythm tracks at their home base, OSO Studio in Brooklyn, and shipped the tapes off to Hancock in Beverly Hills. Hancock layered synthesizers—and a small amount of acoustic piano—until the desired viscosity was achieved and the appropriate danceability quotient attain-

ed. Apart from the plugged-in soul of the title cut, the album is a bristling instrumental experiment that jockeys for a peripheral position in the current rash of synth soul.

Predictably, the critics have not been amused. Hancock must be accustomed to the jibes from his jazz fans, who feel he has forsaken his true calling with his last few albums—*Feets Don't Fail Me Now*, *Magic Windows*, and *Lite Me Up*, all raucous R&B entries. But he is undaunted in his avid pursuit of a wide range of interests. Having galvanized a reputation in the timeless mid-'60s Miles Davis lineup and a succession of increasingly electronic albums—both solo and with the Headhunters—in the '70s, Hancock now handles a bank of synthesizers with the same aplomb as he does making magic in an acoustic jazz setting. *Future Shock* is undeniably a bracing ear-opener... like shock therapy.

Talking in the earthquake-proof CBS building at Century City,

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CMI-Extending your compositional creativity...



Hancock detailed his musical rationale past and present and mentioned that he hadn't touched his keyboards recently. After coming off a long, tough tour with Wynton Marsalis, Hancock dived into his latest acquisition, Apple's new LISA computer. Nothing about the multifarious Mr. H. should surprise us, after all; let's not forget the title of his best-selling tune: "Chameleon."

Mix: Some people might listen to *Future Shock* expecting a lot of synthesizer soloing—single line wailing, that kind of thing—but you seem to have avoided that entirely.

Hancock: The album wasn't about

that. We wanted the tunes, and the whole direction, to sound improvised. I think we accomplished that.

Mix: How did the concept for the new album come about?

Hancock: I had been working on material, trying to figure what I wanted to do on the next album. I didn't want to do another thing in that direction. That was my previous pop album, not a jazz album. At this point I've been keeping the jazz things and the pop or R&B things separate. Anyway, I was working on some things, but nothing really turned me on. At the same time, I was being exposed more and more to a lot of the new music that is coming up, both

new wave and new R&B, from Duran Duran and The Police all the way to Peech Boys and The System and Culture Club and Talking Heads.

I had a friend of mine prepare a tape of some new things. He had been coming to my house making his own tapes, and I liked what he was putting together. I listened to the tape, and I liked a lot of it, but the one thing that really struck me was "Buffalo Gals," by Malcolm McLaren. I had no idea what was going on—I'd never heard scratch . . . the whole approach was so fresh and new to me. I was fascinated by it. I said, "I want to do something like that."

In the meantime, I had been introduced to Bill Laswell and Michael Beinhorn from the group Material. I talked to them on the phone, and I realized that they were very broad musicians. So we decided that they would come up with an idea and put something on tape. They live in New York, so they were going to do it there and then bring whatever they had to LA and then we'd see if we could work on it. Well, after I heard "Buffalo Gals," I knew I wanted to have at least one tune on the album that was from that direction. The tune that Bill and Michael brought wound up being "Rocket." In other words, what they brought was exactly what I wanted. So we worked on it, and that became the single.

Mix: So the concept was a meeting between Herbie Hancock and Material.

Hancock: Uh-huh. It was a meeting. They said that they had a whole lot of my records, and they were pretty familiar with my stuff from the beginning—not just the electric stuff from the 70s. They really wanted to do something that would be me, that would come from my feeling, that I could shape rather than having them shape the whole thing. They'd come up with some kind of skeleton for me, but we'd agree on the concept. I liked that idea a lot.

They were already in the dance scene and they know all those people. They were exposed to some things I hadn't been exposed to, and they didn't know if I was going to be into them or not. But they must have figured from listening to the kind of avant-garde stuff I had done in jazz that I'd be intrigued by the sound, and they were right, that's exactly what happened.

Mix: Do you feel this album's a departure for you, or more of a logical step?

Hancock: Both. It's a departure in one sense, and that is that I can't be

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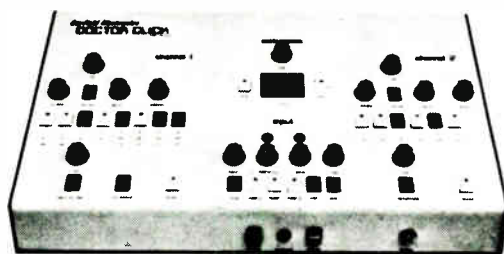
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The brand to brand problems of timebase, voltage level and polarity are solved by the Doctor Click's diverse output capability.

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

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

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

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

done with virtually any sequencer, drum machine or synthesizer.

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

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

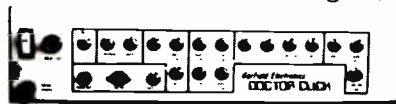
The pulse shaper circuit turns a pulse from an instrument into a trigger waveform allowing synthesizers to sync to a drum fill.

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accused of doing a kind of pop music that's already established, that many others have explored, that sounds like it could be anybody else. This doesn't sound like anybody else I've ever heard—like any records I've heard. I'm very happy about that.

We had talked about using the general concept of improvisation, but instead of just applying it to solo work we'd apply it to the music at large so the music has a feeling of being improvised. And I think it does. There are surprises throughout, the way a soloist comes up with surprises. That's the way you're listening to it and that's what gives you a thrill. Like on a rollercoaster, there are peaks and then all of a sudden you come flying

down. I think there are a lot of surprises on the record, things that come out of nowhere and disappear.

Mix: Except for a couple piano solos, there are no real obvious hints of what you could call jazz elements, even harmonically . . .

Hancock: Right. It's not a jazz album. This is not the first time I have done a non-jazz album—I would say it's maybe the fourth or fifth. The first one was *Feets Don't Fail Me Now*, and then I did *Monster*—but there was some jazz on there. Just because there's improvisation, you can't say it's jazz, 'cause rock and roll has improvisation. Usually they say it's jazz if my name is on the record. If my

name wasn't on it, if it was somebody else's name, they wouldn't say that.

Mix: So people will file it under jazz.
Hancock: Right. *Magic Windows* is another album I did that had very little jazz on it. That was two albums back. And *Lite Me Up* wasn't a jazz album.

Mix: Are you happy to segregate the two aspects of your musical work?

Hancock: Yeah, that's the way I've done it so far. I've heard other jazz artists use elements of pop music in conjunction with jazz, when the concept called fusion—which I was involved in—was happening. That can be as valid as anything else, but I think it's also valid if you want to do a pop thing.

Mix: What does it mean that the basic tracks were done at OAO—and what do the basics consist of on this album?

Hancock: Some of them were bass lines and digital drums, and sometimes regular drums. On a couple of tunes we used guitar—Pete Cosey played the solo on "Future Shock." But the melodies and harmonies weren't on, except in the case of "Future Shock"—which is a Curtis Mayfield song. I did the chords and the clavinet parts, and some other things, in L.A. The vocal was done in New York.

So basically, the rhythm skeleton was done in New York, and then the rhythm section work was done at my house for the most part. The acoustic piano is the one sitting in my living room.

Mix: So that's Garage Sale Recording?

Hancock: That's what it is—a garage [laughs]. I had it acoustically finished, mostly just for me to practice and work things out. But this time I rented a Trident Model 80 board and a Studer 24-track recorder; I used JBL 4311s and a pair of those little black Yamahas for monitors—and I had some Auratones, too. And a lot of keyboards.

Mix: Have you accumulated an arsenal of keyboards in the past few years?

Hancock: Yeah, a bunch. And I also borrowed some instruments just for the project. I wound up buying some of them, too, after I'd had a chance to really check them out. George Massenburg had some limiters that I used, and an incredible parametric. I rented a Lexicon 224X and a Scamp rack.

Mix: So most of the synthesizer overdubbing was done in LA?

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Hancock: Some Minimoog things were done in New York, cause Michael Beinhorn is a synthesizer player.

Mix: A lot of Prophet-5, I noticed.

Hancock: Yeah, there's some Prophet-5 in there. But I put on Minimoog, Emulator, Yamaha GS-1, ARP Odyssey, Rhodes Chroma, Alpha Syntauri—which works with the Apple Computer—and a Fairlight CMI.

MIX: Was that a real Koto on "Earthbeat"?

Hancock: It was in the sound library of the Fairlight. I already had it, so I just called it up on the keyboard. By accident, I had the keyboard split in such a way that the lower two octaves were higher than the next two octaves. I think I was in the midst of changing them, and I wound up with this configuration. I started playing and came up with this interesting rhythm—I kept playing it and playing it, turning things around, and it wound up very different than what would have happened if I'd had the keyboard split normally. It made me think a completely different way, so I kept it like that for "Earthbeat," and also for "Rough."

Mix: It's not your average Koto riffing.

Hancock: No. I tried to do a blues thing with it, 'cause its a great blues-sounding instrument if it's played a certain way. I had to split the keyboard so that certain octaves would bend and others wouldn't. There'd be two physical octaves with the same aural octave, and one would bend and the other wouldn't. It made me come up with some different melodic approaches. It was a blessing in disguise.

Mix: Do you find that each instrument carries its own personality and inspires different ideas?

Hancock: Exactly. That's why I have so many of them.

Mix: Do you run up against the obsolescence factor in synthesizers?

Hancock: I wish it were *true* obsolescence so I could throw something out—or sell it, actually. But I keep getting instruments that have unique characteristics and don't completely replace the ones I had before.

Mix: Do you have a pet synthesizer—one particular favorite?

Hancock: I've been using the Rhodes Chroma and the Fairlight more than



PHOTO: JIM BRITT

(L to R) Material's Michael Beinhorn, Bill Laswell, and Herbie Hancock.

anything else recently, and the Memorymoog got quite a workout on this record. The Chroma has incredible flexibility, and I've the hardware and software interface to my Apple II so I can do real-time sequencing. I hook that stuff up to a master clock called Doctor Click, and that keeps everything in sync.

Actually, with multitrack recording there weren't a lot of situations where I was forced to use Doctor
—page 110

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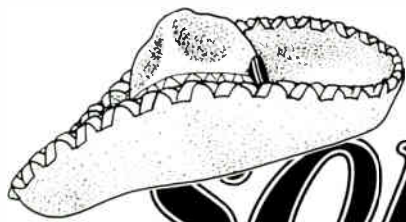
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Touring



SOUTH AMERICA

by Bob Hodas

In May of this year I had the opportunity to spend three weeks doing concerts in the Dominican Republic, Peru, and Columbia with the Village People. The tour was a series of one-night stands in venues ranging in size from 350 to 22,000 seats. Because of budget considerations only guitars and synthesizers were carried while the promoters agreed to supply the balance of band gear, plus lights and sound as specified by our contract rider.

The South American sound market is growing, but concert conditions are primitive at this time and will probably advance slowly as the market expands. The reason for this slow advance is twofold. Number one is monetary. There just isn't enough work down there to support first class sound systems. Number two is incentive. The audience accepts the poor sound because it is the best thing they have ever heard and don't demand better audio quality from the promoter. The musicians accept it because they know that it is all that is available. In one situation we played a 22,000 seat arena with a system just adequate for 2,000 seats. This situation will not change until all the sound companies old gear breaks or

the public becomes educated by being exposed to American sound companies.

My suggestion if possible is to take down your own sound and crew if the budget allows. At least take your own monitor system, as in all cases monitors were not as good as the mains. We all know how bad things can get when a band doesn't like the monitors. I think it would be worth it to the band even if it means less profit at the end of the tour. The bonds and customs will be a real pain and shipping costs are outrageous, but over the course of your tour it will be worth it.

The motto of our tour was "If you're an hour and a half late, you're a half hour early." Almost every show was two hours late due to extremely slow set up crews. There was nothing to be done since every stage of the set up started late and proceeded at a snail's pace. (Apparently everyone is used to the show starting late and no one seems to care anyway.)

Sound system set ups were pretty much a one-man show. Sound crews consisted of one man who could wire up the system, since nothing was marked, and several men who were there mainly to stack cabinets and load trucks. On one show, when we were seriously behind

schedule, I asked some of the sound crew to put the microphones (with clips attached) on the stands. When I returned they had forced the cable connection over the stand threads with the clip hanging in the air. On another occasion I saw a slot tweeter and driver used as a hammer. I suggest that you never assume that the sound crew knows anything. Be on site from the time the trucks roll in and supervise every stage of the set up.

None of the crews had any knowledge of acoustic coupling or polarity. A good polarity checker is an absolute necessity and hopefully you will have time to check microphone and speaker polarity during set up. Check all system wiring. On one system I found the bass amps plugged into the mid x-over outputs and some mid and hi cabinets wired together. Although I rely on a tape and ear for tuning systems, a good RTA would certainly have been helpful on this tour. One fortunate point is that the sound companies are receptive to learning as much as possible about the above concepts.

Equipment ranged from decent to unacceptable throughout the tour. Mixing consoles were Yamaha, Peavey or A&H. There were no real monitor consoles, only house boards utilizing echo-feedback outs for separate mixes. We were lucky if there were enough graphics to tune the systems. One company had 31 band EQ's, but the rest supplied 10 band EQ's from home stereo systems, when available. House systems were combinations of JBL, Altec, Peavey, E.V. and Community. Consistency was almost unheard of and monitors for the most part were unacceptable and underpowered. In the worst case we had Shure vocal masters for side fills. Microphones were mostly Shure with some AKG and Audio-Technica. Outboard effects were virtually nonexistent.

Communication/language problems heighten the confusion. On the rare occasions of pre-production meetings, equipment lists were reviewed and approved, but when we showed up at the gig several pieces of gear would be missing. Riders are very loosely respected and we would simply be told that the promised equipment was not available. It's hard not to do a gig once you're down there just because you don't have the right equipment (especially when they won't let you leave the country until you do the gig, anyway.)

If this all sounds like a nightmare tour, don't be discouraged, just be prepared. Study your Spanish, relax and don't drink the water. ■

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by Carol Kaye

"It looks like one person will be able to record all the parts from now on," said a well-known Hollywood engineer, shaking his head. He's got a point: synthesized sounds are starting to take over the recording industry, and studio musicians are expressing their concern.

phenomenon has grown to the point where everyone is pretending today's music is "hip," when what they really want is something better to dance to and listen to—especially upbeat numbers.

We are in the throes of major changes around the globe. We are bombarded daily with information on news reports that tax our brains; we

dancers felt the downbeats and upbeats with different parts of their bodies—you dance with your "booty" as much as with your feet, and your body responds to rhythm with different movements. This all feels good, especially when the beat doesn't rush or drag.

"I Don't Need No Doctor," by Valerie Simpson, and the Motown hit "My World Is Empty Without You" (both of which I recorded) illustrate this contrary motion between bassist and drummer. Notice how the time is *even* in the '60s hits. Today's rhythm sections seem to have time problems as well as inside meter problems in these upbeat tempos; perhaps they're becoming too reliant on machines.

The latest Steely Dan LP presented a different approach to machine music: work with the machines *and* with live musicians! Donna Summer's latest LP, *She Works Hard for the Money*, and Marvin Gaye's "Sexual Healing" are good examples of this method, too. It is also interesting to note that it's nearly impossible to synthesize solo saxophones and guitars. Even the electric bass is extremely difficult to imitate, notwithstanding the great bass tones available on synthesizers.

With baloney so blatantly visible today, I think maybe audiences would like to hear and *feel* some honest communication between players; the drum machines can be used for the foundations, but there's no substitute for human feelings.

A young guitarist recently remarked that he took his anger out in a guitar solo after a run-in with the girl singer's ego. He brought the house down with his honest playing. That's the opposite of self-consciousness, which stems from ego and fosters the phony disguises behind which a lot of musicians hide today. Staying connected to your true feelings and needs helps build a bridge between players, and that makes the music better and keeps the players happy and satisfied. There are some deeper identity problems afflicting musicians, and I'll go into those at a later date.

I'd like to invite your comments on this subject. We're seeing a new era coming; if we can build a better understanding of it we can put it to our advantage and even make some good money. ■

(Note: Carol Kaye's bass books are published by Gwyn Publishing Company, 177 Webster Street, No. 272, Monterey Ca 93940. Please see the ad in Mix Classifieds.)

A Studio Musician's Viewpoint:



It's hard to say exactly what the percentages are, but I do hear an awful lot of mechanical music on the airways and jukeboxes. Why? Besides being cheaper to produce, what is the ear appeal? Is the public really choosing these computerized recordings?

Having been an integral part of the recording industry in the '60s and early '70s, I have a different feeling from that of most musicians and consumers. When I was writing a lot, I saw smart young rock groups run up huge studio bills and grab all the front money they could get from the record companies. The attorneys and accountants who ran the big labels had no idea how much they were spending, so consequently they had to sell a lot of LPs straight from the factory—no matter how trashy—just to break even on their expenditures, which ran anywhere from \$50,000 to half a million dollars. The consumers, who were used to really good music through the '60s, began to notice the infiltration of this other music, and pretty soon it was setting the trends instead of following them. *Something* has to be Number One, and so everyone (especially the heads of record companies) began to think this was what the audience wanted. That

go through changes of identity and relationships every day; careers change; the economy changes, and so on. Maybe the steady beat of the machines is helping to hold us steady through all this and we're simply vamping until we're ready to get back to some gut-level swinging music. Or have we been vamping up until now, waiting for the computerized music to take over?

It is an ironic fact that it took the recorded feel of a live player—Jeff Porcaro of Toto (who is the son of my ol' studio buddy, Joe Porcaro) on the Linn Drum Machine—to kick off the popularity of today's automated instruments. The universal dancing popularity of the march disco that's been ruling the grooves for the last eight years is starting to wear thin, though. People still want—and need—to dance, but they're becoming more and more discriminating, especially about rhythm. Notice how they jump at the early Motown hits.

In the '60s, when some of the greatest soul hits (Motown and others) were recorded in Los Angeles, the bass lines were very prominent. The bassist was free to create not only downbeat patterns, but upbeat lines which went opposite the drums. The

Jo-EI Sonnier and His Friends:

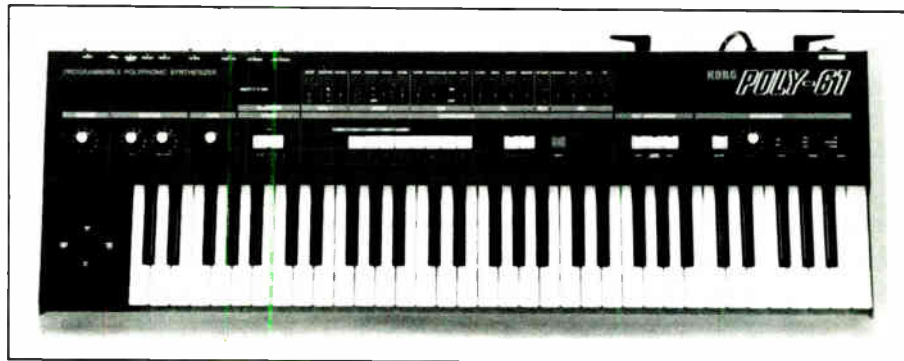
Not Your Typical Pickup Band

Albert Lee, the English country guitar ace who's brightened the music of Emmylou Harris, Eric Clapton and others, smiled as he checked his light meter in preparation for taking a picture of the Keystone Palo Alto marquee of August 18. "It was a little loose, but really good," he said, referring to the previous week's gig. It was also the first time this aggregation had ever convened. Albert's photo was to be a souvenir of a very special gig for the musicians as well as the audience: the Bay Area club debut of Cajun singer/instrumentalist Jo-EI Sonnier.

Inside the club, multi-instrumentalist David Lindley was attempting to assemble the players on stage for a brief rehearsal. Drummer Ian Wallace (late of King Crimson and Dylan's Budokan band and currently of Lindley's group, El Rayo-X) shrugged. "I *think* everyone's here except Sneaky Pete—but then, I've never met him." Sneaky, aka Pete Kleinow, pedal steel giant and co-founder of the Flying Burrito Brothers, had to miss the sound check because of his day gig (the animator and modelmaker was working in Marin County on Steven Spielberg's upcoming movie, *Gremlin*). Rounding out the crew were violinist Sid Page, bassist Greg Humphrey and the keyboard wizard of The Band, Garth Hudson.

It is a testimony to Jo-EI Sonnier's unique talent that top-flight musicians such as these would make room in their busy schedules to drive on their own from their Southern California homes and hump their own equipment onto the stage to play sidemen to a man who is unknown in radio, records and the clubs of California. But according to David Lindley, a musician of impeccable credentials, Jo-EI Sonnier is "a real heavyweight. He's a real backwoods Louisiana cat, and he's maybe the best Cajun singer I've ever heard."

That night's performance lived up to Lindley's enthusiastic recommendation. Singing, shouting, almost yodeling—in English and in French—Sonnier took tunes as diverse as Slim Harpo's "Raining in My Heart" and a country ballad by Lefty Frizzell and made them his own. The set's



Product News

Poly-61: User-Friendly and Financially Feasible

In a poker game, the simplest way to test your opponents' mettle is to raise your bet. That's precisely what Korg did to the synthesizer market when they introduced the Polysix back in 1982, and they caught a lot of manufacturing types bluffing—one

highly esteemed eight-voice poly's price came down by \$1500!—and helped to stimulate a feverish period of competition that is finally making synthesis affordable to young musicians. The popularity of electronic keyboards among new players who might otherwise have gravitated toward guitars is a trend you can easily discern (for better or for worse) by taking a look at MTV or a spin across the contemporary FM dial.

Now Korg is calling out the competition again with their new

—page 94, *PRODUCT*

high point was "Cajun Born," one of several Sonnier compositions which Johnny Cash has recorded. Switching accordions like a blues harpist changes harmonicas, Jo-EI pumped the band to a fever pitch, as they in turn boosted him to greater and greater heights.

The "sidemen," obviously involved in a labor of love, played with sensitivity and enthusiasm to spare. Wallace is probably the only bone-crushing rock drummer who could handle the deceptively simple Cajun rhythms, and Lee's solo bursts were each more dazzling than the one before. Hudson's mutated accordion-like synth textures provided a perfect complement to Sonnier's squeezebox, and Sneaky Pete's fuzztoned steel recalled his groundbreaking work during the infancy of country-rock. Of all the players, Lindley (on fiddle and Mellobar) stayed within the idiom the most—which is not surprising, considering his career as one of Southern California's premier eclectics. Sid Page played a different style of violin altogether (his background being classical and swing—he played with Dan Hicks and his Hot Licks), but he blended beautifully with Sonnier, especially on Nathan Abshire's "Bayou Teche Waltz."

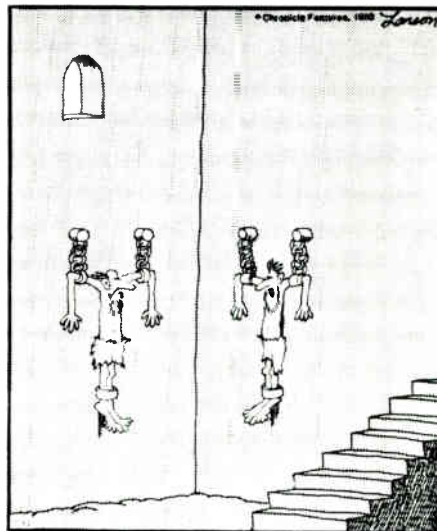
This cross-cultural band of all-

stars drew an audience comprised of rock fans, aspiring musicians, and aficionados of Cajun and ethnic music. No one went away disappointed, as Jo-EI proved to even the most diehard rockers that he could boogie with the best of them—even on his tiny Cajun pushbutton accordion.

—Dan Forte

THE FAR SIDE

By GARY LARSON



"You idiot! ... Now this time wait for me to finish the first 'row row your boat' BEFORE you come in!"

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—from page 93, *PRODUCT*

Poly-61, a versatile and user-friendly six-voice polyphonic synth that offers sophisticated performance features and a range of warm and *useful* voicings at a list price of only \$1495.

The Poly-61 is not intended to make the Polysix obsolete, but rather to offer players a different set of options. Where the Polysix is best suited to the needs of players who do a lot of in-performance editing of programs, the Poly-61 makes more sense for musicians who want to set up their preferred patches and then improvise with a minimum of adjustments to the parameters.

Korg provides you with eight banks of eight sounds each on the Poly-61 (the eighth bank being a duplicate of the first, giving you, in effect, an empty bank of eight programs to function as an open space for your own sounds). You don't make sounds from scratch on the Poly-61, but rather create them by editing and modifying the sound parameters in the synthesizer's memory banks. This allows a surprising amount of sound variety, and should Korg introduce additional cassettes with fresh banks of sound, there would seem to be an unlimited number of possibilities for the player.

As is, the Poly-61 gives you plenty of synthesizer for the money, with two digitally controlled oscillators per voice for a clean, surprisingly fat sound. The front panel is arranged in an orderly manner; when the power is switched on, the LEDs in the Indicator section flash "PS-61" for 3½ seconds while the synthesizer warms up, then changes to display the Program number, Parameter number, and parameter value. At this point, the LED above the Program switch is lit; you select the desired voice by pressing the numbered switches in the Programmer section. To change a sound, simply press the Parameter button. The range of accepted values for each parameter is printed on the Poly-61's programming panel; the Digital Access Control System allows alteration of DCO1, DCO2, VCF, EG (envelope generator), VCA and MG (modulation generator) values by depressing switches marked Up and Down. The current value for the parameter in question is displayed on the indicator; pressing the Up and Down switches simultaneously returns the selected parameter to its original value. Switching back to the Program mode erases all changes. If you want to store your program, simply reach behind the back panel, switch from Disable to Enable and then press the red Write control on the front panel. After this control's LED lights up, the In-

dicator's Program # flashes on and off; punch in the number of the program bank in which you want to store this new sound and then switch back to Disable, and the program is written into the new location without disturbing the original program information.

Perhaps the most creative controller on the Poly-61 is Korg's remarkable Joystick. There isn't a more expressive device for coloring solos than a joystick, and unlike some you may have played, the Korg joystick doesn't punk out in the corners and leave you a half-step or a step shy of your intended pitch; it allows you to bend up or down, or activate the DCO and VCF modulations with a full 360° of dynamic range. A Bend control lets you set the range of the Joystick over a full octave, while a Frequency control sets the speed of the VCF wah-wah effect (a flashing LED indicates the precise speed). For subtle portamento effects or radical shakes and screams, the Korg joystick adds at least \$1000 worth of pleasure to the Poly-61.

Other important features of the Poly-61 are its easy-to-operate eight-second tape interface, for creating a library of sound; a full-function Arpeggiator section with Latch control, speed adjustments, a choice of one-octave, two-octave or full keyboard range, and Up, Up/Down or Down Mode; a Tune control for subtle pitch adjustments; and a versatile Key Assign Mode section for full polyphonic control or fat parallel harmonies and chord unison sounds.

The main thing that recommends the Korg Poly-61 for your consideration besides its price point is its sheer integrity as a synthesizer for lead, ensemble and coloration effects. In the rush to create "realistic" sounds, we often forget that electronic synthesizer sounds have their own expressive quality. The Poly-61 provides both real sounds and interesting synthetic waveforms, and the combination of its Digital Access Control System and Joystick let you create space sounds and colors quite unlike "acoustic" instruments. It would be nice if one could stack waveforms in each oscillator for more complex sounds, or have a more fully functional VCA section for greater control of the ADSR functions, but then we wouldn't be talking \$1495 list. As is, though, the Korg Poly-61 is one of the finest synthesizers at any price.

If you bought a Poly-61 for "synth" sounds and leads and a Yamaha CE-20 (or the new DX7) for "real" sounds and ensembles, you'd have a fully functional setup for years to come, at a total cost of less than \$3000—and that's hard to beat for the money.

—Chip Stern

Concert Review

S.F. Blues Fest Brings Old and New Greats Together

The blues are alive and well in San Francisco. Just ask the thousands of fans who showed up for the 11th annual San Francisco Blues Festival, the longest-running event of its kind in the country. Or better yet, ask any of the performers who participated in the sun-drenched, two-day blues orgy.

Tom Mazzolini made the giant leap from blues aficionado to promoter with his first festival in the winter of 1973, a low-budget affair held indoors with a cast of local musicians, most notably pianist Dave Alexander and singer-guitarist L.C. Robinson. That humble beginning spawned an event that has grown to include virtually every major blues figure from B.B. King to John Lee Hooker as well as serving as a showcase for exciting new talent. The Fabulous Thunderbirds, Stevie Ray Vaughan, and Lou Ann Barton, among others, made their first major West Coast appearances at the Fest.

The 1983 edition took place the weekend of September 10-11, the hottest of the year, on a gently sloping expanse of grassy meadow at the edge of San Francisco Bay. The backdrop was an overwhelming vista including the Golden Gate Bridge, the Marin County headlands, and the brilliant blue water dotted with white sails.

Bay Area product Ron Thompson opened the proceedings, his frenetic blues-rockabilly guitar and urgent tenor vocals ringing with a clarity reminiscent of the late Chicago bluesman Magic Sam. Thompson and his group, The Resisters, stayed

onstage after their own set to back Oakland soul singer-guitarist Maurice McKinnies, who burned through a selection of blues and soul standards with an intensity that recalled Wilson Pickett and Buddy Guy.

Oakland resident Brownie McGhee, now split from longtime partner Sonny Terry, followed with solo blues mixed with material backed by the Berkeley-based Blues Survivors. With the passing of so many bluesmen in recent years, singer-songwriter-guitarist Brownie McGhee is now an elder statesman, one of the last of the itinerant blues troubadours of the Thirties and Forties. McGhee still performs with persuasive power, spinning out his yarns about life, love, and trouble with roughhewn grace.

Blues songwriting giant Willie Dixon's song catalogue is astonishing: "Little Red Rooster," "Spoonful," "Hoochie Coochie Man," "I Just Want To Make Love To You," "My Babe," etc., etc. Almost single-handedly he provided much of the musical underpinning for the heyday of Chicago blues, having an enormous impact on rock and rollers like Eric Clapton and the Rolling Stones. Never a great singer, he still fronted his Chicago All-Stars with crowd-pleasing, gravel-voiced interpretations of his hits punctuated by the exciting harmonica work of Carey Bell, one of the great harp blowers who came up on the South Side in the shadow of Sonny Boy Williamson and Little Walter.

Ex-Roomful of Blues front man Duke Robillard got off a blistering 45 minutes of explosive, virtuoso guitar playing in his much-anticipated West Coast debut, topping off his performance with a stunning swing blues that

—page 98, *BLUES*

Albert King



Irma Thomas



Guitar Showcase

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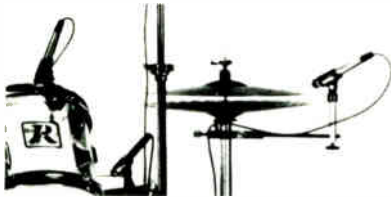
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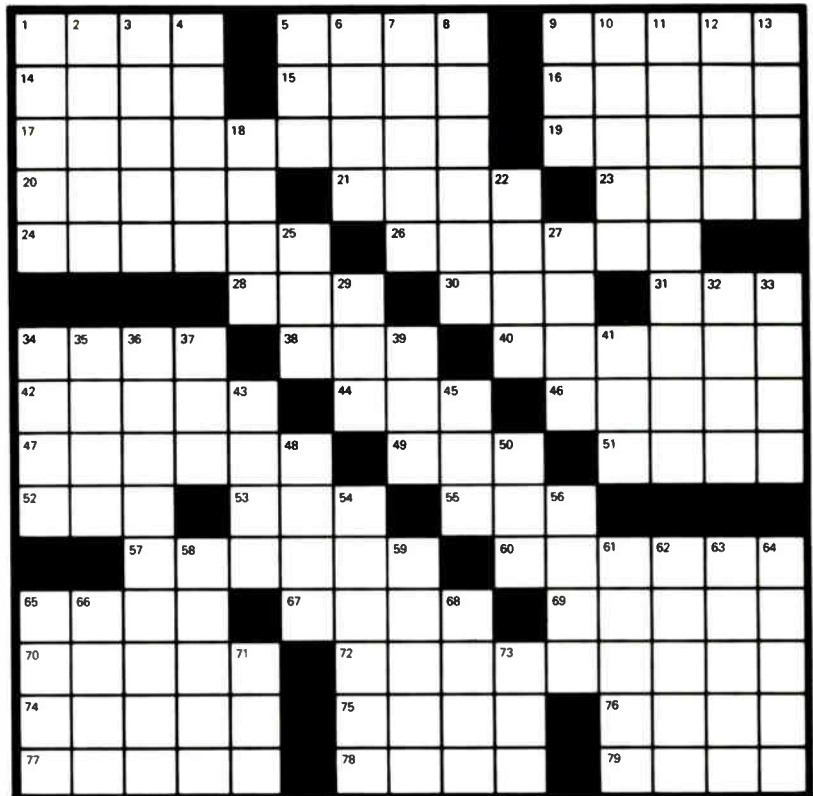
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MIX WORDS



ACROSS

1. Middle East native of yore
5. Certain breath
9. Moral factor
14. Part of some prof.'s titles
15. Wine town of Italy
16. Follow, as a needle would
17. Keys, buttons, and bellows
19. Magna _____
20. Floozy
21. Handle (Lat.)
23. "____ corny...."
24. Pick
26. Fats
28. Drum
30. Conjunction
31. Detain
34. Mademoiselle moniker
38. Regret
40. Group with Sting
42. Godley and _____
44. Employment situation
44. Recess
47. Certain synthesizer adjustment
49. Slangy refusal
51. Oleo pieces
52. Former nation within U.S.
53. Items of interest to doormen
55. Ethiopian title
57. Sills
60. Positive occurrence
65. Zhivago tune girl
67. Goddess of discord
69. Sore thumbs
70. _____ Man, Heston film
72. Wind instruments, related to 17A
74. Untoward stares
75. Where a bird comes home to roost
76. Many of our readers use this
77. Mountain chain
78. TV event
79. Top

DOWN

1. Essentials, as of matter
2. Type of master
3. Transfer
4. Irregular
5. Fly
6. Continental combo
7. Word with mike or music
8. Makes a scapegoat

9. Common abbr.

10. One form of song for 11D
11. What Delbert taught Lennon
12. Sign of automatic transposition
13. Island beat (pl.)
18. This could be found in the middle of 34D
22. One swabber
25. Mountain crag
27. Links mallet
29. Front side of one's head
32. Deutsch. version of 12D
33. Contests
34. Metal band
35. Bothers
36. Part of 17A, 72A, and 11D
37. Aussie bird
39. "____, zwei, drei...."
41. Sass
43. Okie locale
45. Alligator fish
48. Cliff
50. Uniformed lady
54. Discourse
56. Like most horses you meet
58. Tidal bore
59. Kitchen item
61. Santa _____
62. Tire type
63. Concord, e.g.
64. U.K. county
65. Donovan song
66. Word of agreement
68. Large number
71. Bimbo
73. Switch positions

Solution to October Mix Words





T-BONE BURNETT
Proof Through the Night
 Warner Bros. 23921-1

Produced by Jeff Eyrich; Recorded by Dennis Kirk at Ocean Way Recording and the Sound Factory, Los Angeles, and Eel Pie Studios, London; Assistant engineers Tony Chiappa and Jules Bowen; mixed by Mark Ettel at Ocean Way; Associate Producers on "Shut It Tight" the Chelew Bros; mastered by Bernie Grundman.

Forget for a moment the "Christian moralist" sobriquet with which T-Bone Burnett has been slapped, his Dylanesque delivery and the lapel-grabbing nature of the songs on this album. Listen instead to the stark, forceful production and the straightforward performances of Burnett, drummer Jerry Marotta, bassist David Miner, multi-stringsman David Mansfield and vocalists the Williams Brothers, as well as the contributions of guitarists Richard Thompson, Pete Townshend, Mick Ronson and others. The common element through the styles and settings of *Proof Through the Night* is restraint, the kind of urgency-without-melodrama that drives a message home much more powerfully than any heavy-handed approach could.

Producer Eyrich and engineer Kirk have created an ambience that etches each instrument and voice on the listener's consciousness—no wall of sound this. For example, the tambourine on "The Sixties" makes a bigger impression when it stops. As Sonny Rollins says, "The space is more important than the notes." Exquisitely tasteful playing, minimal signal processing and carefully-controlled reverberation that underscores the silences between the notes result in a clean, strong underpinning for Burnett's talksong.

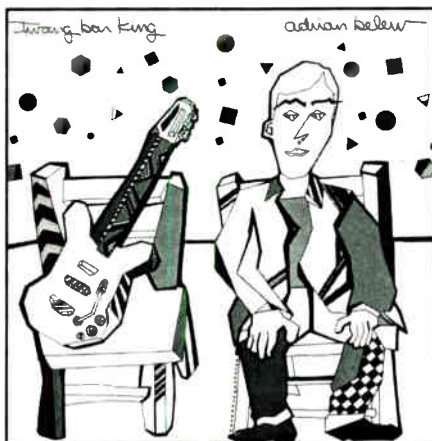
As the album's title suggests, *Proof Through the Night* has to do with the American Dream and promises unkept. For T-Bone, the misguided potential and tragic waste of natural gifts that characterize post-Vietnam, post-Love America are embodied in the myth of Marilyn Monroe. "Fatally Beautiful," "Baby Fall Down," and "After All These Years" deal with our national tendency to trade on such transitory assets as physical beauty at the expense of long-term values; despite its title, "The Sixties" is about the

Eighties and all who still desperately pursue the corrupt promises of the Summer of Love which were stolen from the children, eviscerated by the Culture Machine and sold back to us as the Decadent Imperative.

Proof Through the Night will disturb many people, especially those who work in the entertainment industry (critics included), because it blows the whistle on contemporary America's insatiable thirst for thrills at the expense of substance. Knowing that many of the people who control his destiny (industry personnel and consumers) make their decisions while wired on cocaine, can T-Bone hope to succeed by rubbing our noses in our own lameness?

I don't think the album's moralism comes from any sense of superiority on Burnett's part. In the closer, "Shut It Tight," he calls his own existence into question just as hard as the rest of the album does ours: "I do the very things I hate to do," he admits, and "sometimes I cannot tell wrong from right." The keystone of Burnett's admission that he's in this leaky dinghy with the rest of us is a statement that could have come from any of us: "I don't care what you think and I hope that you approve." But above all, despite the shattered illusions and poisoned promises, he's optimistic: "I ain't gonna quit until I'm laid in my tomb/And even then they better shut it tight."

—David Gans



ADRIAN BELEW
Twang Bar King
 Island ILPS 90108/1

Produced by Adrian Belew; Engineered by Gary Pratt; recorded with the Full Sail Mobile Unit at Belew's rehearsal studio in Champaign, Illinois (Lead guitar and vocal on "Twang Bar King" recorded in 1979 at Cwazi Wabbit eight-track studio in Springfield, Illinois, engineered by Rich Denhart); remixed to JVC Digital at Fifth Floor Studio, Cincinnati, by Gary Pratt, assisted by Kathi Jo Williams; edited and mastered by JVC Cutting Center, Los Angeles; mastered by Joe Gastwirt.

In the beginning was the blues guitarist, urging all the emotional weight he could from his

one-pickup Silvertone and making it sing with pain and elation for tips and beer and all the fringe benefits of the chitlin' circuit. To make an electric guitar sing has been a passionate pursuit in rock ever since; it's the hallmark of Hendrix, Clapton, Beck, McLaughlin (a caroler, however cosmic) and scores of others with hotlines of expression—and Adrian Belew may well belong to the club before he's finished. His recorded showcases of the past few years, as sideman for Bowie and Talking Heads and as co-conspirator in the latest King Crimson, show Belew's ability to make his Strat sing—and growl, squeal, whimper and snort. He is a blues animalist for the Eighties.

In Bowie's *Lodger* escapade and with the Heads, Belew's unmistakable interval leaping and pitch tweaking—squashed into a tube overdrive sound like magic fingers on a bed of nails—neatly summed up mental vertigo. He shows a smart harmonic grasp in his cerebral bouncings off fellow guitarist Robert Fripp in King Crimson. And last year's solo debut showed that Belew on his own is cagey in the studio, overanxious in composition, and nonetheless inviting; he gamely dubbed the work *The Lone Rhino*.

Belew strikes again on *Twang Bar King*—another snug-fitting title—and though it's a pearl more of form than of content, he's upstaged his last effort admirably. This time out he's looking for more than guitaristic explication, allotting a trifling amount of time to soloing in contrast to his fastidious production lengths. In fact, the pint-sized parody of a title cut (1:26) contains the highest ratio of plectrist blowing and whammying, as if in mock tribute to guitar-hero mythology.

Still, there's no mistaking Belew's instrumental mien. An obliquely lunging "foxx tone" solo in "Paint the Road" attests to his taste for wringing new sounds from his axe. Elsewhere, he rivets his arrangements with a brittle, artfully warbling rhythm tone and occasional outbursts of surly lead. His acoustic guitar/Roland guitar synth pastiche on the elegiac, doleful "Ballet for a Blue Whale" is the most heart-rending work I've heard from either Belew or the Roland.

Belew's off-the-wall-of-sound humor pokes through the music more sparingly here than on *Lone Rhino*, which was saturated in Zappaesque excess. The crackpot sociology of "The Ideal Woman," a vaudevillian vamp peppered with actual interviews of Cincinnatians describing their ultimate mates, is charming enough. "Fish Head" ("His frontal lobe a retreat . . . an unfortunate case of brain damage") shifts clumsily from the ridiculous to an "All the Young Dudes" brand of anthemic crooning.

It's easy to overlook Belew's Yankee rearing, given the distinctly English traits that pop up in his dramatic chord changes and song structures. King Crimson's reign hums beneath "I Wonder," and there are echoes of Genesis here and there. But the more conspicuous and artistically fruitful reference point is an underlying Beatles pulse. Side One opens with a frenetic, ornate version of

MUSIC NOTES

—from page 95, *BLUES*

left guitarists and would-be guitarists in the audience with mouths agape.

The first day came to a close with Zydeco king Clifton Chenier and his Red Hot Louisiana Band romping through an hour of the cajun two-beat polkas, foot-thumping shuffles and R&B standards the *bon temps roulet* party music people have come to expect from this unique entertainer's annual forays to the Bay Area.

Oakland soul men The Right Kind opened the second day with the best vocal set of the festival, marvelous readings of R&B standards like "I

Found A Love" done with spine-chilling, masterfully interwoven multi-part gospel-doo wop harmonies. Texas soul singer Buddy Ace, accompanied by The Right Kind, came up and displayed the Bobby Bland-styled form that made him a popular attraction on the Texas-Louisiana soul circuit in the Fifties and Sixties.

Pianist Joe Liggins led his Honeydrippers through some finger-popping jump blues and swing tunes, climaxed by his still-infectious 1944 hit, "The Honeydrinker." Texas blues band Anson Funderburgh and the Rockets

— page 109, *BLUES*

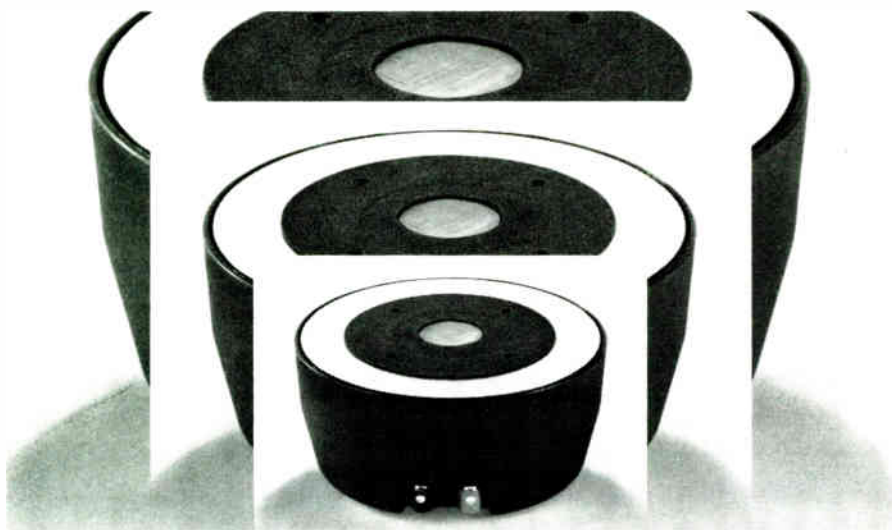


the Fab Four's "I'm Down," and John Lennon's sinewy lyricism and musical intuition-over-formula are paralleled on "Life Without a Cage" and the wistful paean to innocence lost, "The Rail Song." Belew's voice, underplayed in the mix, doesn't have Lennonian conviction or confidence, and his lyrical powers often stray from the mark, but the Twang Bar King is at no loss for creative electricity. His song ideas are intriguing diversion while his guitar gently wails.

—Josef Woodard

Sinatra Collection Due from Mobile Fidelity

Sixteen albums recorded by Frank Sinatra between 1953 and 1962 have been remastered by Mobile Fidelity Sound Lab and are being released in a limited-edition boxed set. The albums, including *Songs for Swingin' Lovers*, *Close to You*, *Come Fly With Me*, *Come Dance With Me*, *Nice 'N' Easy*, and others, were half-speed mastered from the original master tapes and pressed on Super Vinyl. A "sessionography" detailing the date, location and personnel for each of the 205 selections, is included along with the original cover art. Each disc is enveloped in an anti-static, non-abrasive sleeve and a stiff insert board, then placed in a cardboard jacket which is enclosed in a styrene divider rack, stored in a sturdy silver and black presentation case. A metal tag is embossed with the serial number of the set. The *Sinatra* Collection shipped in October; if this limited edition is as enthusiastically received as the Beatles boxed set of last year, you'll want to pick one up soon. The Beatles Collection sold out rapidly, and its resale value has already tripled.



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Inserts, *Out of the Box* (Nozzle)—An audiophile album of improvised music from a quartet of musical artists (rather than professional musicians), improvised live, sans overdubs, at their own studio in Michigan. They proudly boast of the absence of keyboard synthesizers—fair enough: the guitar and guitar-synth sound here is pretty impressive. Bassist Mark Murrell added bits of taped sound—including what sounds like TV dialogue—here and there, but for the most part it's drums, bass, guitars, guitar synthesizer and Rhodes piano, played by a lawyer, an artist, an electrical engineer and a dentist. Their day gigs enable the Inserts to play exactly the music they want to play, free of commercial considerations. The result, digitally mastered, cut at JVC by Joe Gastwirt and pressed on high-grade vinyl by the Victor Company of Japan, is as impressive musically as sonically. Available for \$10.00 postpaid from Nozzle Records, P.O. Box 618, Hamburg MI 48139.

—David Gans

Production partnerships

by Lou CasaBianca

In the last two issues of Mix, we reviewed the origins and development of the music video: from the early Hollywood Musicals through broadcast Television and Rock Feature films to MTV.

In the past two years, MTV and a handful of creative programmers have forced the 300 FM Album-Oriented Rock stations around the country to change their programming habits. The New Music played by those stations and its promotion by music video visualizations on MTV have pumped new life into the "record" business. Music video programs have proliferated on broadcast network and syndicated TV.

Coincidentally, people are buying records again. Industry analysts predict a 10% increase in sales of records and tapes over last year's total of \$3.6 billion. Recording studio

bookings have started to build up, and this summer's whopper concert tours by Bowie, The Police and others are reminiscent of the late '70s.

The record companies, the artists, the radio stations and the record retailers all seem to agree that MTV and Music Video are two of the major reasons for the turnaround. Country, R&B and jazz cable channels are here or on the way. It's almost mandatory that artists and the record labels produce videos to get the national exposure MTV and other video outlets provide.

Averaging from \$20,000 to \$30,000 per song, and four or five times that much for epics like Michael Jackson's "Beat It" (directed by Bob Giraldi) or Billy Joel's "Pressure" (directed by Russell Mulcahy), pop clips are on the verge of becoming profit centers in and of themselves. At



Multi-Camera Concept Music Video Production Package

The following equipment was used by Gowers, Fields/Limelight Productions for the recent Rod Stewart music video, "Sweet Baby Jane"—shot and edited in Los Angeles. This equipment package is a working example of the specifications and manufacturers used on prototypical major-budget music video film productions.

Multi-Camera Production Package

1. Cameras: (2) 16mm ARRIFLEX SRs
(1) 16mm Mini-Cam—GSAP—SFX Camera

2. Lenses: (4) 95mm, 12mm, 16mm, 25mm F1.2—ZEISS
(1) 10mm-100mm F2.8 with diopters ZEISS

3. Zoom Control: (1) J4-9mm-50mm—COOKE

4. Film Stock: (1) day Rehearsal—8 400-foot rolls KODAK 7293
(1) day Shoot—5 400-foot rolls KODAK 7293 & 2 50-foot rolls KODAK daylight

5. Tripod & Heads: (1) Set of T/S tripods—SACHTLER & WOOLFE

6. Dolly: (1) 40-foot track and two curves—CHAPMAN PEE WEE

7. Cam-Remote: (1) LUMAR Crane with TULIP extension
(1) Remote focus and Panamatic Boom

Multi-Camera Production Team

Producer
Director
Director of Photography
Camera Operators (2)
Art Director
Production Manager
Production Assistants (3)
Key Grip
Grips (2)
Gaffer
Lighting (3)
Wardrobe
Makeup

Total Production Staff and Crew: 21

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this point they are given to MTV and other video music programs for free, in trade for promotion. Many established production companies have retooled, successfully bid and run the gamut of record company and artist management politics to find that there is little or no profit on the bottom line. On the other hand, there are many aspiring production houses who work with \$2,000 to \$3,000 per minute industrial budgets and who would be delighted to work with \$20,000 or \$30,000 budgets.

In any case, as in most industries, 20% of the firms do 80% of the business. Who are these companies, and how have they attained such dominance in their field? Let's examine a few of the more prolifically creative production partnerships whose precedent-setting videos are consistently some of the best pieces played by MTV, and who, to the degree, have contributed to the phenomenal success of MUSIC TELEVISION.

Limelight Productions, of London and Los Angeles, is the company responsible for Rod Stewart's "Young Turks", directed by Steve Barron (the second Video Music Grammy Award Winner), Michael Jackson's "Billy Jean", Joe Jackson's "Steppin' Out", Toto's "Africa", and music videos for Culture Club, Styx, Dexy's Midnight Runners, Loverboy and Eddie Grant, among hundreds of others.

Limelight Productions is an extended family of filmmaking professionals based out of London. The London office is managed by Siobhan Barron, and the Los Angeles office is run by Simon Fields. The company currently has nine directors on its roster, including Steve Barron, Bruce Gowers, Julian Temple, Peter Sinclair, Don Letts, Chris Gaberin, Arthur Ellis, and artist/producer Thomas Dolby. Limelight's Zelda Barron, Steve and Siobhan's mother, initiated them to the craft of filmmaking and most recently directed Culture Club's "I Tumble 4 Ya". Directors Barron, Gowers and Temple have turned out what must be considered some of the finest work in the genre. Steve Barron's recent credits include Michael Jackson's highly acclaimed multi-platinum award winning hit "Billy Jean", "Hold Me" for Fleetwood Mac, and Rod Stewart's "Sweet Baby Jane". Limelight has become a repository for some of the most experienced, most innovative and forward-thinking music filmmakers in the business.

Bruce Gowers comes from a BBC broadcast television background and has years of experience directing comedy and variety specials—from "The David Frost Show" to the recent

"Rod Stewart Live" worldwide satellite broadcast. His in-concert and concept music videos are consistently among the most innovative and well-crafted on the air. He is equally prolific and proficient in film and video.

Julian Temple directed "The Great Rock 'n Roll Swindle" (1980), featuring the Sex Pistols and the groups' manager, Malcolm McLaren. The film is a montage of live performance, interview and animation with a spy adventure subplot.

Keefco, formed in 1976, another mainline music video production group, is also one of the pioneering production companies in the video music field. Director Keith McMillan and Producer John Weaver turn out an incredible amount of work between London and Los Angeles. Blondie's "Eat to the Beat", one of the first long form music videos, and Paul McCartney and Stevie Wonder's "Ebony and Ivory" are good examples of Keefco's work.

Millaney, Grant, Mallet and Mulcahy (MGMM) are a group of young aggressive filmmakers. Scott Millaney and Brian Grant started out in audio and industrial video in the U.K. Producing commercials and point-of-purchase videos for in-store record play. About four years ago they began doing more and more music video. Brian Grant's work with Peter Gabriel on "Shock the Monkey" is decidedly one of the most leading edge music videos ever shot.

Later, Mallet and Mulcahy joined the company. David Mallet's explosive work with David Bowie is legendary: from "Fashion" and "Ashes to Ashes" to "Let's Dance" and "China Girl", there is a visible evolutionary path. Russell Mulcahy directed one of the firm's most famous productions—the video album of "Physical" by Olivia Newton-John—which was reedited and aired as a special on the ABC Network. It was also released as a home videocassette, as was Duran Duran's "Girls on Film", another good example of Mulcahy's work.

It seems inevitable that in the same way popular music ebbs and flows in cycles, like the music of the '40s and '50s forming the basis for what is now called "New Music", the aesthetic and commercial future of music video will probably be in the long form of the feature film. With film directors like Michael Schultz ("Car Wash") And Tobe Hooper ("Poltergeist") moving into music video, and music clip directors like Russell Mulcahy and artists such as Prince and Peter Gabriel preparing to do feature films, the groundwork is set for the coming of age of music video as a creative and commercially viable entertainment medium. ■

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World Radio History

VIDEO NEWS

by Mia Amato

Cable: Rights and Rites of the Dead

"When the Music's Over," a one-hour Home Box Office special, is built around rare performance footage and interviews with eleven legendary pop artists: *Elvis Presley, John Lennon, Janis Joplin, Buddy Holly, Jim Morrison, Bill Haley, Otis Redding, Cass Elliot, Jim Croce* and *Sam Cooke*.

The images of these departed performers have retained their box office value, and how their estates and executors are handling such legacies in the video marketplace is illuminated by an inside look at this documentary.

The show was produced for Appleland Entertainment by *Chris Bolton* and *Catherine Brabec*, also known as CB². Researching obscure sources like the BBC's "LuLu Show" (Hendrix), the Canadian Broadcasting Company (Morrison) and newsreel footage from the national archives, the two compiled a 32-hour library of tapes.

That was the easy part. The script metamorphosed daily, reflecting the battles between the budget and demands made by the stars' estates.

For example, the Presley segment was built around NBC's 1968 "comeback" television special. Colonel Parker, executor for the Elvis estate, asked to see the completed segment before signing for its clearance. "Then he asked us for \$25,000 a minute, instead of the \$2500 a minute we had agreed on before the work started," Bolton says. "I'd spent about a month on the segment, so we'd lost a month. We ended up using mostly material from Elvis' films, which we could get the rights to."

The Doors' manager requested VHS dubs of work in progress for the Morrison segment. "The estates are very, very protective of the artist's image and very conservative," says

Bolton, "and they are very much aware that his image is still marketable."

Three weeks before airdate, footage of John Lennon approved by Yoko Ono was withdrawn; she would be using it for a television documentary of her own.

In the end there were nine versions of the script, "seven edited versions of Hendrix, six versions of Elvis, all completely different," Bolton recalls. He and Brabec had also shot interviews with *James Brown, Barry Gibb, Steve Winwood, Chuck Berry* and others for the show, travelling to Florida for Gibb, and to LaCrosse, Wisconsin, to film Chuck Berry minutes before he walked on stage. "He kept looking at his watch," Bolton adds. "James Brown was really into it, and his was a lot of fun to do." Carly Simon gave them a surprisingly frank interview on her feelings about Janis Joplin, Cass Elliot and Buddy Holly, but had second thoughts a few weeks later. That entire interview had to be scrapped.

Working with a tight budget, original negatives and old kinescopes were transferred to 1/2" cassettes, with time code burned in for logging purposes and rough-cutting on a 1/2" Panasonic editing setup. Off-line editing entailed nine floppy disks used for the 1" master. "If we hadn't been off-line up to the last minute, it would never have been possible to make all the changes," Bolton points out. The final master was delivered a day before airdate.

Bolton admits CB² lost money on the production, and HBO now owns the TV and cable rights to the program for the next five years. ("It's kind of a loss leader," Bolton says. "We wanted to have a track record with them." But the show scored high among HBO viewers and CB² got an audience with *Mal Elbaum*, producer of HBO's "Standing Room Only" name-act concert spectacles.

"He asked me what kind of motorized camera stand I'd used for the slow zooms into the still photos... I told him I'd tacked the photos to the wall

and moved the camera in myself, walking slowly." So CB² will have a hand in some future HBO rock and roll program. Bolton and Brabec have also done music-video clips for *Donna Summer, Carly Simon*, and *Ted Nugent*.

Capitol/EMI Boosts Video

Long-form video programs from *Cliff Richard, Kajagoogoo, Phil Collins* and *Peter Tosh* are promised by *Picture Music International*, a new arm of the Capitol/EMI music empire. *Mark Levinson*, formerly with the Liberty label, will head the programming effort, which includes some projects already produced independently by performers, such as an hour-long film completed earlier this year by *Thomas Dolby*. Production and marketing will be handled by *Bob Hart*, a veteran of EMI's VHD efforts.

Faces behind the clips: *Chuck Statler* directed and *Carl Maduri* of Cleveland produced the high tech and spare "Do You Compute?" video for *Donnie Iris* and MCA Records. *Instant Replay Video Productions* (Cincinnati) supplied fax and post.

Clip was shot using the Ikegami EC-35 "electronic cinematography" video camera; effects were created by staffer *Patricia Chamberlin* and involved both Quantel computer and Ultimatte tied to a Grass Valley switcher.

Erik Nelson directed the droll clip for *Richard Thompson's* "Wrong Heartbeat". Conceptualized as a spoof of the rock promo biz, the video gives viewers a first, if highly unflattering, depiction of what promo directors are like, and lays it on thick with cliches of the genre (pouty women in spike heels, slow-pouring liquids, dry ice, breaking glass.)

Peter Conn of *Homer & Associates* directed award-winning

cinematographer **Haskell Wexler** (Who's Afraid of Virginia Wolfe, Days of Heaven, etc.) as D.P. for the **Tom Waits** clip "In The Neighborhood." Producer **Coco Conn** says the result is "sort of an un-promo" reflecting the low key style of both Wexler and Waits. During production the Conns experimented with computer-generated frame-by-frame hold-back mattes to give the effect of hand-tinting the black-and-white film, shot in 16mm with a Kodak slow (ASA 100) film stock for a softer image. Idea was to match the hand-colored b/w photograph used on Wait's album cover.

Cable: North, Stars?

Canadian pay tv may become a new venue for both record company promotional clips and rock concert programming. **First Choice/Premier Choix**, Canada's French and English satellite network, purchased sixteen concert shows for its fall season. **Concert Productions International**, headed by Michael Cohl, based in Toronto, made the deal. Acts include **David Bowie**, **Supertramp**, **Stray Cats**, and the **Payola\$**, videotaped in Canadian Halls and simulcast through FM radio hookup.

Some six different companies are vying for the license to become a Canadian 24-hour video music channel. Applicants to the Radio-Television & Telecommunications Commission (CRTC) include **Quality Records of Canada**, a company already calling itself Canadian Music Television, and broadcasting firms Moffat Communications and Rogers Broadcasting. The CRTC will probably be a single license next year.

Cable services as a whole are not doing especially well in Canada. The country's "cultural" channel—**C-Channel**, for example, folded after only 17 weeks—something of a record in the industry. And although First Choice has not been as widely accepted as was expected, the pay service has shown itself to be extremely savvy in financing original programming through coproductions with U.S. pay service Showtime and stateside film companies.

In The Studio

In Dallas, **Video Post & Transfer** has a new edge to its film-to-tape transfer process—film frame edge numbering.

"We've put an Apple computer in the transfer room," staffer **Steve Franco** explained. "And we can insert film frame edge numbers in place of or along with time code." Franco said hav-

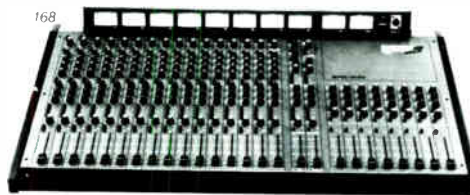
ing both film and tape reference points makes it easier for "film people" who are rough-cutting on 3/4 inch or 1/2 inch dubs. "If you have everything logged in film numbers, you can cross reference to the time code or vice versa. The Apple allows us to do that interpolation and put it on the screen."

Unitel Video in NYC has also enhanced its telecine suite by modifying its Rank Cintel to accept computer commandment movement in film in frame. Designed especially for slide-to-tape transfers, the modifications allow programmable zooms and pans along with the usual color correction and transfer functions. The first client to use the new configuration was able to produce a seven-minute video presentation

by giving a motion look to 100 slides through zooms, pans, wipes, and dissolves.

Announcements! **E. J. Stewart** (Philadelphia) has added a second RCA TK-series mobile camera package and instituted a special "night rate" for one-inch video editing. **Positive Video** (Orinda, CA) announces it has been designated an authorized videodisc pre-mastering facility by 3M. The latter firm installed a bit more gear into the post facility so Positive can perform on-line edits with disc cues (picture, chapter and single frame access points) ready for transfer to disk. Positive has also installed **Neal Osheroff**, lately with Horizontal Editing, as its new Operations manager.

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INTERFACE

by Neal Weirstock

Richard Stadin is normally breathless. On the phone in the heat of this July *del Nino* that's slowed down most other humans, the president of Mastervision (a distributor of "cultural" home video programming) was talking at an even faster baud rate than usual. The cause for excitement was something like, "The Russian violinist who just defected, Viktoria Mullova. I've got the only film footage of her in existence; it's a tape of the last Tchaikovsky Competition in Moscow. It's completely coincidental, I just signed the deal, the tape is in Beta Hi-Fi, so we're showing it to the press tomorrow . . . This tape is really special," he said.

It better be, I thought. It was close to midnight, but then a free press must be forever vigilant. . . .

The next day, the tape turned out to be more than worth a look. Oh, the tabloid interest was there: the young, blonde and lovely Ms. Mullova wore a Philadelphia Eagles

sweatshirt in practice, and was disappointed at having to share her first place award. The tape shows hordes of Russian fans disagreeing with the judges' choices. Enough politics was there for this author's chores in the daily paper, but there was even more grist for another true-life installment in the saga of Video Interface.

The recipe: Interface American video with Russian audio, interface PAL with SECAM and NTSC, interface production companies with the great and powerful Armand Hammer to set up the deal for a 90-minute tape of the VII International Tchaikovsky Competition (an interface of East and West in itself), all to end up with a tape that (well, let's say it) interfaces in-concert footage with backstage scenes better than any

Davidovitch, the Russian pianist. In the course of negotiations, Davidovitch's New York manager for the capitalist world told Dalrymple that he also had the rights to the Tchaikovsky Competition. And so it began . . . sort of. As often seems to happen in the profession of production, the manager didn't quite have the rights to the Tchaikovsky. By the time he found out, Dalrymple had not only wasted time, he had also wasted (or so it seemed, at the time) the effort and expense of putting together a "concept" and preselling it to ABC Cable.

The "concept" involved months of research on similar competitions, a trip to the Van Cliburn Competition in Texas and an analysis of TV coverage there—all finally distilled

EAST INTERFACE

music video program within memory. And somebody agrees with me, too: the show won three Monitor awards, for best production, directing and editing, just this last June.

It all began with producer Robert Dalrymple, who had chanced his way into music video, getting "intrigued with the whole thing of doing a show in Russia. That and the fact that this is kind of regarded as the Olympics of music." All-American boy Dalrymple just missed the Olympics, losing out in swimming trials to Mark Spitz. He may be "mystified" as to how he ever got into music, but Olympic competition is something he's been training for, for a long time.

Two and a half years ago, Dalrymple says he was interested in making a film about Bella

into two pages. "We sent it to Soviet TV and they approved it," says Dalrymple. Then the Soviets and the New York agent had a falling out, and the project seemed finished.

Until, one day, Dalrymple read a Sunday newsmagazine profile of Dr. Armand Hammer, founder of Occidental Petroleum and Lenin's favorite capitalist. A lawyer for Johnston Films (Dalrymple's company) knew someone who worked for Hammer. There was a meeting, then a deal. It would be a co-production with Armand Hammer Productions; although Hammer did not invest a cent, he got them the deal with the Russians.

With the Russian contract in hand, Johnston presold the program to Britain's Channel 4, the now-

video product reviews



Math Associates, Fibervision

Math Associates of Westbury, NY customizes fiber optic cable for video transmission. Because fiber optics are not affected by interference, the cable can be placed close to noise or energy generating devices without sacrificing continuity or clarity. Cable can also be stretched up to five miles without amplifiers or equalizers. According to Math Assoc., while fiber optic technology has been available for a decade, it's not until now that the technology has been incorporated into a totally integrated video system.

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Microtime has combined a time base corrector with a synchronizer, for those who need both. The rack-mountable package is small (27 lbs.) and will correct all external signals and all NTSC VTR formats—with or without capstan servos. The auto mode samples incoming signals and selects either TBC or synchronizing functions. The unit features full frame memory and operator-selectable automatic freeze detectors to control fading signals. \$13,450.

defunct Canadian Channel C, and ABC. These sources provided two-thirds of the program's \$310,000 budget; Johnston laid out the rest. (TV commercials are their Source Perrier.) The show will finally go into the black this fall, with a \$100,000+ sale to PBS and corporate sponsors. Johnston helps WGBH Boston get those sponsors, too.

Following up the complicated deal, production technicalities got just as boggling. The show had to be taped with Russian two-inch SECAM format video, using their state TV's five camera set-up in the concert hall. Johnston brought over two portable cameras from Britain, running PAL one-inch type C, to shoot backstage footage. For concert audio, Johnston's crew took a stereo feed from the Rus-

That involved a very high shooting ratio (that is, footage shot vs. footage used). In the end, Johnston would come away with 80 hours of tape for the 90-minute show.

A small shooting problem for the Russian camera crew was enthusiastically overcome with a remote zoom Johnston brought along. (The finished product still suffers from too many zooms, in Dalrymple's opinion.)

More importantly, director Bill Fertik was allowed to shoot wherever and whenever his own script—he is credited as writer, too—called for.

"I have my own definite ideas on how music should be presented on television," says Dalrymple. "What interests me is more what happens backstage, in preparation for going

ES WITH

sian state radio broadcast. The audio set-up included only four or five microphones, and a simple, but very good quality mix. Dalrymple says that while the Russian video equipment was all modern, and made by Thomson or Sony (or were Russian knock-offs of same), the audio all looked like it had seen the battle of Stalingrad. The giant old mics sometimes blocked video shots, but otherwise the picturesque equipment worked well. The Russian crews worked well with Johnston, too, says Dalrymple. "The sound engineers were from Melodiya Records, and they make great recordings. The audio was wonderful."

The major difficulty at the shooting phase was to follow the experiences of those competitors who looked like they would be winners.

WEST

out and seeing the footage onstage. It's that human element, that unguarded element, that makes everyone seem so real you get to know them personally."

Which is exactly what comes out of the Tchaikovsky show.

To bring it out of all those hours of tape, though, took a monstrous post-production job. First the footage was shipped to London, where it was all transferred to PAL one inch C, time coded, then run off on 3/4 inch PAL for off-line editing. An entire PAL off-line editing set-up was flown to New York for editor Brian Williams to work on. All of the transfers, from SECAM to PAL to NTSC, all done on the BBC's aptly named Ace system, ran to about \$15,000. Technically, not only do the

Bend-a-Light

L & W Enterprises is one of the several manufacturers of an off-similar but extremely useful new product. The Bend-a-Light is your average penlight with a 10" long fiber-optic cable attached. Thus, the humble and ancient penlight is focussed more closely upon tight little labors. L & W has also gone their numerous competition one step further by incorporating accessories, such as clip-on magnet and mirror. Step two further: the cable extension not only bends to any shape, but holds its shape. For \$25, this is not a gizmo to be without.



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The original script emphasized competition, but Williams saw "a lot of cooperation. All these competitors were so far from home, they were over there for a long time, especially under that kind of pressure. . . . I think Bill (Fertik) brought a lot of that out." But it is the editor's job to really bring all that out from among all the mountains of tape.

"Often you get something that's shot by a very picture oriented person, and he sits down and goes over it, over and over again, without any audio on it at all. And he gets this idea of how it's supposed to go, without any idea of what it sounds like," says the man who did the Tchaikovsky mix, Brent Hahn of National Video Center. But the final cut he got from Williams was, "very musical. . . . He just knows how to do it.

"By the time it got to me," says Hahn, "there was nothing special about it being Russian, or SECAM, or any of that. The only problems were

esthetic. . . . Since the music is the star of the thing, you have to make sure that the music is bigger than the people talking. Which is something that usually gets done backwards

Also, in a show like this, you're talking about on-the-run interviews. . . those are the hardest things to iron out. Even though the music may take up 90 percent of the running time, 95 percent of doing the mix is fixing the other 10 percent, making it all not seem as rough and choppy as it all started out. And in this case, as great as the performances are, it's that 10 percent, or actually 20 percent, that really makes the show."

Says Brian Williams, "I guess the object of this show was to make something palatable to the classical music purists, that would have meaning to someone who's not really into the music."

Or, as Bob Dalrymple says, "We had to get that crossover audience." It looks like they've got it. They'll have a chance or two to get it again, too—having been invited back by the Russians and David Bowie to do a "diary" of his upcoming tour there, and also to do the 1986 Tchaikovsky Competition. ■

Bonzai: Who were your biggest influences as a humorist?

O'Donoghue: A pretty easy question, because I really know Lenry Bruce, Terry Southern (ed note: author of "Candy" and "The Magic Christian"), Nathaniel West and Franz Kafka were the four people that I found very funny. Terry Southern is really great. People are always saying he's a burnout, and he *should* be, assuming the life he's led, but he's one of these tough Texas guys. He's very very good and he has not lost any of his balance.

Bonzai: Do you believe that people can levitate?

O'Donoghue: Yes. I don't think I can, but I do wish I could astrally project. I almost had a handle on it once when I was extremely tired and I almost astrally projected. Oh, this'll help me get the big budgets. "Get Mike, give him 10 million dollars because the man can astrally project. That's the kind of director we want!" I believe in out-of-body experiences, and dreams and prophecy. A lot of my work has been influenced by dreams—I find solutions in dreams.

Bonzai: Have you seen the smooth dangerous fat man lately?

O'Donoghue: Who's that? John? Belushi? Who's the smooth dangerous fat man? It's gotta be Belushi. He was never very smooth, though. You know, I checked in at the Chateau Marmont the other day—jeeze, they gotta get those chalk marks off the floor.

Bonzai: What is your favorite city?

O'Donoghue: New York. I've tried a few and there's some nice cities around—New Orleans . . . L.A. is a nice city, San Francisco should be made into a lamp, it's so cute. Miami is a *hot* city . . . but New York is my city.

Bonzai: What does your mom think of you and your career?

O'Donoghue: Well, it's odd. It's really a mixed bag. She's very reactionary and outspoken. A lot of my stuff is a total gross out to her, but the fact that I won a couple of Emmys validated me in my whole family's eyes.

Bonzai: What is your strongest characteristic as a human being?

O'Donoghue: Well, it sounds like thumping my own tub, but—integrity. If I get fixed on something I won't compromise. ■

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MUSIC NOTES

— from page 98, *BLUES*

debuted on the West Coast with a sound close to the back-to-basics approach of Texas cohorts The Fabulous Thunderbirds, with Funderburgh's stinging Stratocaster work a pleasing highlight. Folk bluesman J.C. Burris then charmed the crowd with his homespun songs and his homemade dancing dolls, a reminder of blues roots.

New Orleans soul queen Irma Thomas, whose recordings in the Sixties influenced the Stones, Janis Joplin,

Tracy Nelson et al, provided the most rousing hour of the festival. Firmly supported by pianist Mark Naftalin's band, Thomas' sensuous voice and charismatic stage presence lit up an assortment of blues and ballads. She turned her Sixties R&B hit "I Done Got Over" into a New Orleans second line anthem, whipping the assembled thousands into a frenzy as she showed them how to do it. "Get a handkerchief, your umbrella, or anything and get moving it above your head. Then all you got to do is get your *backfield* in motion!"

The thing about Albert King is that his volcanic tone, ferocious attack, and monumentally sculpted licks tend to reduce all other blues—and rock, for that matter—guitar players to stunted pipsqueaks. The big lefthander demonstrated that he alone of all the bluesmen of his generation can make the transition from slow blues and shuffles to modern funk-R&B grooves an effortless one (witness Stevie Ray Vaughan's remarkable lick-for-lick Albert King cop on David Bowie's "Let's Dance").

—Tim Kaihatsu

—from page 89, Hancock

Click. Many times it's just as easy to overdub a new part and punch it in—but if I do any of this live I think Doctor Click is going to come in handy.

Mix: You were once an electrical engineering student . . .

Hancock: At a liberal arts college called Grinnell, in Iowa. It wasn't an engineering school—they called it pre-engineering.

Mix: Do you see a logical connection with your later fascination with electronics in music? It takes a certain kind of mind to adapt to the language of synthesizers.

Hancock: Dr. Patrick Gleeson was the first synthesizer player on any of my records; when he joined my band I used to ask him questions all the time. He spoke about frequency instead of pitch, and amplitude and modulation, and I remembered those terms from physics so I didn't have to go through a refresher course with that. I wasn't that familiar with envelopes, but I could understand the description of an envelope on an *x/y* axis. I could understand the concept of an oscillator being the source of the sound, producing a wave form. I

remembered that stuff, and that intrigued me even more because I've been intrigued by science and technology ever since I was a kid.

Mix: Did they go hand in hand with music, or were they just opposite interests that happened to merge later?

Hancock: They were opposite interests that merged later. I had no application for science in my acoustic music, either the classical music that I studied in the beginning or the jazz that I was writing in my own career. But the thing that was the same was me—my attitude. The way I learned jazz was through a combination of analysis and ear training and sensitivity to the expression of feeling. That's how I learned it—by studying on my own and trying to match things I'd heard people do and find out why somebody did this and why they didn't do that. I did all of that in high school, along with theory and harmony and sight-singing—all on my own, by trial and error.

I tried to figure out why George Shearing or Erroll Garner or Oscar Peterson played what they played at a certain point in the music. By seeing what happened horizontally and checking out certain vertical stations in the music, I began to discover

some laws and rules of harmony. I learned a lot about it from that. I think that type of attitude can relate to a scientific attitude; we talk about analysis or an analytical mind—I'm kind of like that. But other than that, there was nothing else. It just turned out that synthesizers fulfilled something I had already been interested in; a combination of music and technology.

Mix: Even though you use a lot of keyboards on the album, it sounds really economical. There's always that urge for overkill when synthesizers enter the picture.

Hancock: I understand. But I've been doing it now for a while, so I think I've gotten rid of that.

Mix: Did you consciously try to edit?

Hancock: Yeah, I think it's important. You're dealing with instruments that are so new compared to acoustic instruments that they're very arresting and magnetic. It's easy to make things sound too busy with synthesizers. I was going to say you might not find that so easy with acoustic instruments, but that's not true—it would depend on the context, and the sound you came up with. But you're right: that has been a problem with a lot of records—probably my own, too. ■

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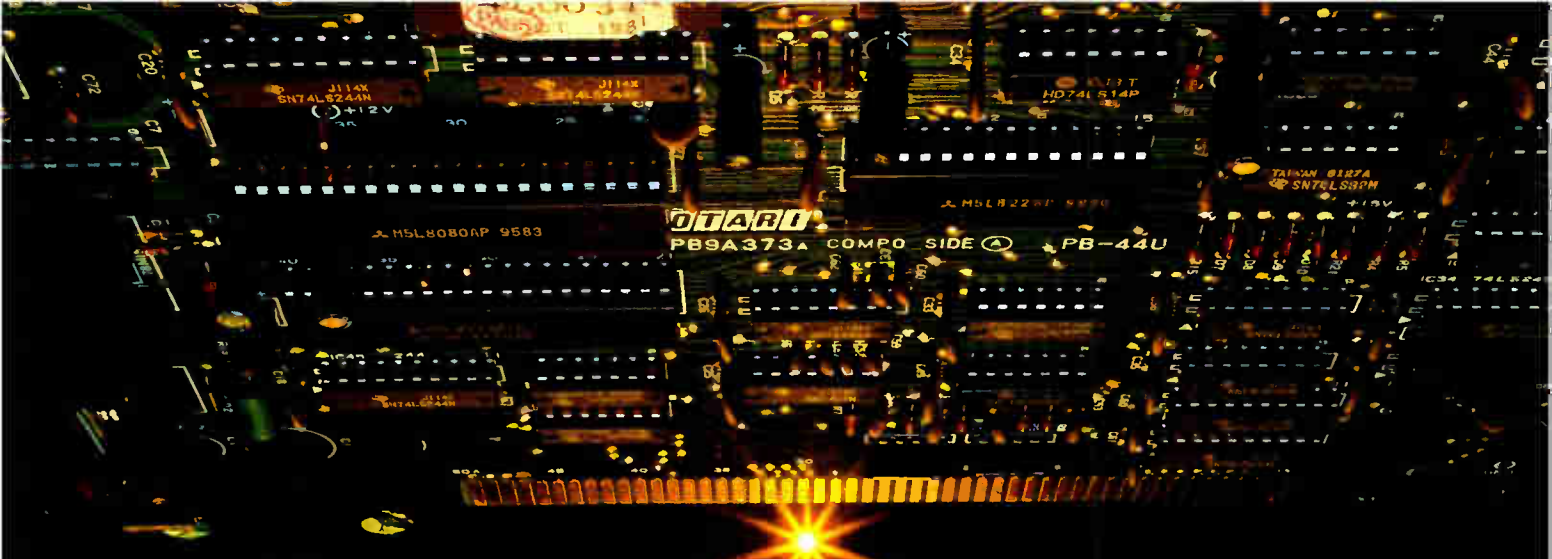
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